ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 60

[EPA–HQ–OAR–2003–0119; FRL–9273–4]

RIN 2060–AO12

Standards of Performance for New Stationary Sources and Emission Guidelines for Existing Sources: Commercial and Industrial Solid Waste Incineration Units

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: This action promulgates EPA's final response to the 2001 voluntary remand of the December 1, 2000, new source performance standards and emission guidelines for commercial and industrial solid waste incineration units and the vacatur and remand of several definitions by the District of Columbia Circuit Court of Appeals in 2007. In addition, this action includes the 5-year technology review of the new source performance standards and emission guidelines required under section 129 of the Clean Air Act. This action also promulgates other amendments that EPA believes are necessary to address air emissions from commercial and industrial solid waste incineration units.

DATES: The final rule is effective on May 20, 2011. The incorporation by reference of certain publications listed in the final rule are approved by the Director of the Federal Register as of May 20, 2011.

ADDRESSES: EPA established a single docket under Docket ID Number EPA–HQ–OAR–2003–0119 for this action. All documents in the docket are listed on the *http://www.regulations.gov* Web site. Although listed in the index, some information is not publicly available, *e.g.*, confidential business information or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically through *http://www.regulations.gov*, or in hard copy at EPA's Docket Center, Public Reading Room, EPA West Building, Room 3334, 1301 Constitution Avenue, NW., Washington, DC 20004. This Docket Facility 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.

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SUPPLEMENTARY INFORMATION: *Acronyms and Abbreviations.* The following acronyms and abbreviations are used in this document.

7-PAH 7 Polyaromatic Hydrocarbons
16-PAH 16 Polyaromatic Hydrocarbons
ACI Activated Carbon Injection
ANSI American National Standards Institute
ASME American Society of Mechanical Engineers
ASTM American Society for Testing and Materials
BAT Best Available Technology
CAA Clean Air Act
Cd Cadmium
CDX Central Data Exchange
CEMS Continuous Emissions Monitoring Systems
CFR Code of Federal Regulations
CISWI Commercial and Industrial Solid Waste Incineration
CO Carbon Monoxide
CO_2 Carbon Dioxide
Catalyst Carbon Monoxide Oxidation Catalyst
The Court U.S. Court of Appeals for the District of Columbia Circuit
CSA Canadian Standards Association
CWA Clean Water Act
D/F Dioxin/Furan
DIFF Dry Sorbent Injection Fabric Filter
dscf Dry Standard Cubic Foot
dscm Dry Standard Cubic Meter
EG Emission Guidelines
EJ Environmental Justice
EMPC Estimated Maximum Possible Concentration
EOM Extractable Organic Matter
ERT Electronic Reporting Tool
ERU Energy Recovery Unit
ESP Electrostatic Precipitator
FF Fabric Filters
HAP Hazardous Air Pollutants
HCl Hydrogen Chloride
Hg Mercury
HMI Hospital, Medical and Infectious
HMIWI Hospital, Medical and Infectious Waste Incineration
HWC Hazardous Waste Combustor
ICR Information Collection Request
ISO International Standards Organization
LBMS Linkageless Burner Management System
LML Lowest Measured Level
MACT Maximum Achievable Control Technology
MDL Method Detection Level
mg/dscm Milligrams per Dry Standard Cubic Meter
mmBtu/hr Million British Thermal Units per Hour
MSW Municipal Solid Waste
MW Megawatts
MWC Municipal Waste Combustor
NAAQS National Ambient Air Quality Standards
NAICS North American Industrial Classification System
ND Nondetect
NESHAP National Emission Standards for Hazardous Air Pollutants
ng/dscm Nanograms per Dry Standard Cubic Meter
NO_X Nitrogen Oxides
NSPS New Source Performance Standards
NTTAA National Technology Transfer and Advancement Act
OAQPS Office of Air Quality Planning and Standards
O&M Operations and Maintenance
OMB Office of Management and Budget
OP Office of Policy
OSWI Other Solid Waste Incineration
Pb Lead
PCBs Polychlorinated Biphenyls
PCDD Polychlorinated Dibenzodioxins
PCDF Polychlorinated Dibenzofurans
PM Particulate Matter
POM Polycyclic Organic Matter
ppm Parts Per Million
ppmv Parts Per Million by Volume
ppmvd Parts Per Million by Dry Volume
PRA Paper Reduction Act
PS Performance Specification
QA/QC Quality Assurance/Quality Control
RCRA Resource Conservation and Recovery Act
RFA Regulatory Flexibility Act
RIA Regulatory Impact Analysis
RIN Regulatory Information Number
RTO Regenerative Thermal Oxidizer
SCR Selective Catalytic Reduction
SARU Sulfuric Acid Regeneration Unit
SNCR Selective Noncatalytic Reduction
SO_2 Sulfur Dioxide
SSI Sewage Sludge Incineration
SSM Startup, Shutdown, and Malfunction
SWDA Solid Waste Disposal Act
TBtu Tera British Thermal Unit
TEF Total Equivalency Factor
TEQ Toxic Equivalency
TMB Total Mass Basis
tpy Tons Per Year
TRI Toxics Release Inventory
TTN Technology Transfer Network
ug/dscm Micrograms per Dry Standard Cubic Meter
UMRA Unfunded Mandates Reform Act
UL Upper Limit
UPL Upper Prediction Limit
UTL Upper Tolerance Limit
VCS Voluntary Consensus Standards
WWW Worldwide Web

Organization of this document. The information presented in this preamble is organized as follows:

I. General Information

A. Does this action apply to me?

Categories and entities potentially affected by the final action are those that operate CISWI units. The NSPS and EG, hereinafter referred to as "standards," for CISWI affect the following categories of sources:

Category	NAICS code	Examples of potentially regulated entities
Any industrial or commercial facility using a solid waste incinerator.	211, 212, 486	Mining, oil and gas exploration operations; pipeline operators.
	221	Utility providers.
	321, 322, 337	Manufacturers of wood products; manufacturers of pulp, paper and paperboard; manufacturers of furniture and related products.
	325, 326	Manufacturers of chemicals and allied products; manufacturers of plastics and rubber products.
	327	Manufacturers of cement; nonmetallic mineral product manufacturing.
	333, 336	Manufacturers of machinery; manufacturers of transportation equipment.
	423, 44	Merchant wholesalers, durable goods; retail trade.

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be affected by the final action. If you have any questions regarding the applicability of the final action to a particular entity, contact the person listed in the preceding **FOR FURTHER INFORMATION CONTACT** section.

B. Where can I get a copy of this document?

In addition to being available in the docket, an electronic copy of the final action will also be available on the WWW through the TTN. Following signature, a copy of the final action will be posted on the TTN's policy and guidance page for newly proposed or promulgated rules at the following address: *http://www.epa.gov/ttn/oarpg.* The TTN provides information and technology exchange in various areas of air pollution control.

C. Judicial Review

Under CAA section 307(b)(1), judicial review of this final rule is available only by filing a petition for review in the Court by May 20, 2011. Section 307(d)(7)(B) of the CAA further provides that "only an objection to a rule or procedure which was raised with reasonable specificity during the period for public comment can be raised during judicial review." This section also provides a mechanism for us to convene a proceeding for reconsideration, "[i]f the person raising an objection can demonstrate to EPA that it was impracticable to raise such objection within [the period for public comment] or if the grounds for such objection arose after the period for public comment (but within the time specified for judicial review) and if such objection is of central relevance to the outcome of the rule." Any person seeking to make such a demonstration to us should submit a Petition for Reconsideration to the Office of the Administrator, Environmental Protection Agency, Room 3000, Ariel Rios Building, 1200 Pennsylvania Ave., NW., Washington, DC 20004, with a copy to both of the contacts listed in the preceding **FOR FURTHER INFORMATION CONTACT** section, and the Associate General Counsel for the Air and Radiation Law Office, Office of General Counsel (Mail Code 2344A), Environmental Protection Agency, 1200 Pennsylvania Ave., NW., Washington, DC 20004. Note, under CAA section 307(b)(2), the requirements established by this final rule may not be challenged separately in any civil or criminal proceedings brought by EPA to enforce these requirements.

II. Background Information

A. What is the statutory authority for this final rule?

Section 129 of the CAA, entitled "Solid Waste Combustion," requires EPA to develop and adopt standards for solid waste incineration units pursuant to CAA sections 111 and 129. Section 129(a)(1)(A) of the CAA requires EPA to establish performance standards, including emission limitations, for "solid waste incineration units" generally and, in particular, for "solid waste incineration units combusting commercial or industrial waste" (CAA section 129(a)(1)(D)). Section 129 of the CAA defines "solid waste incineration unit" as "a distinct operating unit of any facility which combusts any solid waste material from commercial or industrial establishments or the general public" (section 129(g)(1)). Section 129 of the CAA also provides that "solid waste" shall have the meaning established by EPA pursuant to its authority under the RCRA (section 129(g)(6)).

In *Natural Resources Defense Council* v. *EPA,* 489 F.3d 1250 (DC Cir. 2007), the Court vacated the CISWI Definitions Rule (70 FR 55568, September 22, 2005), which EPA issued pursuant to CAA section 129(a)(1)(D). In that rule, EPA defined the term "commercial or industrial solid waste incineration unit" to mean a combustion unit that combusts "commercial or industrial waste." The rule defined "commercial or industrial waste" to mean waste combusted at a unit that does not recover thermal energy from the combustion for a useful purpose. Under these definitions, only those units that combusted commercial or industrial waste and were not designed to, or did not operate to, recover thermal energy from the combustion, were subject to CAA section 129 standards. In vacating the rule, the Court found that the definitions in the amendments to the CISWI regulations were inconsistent with the CAA. Specifically, the Court held that the term "solid waste incineration unit" in CAA section 129(g)(1) "unambiguously include[s] among the incineration units subject to its standards any facility that combusts any commercial or industrial solid waste material at all—subject to the four statutory exceptions identified [in CAA section 129(g)(1)]" *NRDC* v. *EPA,* 489 F.3d at 1257–58.

In response to the Court's vacatur of the CISWI Definitions Rule, EPA initiated a rulemaking to define which non-hazardous secondary materials is "solid waste" for purposes of subtitle D (non-hazardous waste) of RCRA when burned in a combustion unit. See 74 FR 41 (January 2, 2009) soliciting comment on whether certain non-hazardous secondary materials used as alternative fuels or ingredients are solid wastes within the meaning of subtitle D of the RCRA. That definition, once established, will determine the applicability of CAA section 129(a) to commercial and industrial combustion units.

On the same day EPA proposed standards for CISWI units, EPA issued a proposed definition of non-hazardous secondary materials that are solid waste pursuant to subtitle D of RCRA (75 FR 31844, June 4, 2010). In a parallel action to today's final CISWI rule, EPA is promulgating a final definition of solid waste that identifies whether non-hazardous secondary materials burned as fuels in combustion units are solid waste. That action, hereinafter referred to as the "Non-hazardous Solid Waste Definition Rulemaking," is relevant to this proceeding because some ERUs and waste-burning kilns combust secondary materials in their combustion units which are defined as solid waste under the new definition. Units that combust solid waste (as defined under the new non-hazardous solid waste definition) will be subject to standards in the final CAA section 129 CISWI rules rather than to the standards under CAA section 112 applicable to boilers, process heaters, and cement kilns.

At proposal, we acknowledged that we had incomplete information on the exact nature of the non-hazardous secondary materials that ERUs and waste-burning kilns combust. For example, we indicated that we lacked complete information concerning the provider(s) of the non-hazardous secondary materials, how much processing the non-hazardous secondary materials may have undergone, if any, and other issues potentially relevant in a determination as to whether non-hazardous secondary materials are solid waste, all information relevant not only in this rulemaking but also in developing a definition in the concurrent Non-hazardous Solid Waste Definition Rulemaking.

In developing standards for this final rule, we used best efforts to estimate which units would have been classified as CISWI (i.e., units combusting solid waste) had the final definition of non-hazardous solid waste been in place at the time of the performance testing. The standards (and, necessarily, the pool of best performers establishing the floors for each standard) are based on the performance of this universe of sources.[1] In evaluating which sources would have been classified as CISWI had the new definition of solid waste been effective, EPA used the information currently available on which non-hazardous secondary materials the sources combust, as supplemented by information obtained from public comment and further information gathered by EPA after the public comment period of this rule.

Energy recovery units (*i.e.,* boilers and process heaters) and waste-burning kilns (*i.e.,* cement kilns) that are burning solid waste (as defined in new section 241) will be subject to today's standards.

Sections 111(b) and 129(a) of the CAA address emissions from new CISWI units (*i.e.,* NSPS) and CAA sections 111(d) and 129(b) address emissions from existing CISWI units (*i.e.,* EG). 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 no later than 3 years after EPA approves a state plan implementing the EG or 5 years after the date they are promulgated, whichever is earlier.

The CAA sets forth a two-stage approach to regulating emissions from solid waste incinerator units. The statute also provides EPA with substantial discretion to distinguish among classes, types, and sizes of incineration 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, nonair quality health and environmental impacts and energy requirements associated with the implementation of the standards. Section 129(a)(5) of the CAA then directs EPA to review those

[1] Section 112(D) MACT standards are based on the performance of sources at a moment in time (or over some demarcated timeframe), and EPA therefore bases those standards on performance of sources classified as part of the source category at the time their performance is evaluated (*i.e.,* the time of performance testing). However, EPA could not use this approach here. Sources combusting non-hazardous secondary materials, the best example being alternative fuels, were not classified as CISWI absent a regulatory definition of solid waste classifying such secondary materials. In order to issue the CISWI standards by the mandated promulgation deadline, EPA thus deviated from its usual practice and based the standards on the performance of devices which would have been classified as CISWI had the final waste definition been in place at the time of the performance testing even though these sources were not CISWI at the time. There was no approach that would be based on the sources' actual status that would have allowed EPA to complete this CISWI rule by the time of the mandated deadline for promulgation.

standards and revise them as necessary every 5 years. In the second stage, CAA 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 standards for the 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 nonair 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 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."

Maximum Achievable Control Technology analyses involve an assessment of the emissions from the best-performing unit or units in a source category. The assessment can be based on actual emissions data, 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 involves a review of actual emissions data with an appropriate accounting for emissions variability. Other methods of estimating emissions can be used, if the methods can be shown to provide reasonable estimates of the actual emissions performance of a source or sources. 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 considers must be at least as stringent as the CAA's minimum stringency "floor" requirements. 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. However, if EPA concludes that impacts associated with "beyond-the-floor" levels of control are reasonable in light of additional emissions reductions achieved, EPA selects those levels as MACT.

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 beyond-the-floor 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.

B. What is the history of the CISWI standards?

On December 1, 2000, EPA published a notice of final rulemaking establishing the NSPS and EG for CISWI units (60 FR 75338), hereinafter referred to as the 2000 CISWI rule. On August 17, 2001, EPA granted a Request for Reconsideration, pursuant to CAA section 307(d)(7)(B) of the CAA, submitted on behalf of the National Wildlife Federation and the Louisiana Environmental Action Network, related to the definition of "commercial and industrial solid waste incineration unit" and "commercial or industrial waste" in EPA's CISWI rulemaking. In granting the Petition for Reconsideration, EPA agreed to undertake further notice and comment proceedings related to these definitions. On January 30, 2001, Sierra Club filed a petition for review in the Court challenging EPA's final CISWI rule. On September 6, 2001, the Court entered an order granting EPA's motion for a voluntary remand of the CISWI rule, without vacatur. EPA's request for a voluntary remand of the final CISWI rule was taken to allow the EPA to address concerns related to EPA's procedures for establishing MACT floors for CISWI units in light of the Court's decision in *Cement Kiln Recycling Coalition* v. *EPA,* 255 F.3d 855 (DC Cir. 2001)(*Cement Kiln*). Neither EPA's granting of the Petition for Reconsideration, nor the Court's order granting a voluntary remand, stayed, vacated, or otherwise influenced the effectiveness of the 2000 CISWI rule. Specifically, CAA section 307(d)(7)(B) provides that "reconsideration shall not postpone the effectiveness of the rule," except that "[t]he effectiveness of the rule may be stayed during such reconsideration * * * by the Administrator or the Court for a period not to exceed three months." Neither EPA nor the Court stayed the effectiveness of the final CISWI regulations in connection with the reconsideration petition. In addition, the Court granted EPA's motion for a remand without vacatur; therefore, the remand order had no impact on the implementation of the 2000 CISWI rule.

On February 17, 2004, EPA published a proposed rule soliciting comments on the definitions of "solid waste," "commercial and industrial waste," and "commercial and industrial solid waste incineration unit." On September 22, 2005, EPA published in the **Federal Register** the final rule reflecting our decisions with respect to the CISWI Definitions Rule. The rule was challenged and, on June 8, 2007, the Court vacated and remanded the CISWI

Definitions Rule. In vacating the rule, the Court found that CAA section 129 unambiguously includes among the incineration units subject to its standards, any facility that combusts any solid waste material, subject to four statutory exceptions. While the Court vacated the CISWI Definitions Rule, the 2000 CISWI rule remains in effect.

On June 4, 2010, EPA proposed revised NSPS and EG for CISWI units (75 FR 31938). Today's final action constitutes EPA's response to the voluntary remand of the 2000 CISWI rule and to the 2007 vacatur and remand of the CISWI Definitions Rule. In addition, these amendments address the 5-year technology review that is required under CAA section 129(a)(5).

C. How is the solid waste definition addressed in this final rule?

The RCRA definition of solid waste is integral in defining the CISWI source category. EPA defines the non-hazardous secondary materials that are solid waste under RCRA in the final Non-hazardous Solid Waste Definition Rulemaking. At proposal, the Non-hazardous Solid Waste Definition Rulemaking proposed a definition of solid waste and identified an "alternative approach" for consideration and comment. However, the final solid waste definition does not incorporate the "alternative approach," and more closely reflects the proposed definition of non-hazardous secondary materials that are solid waste.

D. What is the relationship between the final rule and other combustion rules?

These amendments address the combustion of solid waste materials (as defined by the Administrator under RCRA in the concurrent Non-hazardous Solid Waste Definition Rulemaking) in combustion units at commercial and industrial facilities. If an owner or operator of a CISWI unit permanently ceases combusting solid waste, the affected unit would no longer be subject to this regulation under CAA section 129. Section 112 rules of the CAA, applicable to boilers and process heaters at major sources and boilers at area sources, are being promulgated in parallel actions that are relevant to this action because those standards would apply to subject boilers and process heaters that do not combust solid waste. Boilers and process heaters that combust solid waste are subject to CISWI as ERUs. EPA has also finalized revised CAA section 112 NESHAP from the Portland Cement Manufacturing Industry (75 FR 21136, September 9, 2010). Cement kilns combusting solid waste are waste-burning kilns subject to this final rule, not the otherwise applicable NESHAP.

E. What is EPA's approach for conducting a 5-year review under CAA section 129(a)(5)?

Section 129(a)(5) of the CAA requires EPA to conduct a review of the section 129 standards at 5-year intervals and, in accordance with CAA sections 129 and 111, revise the standards. We do not interpret CAA section 129(a)(5), together with CAA section 111, as requiring EPA to recalculate MACT floors in connection with this periodic review. (71 FR 27324, 27327–28, May 10, 2006; *NRDC and LEAN* v. *EPA,* 529 F.3d 1077, 1083–84 (DC 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 recent developments in practices, processes, and control technologies, and determines whether it is appropriate to revise the standards. This is the same general approach taken by EPA in periodically reviewing CAA section 111 standards, because CAA section 111 contains a similar review and revise provision.

Our obligation to conduct a 5-year review based on implementation of the 2000 CISWI rule is fulfilled with the finalization of these CISWI standards. This action responds to the vacatur and remand of the CISWI Definition Rule and the voluntary remand of the 2000 CISWI NSPS and EG, and, in this response, EPA is requiring new standards based on a MACT methodology that is consistent with the CAA and District of Columbia Circuit Court precedent. The MACT levels required herein reflect MACT floor levels determined by current emissions data from CISWI units, and, therefore, reflect the current performance of the best-performing unit or units subject to the CISWI standards. Consequently, we believe that our obligation to conduct a 5-year review based on implementation of the 2000 CISWI rule is fulfilled.

Our conclusion is supported by the fact that the revised MACT standards included in this final remand response are based on the available performance data for the currently operating CISWI units, including those units that are subject to the 2000 CISWI rule and those units that will be subject to the CISWI standards for the first time based on the final Non-hazardous Solid Waste Definition Rulemaking under RCRA. In establishing MACT floors based on currently available emissions information, we address 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, in establishing these final standards, we considered whether new technologies, processes, and improvements in practices have been demonstrated at sources subject to the 2000 CISWI rule and at sources that will be subject to these proposed standards for the first time based on the proposed definition of solid waste. Accordingly, the remand response in this final action fulfills EPA's obligations regarding the 5-year review of the CISWI standards. Further discussion of the EPA's response to the CAA section 129(a)(5) 5-year review is found in section III.B of the proposal preamble (75 FR 31946).

F. What is the relationship of this final 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 certain CISWI units as sources necessary to meet the 90 percent requirement under section 112(c)(6). 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 source categories that must be "subject to regulation" for purposes of CAA section 112(c)(6). Included in that list are cement kilns and combustion units (e.g., major source boilers and process heaters). Cement kilns, boilers, and process heaters that combust solid waste are subject to the CAA section 129 standards for CISWI as either waste-burning kilns or ERUs. These CISWI units emit five of the seven CAA section 112(c)(6) pollutants: POM, dioxins, furans, Hg and PCBs. The POM emitted by CISWI is composed of 7–PAH and 16–PAH.

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). (63 FR 17845; 62 FR 33625, 33632 (1997)). As discussed in more detail in response to comments on this issue, 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 CISWI units under CAA section 112(d), EPA cannot further regulate the emissions of 112(c)(6) pollutants from CISWI units under CAA section 112(d). As a result, EPA considers emissions of these five pollutants from waste-burning kilns and ERUs "subject to standards" for purposes of CAA section 112(c)(6). The remaining CISWI subcategories will be subject to MACT standards either in this action or in a future action, but regulation of the remaining subcategories is not required for EPA to complete its 112(c)(6) obligations.

III. Summary of the Final Rule

A. Which units are affected by this final rule?

This final rule defines a CISWI unit as any combustion unit at a commercial or industrial facility that is used to combust solid waste (as defined under RCRA). (40 CFR 60.2265 (NSPS) and 60.2875 (EG)). Therefore, in this final rule, CISWI units subject to standards in this final rule include incinerators designed to burn discarded waste materials; units designed for heat recovery that combust solid waste materials (*i.e.,* ERUs that would be boilers or process heaters if they did not burn solid waste); and waste burning kilns (*i.e.,* units that would be cement kilns if they did not burn solid waste); we also define other CISWI units that are not subject to standards in this final action. The final rule contains definitions of the four subcategories of CISWI units that are subject to standards under these amendments: incinerators, small remote incinerators, ERUs, and waste burning kilns. At proposal, we also defined and proposed standards for burn-off ovens. Based on information obtained during proposal, and because we do not need such units to comply with our section 112(c)(6) obligations, we are not finalizing standards for burn-off ovens as explained further below in response to comments on this issue.

We are revising the definition of CISWI unit to reflect the Court's decision that all units burning solid waste as defined under RCRA are to be covered by regulation under CAA section 129. To ensure consistency with the definition of CISWI unit, we are also adding a definition of "solid waste incineration unit" and removing the definition of "commercial and industrial waste."

The 2000 CISWI rule, through the definition of "commercial and industrial waste," excluded from regulation combustion units at commercial or industrial facilities that recovered energy for a useful purpose. We are eliminating those exemptions that were vacated by the Court.

Qualifying small power producers, qualifying cogeneration units, and materials recovery units continue to be expressly exempt from coverage pursuant to CAA exclusions from the definition of "solid waste incineration unit" set forth in CAA section 129(g)(1). Units that are required to have a permit under section 3005 of the SWDA (*i.e.,* hazardous waste combustion units) are also exempt from section 129 rules per CAA section 129(g)(1). Air curtain incinerators at commercial or industrial facilities combusting "clean wood" waste are also excluded from the definition of solid waste incineration unit set forth in CAA section 129(g)(1), but that section provides that such units must comply with opacity limits to maintain that exemption.

Solid waste incineration units that are included within the scope of other CAA section 129 categories include MWC units; institutional, pathological waste incineration units (EPA intends to regulate these units under OSWI standards); SSI units (EPA is issuing final standards for these units in a concurrent action), and HMIWI units. These solid waste incineration units will remain exempt from the CISWI standards. As stated above, we created subcategories for waste-burning kilns and ERUs, and they are subject to this final rule in light of the CISWI Definitions Rule vacatur. We note that other CAA section 129 standards may contain an exemption for cement kilns. Those exemptions do not excuse waste burning kilns from compliance with these final standards. As those other CAA section 129 rules are amended, we will clarify that cement kilns that meet the definition of waste-burning kiln and other CISWI units, that may be expressly exempt from those standards, are subject to CISWI standards if they are located at a commercial or industrial facility and they combust solid waste.

B. What are the emission limits in the final rule?

The final MACT floor emission limits for new and existing sources are presented in Tables 1 and 2 of this preamble. These emission limits are based on subcategories established considering sources that we believe are CISWI units under the final definition of non-hazardous secondary materials, as discussed in the concurrent Non-hazardous Solid Waste Definition Rulemaking. The final MACT floor emission limits for existing sources in each subcategory are shown in Table 1 of this preamble.

TABLE 1—COMPARISON OF EXISTING SOURCE MACT FLOOR LIMITS FOR 2000 CISWI RULE AND THE FINAL MACT FLOOR LIMITS (BASED ON THE DEFINITION OF SOLID WASTE IN THE FINAL NON-HAZARDOUS SOLID WASTE DEFINITION RULEMAKING)

Pollutant (units) [a]	Incinerators (2000 CISWI limit)	Final CISWI subcategories				
		Incinerators	ERUs—solids	ERUs—liquid/gas	Waste-burning kilns	Small, remote incinerators
HCl (ppmv)	62	29	0.45	14 [b]	25 [b]	220
CO (ppmv)	157	36 [b]	490 (biomass units)/59 (coal units).	36	110	20
Pb (mg/dscm)	0.04	0.0036	0.0036 [b]	0.096	0.0026	2.7
Cd (mg/dscm)	0.004	0.0026	0.00051 [b]	0.023	0.00048	0.61
Hg (mg/dscm)	0.47	0.0054	0.00033	0.0013 [b]	0.0079 [b]	0.0057
PM, filterable (mg/dscm)	70	34	250	110	6.2	230
Dioxin, furans, total (ng/dscm).	(no limit)	4.6	0.35	2.9[b]	0.20	1,200
Dioxin, furans, TEQ (ng/dscm).	0.41	0.13	0.059	0.32[b]	0.0070	57
NO_X (ppmv)	388	53	290 (biomass units)/340 (coal units).	76	540	240

TABLE 1—COMPARISON OF EXISTING SOURCE MACT FLOOR LIMITS FOR 2000 CISWI RULE AND THE FINAL MACT FLOOR LIMITS (BASED ON THE DEFINITION OF SOLID WASTE IN THE FINAL NON-HAZARDOUS SOLID WASTE DEFINITION RULEMAKING)—Continued

Pollutant (units) [a]	Incinerators (2000 CISWI limit)	Final CISWI subcategories				
		Incinerators	ERUs—solids	ERUs—liquid/gas	Waste-burning kilns	Small, remote incinerators
SO_2 (ppmv)	20	11	6.2 (biomass units)/650 (coal units).	720	38	420

[a] All emission limits are expressed as concentrations corrected to 7 percent oxygen.
[b] See the memorandum "CISWI Emission Limit Calculations for Existing and New Sources" for details on this calculation.

The new source MACT floor emission limits for each CISWI subcategory are shown in Table 2 of this preamble.

TABLE 2—COMPARISON OF NEW SOURCE MACT FLOOR LIMITS FOR 2000 CISWI RULE AND THE FINAL MACT FLOOR LIMITS (BASED ON THE PRIMARY DEFINITION OF SOLID WASTE IN THE SOLID WASTE DEFINITION RULE)

Pollutant (units) [a]	Incinerators (2000 limit)	Final CISWI subcategories				
		Incinerators	ERUs—solids	ERUs—liquid/gas	Waste-burning kilns	Small, remote incinerators
HCl (ppmv)	62	0.091	0.45 [c]	14b	3.0 [b]	200
CO (ppmv)	157	12	160 (biomass units)/ 46 (coal units).	36	90	12
Pb (mg/dscm)	0.04	0.0019 [b]	0.0031	0.096	0.0026	0.26
Cd (mg/dscm)	0.004	0.0023	0.00051 [c]	0.023	0.00048 [c]	0.61 [c]
Hg (mg/dscm)	0.47	0.00016	0.00033 [c]	0.00025 [d]	0.0062 [e]	0.0035 [b]
PM, filterable (mg/dscm)	70	18	250 [c]	110	2.5	230 [c]
Dioxin, furans, total (ng/dscm).	(no limit)	0.052 [b]	0.068	(no limit)	0.090	1,200 [c]
Dioxin, furans, TEQ (ng/dscm).	0.41	0.13 [c]	0.011	0.002 [d]	0.0030	31
NO_X (ppmv)	388	23	290[c] (biomass units)/340 (coal units).	76	200	78
SO_2 (ppmv)	20	11 [c]	6.2 [c] (biomass units)/650 (coal units).	720	38	1.2

[a] All emission limits are measured at 7 percent oxygen.
[b] *See* the memorandum "CISWI Emission Limit Calculations for Existing and New Sources" for details on this calculation.
[c] The NSPS limit equals the EG limit. The EG limit was selected as the NSPS limit.
[d] Dioxin/furan TEQ and Hg limits for ERUs—liquid/gas were replaced with D/F TEQ limits for liquid fuel major source boilers. *See* "CISWI Emission Limit Calculations for Existing and New Sources" for details.
[e] Hg limit was developed using material input data from CISWI kilns identified within the Portland Cement NESHAP database. *See* the memorandum "CISWI Emission Limit Calculations for Existing and New Sources" for details on this calculation.

C. What are the testing and monitoring requirements?

This final rule requires all CISWI units to demonstrate initial compliance with the revised emission limits. For existing CISWI units, these amendments require annual inspections of scrubbers, FF, and other air pollution control devices that are used to meet the emission limits. In addition, a Method 22 (40 CFR part 60, appendix A–7) visible emissions test of the ash handling operations is required during the annual compliance test for all subcategories except waste-burning kilns, which do not have ash handling systems. Furthermore, for any existing CISWI unit that operates a FF air pollution control device, we are requiring that a bag leak detection system be installed to monitor the device. These amendments continue to require parametric monitoring of all other add-on air pollution control devices, such as wet scrubbers and ACI. Commercial and industrial solid waste incineration units that install SNCR technology to reduce NO_X emissions are required to monitor the reagent (*e.g.,* ammonia or urea) injection rate and secondary chamber temperature (if applicable to the CISWI unit).

This final rule also requires subcategory-specific monitoring requirements in addition to the aforementioned inspection, bag leak detection, and parametric monitoring requirements that are applicable to all CISWI units. Existing incinerators, small, remote incinerators, and ERUs would have annual emissions testing for all nine pollutants: PM, SO_2, HCl, NO_X, CO, lead, Cd, Hg, and dioxins and furans. Existing kilns are required to monitor Hg, PM, and HCl (if no wet scrubber) emissions using a CEMS and perform annual testing for the remaining pollutants. These amendments provide reduced annual testing requirements for all nine pollutants when testing results are shown to be well below the limits. If the ERU has a design capacity less than or equal to 250 mmBtu/hr and is not equipped with a wet scrubber control device, then a continuous opacity monitor is required or, as an alternative, a PM CEMS could be employed (see below). If the ERU has a design capacity greater than 250 mmBtu/hr, then PM emissions must be monitored using a PM CEMS.

For new CISWI units, the final rule requires the same monitoring requirements as for existing units, but also requires CO CEMS for all subcategories. Additionally, SO_2 and NO_X CEMS are required for all new kilns.

For all subcategories of existing CISWI units, use of CO CEMS is an approved alternative and specific language with requirements for CO CEMS is included in these amendments. For new and existing CISWI units, use of PM, NO_X, SO_2, HCl, multi-metals and Hg CEMS and integrated sorbent trap Hg monitoring and dioxin monitoring (continuous sampling with periodic sample analysis) also are approved alternatives, and specific language for those alternatives is included in these amendments.

D. What are the requirements during periods of SSM?

The 2000 CISWI standards did not apply during periods of SSM. This final rule revises the 2000 CISWI rule such that the standards apply at all times, including during SSM periods. As further explained in section V.H of this preamble, the revision is being made in light of the Court decision that vacated portions of regulations related to SSM in the General Provisions of 40 CFR part 63. EPA is including in this final rule an affirmative defense to civil penalties for exceedances of emission limits that are caused by malfunctions. The full rationale for these decisions is presented in section V.H of this preamble.

E. How do the rule amendments affect the applicability of the 2000 NSPS and EG?

Incinerators subject to the 2000 CISWI standards are treated differently under the amended standards than they were under the 2000 CISWI rule in terms of whether they are "existing" or "new" sources.[2] Consistent with the CAA section 129 definition of "new" sources, there are new dates defining what units are "new" sources. Incinerators that are currently subject to the NSPS will become "existing" sources under the final amended standards and are required to meet the revised EG by the applicable compliance date for the revised guidelines. Those units will continue to be NSPS units subject to the 2000 CISWI rule until they become "existing" sources under the amended standards. Incinerators and small remote incinerators that are existing sources under the 2000 EG must continue to comply with those standards until the applicable compliance date for the revised EG, at which time those sources must be in compliance with the applicable EG.

Commercial and industrial solid waste incineration units in the four subcategories for which we are issuing final standards in this rule that commenced construction after June 4, 2010, or for which a modification is commenced on or after 6 months after promulgation of these final standards, are "new" units subject to more stringent NSPS emission limits. Units for which construction or modification is commenced prior to those dates would be existing units subject to the EG, except that units in the incinerators and small remote incinerators subcategories remain subject to the 2000 CISWI rule until the compliance date of the CISWI EG as discussed below. Commercial and industrial solid waste incineration units in the subcategories other than the incinerator subcategory and small remote incinerator subcategory (if a unit was not exempt) will not in any case be subject to the standards in the 2000 CISWI rule.

Under this final rule, incinerators that commenced construction after November 30, 1999, and on or before June 4, 2010, or that were reconstructed or modified prior to the date 6 months after promulgation of any revised final standards, are subject to the 2000 CISWI NSPS until the applicable compliance date for the revised EG, at which time those units would become "existing" sources. Similarly, units in the incinerator or small remote incinerator subcategories that are subject to the EG under the 2000 CISWI rule must meet the revised EG by the applicable compliance date for the revised guidelines. Commercial and industrial solid waste incineration units that commence construction after June 4, 2010, or that are reconstructed or modified 6 months or more after the date of promulgation of the revised standards, must meet the revised NSPS emission limits in the NSPS within 6 months after the promulgation date of the amendments or upon startup, whichever is later.

F. What is the compliance schedule?

New CISWI units must demonstrate compliance with the applicable emission limit within 60 days after the CISWI unit reaches the charge rate at which it will operate, but no later than 180 days after its initial startup.

Existing CISWI units must demonstrate compliance with the applicable emission limits as expeditiously as practicable after approval of a state plan, but no later than 3 years from the date of approval of a state plan or 5 years after promulgation of these revised standards, whichever is earlier.

G. What is the state plan implementation schedule?

Under the final 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 final amendments are due within 1 year after promulgation of the amendments. States must submit revised state plans to EPA March 21, 2012.

These amendments to the EG allow existing CISWI to demonstrate compliance with the amended standards as expeditiously as practicable after approval of a state plan, but no later than 3 years from the date of approval of a state plan or 5 years after promulgation of the revised standards, whichever is earlier. Because we believe that many CISWI units will find it necessary to retrofit existing emission control equipment and/or install additional emission control equipment in order to meet the final revised limits, EPA anticipates that states may choose to provide the 3-year compliance period allowed by CAA section 129(f)(2).

In revising the standards in a state plan, a state has two options. First, it may include both the 2000 CISWI standards and the new standards in its revised state plan, which allows a phased approach in applying the new limits. The state plan must make clear that the standards in the 2000 CISWI rule remain in force for subject units and apply until the date the revised existing source standards are effective (as defined in the state plan).[3] States where existing CISWI incinerators do not need to improve their performance to meet the revised standards, may want to consider a second approach as follows. The state may replace the 2000 CISWI rule standards with the standards in this final rule; follow the 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 standards (*i.e.,* the 2000 CISWI rule standards are not retained), then the revised standards must become effective immediately for those units that are subject to the 2000 CISWI rule, since the 2000 CISWI rule

[2] We believe that all the units in the small remote incinerator subcategory as defined in this final rule qualified for the exemption for MWC in the 2000 CISWI standards. *See* 40 CFR 60.2020(c)(2) and 60.2555(c)(2).

[3] All sources currently subject to the 2000 CISWI EG or NSPS will become existing sources in the incinerator or small remote incinerator subcategories once the final revised CISWI standards are in place. *See* section III.F of this preamble.

standards 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 has promulgated. The federal plan applies to CISWI units in any state without an approved state plan. The proposed amendments to the EG would allow existing CISWI units subject to the federal plan up to 5 years after promulgation of the revised standards to demonstrate compliance with the amended standards, as required by CAA section 129(b)(3).

H. What are the requirements for submission of emissions test results to EPA?

EPA must have performance test data and other compliance data to conduct effective reviews of CAA section 112 and 129 standards, as well as for many other purposes including compliance determinations, emissions factor development, and annual emissions rate determinations. In conducting these required reviews, EPA has found it ineffective and time consuming not only for us but also for regulatory agencies and source owners and operators to locate, collect, and submit emissions 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 cumbersome paper copies.

In this final rule, EPA is taking steps to improve data accessibility. Owners and operators of CISWI units are required to submit to EPA an electronic copy of reports of certain performance tests required under the CISWI EG and NSPS. Sources must submit data through the ERT. The ERT was developed with input from stack testing companies who generally collect and compile performance test data electronically and offices within state and local agencies which perform field test assessments. The ERT is currently available, and access to direct data submittal to EPA's electronic emissions database (WebFIRE) is scheduled to become available by December 31, 2011.

The requirement to submit source test data electronically to EPA will not require any additional performance testing and will apply to those performance tests conducted using test methods that are supported by ERT. The ERT contains a specific electronic data entry form for most of the commonly used EPA reference methods. The Web site listed below contains a listing of the pollutants and test methods supported by ERT. In addition, when a facility submits performance test data to WebFIRE, there would be no additional requirements for emissions test data compilation. Moreover, EPA believes industry will benefit from development of improved emissions factors, fewer follow-up information requests, and better regulation development as discussed below. The information to be reported is already required for the existing test methods and is necessary to evaluate the conformance to the test method.

One major advantage of collecting source test data through the ERT is that it provides a standardized method to compile and store much of the documentation required to be reported by this final rule while clearly stating what testing information EPA requires. Another important benefit of submitting these data to EPA at the time the source test is conducted is that it substantially reduces 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 likely be fewer or less substantial data collection requests (*e.g.,* CAA section 114 letters). This results in a reduced burden on both affected facilities (in terms of reduced labor to respond to data collection requests) and EPA (in terms of preparing and distributing data collection requests).

State/local/tribal agencies may also benefit in that their review may be more streamlined and accurate because the states would not have to re-enter the data to assess the calculations and verify the data entry. Finally, another benefit of submitting these data to WebFIRE electronically is that these data would improve greatly the overall quality of the existing and new emissions factors by supplementing the pool of emissions test data upon which the emissions factor is based and by ensuring that data are more representative of current industry operational procedures. A common complaint EPA receives from industry and regulators is that emissions factors are outdated or not representative of a particular source category. Receiving and incorporating data for most performance tests would ensure that emissions factors, when updated, represent accurately the most current operational practices. In summary, receiving test data already collected for other purposes and using them in the emissions factors development program would save industry, state/local/tribal agencies, and EPA, time and money and work to improve the quality of emissions inventories and related regulatory decisions.

As mentioned earlier, the electronic database that would be used is EPA's WebFIRE, which is a database accessible through EPA's TTN (see *http://cfpub.epa.gov/webfire/*). The WebFIRE database was constructed to store emissions test and other data for use in developing emissions factors. A description of the WebFIRE database can be found at *http://cfpub.epa.gov/oarweb/index.cfm?action=fire.main*.

Source owners and operators will be able to transmit data collected via the ERT through EPA's CDX network for storage in the WebFIRE database. 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*.

Source owners and operators must register with the CDX system to obtain a user name and password before being able to submit data to the CDX. The CDX registration page can be found at *https://cdx.epa.gov/SSL/CDX/regwarning.asp?Referer=registration*. If they have a current CDX account (*e.g.,* they submit reports for the EPA's TRI Program to the CDX), then the existing user name and password can be used to log in to the CDX.

I. What are the costs and benefits of this final rule?

EPA estimated the costs and benefits associated with the final rule, and the results are shown in the following table. For more information on the costs and benefits for this rule, see the Regulatory Impact Analysis (RIA) in the EPA–HQ–OAR–2003–0119.

TABLE 3—SUMMARY OF THE MONETIZED BENEFITS, SOCIAL COSTS, AND NET BENEFITS FOR THE CISWI NSPS AND EMISSIONS GUIDELINES IN 2015

[Millions of 2008$] [a d]

	3% Discount rate	7% Discount rate
Option 1: MACT Floor:		
Total Monetized Benefits [b]	$340 to $830	$310 to $750.
Total Social Costs [c];	$280	$280.
Net Benefits	$60 to $550	$30 to $470.
Non-monetized Benefits	25,000 tons of CO.	
	470 tons of HCl.	
	260 pounds of Hg.	
	0.95 tons of Cd.	
	4.1 tons of lead.	
	92 grams of dioxins/furans.	
	Health effects from NO_2 and SO_2 exposure.	
	Ecosystem effects.	
	Visibility impairment.	
Option 2: Beyond-the-Floor:		
Total Monetized Benefits [b]	$430 to $1,100	$390 to $960.
Total Social Costs [c]	$300	$300.
Net Benefits	$130 to $770	$90 to $660.
Non-monetized Benefits	25,000 tons of CO.	
	470 tons of HCl.	
	260 pounds of Hg.	
	0.95 tons of Cd.	
	4.1 tons of lead.	
	92 grams of dioxins/furans.	
	Health effects from NO_2 and SO_2 exposure.	
	Ecosystem effects.	
	Visibility impairment.	

[a] All estimates are for the implementation year (2015), and are rounded to two significant figures. These results include units anticipated to come online and the lowest cost disposal assumption.

[b] The total monetized benefits reflect the human health benefits associated with reducing exposure to $PM_{2.5}$ through reductions of directly emitted $PM_{2.5}$ and $PM_{2.5}$ precursors such as NO_X and SO_2. It is important to note that the monetized benefits include many but not all health effects associated with $PM_{2.5}$ exposure. Benefits are shown as a range from Pope, et al. (2002) to Laden, et al. (2006). These models assume that all fine particles, regardless of their chemical composition, are equally potent in causing premature mortality because there is no clear scientific evidence that would support the development of differential effects estimates by particle type. These estimates include energy disbenefits valued at $3.8 million.

[c] The methodology used to estimate social costs for 1 year in the multimarket model using surplus changes results in the same social costs for both discount rates.

[d] The estimates in this table reflect the estimates in the RIA. Due to last minute changes, we were unable to incorporate the final engineering costs and emission reductions into the RIA, which would decrease the costs by approximately 22% and increase the monetized benefits by approximately 4% from those shown here.

IV. Summary of Significant Changes Since Proposal

EPA received over 3,500 public comments on the proposed rulemaking. Furthermore, we conducted three public hearings to allow the public to comment on the proposed rulemaking and the inter-related Boiler and RCRA rules. Following are the major changes to the rule since the proposal. The rationale for these and any other significant changes can be found in section V of this preamble or in the document titled "Commercial and Industrial Solid Waste Incineration (CISWI) Rule: EPA's Response to Public Comments" available in the docket for this rulemaking.

- Clarified and revised the applicability and compliance requirements for CISWI units that cease or begin combusting solid waste.
- Determined that this final action will not subject burn-off ovens, soil treatment units, cyclonic burn barrels, laboratory analysis units, and space heaters to this standard.
- Further subcategorized ERUs with separate limits for NO_X, CO, and SO_2 for coal and biomass units.
- Revised the definition of small, remote incinerators.
- Incorporated new data submitted by facilities since December 15, 2010.
- Revised the emission limit methodology to use the UPL for ERUs and waste-burning kilns.
- Revised the statistical analysis to use the log normal distribution of data in cases where a normal data distribution is not indicated conclusively by normality tests for the data.
- Revised the nondetect methodology to calculate emission limits using three times the reported nondetect values where the value equal to three times the representative MDL was greater than the calculated MACT floor emission limit.
- Revised the requirements for opacity.
- Revised the monitoring requirements for continuous compliance via testing and parametric monitoring and to allow CEMS use to demonstrate compliance over a 30-day rolling average as an alternative.
- Revised the CO CEMS monitoring requirement from mandatory to voluntary for existing ERUs.
- Incorporated hourly CEMS data into emissions limit calculations and 24-hour CEMS data into costing and impacts analyses.
- Revised the calculation methodology of D/F TEQ and clarified that sources must comply with either the TMB or TEQ basis limit.
- Added tire certification procedures for all CISWI units to allow them to certify that the tires are from a program that enables them to be considered non-waste materials.
- Added recordkeeping and reporting requirements for units that burn materials other than traditional fuels.

- Revised the annual performance testing requirements to clarify the schedule for completion of subsequent performance tests.
- Revised the reduced testing provision to state testing for a given pollutant may be performed every 3 years, instead of annually, if measured emissions during two consecutive annual performance tests are less than 75 percent of the applicable emission limit.
- Revised the test methods for cement kilns to require EPA Method 321 for HCl testing of these units.
- Removed the allowance for sources to use the results of previously conducted tests to demonstrate compliance.
- Revised monitoring requirements for the waste-burning kilns subcategory.
- Provided an affirmative defense to civil penalties for exceedances of emission limits that are caused by malfunctions.

V. Public Comments

A. Legal and Applicability Issues, Compliance Schedule, and Certification Procedures

1. Section 129 vs. Section 112—Applicability for Waste Firing Boilers and Kilns That Opt To Stop Burning Waste

Comment: Many commenters stated that ERUs and waste-burning kilns should be able to move between CAA sections 129 and 112 standards based on the materials being burned. Commenters argued that EPA should provide flexibility for operators of units burning co-fired waste to consider the stringency of all applicable standards and opt into the appropriate rule. Many commenters contended that requiring operators who stop burning solid waste to remain regulated under CISWI would penalize them with no benefit gained. One commenter stated that no law or regulation prevents EPA from allowing a unit to opt out of CISWI and that the concern that facilities would "backslide" from MACT control levels is not applicable. Further, commenters argued that the once-in-always-in policy should not apply to CISWI and requested clarification on how the policy applies to sources subject to CAA section 129 standards that either continue or begin combusting solid waste. One commenter requested that EPA clarify whether the CISWI rule would apply to any kiln that is actually using solid waste or to any kiln authorized to do so.

Response: This rule addresses the combustion of solid waste materials (as defined by the Administrator under RCRA) in combustion units at commercial and industrial facilities. If an owner or operator of a CISWI unit permanently ceases combusting solid waste, the affected unit is no longer subject to this regulation under CAA section 129, and the unit would become subject to any applicable regulations under CAA section 112. Likewise, if an owner or operator of any commercial or industrial unit starts combusting solid waste in that unit, it becomes subject to CISWI, and is no longer subject to any previously applicable regulations under section 112. Consistent with CAA section 129(h)(2), no solid waste incineration unit subject to performance standards under section 129 and section 111 shall be subject to standards under section 112(d) of the Act.

CISWI units that cease burning solid waste in the ERU and waste-burning kiln subcategories may be subject to one of three rulemaking actions under CAA section 112. EPA is finalizing in a parallel action two NESHAP applicable to boilers, one for area source boilers and one for major source boilers that also regulates process heaters at major sources. EPA also recently finalized revised NESHAP for cement kilns (74 FR 54970, September 9, 2010). Energy recovery units and waste-burning kilns subject to CISWI that cease burning solid waste, and thus cease being subject to this final rule, will be subject to the NESHAP for area source boilers, major source boilers and process heaters, or cement kilns, as appropriate.

Today's final rule includes provisions to address the situation where CISWI units cease burning solid waste, and where existing commercial and industrial facilities start burning solid waste. Units that cease burning solid waste remain subject to CISWI for at least 6 months after solid waste is no longer present in the combustion chamber. After 6 months, sources must either comply with any applicable section 112 standards or, if they intend to combust solid waste in the unit in the future, opt to remain subject to CISWI. Sources switching out of CISWI due to cessation of solid waste combustion must submit advance notification of the effective date of the waste-to-fuel switch consistent with new procedures in this rule. Units that begin combusting solid waste are considered existing sources under CISWI and must comply with the emissions guidelines set forth in the CISWI final rule at the time they begin burning solid waste.

EPA acknowledges that sources may stop and start burning solid waste in their combustion units, and that regulatory procedures are necessary to guide sources through the changes in applicability that may result due to a switch in combustion materials. New provisions in the final rule account for the fact that facilities may start and stop burning solid waste and ensure that any resulting changes in applicability between section 129 and section 112 rules do not occur with so much frequency that sources are unable to demonstrate continuing compliance with the applicable standards.

To ensure that frequent switching does not impede our ability to determine continuous compliance and create undue permitting and testing burdens, sources remain subject to CISWI for a minimum of 6 months. The definition of CISWI unit has been revised to clarify that a CISWI unit includes a distinct operating unit of any commercial or industrial facility that combusts any solid waste in a 12-month period. This change accounts for sources that periodically burn solid waste throughout a given 12-month period, but that also has long periods in which no solid waste is combusted at all. We believe this change will reduce administrative and compliance costs to both the source and the regulatory agencies. For example, sources will not have to re-establish initial compliance with CISWI or revise their operating permit to reflect a switch out of and back into the CISWI regulations. Instead, facilities that combust solid waste would continue to be subject to the CISWI regulations at least 6 months after waste is no longer combusted. The regulations also allow facilities to remain subject to CISWI beyond 6 months after cessation of solid waste combustion, at their own discretion, if the source determined that continued compliance with CISWI is appropriate because the source intends to combust solid waste in the future. Source owners or operators may, alternatively, choose a date at least 6 months after ceasing solid waste combustion on which they would no longer be subject to CISWI, and would instead be subject to any applicable section 112 standards. This date is called the effective date of the waste-to-fuel switch.

Specifically, the new provisions direct a source owner or operator to select an effective date for the waste-to-fuel, or fuel-to-waste switch, and that date becomes the date on which all of the newly applicable requirements apply. When a source begins combusting solid waste, the effective date of the fuel-to-waste switch must be the same as the actual date the unit begins combusting solid waste because by statute any source that combusts any solid waste is a solid waste incineration unit subject to standards under CAA section 129. *See* section 129(g)(1) (defining "solid waste incineration unit"). For sources that cease burning solid waste, they may pick an effective date for the waste-to-fuel switch that is at least 6 months after the last date on which solid waste is combusted. This allows sources that cease combusting solid waste to comply with an applicable NESHAP or opt to remain subject to CISWI at the discretion of the owner or operator. We allow the owner or operator of a CISWI unit the option of remaining subject to CISWI to account for sources that may want to retain the ability to burn waste intermittently without having to periodically switch between the section 112 and section 129 regulatory programs. If a source wishes to end applicability of CISWI to its unit, the source must submit an advance notification of the effective date of the waste-to-fuel switch. The source must be in compliance with any NESHAP that applies as a result of ceasing the combustion of solid waste on the effective date of the waste-to-fuel switch. The source must remain in continuous compliance with the CISWI regulations until that date.

As stated above, boiler and process heaters that commence combustion of any solid waste and become solid waste incineration units as defined in section 129(g)(1) are subject to CISWI standards applicable to ERUs as of the date they commence combusting solid waste. Likewise, cement kilns that begin combusting solid waste and become solid waste incineration units must comply with the CISWI standards applicable to waste-burning kilns at the time they begin combusting solid waste.

The new waste-to-fuel switch provisions in the final rule include requirements to conduct performance testing that will assure compliance with all applicable standards. Specifically, performance tests must be conducted within 60 days of the date on which the unit begins combusting solid waste. In addition, the owner or operator must collect and report any PM CEMS and/or PM parametric monitoring data for those monitors that are operated at the same time as the performance test to determine whether the existing calibrations and/or correlations are still applicable. After the testing is completed, and it is demonstrated that the source is operating in compliance with the applicable standards, the owner or operator should adjust any PM CEMS calibration and any correlation for PM to correspond to the performance test results and data.

The new provisions also require advance notification of the effective date of the waste-to-fuel switch. The notification includes basic information that will enable the reviewing authority to determine the date on which CISWI will no longer apply to the facility and the date on which any newly applicable section 112 regulations may apply. Notification must be submitted to both the EPA Regional Office and the delegated state or local agency.

To ensure that frequent switching does not impede our ability to determine continuous compliance, sources may not switch between applicable section 129 and section 112 standards without completing the initial performance test. Therefore, sources that wish to start burning solid waste before they have demonstrated compliance with their existing section 112 standard must complete the performance test for the 112 rule before switching to solid waste combustion.

If a source switches back to a fuel or non-waste material for which a performance test was conducted within the 6 months preceding the effective date of the fuel-to-waste or waste-to-fuel switch, and if there are no changed conditions that would affect emissions, the source need not retest that source until 6 months from the effective date of the switch.

If a source is subject to any emissions limits for which compliance is determined on an annual average or other averaging period that is for a period of time less than the period in which the source will be combusting the fuel or non-waste material, the source must comply with the emission limit in the shorter time period in which the fuel or material is combusted. For example, if a source chooses to demonstrate compliance with the Hg limits of the major source Boiler NESHAP through fuel analysis, which has a 12-month rolling average limit, and opts to start burning solid waste and become subject to CISWI after combusting the fuel under the Boiler NESHAP for only 9 months, the source must demonstrate compliance with the Hg limit based on a 9-month average instead of the annual average. The EPA believes this is necessary to assure that switching to solid waste combustion does not compromise our ability to determine compliance with standards under section 112.

The rules do not allow for compliance extensions associated with changes to the fuels or materials that are combusted. After the first substantive compliance date (*e.g.,* the effective date of the state program or 5 years after publication of the final CISWI rule for incineration units), sources must be in compliance with the standard that is applicable to the source based on the type of unit and the fuels or materials that are combusted. Sources that change fuels or materials are considered existing sources and, as such, they must be in compliance on the date they begin combusting the new fuel or material. For example, a waste-burning cement kiln that ceases burning solid waste becomes subject to and must comply with the Portland Cement NESHAP as of the date that it is no longer subject to CISWI. For all sources that commence combustion of solid waste, the CISWI requirements become applicable on the date that the fuel switch occurs.

2. Homogeneous Waste

Comment: Many commenters requested that EPA reaffirm the exemption of qualifying small power production and cogeneration facilities as promulgated in the 2000 CISWI regulations. Several commenters requested that EPA clarify the term "homogeneous waste." Some commenters requested that certain mixtures or blends of fuels fall under the definition of homogeneous waste.

Response: Homogeneous wastes are stable, consistent in formulation, have known fuel properties, have a defined origin, have predictable chemical and physical attributes, and result in consistent combustion characteristics and have a consistent emissions profile. Qualifying small power production and cogeneration facilities requesting an exemption from CISWI on the basis that they burn homogeneous waste may be asked to demonstrate, using defined test methods acceptable to EPA, that the physical and chemical characteristics of the waste are consistent throughout such that the emission profile of any sample of waste combusted is similar or identical to any other sample. Mixtures of different types of wastes are generally not homogeneous, unless the mixtures are from materials that are each individually determined to be homogeneous, are from known origin, are mixed in constant proportion, and are conditioned or processed, such as would occur in the gasification of the wastes. Gasification processes that incorporate clean up technologies in the production of synthesis gas would generally result in a homogeneous product, however a consistent waste input would still be necessary to ensure a consistent emissions profile of the synthesis gas. Whether a waste is homogeneous is a case-by-case determination. As such, EPA has added provisions to the CISWI rule that require source owners or operators seeking the exemption to submit a request for a homogeneous fuel determination to EPA, and that they support their request with information describing the materials to be combusted and why they believe the waste is homogeneous. The determination of what constitutes a homogeneous waste is not delegable to the state or local agencies.

3. Lab Analysis Units

Comment: Commenters stated that they do not believe CAA section 129 is intended to regulate laboratory analysis units that involve combustion to generate analytical results. Commenters contend that samples are not solid waste and have definite purpose separate from disposal of sample material. They stated that it is physically impossible for many, if not all, of these uses to comply with CISWI requirements and therefore operations would likely cease. Several commenters indicated that it is unclear as to whether the material referenced in the existing definition of laboratory units in 40 CFR 60.2020(o) (subpart CCCC) and 40 CFR 60.2555(o) (subpart DDDD) is a solid waste. Several commenters stated that other CISWI requirements including operator certification, performance tests, and SSM requirements are not appropriate for laboratory units. If regulated, commenters requested that EPA clarify whether the rule is applicable to all laboratory units or limited to those at commercial and industrial facilities. Many argued that EPA underestimated the number of laboratory units affected by this regulation because the Phase I ICR was not clear that these units were included in the scope of the survey. Commenters also stated that EPA did not provide cost or impact analysis for these units.

Response: EPA agrees that samples used in laboratory analysis units have a purpose separate from the disposal of material, and we believe based on the information available at this time, that the material that is combusted is likely not a solid waste as that term is defined in the Solid Waste Definition Rule. We have no information that refutes our conclusions, and we have no data from laboratory analysis units on which to establish section 129 standards in any case. We have determined that this final action will not subject laboratory analysis units to this standard.

4. Asphalt Recycling

Comment: One commenter requested that EPA provide a clarification as to whether asphalt plants utilizing recycled asphalt would be subject to the CISWI rule.

Response: EPA did not receive any information to indicate that recycled asphalt is a solid waste, or that the recycled asphalt or solid waste is being combusted in asphalt plants. Absent that information, we are not establishing separate standards regulating asphalt plants at this time. However, any combustion unit that combusts solid waste and meets the definition of a CISWI unit may be subject to the CISWI rule, including combustion units at asphalt plants. If the combustion unit is recovering useful heat (*e.g.,* process heaters and boilers), the unit may be subject to standards applicable to ERUs and sources should contact EPA or their state for a specific determination.

5. Chemical Recovery (SARUs)

Comment: Several commenters suggested that EPA provide a clear definition of a chemical recovery unit in the final rule. They requested that EPA specifically define chemical recovery units burning pulping liquors and kilns burning lime as not CISWI units.

Commenters suggested that EPA include language that explicitly states SARUs are not subject to CISWI citing the CAA exemption for analogous processes. Some commenters argued that materials burned in SARUs are not "solid wastes" because they are not burned for the purpose of being disposed of or discarded. Instead, commenters asserted that the primary purpose of SARUs is to combust materials to recover sulfur in order to produce virgin sulfuric acid. A few commenters also stated that SARUs are already regulated under 40 CFR part 60, subpart H, Standards of Performance for Sulfuric Acid Plants.

Response: The Solid Waste Definition Rule exempts materials pursuant to subtitle C of RCRA. Any SARU, chemical recovery unit, recovery furnace, or lime kiln that is exempt pursuant to subtitle C of RCRA is not a CISWI unit subject to this final rule unless the unit combusts material that is solid waste and is not specifically exempt from the definition pursuant to subtitle C of RCRA. We are currently not aware of any subtitle C exempt facilities burning such materials. We are also not aware of any lime kilns that are combusting solid waste as that term is defined in the Solid Waste Definition Rule. To the extent there are lime kilns or chemical recovery units combusting solid waste, those units may be subject to the final CISWI standards as incinerators, ERUs, or waste-burning kilns, as appropriate. Units discussed in this comment that are combusting solid waste should consult EPA or their state concerning applicability of this final rule to their combustion unit.

6. Exemptions—Hazardous Waste Combustion Units

Comment: Several commenters urged EPA to retain the exemption for hazardous waste combustion units or clarify that these units are not subject to the proposed rule and do not need an exemption. Commenters suggested that the removal of this exemption could shift certain RCRA provisions from a RCRA permit to a Title V permit.

Response: Hazardous waste combustion units that are required to have a permit under section 3005 of the SWDA are exempt from CAA section 129 rules per CAA section 129(g)(1). Thus, these hazardous waste combustion units would not be subject to the CISWI requirements.

7. CISWI Promulgation Schedule and 112(c)(6) Obligations

Comment: Many commenters requested that EPA delay issuing the CISWI standard until the Solid Waste Definition Rule is finalized. They argued that the court-ordered deadline does not apply to CISWI and that the lack of certainty in the outcome of the Non-Hazardous Solid Waste Definition Rule affects all aspects of the CISWI proposal including the number of facilities affected, the MACT floors, and the total anticipated compliance costs. Some commenters believe that this violates EPA's duty to provide a full and fair opportunity to develop and submit comments on the proposal. They contend that this problem can only be addressed by promulgating the waste rule and then re-proposing CISWI standards based on the known population of units.

One commenter suggests that EPA's proposal to treat the proposed CAA section 129 standards as satisfying CAA section 112(c)(6) requirements is unlawful. They argue that EPA's statement that its proposed CAA section 129 standards "effectively control" emissions of POM and PCBs, identified in CAA section 112(c)(6) as pollutants for which EPA must regulate 90 percent of aggregate emissions under CAA sections 112(d)(2) or 112(d)(4), is illegal. The commenter asserts that the CAA requires EPA to subject 90 percent of the emissions of the pollutants identified in CAA section 112(c)(6), including POM and PCBs, to CAA section 112(d)(2) or (d)(4) standards. The commenter argues that assuming EPA could meet CAA section 112(c)(6) requirements by taking credit for standards established under CAA section 129, EPA would have to set specific CAA section 129 standards for POM and PCBs. They suggest that although CAA section 129(a)(4) gives

EPA authority to do just that, EPA has not proposed CAA section 129 standards for POM or PCBs. The commenter believes that the proposed CISWI standards would not satisfy CAA section 112(c)(6) even if CAA section 129 standards could do so. The commenter states that EPA cannot meet its obligations to regulate PCBs and POM under CAA section 112(c)(6) with the proposed CAA section 129 standards for other pollutants. Another commenter claims that they cannot find documentation in the proposed rulemaking package to explain how and why coverage of CISWI sources is necessary to meet the 90 percent requirement.

Response: EPA disagrees with the commenters who suggest the Court-ordered deadline does not apply to certain CISWI units. The EPA maintains that we are under a Court-ordered deadline to complete our CAA section 112(c)(6) obligations by January 16, 2011. Because we need certain CISWI units to comply with our 112(c)(6) obligations, the Court-ordered deadline requires EPA to promulgate the CISWI standards for certain subcategories by January 16, 2010. The EPA may therefore not postpone issuance of the final CISWI rules until after the Solid Waste Definition Rule is promulgated.

Section 112(c)(6) of the CAA requires EPA to regulate sources accounting for not less than 90 percent of the aggregate emissions of each pollutant listed in CAA section 112(c)(6). EPA has historically interpreted CAA section 112(c)(6) as allowing EPA to count CAA section 129 emission standards, such as CISWI, for the purpose of meeting its 90 percent obligation under CAA section 112(c)(6) (62 FR 33625, 33632, June 20, 1997). For example, both municipal waste combustion units and medical waste incinerators are listed CAA section 112(c)(6) source categories, and they are regulated under CAA section 129.

As EPA stated in 1998, we need to issue emissions standards for all Portland Cement kilns that combust non-hazardous waste (both major and area sources) to meet our obligation under CAA section 112(c)(6) (63 FR 17838, 17849, April 10, 1998). In addition, EPA must issue standards for commercial and institutional combustion units (*e.g.,* boilers and process heaters) to comply with the section 112(c)(6) obligation (63 FR 32006, June 4, 2010). We must set standards for all CAA section 112(c)(6) categories by the Court-ordered deadline, and that includes setting emission standards pursuant to CAA section 129 for those Portland Cement kilns and commercial and institutional boilers and process heaters that combust non-hazardous solid waste and are thus subject to CISWI as waste-burning kilns and ERUs, respectively.

As we stated in section VI of the proposed rule, 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 certain CISWI units as sources necessary to meet the 90 percent requirement under section 112(c)(6). 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 source categories that must be "subject to regulation" for purposes of CAA section 112(c)(6). Included in that list are cement kilns and combustion units (*e.g.,* major source boilers and process heaters). Cement kilns, boilers, and process heaters that combust solid waste are subject to the CAA section 129 standards for CISWI as either waste-burning kilns or ERUs. These CISWI units emit five of the seven CAA section 112(c)(6) pollutants: POM, dioxins, furans, Hg and PCBs. The POM emitted by CISWI is composed of 7–PAH, 16–PAH, and EOM.

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). (63 FR 17845; 62 FR 33625, 33632 (1997)). As discussed in more detail in response to comments on this issue, 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 CISWI units under CAA section 112(d), EPA cannot further regulate the emissions of 112(c)(6) pollutants from CISWI units under CAA section 112(d). As a result, EPA considers emissions of these five pollutants from waste-burning kilns and ERUs "subject to standards" for purposes of CAA section 112(c)(6). The remaining CISWI subcategories will be subject to MACT standards either in this action or in a future action, but regulation of the remaining subcategories is not required for EPA to complete its 112(c)(6) obligations.

As required by the statute, the CAA section 129 CISWI standards include numeric emission limitations for the nine pollutants specified in CAA section 129(a)(4). The combination of waste segregation, good combustion practices, and add-on air pollution control equipment (sorbent injection, FF, wet scrubbers, or combinations thereof) effectively reduces emissions of the pollutants for which emission limits are required under CAA section 129: Hg, dioxins, furans, Cd, Pb, PM, SO_2, HCl, CO, and NO_X. Thus, the standards 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 CISWI standards also effectively reduce emissions of the following CAA section 112(c)(6) pollutants that are emitted from waste-burning kilns and ERUs: POM and PCBs. Although the CAA section 129 CISWI standards do not have separate, specific emissions standards for POM and PCBs, 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 CAA section 129(a)(4). Specifically, as by-products of combustion, the formation of POM and PCBs is effectively reduced by the combustion and post-combustion practices required to comply with the CAA section 129 standards, primarily the standards for CO and D/F. In fact, EPA has used CO as a surrogate for organic HAP such as POM, and the controls for PCBs are the same controls that reduce emissions of dioxin and furans. Polycyclic Organic Matter and PCBs that do form during combustion are further controlled by the various post-combustion CISWI controls. The add-on PM control systems (either FF or wet scrubber) and ACI further reduce emissions of these organic pollutants and also reduce Hg emissions, as is evidenced by performance data for MWCs and another similar source category, HMIWI. Specifically, the post-MACT compliance tests at currently operating HMIWI that were also operational at the time of promulgation of the 1997 HMIWI MACT standards show that, for those units, the regulations reduced Hg emissions by about 60 percent and reduced dioxin and furans emissions by about 80 percent from pre-MACT levels. Dioxin and furans have similar chemical composition and structure as PCBs and POM; moreover, similar controls have been demonstrated to reduce emissions of D/F, POM, and PCBs from MWCs. It is reasonable to conclude that POM and PCB emissions would be effectively controlled to a MACT level at all CISWI units meeting the emission limits for the section 129 pollutants. Thus, while the rule does not identify specific numerical limits for POM and PCB, emissions of those pollutants are, for the reasons noted above, nonetheless "subject to regulation" for purposes of CAA section 112(c)(6).

Finally, we disagree with comments that EPA should not finalize the CISWI standards until after the Solid Waste Definition Rule is final because EPA does not know the population of sources that will be subject to the CISWI standards. As stated above, we must finalize the CISWI standards for certain subcategories to comply with the Court-ordered deadline; but, in any case, we would not postpone the standards absent the deadline based on the commenters' issue. EPA must establish standards for all rules based on the best information available at the time of issuance. In this case, we have included those units that we believe combust solid waste as that term is defined in the final Solid Waste Definition Rule. We have no information at this time that allows us to determine that the units we have included are not combusting solid waste. Furthermore, sources in the waste-burning kilns and ERUs subcategories and their CAA section 112 counterparts may start or stop combusting solid waste at any time and thus move between CAA sections 112 and 129. Sources in any of the subcategories could also cease operation all together. For these reasons, we conclude it is not appropriate to postpone regulation in this case because we could never be certain that the list of units we identify is perfect. We maintain that the approach we have taken is reasonable because it is based on the best information available to EPA at the time of promulgation.

8. CISWI Implementation Schedule

Comment: Several commenters suggested that the date for compliance should be set at 5 or 6 years, not 3 years. Several commenters raised concern that many facilities may not have sufficient time to engineer and design the emissions control systems, raise the amount of capital to purchase the equipment, and install the required equipment. In addition, there could be hardware backlogs, insufficient skilled labor, and gridlock in state permitting processes which could delay compliance. Further commenters stated that they need time to plan a shutdown of a unit when everything is properly staged to ensure minimal disruption of the facility's operation.

Response: The terms of CAA section 129(b)(2), where state plan implementation schedules are specified, outline the maximum time available for implementation and enforcement of EG for solid waste incineration units. As CAA section 129(b)(2) states, the state plan "* * * shall provide that each unit subject to the guidelines shall be in compliance with all requirements of this section not later than 3 years after the state plan is approved by the Administrator but not later than 5 years after the guidelines were promulgated." This allows 2 years for state plans to be updated, modified, and approved by the Administrator, followed by a period of compliance not to exceed 3 years after the state plan has been approved.

B. MACT Floor Analysis

1. Pollutant-by-Pollutant Approach and Alternative Approaches

Comment: Many commenters objected to setting MACT floors on a pollutant-by-pollutant basis. They argue that setting MACT floors on a pollutant-by-pollutant basis is unlawful and results in MACT floors that bear no relation to emission limits that are being achieved at the best-performing existing sources pursuant to CAA section 129(a)(2). The commenters suggested that EPA has misinterpreted many court cases involving CAA section 112(d) over the years and that the proposed MACT standards are inconsistent with the legal principles established under previous court decisions because emission standards must be "achieved in practice" before finalizing the regulation. Commenters continued by explaining that EPA applies the "achieved in practice" standard on a pollutant-by-pollutant basis, which results in a final standard that they assert has never been achieved by any subject facility or best performer. Some commenters contended that this method violates the plain language and intent of the MACT process, and the result is a MACT floor that reflects a standard that no one plant in existence currently achieves. The commenters declared that the plain language of MACT process requires EPA to set a MACT floor for existing sources that is not less stringent than "the average emission limitation achieved by the best-performing 12 percent of units in the category." The commenters asserted that CAA sections 129(a)(2) and 112(d) use of the terms "best-performing" and "existing" clearly means that sources in a category or subcategory that are used to set the MACT floor are to be real, not theoretical or hypothetical sources. Some commenters maintained that CAA section 129(a)(2) instructs that the MACT floor "shall not be less stringent than the emission control that is achieved in practice by the best controlled similar source" and the phrase "achieved in practice" can only mean that Congress intended actual sources, performing under real-life conditions, to be the benchmark for determining the MACT floors. The commenters stated that in the CISWI rulemaking, EPA has chosen to establish the MACT floor by assessing the best-performing sources on a pollutant-by-pollutant basis, rather than by identifying the overall best-performing sources taking into account all pollutants.

Some commenters insisted that if Congress wanted EPA to establish separate MACT floor levels for different pollutants, it would have worded CAA section 129(a)(2) to allow this result by referring to the best-performing sources "for each pollutant" or "for each group of pollutants." Further, they argued that EPA's pollutant-by-pollutant methodology is at odds with the legislative history underlying the MACT setting process. The commenters cited the Senate report on the 1990 Amendments where Congress required "the selection of emissions limitations which have been achieved in practice (rather than those which are merely theoretical) by sources of a similar type or character. An emissions limitation achieved in practice is one based on control technology that works reasonably well (doesn't require frequent and extensive modification or repair) under realistic operating conditions." *See* S. Rep. No. 228, 101st Cong., 1st Sess. 169 (1989). The commenters suggested that the focus on overall performance is not surprising because in the 1990 CAA Amendments, Congress abandoned the previous focus on individual pollutant standards, and adopted the technology-based multi-pollutant approach to regulating emissions in use under the CWA. A few commenters suggested that if one source can achieve a firm degree of control for one pollutant but not for another, there may be no justification for including it in the set of sources from which the floor is calculated.

Several commenters recommended that EPA develop overall rankings for each unit in each subcategory based on their emissions of all nine pollutants and develop floors based on a common set of top performers. The commenters asserted that this approach would identify the overall best-performing sources taking into account all pollutants. The commenters argued that the statute unambiguously directs EPA to set standards based on the overall performance of "units." They maintained that CAA section 129(a)(2) specifies that emissions standards must be established based on the performance of "units" in the category or subcategory, and that EPA's discretion in setting standards for such units is limited to distinguishing among classes, types, and sizes of units. By setting floors based on the average of the top performing 12 percent of units in a subcategory and also using a confidence limit to attempt to account for variability, one would assume that at least 6 percent of all units in each subcategory would be able to comply with the emission limits with no further controls.

Several commenters argued that while an individual MACT floor for one pollutant might not appear cost-prohibitive, the total cost implications when combined with all of the other MACT floors for other pollutants, could become especially onerous, potentially forcing some regulated parties out of business, and barring the market entry for other potential entities. The commenters contended that this result is compounded when the proposed emission limits cannot be met even after the installation and proper operation of MACT hardware such as scrubbers and baghouses. The commenters stated that some facilities cannot operate certain types of control devices due to local operational constraints and feed material composition. The commenters declared that such a result violates the court's declaration in *National Lime Association* 627 F.2d 416, 443 (DC Cir. 1980), that under the CAA "EPA has a statutory duty to promulgate achievable standards." A few commenters insisted that while the CAA was authored with the intent of reducing air pollution, Congress did not intend to disrupt the "productive capacity" of the United States through the promulgation of economically unachievable standards. 42 U.S.C. 7401(b)(1). The commenters maintained that by setting MACT floors individually and ignoring the collective cost implications of the entire rule, EPA would effectively disregard the CAA requirement that air pollution control be advanced while promoting the nation's "productive capacity." The commenters stated that emissions standards are to be established by taking costs into consideration. 42 U.S.C. 7429(a)(2).

One commenter discussed that EPA previously used a pollutant-by-pollutant methodology to set MACT floors in the context of the Proposed National Emissions Standards for Hazardous Waste Combustors (69 FR 21198, April 20, 2004), hereinafter referred to as the HWC NESHAP. The commenter stated that several parties submitted public comments questioning EPA's approach and pointed to the fact that EPA had failed to cite a single existing source which met the various MACT floor standards. They stated that EPA attempted to defend its practice of establishing pollutant-by-pollutant MACT standards by citing the *Chemical Manufacturer Association* v. *EPA,* 870 F.2d 177, 239 1989), clarified 885 F.2d 253, 264 (5th Cir. 1989), cert. denied, 495 U.S. 910, (1990), a Fifth Circuit case where the court held that, under the CWA, "best available technology" referred to the single best-performing plant on a pollutant-by-pollutant basis. The commenter asserts that EPA's reliance on *Chemical Manufacturer Association* v. *EPA* is misplaced as the CAA's procedure regarding the selection of MACT technologies differs on a textual basis from the CWA's procedure for identifying BAT. The commenter argued that under the CWA, BAT standards are to be set based on "the best practicable control technology currently available." The commenter suggested that the Court in *Chemical Manufacturer Association* v. *EPA* read this provision to allow for pollutant-by-pollutant determinations finding no statutory requirement that all of the BATs actually be achieved by an existing plant, just that each technology be demonstrated available. 885 F.2d at 264. The commenter continued that the CAA, on the other hand, more narrowly limits the basis for MACT designation to what has been achieved at existing sources, not what could be hypothetically achievable on a per-pollutant basis.

A few commenters also cited the HWC NESHAP as an example where EPA attempted to support its use of the pollutant-by-pollutant methodology by stating that "EPA believes that because all our standards are not technically interdependent (*i.e.,* implementation of one emission control technology does not prevent the source from implementing another control technology), the fact that sources are not achieving all the standards simultaneously does not indicate a flaw in the methodology." The commenters argued that EPA's conclusion in the HWC NESHAP is inapplicable to the proposed CISWI rule. They provided an example problem that they claimed has been observed in the MSW industry using ACI (an EPA-identified technology to reduce Hg emissions) and could also occur in the cement industry could be the formation of additional solid-phase dioxins/furans, thus increasing the emissions of D/F (which are regulated under the MACT standards). The commenters suggested that these findings call into question EPA's legal justification that control requirements for one pollutant do not impact another. Several commenters suggested that there is an inverse relationship between CO and NO_X where improving combustion to control CO may affect NO_X. Finally, many commenters requested that EPA require work practice standards in lieu of emission limits for certain ERUs.

Response: We disagree with the commenters who object to setting MACT floors on a pollutant-by-pollutant basis. Contrary to the commenters' suggestion, CAA section 129(a)(2) does not mandate a total facility approach. EPA previously has explained that although CAA section 129 does not unambiguously declare that MACT floors must be established on a pollutant-by-pollutant basis, applying the requirement to set MACT floors based on what has been achieved by the best-performing sources for *each* of the pollutants covered by CAA section 129 is a reasonable interpretation of EPA's obligation under that provision (62 FR 48363–64).

Commenters' primary argument is premised on a reading of two clauses in CAA section 129(a)(2). Specifically, commenters cite the provision of CAA section 129 that, for new sources, states that MACT floors "shall not be less stringent than the emission control that is achieved in practice by the best controlled similar unit" and, for existing sources, states that MACT floors must be based on "the average emissions limitation achieved by the best-performing 12 percent of units in the category." Commenters make the assumption that "achieved in practice" as applied to the best controlled "similar unit" and "best-performing 12 percent of units in the category" must be interpreted to mean the best-performing unit or units with respect to the entire suite of pollutants.

EPA makes no such assumption, primarily because to do so would lead to the illogical result of basing emissions limitations on units that may not be the best-performing source for any single covered pollutant. Instead, EPA interprets the provision to support establishing emissions standards based on the actual emissions of "the best controlled similar unit" or "best-performing 12 percent of units in the category" for each covered pollutant. Even if we were to conclude that the commenters' interpretation is equally reasonable under the statute, which we do not, the commenters' interpretation is certainly not compelled by the statute. We maintain that our interpretation is reasonable under the statute and appropriate given the problems associated with implementing the commenters' approach.

Commenters' interpretation also ignores the rest of the CAA section 129. That provision requires EPA to "establish performance standards and other requirements pursuant to section [111] of this title and this section [129] for each category of solid waste incineration units." Pursuant to CAA section 129(a)(2), those standards "shall reflect the *maximum degree of reduction* in emissions of air pollutants listed under section (a)(4) that the Administrator, taking into consideration the cost of achieving such emission reduction, and any nonair quality health and environmental impacts and energy requirements, determines is achievable for new or existing units in each category" (emphasis added). Subsection (a)(4) then states: "The performance standards promulgated under section [111] of this title and this section [129] and applicable to solid waste incineration units shall specify numerical emissions limitations for the following substances or mixtures: particulate matter (total and fine), opacity (as appropriate), sulfur dioxide, hydrogen chloride, oxides of nitrogen, carbon monoxide, lead, cadmium, mercury, and dioxins and furans." Thus, the statute requires EPA to set individual numeric (a) Performance standards; (b) based on the maximum degree of reduction in emissions actually achieved; (c) for each of nine listed pollutants. Based on this, EPA believes—and has long believed—the statute supports, if not requires, that MACT floors be derived for each pollutant based on the emissions levels achieved for each pollutant.

Looking at the statute as a whole, EPA declared in 1997 rulemaking for medical waste incinerators: "The EPA does not agree that the MACT floors are to be based upon one overall unit" (62 FR 48364). Pointing for instance to CAA section 129(a)(4), EPA explained:

> This provision certainly appears to direct maximum reduction of each specified pollutant. Moreover, although the provisions do not state whether there is to be a separate floor for each pollutant, the fact that Congress singled out these pollutants suggests that the floor level of control need not be limited by the performance of devices that only control some of these pollutants well.

Id.

Since 1997, the courts have consistently acknowledged that EPA set emission standards based on the best-performing source for *each* pollutant. *See, e.g., Cement Kiln,* 255 F.3d 855, 858 (DC Cir.) ("[T]he Agency first sets emission floors for each pollutant and source category * * *"). Accordingly, EPA's pollutant-by-pollutant approach has, as outlined above, been in place since 1997 for medical waste incinerators, and even earlier for other types of incinerators regulated under section 129. *See, e.g.,* 59 FR 48198 (Sept. 20, 1994) (MWC). Commenters fail to cite to a single case even questioning EPA's pollutant-by-pollutant approach. In addition, such an approach has been upheld in other contexts. *See, e.g., Chemical Manufacturers Association* v. *EPA,* 870 F.2d 177, 239 (5th Cir. 1989) (concluding that basing CWA BAT standards on a pollutant-by-pollutant basis was a rational interpretation of EPA's obligations under that similar statute). Commenters maintain that the CWA BAT analogy is not apt due to differences in the statute. We disagree and note that the CAA MACT provisions were fashioned on that CWA program. S. Rep. No. 228, 101st Cong. 2d sess. 133–34.

Further, utilizing the single-unit theory proffered by commenters would likely result in EPA setting the standards at levels that could, for some pollutants, actually be based on emissions limitations achieved by the worst-performing unit, rather than the best-performing unit, as required by the statute (61 FR 173687, April 19, 1996; 62 FR 48363–64, September 15, 1997). For example, if the best-performing 12 percent of facilities for metals did not control PCDD/PCDF as well as a different 12 percent of facilities, the floor for PCDD/PCDF and metals would end up not reflecting best performance. Moreover, a single-unit approach would require EPA to make value judgments as to which pollutant reductions are most critical in working to identify the single unit that reduces emissions of the nine pollutants on an overall best-performing basis. Such value judgments are antithetical to the command of the statute at the MACT floor stage. It would essentially require EPA to prioritize the nine pollutants based on the relative risk to human health of each pollutant, a criterion that has no place in the establishment of MACT floors. The idea is to set limits that, as an initial matter, require all sources in a category to at least clean up their emissions to the level that their best performing peers have shown can be achieved. *Sierra Club* v. *EPA (Copper Smelters),* 353 F.3d 976, 979–80 (DC Cir. 2004).

Commenters' argument that Congress could have mandated a pollutant-by-pollutant result by using the phrase "for each pollutant" at appropriate points in CAA section 129(a)(2) misses the point. While doing so would have removed ambiguity from CAA section 129(a)(2), the fact that the statute does not contain the phrase does not compel any inference that Congress was *sub silentio* mandating a different result when it left the provision ambiguous on this issue. The argument that MACT floors set pollutant-by-pollutant are based on the performance of a hypothetical facility, so that the limitations are not based on those achieved in practice, just re-begs the question of whether CAA section 129(a)(2) refers to whole facilities or individual pollutants. All of the limitations in the floors in this rule of course reflect sources' actual performance and were achieved in practice.

An interpretation that the floor level of control must be limited by the performance of devices that only control some of these pollutants effectively "guts the standards" by including worse performers in the averaging process, whereas EPA's interpretation promotes the evident Congressional objective of having the floor reflect the average performance of best-performing sources. Since Congress has not spoken to the precise question at issue, and EPA's interpretation effectuates statutory goals and policies in a reasonable manner, its interpretation must be upheld. *See Chevron* v. *NRDC,* 467 U.S. 837 (1984).

The legislative history can sometimes be so clear as to give clear meaning to what is otherwise ambiguous statutory text, but that is not the case with the legislative history cited by the commenters: "The selection of emissions limitations which have been achieved in practice (rather than those which are merely theoretical) by sources of a similar type or character. An emissions limitation achieved in practice is one based on control technology that works reasonably well (doesn't require frequent and extensive modification or repair) under realistic operating conditions." *See* S. Rep. No. 228, 101st Cong., 1st Sess. 169 (1989). In fact, that language quoted equally supports EPA's approach of establishing the standards based on actual emission data from existing sources, which we consider realistic operating conditions. We further consider whether all the MACT standards can be achieved simultaneously under realistic operating conditions by evaluating the compatibility of different control technologies for the various 129 pollutants, as discussed below.

Commenters also make much of the fact that no single facility is presently achieving all of the nine pollutant limits proposed. But this fact is irrelevant, and only shows that plants will need to reduce their emissions of certain pollutants to meet standards reflecting the average of best industry performers for that pollutant. We recognize that the pollutant-by-pollutant approach for determining the MACT floor can, as it does in this case, increase the overall cost of the regulation compared to the cost under a unit-based methodology. For example, the pollutant-by-pollutant approach for the CISWI regulation results in a stringent MACT floor for HCl based on control using a wet scrubber, and stringent MACT floors for PM and metals based on control using a FF. We interpret CAA section 129 to support determining the MACT floor in this manner, and we believe that Congress did in fact, intend that sources subject to regulations developed under CAA section 129 meet emissions limits that are achieved by the best controlled unit for each pollutant, as long as the control systems are compatible with each other. To our knowledge, there is no technical reason why these air pollution control systems cannot be combined. Regarding the inverse relationship between CO and NO_X with regard to combustion control, it is incumbent upon the CISWI facility to determine whether combustion conditions can be adjusted to meet both standards and, if not, install add-on NO_X controls as necessary, *e.g.,* SNCR systems.

All available data for cement kilns indicate that there is no technical problem achieving the floor levels for each pollutant simultaneously, using the MACT floor technology. For most kilns, compliance with the Hg limits will be accomplished using ACI followed by a second PM control consisting of a FF. There is no technical impediment to using this same system for control of PCDD/PCDF. We note that the ACI system would have to be installed downstream of the existing PM control, therefore, there would be no effect on the cement kiln dust collected in the existing PM control. One industry commenter claimed ACI increases dioxin emissions. Considering the fact that ACI can actually be used to remove dioxins from kiln exhaust gas, we see no basis for that statement. Regarding the commenter's claim that ACI increases D/F in MWC, our experience with the MWC source category has shown that this technology has been demonstrated to be effective at reducing D/F emissions from these sources and is being used extensively by MWC units. Furthermore, we have not been provided information from either the commenter or the MWC industry that substantiates the commenter's claim that ACI increases D/F emissions from these sources.

After the ACI system, a wet scrubber can be used for HCl and SO_2 control. We would expect the wet scrubber to be the downstream control because it creates a moisture laden exhaust that would require reheating to then apply ACI. Again, there is no technical impediment to adding a wet scrubber after the ACI system, and the two control devices should not interfere with each other's performance. If the facility required an RTO to meet the CO limit, the RTO would be installed downstream of the wet scrubber in order to protect the RTO from any acid gases in the kiln exhaust. The wet scrubber/RTO combination has been demonstrated in cement kiln applications.

In order to meet the PM and metals standards a facility could choose to modify their existing PM control to meet the revised limits, or design a new baghouse downstream of the ACI injection point to meet the PM and metals limits.

Though we have described some fairly complicated control scenarios, there are simpler applications of control technology that would likely be used successfully. One example would be simultaneous injection of alkaline materials (lime or sodium compounds) and activated carbon downstream of the existing PM control device followed by collection with a FF. This type of injection scheme would potentially control acid gases (HCl and SO_2), PCDD/PCDF, Hg, and PM.

Regarding the comment that EPA should consider work practice standards in lieu of emission limits for certain types of ERUs, we again point out that CAA section 129(a)(4) says that the standards promulgated under CAA section 129 shall specify numerical emissions limitations for each pollutant enumerated in that provision. Section 129(a)(4) requires MACT standards for, at a minimum, PM, SO_2, HCl, NO_X, CO, Pb, Cd, Hg, and PCDD/PCDF. Section 129 does not contain a work practice standard provision similar to that contained in CAA section 112(h) and applicable to NESHAP.

Finally, several commenters suggested that EPA must consider costs when establishing MACT standards. EPA is prohibited from considering costs when determining the minimum standards for each pollutant—the "MACT floor;" however, EPA is required to consider costs, among other things, when evaluating whether the MACT standards should be more stringent than the MACT floor, so called "beyond-the-floor" standards. See section 129(a)(2). EPA did consider costs in its beyond-the-floor analysis consistent with the statute.

2. MACT-on-MACT

Comment: Several commenters argued that EPA's recalculation of the 2000 MACT floors using post-MACT compliance data results in so-called "MACT-on-MACT" standards. They suggest that the limits are being set using a very small amount of data from a very small number of sources. The commenters argue that for the incinerator subcategory, the presumed reason a small number of units are being used to set the limits is that the existing standard caused many units to shut down. The commenters suggest that the remaining units likely installed or improved controls in order to comply with the original CISWI standards, effectively resulting in the new limits being set based on the top performers among the already top performers. One commenter asserted that these floors cannot be achieved and are contrary to the CAA and the intent of Congress. The commenter urged EPA to use the population of pre-2000 CISWI incinerators and their emissions data to establish the revised MACT floors. The commenter declares that the CAA never intended to impose technology every 5 years with no consideration of costs and risk, and that it is not reasonable to assume that Congress intended for existing sources subject to CAA section 129 to have their standards tightened up to levels comparable to those for new sources over time where their circumstances have not changed.

Response: We disagree with the commenters' assertions that we are employing a MACT-on-MACT approach to set limits that are not achievable by CISWI. The purpose of this action is not to force units who have complied with a lawfully adopted MACT standard to have to subsequently comply with another round of updated MACT standards, but to respond to the voluntary remand granted by the Court. As stated at proposal, we requested a voluntary remand of the 2000 CISWI standards after Sierra Club filed a petition for review of the final CISWI standards, and the Court issued its *Cement Kilns* decision which called into question EPA's procedures for establishing MACT floors for CISWI units. *Cement Kiln Recycling Coalition* v. *EPA*, 255 F.3d 855 (DC Cir. 2001). Specifically, EPA established the 2000 CISWI MACT floors by identifying the MACT floor control technology and calculating the MACT floor using emissions information from all units, not only best-performing units, that used the MACT floor technology. EPA recognized that the Court rejected this methodology in the *Cement Kilns* case in which the Court rejected EPA's MACT floor approach under CAA section 112 and concluded that EPA may account for variability by setting the floor at a level that reasonably estimates the performance of the best controlled sources under the worst foreseeable conditions but not the worst foreseeable conditions faced by any unit in the source category. *Id.* at 865. The MACT processes under CAA sections 112 and 129 are essentially the same, thus the decision identified a flaw in EPA's 2000 CISWI standards.

CAA section 129 requires EPA to set the MACT floor based on emissions limitations *actually achieved* by the best-performing solid waste incineration units. In addition, the Court has made it abundantly clear that in issuing revised MACT standards pursuant to remand, EPA may not ignore this Court's intervening holdings:

> If the Environmental Protection Agency disagrees with the Clean Air Act's requirements for setting emissions standards, it should take its concerns to Congress. If EPA disagrees with this court's interpretation of the Clean Air Act, it should seek rehearing en banc or file a petition for a writ of certiorari. In the meantime, it must obey the Clean Air Act as written by Congress and interpreted by this court.

Sierra Club v. *EPA (Brick)*, 479 F.3d 875, 884 (DC Cir. 2007).

The best way to ascertain the actual emissions limitations achieved by the best-performing units, and thus comply with the Court's dictates, is to use data reflecting the actual emissions of operating units. For that reason, EPA collected data from solid waste incineration units, including the existing units in the incinerator subcategory, pursuant to a CAA section 114 ICR. In establishing the revised CISWI standards, we used the emissions information from the existing sources in each subcategory to set the MACT limits. For the incinerator subcategory, we determined that the information available from the 2000 rulemaking was insufficient and limited, and that it did not represent the current emissions limitations achieved by the sources in that subcategory since many of the units in that data set have since shut down.

Notwithstanding that clear statutory mandate to establish the MACT floors based on the emission limitations actually achieved by the best-performing sources, commenters assert that EPA's promulgation of the CISWI standards for the incinerators subcategory conflicts with the intent of the statute. Commenters use the term "MACT-on-MACT" to give the false impression that EPA's resetting of the MACT floors pursuant to CAA section 129(a)(2) somehow requires sources to constantly upgrade their control technologies. Commenters' MACT-on-MACT label is based on the faulty premise that the original MACT floors accurately reflected what the statute required. Although the units in the incinerators' subcategory had to comply with the 2000 MACT floors, the standards were not established based on the performance of the best-performing units as the statute requires and, therefore, the limitations are likely considerably higher than the limits being achieved by the then existing best controlled incinerator units. Accordingly, a more accurate label for the MACT standards as EPA re-proposed them in 2009 might be: "MACT-on-Unsupportable-Standards-Erroneously-Labeled-as-MACT."

We also disagree with commenters' assertion that we should not use the new emissions information from units in the incinerator subcategory, and instead base the MACT standards for the incinerator subcategory on the population of pre-2000 CISWI incinerators and their emissions data to establish the revised MACT floors. The first problem with this approach is that, as commenters note, many of the then existing incinerator units are no longer in operation. Section 129(a)(2) of the CAA requires EPA to establish standards for new units based on the "best controlled similar unit" and, for existing units, based on "the average emissions limitation achieved by the best-performing 12 percent of units in the category." We fail to see how the statute would allow us to consider emissions limitations from sources no longer in existence or ignore the emissions information on which we based the revised standards, and instead rely on information that does not reflect what sources are actually achieving today. Furthermore, even if we believed we had the authority to ignore the new data and establish the standards based on the inventory of units in existence before the 2000 CISWI standards, we do not have sufficient data from those units on which to base MACT standards based on that pre-2000 universe of sources. Specifically, EPA has data on only 17 units out of an estimated 112 units then in existence, and we have a complete data set for only 12 units. Because we do not have a complete data set, EPA cannot determine whether the then existing units for which we have data from that time period were best-performing units at that time, such that we could develop MACT standards consistent with the statute, and there is no mechanism by which EPA could reconstruct the category at this time.

Finally, we disagree with commenters' assertion that the units in the incinerator subcategory are unable to meet the revised CISWI standards. As stated above, the emissions data upon which the revised standards rely comes directly from CISWI units that have achieved the resulting levels, and we accounted for variability in establishing the standards to account for the performance of sources over a period time and different operating conditions. We believe that together this demonstrates that the incinerator units can achieve the individual standards, though admittedly units may have to take additional steps to comply with the validly established MACT standards.

3. Methodology (UL or UPL)

Comment: At proposal, EPA requested comment on whether an alternate statistical interval should be used, the 99 percent UPL. Some commenters supported the use of the 99 percent UPL, citing cases where this statistical interval had been used in other rulemakings for boilers and cement kilns. Several commenters stated that the statistical method used by EPA in setting the CISWI MACT floors is flawed due to the use of data sets that are not statistically significant. Commenters asserted that the 99 percent UL floor is calculated from data which 99 percent of units in MACT floor data population would fall below, which they argue sets up an automatic 1 percent failure rate for the top 12 percent sources. Commenters request that this be addressed by using a statistical approach which increases the allowance for variability of the data set.

One commenter stated that since EPA is using a limited data set that in some cases contains predominantly nondetect values to set floors that units must meet at all times, consideration of variability, and use of the appropriate statistical approach is crucial to ensuring units can achieve the emission limits. The commenter argues that in cases of severely limited or censored data sets, EPA should use either the 99.9 percent UL or use the UTL, which is meant for use in situations where the amount of data available does not represent the entire population. The commenter maintains that EPA is inappropriately using the 99 percent UL statistic to calculate the proposed CISWI emission limits because this does not capture enough variability in emissions to ensure the limits will be met by the top performers 100 percent of the time. They argue that the approach is flawed, given that the number of units the limits are based on is very small, and the limits are being developed on a pollutant-by-pollutant basis in a way that does not account for variability of the fuels and wastes being burned. The commenter asserts that EPA does not justify the appropriateness of the use of the 99 percent UL over the use of other statistical procedures typically used for censored or limited data. Further, the commenter argues that although this calculation methodology was used in the HMIWI standard, it is not consistent with statistical procedures used to develop other emission standards. For example, the commenters explain that EPA used a complicated statistical approach in the development of the HWC NESHAP standard to account for intra-unit variability as well as inter-unit variability among the units in the MACT floor.

Response: In assessing sources' performance, EPA may consider variability both in identifying which performers are "best" and in assessing their level of performance. *Sierra Club* v. *EPA (Brick MACT),* 479 F.3d 875, 881–82 (D.C. Cir. 2007); see also *Mossville Environmental Action Now* v. *EPA,* 370 F.3d 1232, 1241–42 (DC Cir 2004) (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 sources considering these sources' operating variability). The *Brick MACT* decision reiterated that EPA may account for variability in setting floors; however, the Court found that EPA erred in assessing variability because it relied on data from the worst performers to estimate best performers' variability. The Court held that "EPA may not use emission levels of the worst performers to estimate variability of the best performers without a demonstrated relationship between the two." 479 F.3d at 882.

In determining the MACT limits, we first determine the floor, which, for existing sources, is the emissions limitation achieved in practice by the average of the top 12 percent of existing sources, or the level achieved in practice by the best controlled similar source for new sources. In this rule, EPA is using lowest emissions limitation as the measure of best performance. We are then assessing variability of the best performers by using a statistical formula designed to estimate a MACT floor level that can be met by the average of the best-performing sources based on the expected distribution of future compliance tests (or calculated inputs in the case of Hg for waste-burning kilns). Specifically, for ERUs and waste-burning kilns, the MACT floor limit is an UPL, and for incinerators and small remote incinerators, the UL calculated with the student's t-test using the TINV function in Microsoft Excel®. The student's t-test has also been used in other EPA rulemakings (*e.g.,* NSPS for HMIWI, NESHAP for Industrial, Commercial, and Institutional Boilers and Process Heaters) in accounting for variability.

As we discussed at proposal, the UL computation assumes that the data available represents the entire population of data from the best-performing CISWI units used to establish the standards. We have concluded that this statement applies to the incinerator and small remote incinerator subcategories, since we believe our inventory of these units is more certain than is our inventory of ERUs and waste-burning kilns for several reasons. In the 2000 CISWI rule, EPA only regulated solid waste incineration units that operated for the sole purpose of disposing of waste. Many incinerators subject to the 2000 CISWI rule ceased operation before the compliance date for those standards. Once the revised CISWI standards are finalized, these types of solid waste incineration units (i.e., incinerators and small remote incinerators) will either comply with the revised CISWI standards or cease operation, much as they did in response to the 2000 standards. The same is not necessarily correct for units in the ERUs and waste-burning kilns subcategories. For those sources, once the CISWI standards are promulgated, they will likely either comply with the CISWI standards or cease burning solid waste and comply with the applicable NESHAP. We think units in those subcategories will generally not cease operation. Furthermore, because incinerator and small remote incinerator unit's sole purpose is waste disposal, the only practical manner in which additional sources will be added to the inventory is through new construction. Again, this is different than for ERUs and waste-burning kilns because, for those subcategories, additional units may be added if existing boilers (and process heaters) and cement kilns begin combusting solid waste and thereby become ERUs and waste-burning kilns, respectively. For these reasons, we believe we have a complete inventory of units in the incinerators and small remote incinerators subcategories.

We sent Phase II testing requests to all incinerator and small remote incinerator units that are in our inventory. We required testing for all incinerator and small remote incinerator units, making allowances for identical units from a facility to only test one unit, and not each identical unit. Therefore, our data represent the entire population of data for these two subcategories. For this reason, we believe the UL is the appropriate statistical approach for the incinerators and small remote incinerators subcategories. The 99 percent UL represents a value that 99 percent of the data in the MACT floor population would fall below, and therefore accounts for the run-to-run and test-to-test variability observed in the MACT floor data set.

For ERUs and waste-burning kilns, however, we recognize that our data may not represent the entire population of units. As stated above, there is greater uncertainty involved in determining the universe of sources in these two source categories because we cannot be certain that we have identified all the units that would be considered to be burning solid waste, had the newly-adopted definition for solid waste been promulgated and effective at the time of testing. We also do not know whether the units we have identified will continue to burn waste after the final CISWI standards are issued. Unlike incinerators and small remote incinerators, the primary purpose of waste-burning kilns and ERUs is the production of a product or generation of energy, not the disposal of waste. Therefore, operators will decide whether it is economically feasible to continue or start combusting solid waste to support their industrial process and, if they decide that it is not, they will use traditional fuels or non-waste inputs instead of solid waste. For example, an ERU that is combusting solid waste that has little or no cost may decide that compliance with CISWI is an economically viable option compared to purchasing traditional fuels at market rates; but, if the costs of compliance with CISWI exceed the costs of traditional fuel, the source will likely cease burning solid waste. Conversely, a boiler that currently combusts only traditional fuels may be presented with a solid waste fuel option that makes it to their economic advantage to begin combusting solid waste. For these reasons, the population of units in the ERU and waste-burning kiln subcategories is inherently uncertain. We have for these reasons concluded that a prediction interval (e.g., UPL) is more appropriate for these two subcategories, and this approach is also consistent with the NESHAP statistical approach being used for the non-waste-burning counterparts of these units (i.e., boilers/process heaters and cement kilns).

A prediction interval for a future observation is an interval that will, with a specified degree of confidence, contain the next (or some other pre-specified) randomly selected observation from a population. In other words, the prediction interval estimates what the upper bound of future values will be, based upon present or past background samples taken. The UPL consequently represents the value which we can expect the mean of future observations (3-run average) to fall below within a specified level of confidence, based upon the results of an independent sample from the same population. In other words, if we were to select at random a future test condition from any of the top 12 percent (MACT floor pool) of sources (average of 3 runs), we can be 99 percent confident that the reported level will fall at or below the UPL value. Use of the UPL is appropriate in this rulemaking for these two subcategories because it sets a limit any single or future source can meet based on the performance of members of the MACT floor pool.

The UPL is calculated as shown in Equation 1:

$$UPL = \bar{x} + t(0.99, n-1) \times \sqrt{s^2 \times \left(\frac{1}{n} + \frac{1}{m}\right)}$$

Where:

$\bar{x}$ = Mean of the sample data set
n = Number of test runs
m = Number of test runs in the compliance average
s^2 = Observed variance
t = Student t distribution statistic

This calculation was performed using the following spreadsheet functions:

Normal distribution: 99 percent UPL = AVERAGE (Test Runs in Top 12 percent) + [STDEV (Test Runs in Top 12 percent) × TINV (2 × probability, n-1 degrees of freedom) * SQRT ((1/n) + (1/m))], for a one-tailed t-value, probability of 0.01, and sample size of n. The value of "m" denotes the number of future observations, and it is used to calculate an estimate of the variance of the average of m-future observations.

This formula uses a pooled variance (in the s^2 term) that encompasses all the data-point to data-point variability of the best-performing sources comprising the MACT floor pool for each pollutant. Where variability was calculated using the UPL statistical approach, we used the average (or sample mean) and sample standard deviation, which are two statistical measures calculated from the data distributions for each pollutant. The average is a central value of a data set, and the standard deviation is the common measure of the dispersion of the data set around the average. We note here that the methodology accounts for both short-term and long-term variability and encompasses run-to-run and test-to-test variability. The formula also applies differently depending on how the underlying data set is distributed. To this end, EPA carefully evaluated the data sets for each HAP to ascertain whether the data were normally distributed, or distributed in some other manner (*i.e.,* lognormal). After applying standard and rigorous statistical tests (involving the degree of "skewness" of the data), we determined the distributions for each pollutant, which in turn determined the final form of the UPL equation. *See* "CISWI Emission Limit Calculations for Existing and New Sources" in the docket.

The results are floors that reasonably estimate the performance over time of the best-performing sources, as do the standards based on those floors. It is true that many sources will need to install controls to meet these standards, and that these controls have significant costs (although EPA estimates that the rule's costs are substantially outweighed by its benefits). See section VI of this preamble. This is part of the expected MACT process where, by definition, the averaged performance of the very best performers sets the minimum level of the standard. The EPA believes that it has followed the statute and applicable case law in developing its MACT floors. The summary of results of UL and UPL calculations and the MACT floor emission limits for each subcategory for existing and new sources are presented in Tables 4 through 9 of this preamble.

TABLE 4—SUMMARY OF MACT FLOOR RESULTS FOR EXISTING UNITS—PM, HG, CD AND PB

Subcategory	Parameter	PM (mg/dscm)	Hg (mg/dscm)	Cd (mg/dscm)	Pb (mg/dscm)
Incinerators	No. of sources in subcategory =	26	26	26	26
	No. in MACT floor =	4	4	4	4
	Avg of top 12%	4.571	0.0006	0.0004	0.0013
	99% UL of top% (test runs) =	33.6004	0.00533	0.00256	0.00352
	Limit =	34	0.0054	0.0026	0.0036
ERUs—Solids	No. of sources in subcategory =	30	30	30	30
	No. in MACT floor =	4	4	4	4
	Avg of top 12%	2.85061	0.0000520	0.0001713	0.0012704
	99% UPL of top% (test runs) =	246.9158	0.0003	0.0003(a)	0.0035(a)
	Limit =	250	0.00033	0.00051(a)	0.0036(a)
ERUs—Liquid/Gas	No. of sources in subcategory =	6	6	6	6
	No. in MACT floor =	1	1	1	1
	Avg of top 12%	18.588	0.001	0.001	0.005
	99% UPL of top% (test runs) =	101.7548	1.313	0.023	0.096
	Limit =	110	0.0013	0.023	0.096
Waste-burning kilns	No. of sources in subcategory =	12	12	12	12
	No. in MACT floor =	2	2	2	2
	Avg of top 12%	2.8378	N/A	0.0002	0.0012
	99% UPL of top% (test runs) =	6.1115	0.0079(b)	0.0005	0.0026
	Limit =	6.2	0.0079(b)	0.00048	0.0026
Small, remote incinerators	No. of sources in subcategory =	14	14	14	14
	No. in MACT floor =	2	2	2	2

TABLE 4—SUMMARY OF MACT FLOOR RESULTS FOR EXISTING UNITS—PM, HG, CD AND PB—Continued

Subcategory	Parameter	PM (mg/dscm)	Hg (mg/dscm)	Cd (mg/dscm)	Pb (mg/dscm)
	Avg of top 12%	84.052	0.0012	0.027	0.238
	99% UL of top% (test runs) =	220.826	0.006	0.603	2.657
	Limit =	230	0.0057	0.61	2.7

[a] A calculated limit equal to three times the MDL was used in place of the calculated MACT floor emission limit. For further explanation, *see* section V. of the preamble.

[b] For details on this calculation, *see* the memorandum "CISWI Emission Limit Calculations for Existing and New Sources" in the Docket for this rulemaking.

TABLE 5—SUMMARY OF MACT FLOOR RESULTS FOR EXISTING UNITS—CO, NO_X AND SO_2

Subcategory	Parameter	CO (ppmvd)	NO_X (ppmvd)	SO_2 (ppmvd)
Incinerators	No. of sources in subcategory =	26	26	26
	No. in MACT floor =	4	4	4
	Avg of top 12%	16.800	14.7	0.733
	99% UL of top% (test runs) =	32.378	52.419	10.418
	Limit =	36	53	11
ERUs—Liquid/Gas	No. of sources in subcategory =	6	6	6
	No. in MACT floor =	1	1	1
	Avg of top 12%	36.00	58.733	641.352
	99% UPL of top% (test runs) =	36.00	75.6305	712.3156
	Limit =	36	76	720
ERUs—Biomass	No. of sources in subcategory =	21	21	21
	No. in MACT floor =	3	3	3
	Avg of top 12%	247.3333	86.7595	1.4039
	99% UPL of top% (test runs) =	485.3681	287.9536	6.1751
	Limit =	490	290	6.2
ERUs—Coal	No. of sources in subcategory =	9	9	9
	No. in MACT floor =	2	2	2
	Avg of top 12%	40.3031	307.2352	624.0054
	99% UPL of top% (test runs) =	58.0304	330.7464	641.9307
	Limit =	59	340	650
Waste-burning kilns	No. of sources in subcategory =	12	12	12
	No. in MACT floor =	2	2	2
	Avg of top 12%	70.4280	437.7682	15.6660
	99% UPL of top% (test runs) =	105.0945	536.4268	37.9704
	Limit =	110	540	38
Small, remote incinerators	No. of sources in subcategory =	14	14	14
	No. in MACT floor =	2	2	2
	Avg of top 12%	12.756	67.212	1.403
	99% UL of top% (test runs) =	19.104	237.326	410.006
	Limit =	20	240	420

[a] A calculated limit equal to three times the MDL was used in place of the calculated MACT floor emission limit.

TABLE 6—SUMMARY OF MACT FLOOR RESULTS FOR EXISTING UNITS—HCL AND D/F

Subcategory	Parameter	HCl (ppmvd)	D/F (TMB) (ng/dscm)	D/F (total TEQ basis) (ng/dscm) [a]
Incinerators	No. of sources in subcategory =	26	26	26
	No. in MACT floor =	4	4	4
	Avg of top 12%	0.181	0.238	0.004302537
	99% UL of top% (test runs) =	28.045	4.504	0.1286
	Limit =	29	4.6	0.13
ERUs—Solids	No. of sources in subcategory =	30	30	30
	No. in MACT floor =	4	4	4
	Avg of top 12%	0.16719	0.093487	.0088932
	99% UPL of top% (test runs) =	0.4456	0.3443	0.0586
	Limit =	0.45	0.35	0.059
ERUs—Liquid/Gas	No. of sources in subcategory =	6	6	6
	No. in MACT floor =	1	1	1
	Avg of top 12%	4.440	1.110	0.0463
	99% UPL of top% (test runs) =	4.927	13869.523	30.0133
	Limit =	[(a)] 14	14,000	31
Waste-burning kilns	No. of sources in subcategory =	12	12	12
	No. in MACT floor =	2	2	2
	Avg of top 12%	3.5665	0.0752	0.0005
	99% UPL of top% (test runs) =	24.8634	0.1909	0.0070

TABLE 6—SUMMARY OF MACT FLOOR RESULTS FOR EXISTING UNITS—HCL AND D/F—Continued

Subcategory	Parameter	HCl (ppmvd)	D/F (TMB) (ng/dscm)	D/F (total TEQ basis) (ng/dscm) [a]
	Limit =	25	0.2	0.007
Small, remote incinerators	No. of sources in subcategory =	14	14	14
	No. in MACT floor =	2	2	2
	Avg of top 12%	35.289	333.080	7.288
	99% UL of top% (test runs) =	214.233	1183.196	56.933
	Limit =	220	1,200	57

[a] A calculated limit equal to three times the MDL was used in place of the calculated MACT floor emission limit.

TABLE 7—SUMMARY OF MACT FLOOR RESULTS FOR PM AND METALS FOR NEW SOURCES

Subcategory	Parameter	PM (mg/dscm)	Hg (mg/dscm)	Cd (mg/dscm)	Pb (mg/dscm)
Incinerators	Avg of top performer	3.0608	0.0001	0.0002	0.0007
	99% UL of top (test runs) =	17.7867	0.000151	0.0023	(a)0.0015
	Limit =	18	0.00016	0.0023	(a)0.0019
ERUs—Solids	Avg of top performer	2.640916	0.00003192	0.00013696	0.00045367
	99% UPL of top (test runs) =	1094.5327	0.0028	2.8369	0.0030
	Limit =	(b)250	(b)0.00033	(b)0.00051	0.0031
ERUs—Liquid/Gas	Avg of top performer	18.588	0.001	0.001	0.005
	99% UPL of top (test runs) =	101.7548	1.313	0.023	0.096
	Limit =	110	(d)0.00025	0.023	0.096
Waste-burning kilns	Avg of top performer	1.2173	N/A	0.0001	0.0011
	99% UPL of top (test runs) =	2.3591	(c)0.0062	0.0006	0.045852
	Limit =	(a)2.5	(c)0.0062	(b)0.00048	(b)0.0026
Small, remote incinerators	Avg of top performer	83.534	0.001	0.011	0.086
	99% UL of top (test runs) =	733.5002	0.0013	0.6692	0.2589
	Limit =	(b)230	(a)0.0035	(b)0.61	0.26

[a] A calculated limit equal to three times the MDL was used in place of the calculated MACT floor emission limit.
[b] The NSPS limit exceeds the EG limit. The EG limit was selected as the NSPS limit.
[c] Hg limit was developed using material input data from CISWI kilns identified within the Portland Cement NESHAP database. See the memorandum "CISWI Emission Limit Calculations for Existing and New Sources" for details on this calculation.
[d] Dioxin/furan TEQ and Hg limits for ERUs—liquid/gas were replaced with D/F TEQ limits for liquid fuel major source boilers. *See* "CISWI Emission Limit Calculations for Existing and New Sources" for details.

TABLE 8—SUMMARY OF MACT FLOOR RESULTS FOR NEW UNITS—CO, NO_X, SO_2

Subcategory	Parameter	CO (ppmvd)	NO_X (ppmvd)	SO_2 (ppmvd)
Incinerators	Avg of top performer	12.000	9.0333	0.2233
	99% UL of top (test runs) =	12.000	22.3685	39.5108
	Limit =	12	23	(a)11
ERUs—Liquid/Gas	Avg of top performer	36.000	58.733	641.352
	99% UPL of top (test runs) =	36.000	75.6305	712.3156
	Limit =	36	76	720
ERUs—Biomass	Avg of top performer	153.0000	62.3233	1.0492
	99% UPL of top (test runs) =	153.0000	344.7699	20.8889
	Limit =	160	(a)290	(a)6.2
ERUs—Coal	Avg of top performer	35.4778	307.2352	624.0054
	99% UPL of top (test runs) =	45.0280	330.7464	641.9307
	Limit =	46	340	650
Waste-burning kilns	Avg of top performer	58.57	1.4742	7.2187
	99% UPL of top (test runs) =	89.7816	195.2522	124.3390
	Limit =	90	200	(a)38
Small, remote incinerators	Avg of top performer	12.000	60.769	0.131
	99% UL of top (test runs) =	12.000	77.283	1.164
	Limit =	12	78	1.2

[a] The NSPS limit exceeds the EG limit. The EG limit was selected as the NSPS limit.

TABLE 9—SUMMARY OF MACT FLOOR RESULTS FOR NEW UNITS—HCL AND DIOXINS/FURANS

Subcategory	Parameter	HCl (ppmvd)	D/F (TMB) (ng/dscm)	D/F (Total TEQ basis) (ng/dscm) [a]
Incinerators	Avg of top performer	0.0413	0.0176	0.001266667
	99% UL of top (test runs) =	0.0901	0.0228	2.1464

TABLE 9—SUMMARY OF MACT FLOOR RESULTS FOR NEW UNITS—HCL AND DIOXINS/FURANS—Continued

Subcategory	Parameter	HCl (ppmvd)	D/F (TMB) (ng/dscm)	D/F (Total TEQ basis) (ng/dscm) [a]
	Limit =	0.091	[a]0.052	[b]0.13
ERUs—Solids	Avg of top performer	0.068133	0.0161	0.000501333
	99% UPL of top (test runs) =	0.5435	0.0674	0.0103
	Limit =	[b]0.45	0.068	0.011
ERUs—Liquid/Gas	Avg of top performer	4.440	1.110	0.046335368
	99% UPL of top (test runs) =	[a]13.2107	13869.5228	30.0133
	Limit =	[a]14	(no limit)	[c]0.002
Waste-burning kilns	Avg of top performer	0.3994	0.0562	0.000105
	99% UPL of top (test runs) =	0.3994	0.0895	0.0029
	Limit =	[a]3	0.09	0.003
Small, remote incinerators	Avg of top performer	27.678	299.827	4.868700057
	99% UL of top (test runs) =	196.6311	1700.6082	30.0810
	Limit =	200	[d]1,200	31

[a] A calculated limit equal to three times the MDL was used in place of the calculated MACT floor emission limit.
[b] The NSPS limit exceeds the EG limit. The EG limit was selected as the NSPS limit.
[c] Dioxin/furan TEQ and Hg limits for ERUs—liquid/gas were replaced with D/F TEQ limits for liquid fuel major source boilers. *See* "CISWI Emission Limit Calculations for Existing and New Sources" for details.

The measurements for HCl from waste-burning kilns are very close to the detection limit for analytic Method 321 actually calculated in the field for HCl. As discussed elsewhere, we have implemented a procedure for adjusting limits to account for measurement variability using data at the detection limit. This results in a floor of 3 ppmvd for the new waste-burning kilns for HCl, adjusted to a dry basis at 7 percent oxygen. This represents the lowest level that can be reliably measured using this test method, and we therefore believe that it is the lowest level we can set as the MACT limit taking the appropriate measurement variability into account.

The Hg standard for waste-burning kilns reflects 30 days of data for all Hg inputs, reasonable estimates of control device performance (for the few controlled sources), plus a reasonable statistical methodology to account for variability (including variability of Hg content of kiln inputs). EPA also used a pooled variability factor (pooling variability for all kilns in the MACT floor pool), which increased variability estimates. This analysis is based upon data collected for development of the final Portland Cement NESHAP, but screened such that the CISWI analysis used only the data from kilns that would have been identified as CISWI units had the newly-adopted solid waste definition been promulgated and effective at the time of performance testing, and converted to a concentration basis for consistency with the CISWI standards. *See* "CISWI Emission Limits Calculations for Existing and New Sources."

4. Statistical Analysis (Lognormal vs. Normal Distribution)

Comment: Several commenters suggested that EPA's data distribution designations are flawed and that EPA must default to non-normal distributions unless sufficient data are available to conduct robust analyses which unambiguously show the distribution can only be described by normal statistics. One commenter suggests that the non-normal distribution is consistent with both conventional wisdom and EPA's own guidance in "Guidance for Data Quality Assessment: Practical Methods for Data Analysis", EPA/600/R–96/084, July 2000, which holds that it is more likely that environmental data are distributed log-normally. Commenters state that where there is any uncertainty according to EPA's criteria using Excel skewness and kurtosis, EPA biases its findings on distributions in favor of normality, the opposite of EPA's own guidance. The commenter states that EPA's Guidance for Data Assessment provides that the lognormal distribution is "a commonly met distribution in environmental work," also stating "Environmental data commonly exhibit frequency distributions that are non-negative and skewed with heavy or long right tails," and "The lognormal distribution is a commonly used distribution for modeling environmental contaminant data."

Response: EPA has revised the methodology to use the lognormal distribution when the normal distribution is not clearly indicated based on the skewness and kurtosis tests to be more consistent with EPA's guidance in "Guidance for Data Quality Assessment: Practical Methods for Data Analysis" EPA/600/R–96/084, July 2000.

5. Treatment of Detection Levels

Comment: Many commenters argued that EPA should not use data below detection limits to set standards. They contend that EPA's use of data below MDLs to set standards invalidates EPA's analysis, creates emissions limits that are biased low, and sets emission standards that would not allow facilities to demonstrate compliance without taking undue risk of facing non-compliance. They suggested that no numerical emission standard for a pollutant should be set below the measurement ability of the reference test method. Some commenters stated that EPA does not appear to have systematically screened the emissions data for cases where a detection limit should be applied, and has erroneously recorded zero values for emissions where those are reported in the original test reports. The commenters further assert that in addition to failing to promulgate a method for measuring detection limits for air emission test methods, EPA has ignored the issue of errors associated with quantifying source emissions when they are low.

At proposal, EPA requested comment on calculating a three times method detection limit in cases where the floor emissions limit did not adequately account for variability. While one commenter supports this method, another argues that this approach is unlawful and inconsistent with the CAA's directive to set the MACT floor at the emissions level achieved by the best-performing sources because it allows for facilities to emit at far higher levels than the best-performing sources.

Response: Although we disagree with commenters on the use of nondetect values, we do agree that at very low emission levels where emissions tests result in nondetect values, the inherent imprecision in the pollutant measurement method has a large influence on the reliability of the data underlying the MACT floor emission limit. Because of sample and emission matrix effects, laboratory techniques, sample size, and other factors, MDLs normally vary from test to test for any specific test method and pollutant measurement. The confidence level that a value measured at the detection level is greater than zero is about 99 percent. The expected measurement imprecision for an emissions value occurring at or near the MDL is about 40 to 50 percent. Pollutant measurement imprecision decreases to a consistent level of 10 to 15 percent for values measured at a level about three times the MDL. The approach EPA has used to account for measurement variability begins by defining a MDL that is representative of the data used in the data pool. The first step in the approach is to identify the highest test specific MDL reported in a data set that is also equal to or less than the average emission calculated for the data set. This approach has the advantage of relying on the data collected to develop the MACT floor emission limit, while to some degree, minimizing the effect of a test(s) with an inordinately high MDL (*e.g.,* the sample volume was too small, the laboratory technique was insufficiently sensitive or the procedure for determining the detection level was other than that specified). The second step is to determine the value equal to three times the representative MDL and compare it to the calculated MACT floor emission limit. If three times the representative MDL were less than the calculated MACT floor emission limit, we concluded that measurement variability is adequately addressed, and we did not adjust the calculated MACT floor emission limit. If, on the other hand, the value equal to three times the representative MDL was greater than the calculated MACT floor emission limit, we concluded that the calculated MACT floor emission limit does not account entirely for measurement variability. We therefore used the value equal to three times the MDL in place of the calculated MACT floor emission limit to ensure that the MACT floor emission limit accounts for measurement variability and imprecision.

6. Use of CEMS Data

Comment: Several commenters stated that EPA did not include CO, SO_2, or NO_X data from CEMS that was provided by companies and resides in EPA's databases. Commenters claimed that after discussions with EPA rule writers in which affected sources were encouraged to gather CEMS data as an alternative to stack test data, facilities purposefully submitted such data and these data should be used. Some commenters suggested that it is important that the MACT floor data represent the real-world variability of emissions and that CEMS data is clearly superior to stack test data in this regard. Commenters suggested that EPA may believe it is not feasible to incorporate CEMS data along with stack test data in its MACT floor analyses due to the method it chose to rank and statistically analyze the data. The commenters recommended using the UPL in the statistical analysis to allow CEMS data to be used along with stack test to set standards. Further, one commenter suggested that EPA obtain hourly average CEMS data over a suitable period of time (several months or as much data as can be readily obtained) from each source it can identify that either has a permanent CEMS installed on the unit or provided data in its response to the ICR survey or testing program.

Response: In response to the ICR survey, most facilities that reported CEMS data provided it as 24-hour block averages. We used these data to determine baseline emissions and to calculate costs and impacts of the final rule. EPA did not propose to use 24-hour block averages in setting emissions standards for NO_X, SO_2, and CO. We determined that to do so for these pollutants would be inconsistent with the sampling time for the stack test data and the test methods used to determine compliance with the final standards. For example, typical instrument stack test method test runs would be around 1 hour or less for NO_X, CO, or SO_2 stack tests representing essentially 3-hour average of emissions. A 3-hour average is not comparable to data obtained over a 24-hour sampling with a CEMS. In response to comments, EPA has incorporated into the database hourly CEMS data that were voluntarily submitted by some units that are best performers within their subcategory, and where no stack test data are available, and used these data in conjunction with stack test data from other best performers to calculate the MACT floor emission limits.

For a response to the comment on using the UPL in the statistical analysis to calculate emissions, see section V.B of this preamble.

C. Control Technology Assumptions for the Floor and Beyond-the-Floor

1. Control Technologies and Cost Assumptions

Comment: Many commenters argued that EPA underestimated the total cost of controls and monitoring equipment required to comply with the emissions standards. Several commenters stated that PM concentrations will increase with the addition of SNCR and ACI systems and will require facilities to invest in baghouse systems. Some commenters asserted that there is no documentation to support that LBMS can control CO emissions from boilers to achieve the emission levels. Commenters also argued that biomass-to-energy facilities required to install an oxidation catalyst to meet the CO emission limits may have space limitations or other engineering constraints and may not be able to achieve the emission limits. One commenter argued that packed bed scrubbers to control HCl and SO_2 from boilers is impractical on units with high flow rates, high PM loading, and high inlet pollutant concentration. Some commenters suggested that EPA does not have an adequate understanding of how to reduce or control D/F emissions from cement kilns. Some commenters asserted that the cost memorandum assumes that for units requiring less than 10 percent improvement in NO_X, "minor adjustments were considered sufficient." They stated that EPA further assumes that these adjustments (such as air handling and distribution adjustments in the firebox) could be made at no additional cost. The commenters contended however, that EPA provides no evidence in the record to support either of these assumptions and that there are no boiler adjustments of this type that are done at no cost.

Response: EPA first notes that the rule does not specify particular controls that sources must install and operate. Sources may evaluate the emissions from their source and the emission limits that apply, and then judge for themselves which controls may be best suited for their particular unit to meet the emission limits. The control technology assumptions and cost estimates are assumptions of controls which may be required and an estimate of costs to retrofit and operate these controls.

EPA has, however, revised the costing assumptions and methodology since proposal to address issues presented by commenters. For example, in cases where ACI is being required, we have assumed that FF will need to be installed to capture the spent carbon or, if FF is already present, improvements will be required to the FF to ensure capture of the sorbent. For larger ERUs that require acid gas control, we have assumed that dry sorbent injection followed by DIFF will be the preferred technology rather than wet scrubbers. For NO_X control, we acknowledge that small adjustments at no cost may not be feasible for all affected units to meet the limits and that sources may want to have some operational flexibility so that they have suitable margin of compliance with the emission limits. Therefore, we have used SNCR as the control technology if even small NO_X reductions are required to meet the limit. We have not quantified PM increases due to SNCR addition. PM increases are a function of flue gas characteristics of each unit, and we do not have data for our units that would allow us to determine whether secondary particulate formation would occur in certain units that an additional PM control device would be required for the unit. We note, however, that the units that require an SNCR to meet the limits are also anticipated to need a PM control device to meet the limits for other pollutants. Therefore, we expect that affected sources would account for potential secondary PM formation in designing their overall air pollution control system.

2. Technology-Based Beyond-the-Floor Comments

Comment: Some commenters argued that EPA's decision to consider beyond-the-floor limits equal to the new source floors was arbitrary and unlawful. The commenters recommended that instead EPA should examine multiple control technologies to determine what level of emissions reductions are "achievable" based on cost and other factors. The commenters asserted that beyond-the-floor technologies should be evaluated for all pollutants in each subcategory of the CISWI rule.

Response: We have revised our beyond-the-floor analysis from that set forth in the proposed rule to consider the performance of available technology. For existing units, rather than considering as the only beyond-the-floor option the potential of existing sources to meet the new source limits, we have considered the technologies available to control the various HAP and the reasonable control efficiencies of those technologies. As discussed at proposal, EPA may adopt emissions limitations and requirements that are more stringent than the MACT floor (i.e., beyond-the-floor). Unlike the MACT floor methodology, however, EPA must consider costs, nonair-quality health and environmental impacts and energy requirements when considering beyond-the-floor alternatives.

In developing this final rule, EPA first analyzed the controls available and being used for each subcategory and compared this to the controls necessary for units to meet the MACT floor limits. We then evaluated the different combinations of available emission control technologies and practices, add-on controls different from those required to meet the MACT floor limits, that existing units would have to employ were we to require additional emissions reductions beyond-the-floor levels set forth above. If we determined that any of these additional control options were technically feasible for the units in a subcategory, we then analyzed the costs, nonair quality environmental impacts and benefits associated with adopting the identified control option to determine whether the beyond-the-floor control was reasonable. The following discussions detail this analysis for each subcategory.

Incinerators. Existing units in this subcategory are equipped with afterburners, FFs, and wet scrubbers. We estimate that to comply with the existing source MACT floor limits units in this subcategory may require the addition of or improvement of an existing FF for the control of PM, Cd and Pb; wet scrubbers for the control of HCl and SO_2 for many of the units that currently do not have wet scrubbers; ACI system with a FF for the control of D/F and Hg; and in several cases, afterburner retrofits for the control of CO; and SNCR for NO_X in certain instances. These controls are effective and demonstrated on this subcategory of units for the pollutants they are intended to control (*see* "Revised CISWI Control Costs Memorandum" in the docket). We estimate that some incinerator units in this category will require retrofits of existing control or installation of additional control technologies as set forth above to comply with the MACT floor limits.

Furthermore, as part of our costing and impacts analysis (discussed in section VI of this preamble), we evaluated whether existing facilities would choose to cease burning solid waste in incineration units after promulgation of the final CISWI standards if alternative disposal options, primarily diverting waste to a landfill, were less costly. Based on the analysis, we expect that all but three facilities with units in the incinerators subcategory will choose to cease operations once the proposed MACT floor limits are promulgated. The three units that we estimate to remain open will likely add ACI system/FF and one will add SNCR for NO_X control to meet the MACT floor limits. There is no better control beyond the ACI system/FF for D/F, Hg, PM, Cd, and Pb control. The reductions these units will require for meeting the metals emissions will typically need to be greater than 95 percent, therefore necessitating very efficient FF systems. One unit that is not currently meeting the NO_X MACT floor limit must install SNCR to comply with the NO_X floor limit. To achieve further reductions for NO_X, the unit would require another control device, such as SCR, to comply with a beyond-the-floor limit, and would require the other remaining units to also install either SNCR or SCR. The cost of installing and operating the SCR is typically four to five times higher than a comparable SNCR (*see* "Revised CISWI Control Cost Memorandum"), and would force this unit to close. In addition to cost considerations, SCR is typically used in combustion units such as industrial boilers and process heaters, gas turbines, and reciprocating internal combustion engines (Air Pollution Control Technology Fact Sheet, SCR, EPA–452/F–03–032), and we are not currently aware of any successful application of SCR technology to a waste-combustion unit. We therefore question whether SCR could be successfully applied to incineration units in any case. For acid gas performance, all three units are well below the MACT floor with their existing controls, and addition of wet scrubbers would only offer small incremental improvements in emissions. From a cost perspective, the likely result of requiring wet scrubbers on these units would be closure of these units and diversion of waste to a landfill. Considering these factors, we concluded that beyond-the-floor limits are unreasonable for the incinerator subcategory.

Small remote incinerators. Existing units in this subcategory are typically equipped with an afterburner as the control device, with the facility sometimes employing waste segregation practices to a certain degree, usually to screen out recyclable materials and hazardous waste materials. We received several comments stating that this subcategory has unique climactic, geographic, and wildlife considerations that influence the applicable controls that are available, and commenters also stated that these small remote incinerators are the only viable waste disposal option in certain regions of Alaska. See section V of this preamble for more discussion from commenters on these units. Of primary concern from a technical standpoint are controls that require water to operate or those that have a large space footprint. Water-based controls such as wet scrubbers, SNCR, and even the evaporative cooling section of dry sorbent injection followed by DIFF may pose ice fogging and equipment freezing concerns that could prevent the use of the incinerator.

To achieve the MACT floor limits, more than half of the units in this subcategory will require afterburner upgrades, about two-thirds of the units will require ACI system/FF or FF alone, and most will require a more robust materials segregation plan that removes chlorinated and non-ferrous metal components from the waste stream at these facilities. These controls are the best demonstrated technologies that are technologically feasible at these facilities, and they are sufficient to meet the MACT floor limits. One technology that is beyond-the-floor that is technically feasible would be higher efficiency FF or perhaps the addition of a second FF. However, considering the small amount of emissions that would remain after meeting the MACT floor, we expect the incremental cost effectiveness for a second FF or higher efficiency FF could be extraordinarily high, approaching $500,000/ton.

We have also considered the costs of alternative disposal, and, based on new information obtained during the comment period, we have adjusted our estimates of those costs to be much higher than those we estimated at proposal. Based on the adjusted cost estimates, we have determined that the alternative disposal options exceed the costs of controls necessary to meet the MACT floor limits. In addition, there is still some uncertainty whether alternative disposal is an available option during severe climate events. Our assessment indicates that a beyond-the-floor limit would not be achievable to some facilities due to aforementioned technical issues associated with available controls and would significantly increase costs for others. In either case, we conclude that establishing beyond-the-floor standards would likely result in forced closure of some of the units in this subcategory, but we also believe that some units that would otherwise close due to cost related issues would be forced to operate at a loss because closure may not be an option due to other nonair quality environmental regulations aimed at protecting human health and wildlife. For both the technological and cost related issue discussed above, and because of nonair quality environmental issues, we conclude that there are no reasonable beyond-the-floor alternatives for the small remote incinerator subcategory.

Waste-burning kilns. Existing kilns are currently equipped with various combinations of ESPs, FF, SNCR and DIFF controls. We estimate that kilns may need to add new controls or improve existing controls to meet the MACT floor limits. These include improved FFs to meet the reductions necessary to meet the Cd and Pb limits, activated carbon for D/F and Hg control, and some kilns may need to add RTO to meet the CO limits.

As previously discussed, ACI system/FF are the best technologies available for control of D/F, Hg, PM, Cd and Pb. To meet the floor, the FF will need to be high efficiency, 99 percent in some cases, to meet the MACT floor limit for Cd and Pb. The only further control available would be a second FF, which would result in less than an additional 1 percent reduction of these pollutants. We estimate the cost effectiveness for this to be in the $500,000 per ton range at a minimum. Therefore, there are no further controls to consider as beyond-the-floor options for these pollutants.

For waste-burning kilns, a significant amount of CO emissions can result from the presence of organic compounds in the raw materials (and not only from incomplete combustion). Therefore, good combustion controls and practices are not as effective for waste-burning kilns as for other types of combustion units, and may not be enough for units to meet the MACT floor CO limits. Oxidation catalysts have not been installed on waste-burning kilns, and we believe they may not be as effective on waste-burning kilns as they are on other sources due to plugging problems. Specifically, the catalyst bed can become plugged or blinded with dust, thereby covering up catalyst reactive sites necessary to oxidize CO, which reduces the effectiveness of the unit. To maintain the effectiveness of the catalyst, the unit may require shutting down more frequently to replace the catalyst, which reduces productivity of the unit and increases catalyst costs. To make an oxidation catalyst feasible, it may be necessary to also use multiple FF in series upstream of the catalyst which, as described above, is a very costly measure. The only effective CO control for significant CO reductions we could identify for waste-burning kilns is a RTO, and we expect over half of the units will need to install a RTO to meet the MACT floor limits. As a beyond-the-floor option, setting a CO limit at a level that most of the remaining waste-burning kilns would also require RTO could be considered, although we doubt that some of the units requiring RTO to meet the MACT floor emission limit for CO would be able to further reduce their emissions to that same extent. Furthermore, the cost and energy consumption for these additional RTO make this an impractical choice. Therefore, as there are no other controls which could be applied to further reduce CO emissions from these units and additional RTOs would be ineffective from a cost and energy impacts perspective, we could not identify a beyond-the-floor option for CO.

We expect that waste-burning kilns will install scrubbers to meet the MACT floor emission limits for HCl and SO_2. The floor limits for HCl are at the levels of quantification of the test method used to determine compliance. Therefore, there are no additional measures that could be employed to quantify any further reductions in HCl emissions beyond that of the MACT floor limit. The only other option for further HCl and SO_2 control would be addition of a dry sorbent injection system in series with the wet scrubber. However, this would approximately double the costs for acid gas control, with only about a 30 percent incremental reduction in SO_2 emissions and no measurable reduction in HCl emissions. As a result, no beyond-the-floor options for acid gases from waste-burning kilns exist because we cannot quantify further HCl reductions, and the beyond-the-floor options for SO_2 reductions are unreasonable due to the cost of the additional controls in conjunction with the limited benefits of such controls.

The demonstrated control technology for NO_X control on waste-burning kilns is SNCR. In fact, several of the kilns are already equipped with this technology and are able to comply with the NO_X MACT floor limit. We estimate that other kilns may require the addition of SNCR to meet the MACT floor limits for NO_X. One kiln will require an SNCR that is optimized to the capabilities of the technology to meet the MACT floor limits for NO_X. For this unit to be able to achieve an even lower NO_X limit would likely require another technology. As discussed above, SCR is another technology that is used by some combustion sources to reduce NO_X emissions; however, SCR is a catalyst technology that has not been demonstrated to work effectively on cement kilns (or waste-burning kilns) in the United States. We believe that SCR is not effective on waste-burning kilns due to difficulties operating SCR in applications where there is significant PM or sulfur loading in the gas stream. These two gas stream constituents can reduce catalyst activity, and lower the resulting effectiveness of the SCR, through catalyst poisoning and blinding/plugging of active sites by ammonia sulfur salts (formed from sulfur in the flue gas with the ammonia reagent) and PM (Air Pollution Control Technology Fact Sheet, SCR, EPA–452/F–03–032). We could not identify any other controls beyond SCR and SNCR, alone or in tandem, to reduce NO_X emissions from waste-burning kilns. We believe that SCR is not technically demonstrated on kilns currently and may not be technically feasible. For these reasons, we are not selecting a limit for NO_X that is beyond-the-floor for the waste-burning kiln subcategory.

Liquid waste ERUs. Existing units in this subcategory are equipped with flue gas recirculation in a couple cases, and some settling chambers for particulate control in a couple other units. We anticipate units within this subcategory may need to install FF, CO catalyst, and SNCR to meet the MACT floor limits. As discussed earlier, FFs are the best control available for PM, Cd, and Pb control. The only further control available would be a second FF or a very high efficiency FF. The metals emissions from these units are very low to begin with, so the only incremental reductions would be in PM. This would result in perhaps an additional 10 percent reduction in emissions at almost double the cost of current particulate controls. As mentioned before, we anticipate cost effectiveness for this to be in the $500,000 per ton range at a minimum. Likewise, SNCR is the best demonstrated technology being applied to waste combustion units for NO_X control. As discussed earlier, SCR has been used in some boiler applications, but SCR costs are approximately four to five times those of SNCR, for only an additional 30 percent reduction from the baseline. Furthermore, we observe that SCR has not been demonstrated to work effectively on waste combustion units in the United States. Carbon monoxide control for liquid waste ERUs could also be achieved by using a RTO, but at a far greater energy requirement, notably in natural gas consumption, with comparable control efficiency as the CO catalysts that we expect some units will need to install to meet the MACT floor CO limits. Therefore, we conclude that additional beyond-the-floor CO control would be unreasonable for this subcategory.

Additional D/F and Hg control could be achieved using ACI with another FF. However, the baseline emissions for these pollutants are already very small, with only marginal additional emissions reductions available if additional controls were being used. Therefore, beyond-the-floor limits for these pollutants will not be reasonable from a cost effectiveness perspective.

We also considered whether it is reasonable to go beyond-the-floor with respect to SO_2 for this subcategory. In this case, the DIFF control technology could be applied to these units to reduce SO_2 emissions by about 70 percent with co-control of HCl (90 percent) as well as PM, Cd, and Pb. Most of these units will already require the addition of a FF to meet the MACT floor limits, so the cost of going beyond-the-floor for these units would entail the dry sorbent injection components of the control device. For the units that do not require FF to meet the floor, the additional costs would involve the entire DIFF control device. The total cost for applying the relevant controls to all the units is approximately $4.8 million per year in annualized capital and operating costs for SO_2 control beyond-the-floor. The reduction in emissions of SO_2 is approximately 2,300 tpy, based on the baseline emissions estimate and a 70 percent reduction and accounting for SO_2 emissions from electricity generation needed to power the controls. It is worth noting that the baseline estimates and MACT floor calculations for this subcategory are based on data from the only unit for which we have SO_2 data in this subcategory. This unit has a baseline SO_2 concentration of 641 ppm, which has been applied to the other five liquid ERUs as an estimated baseline concentration. The HCl concentration for this unit is about 4 ppm, so co-benefit emission reductions are significantly less than the SO_2 emission reductions. Because we are basing these analyses off of data from a single unit within the subcategory, we realize that there is a large margin of uncertainty on the control requirements within this source category and the potential for SO_2 emissions reductions at the beyond-the-floor level.

To get a better idea of the potential cost effectiveness for a beyond-the-floor limit for SO_2, we also looked at the costs and emissions reductions solely for the unit which we have data for to determine the cost effectiveness of control for this unit. In this case, the additional cost of the dry injection system (the unit already requires a FF to meet the MACT floor limits) is about $567,000 per year, with an estimated emissions reduction of 103 tpy of SO_2 (and minor HCl reduction) adjusted for SO_2 emissions from electricity generated to power the controls. This results in an incremental cost effectiveness of $5,500 per ton of SO_2 control beyond-the-floor. While this number is generally within the cost effective range we find reasonable, we are not adopting a beyond-the-floor limit for SO_2 given the uncertainty associated with this number, the fact that we cannot adequately estimate the costs for other units in the subcategory, and because the controls required for HCl may actually reduce SO_2 more than is required based on the SO_2 standard alone such that the actual cost effectiveness of the beyond-the-floor option is not in line with the estimate.

Regarding co-control for PM, the fact that four of the six liquid waste ERUs will likely require FF to meet MACT floor limits for Cd and Pb means that going beyond-the-floor using DIFF controls would only net additional PM control on the two remaining units. The FF portion of the control costs for these two units is approximately $1.1 million per year with an estimated PM reduction of fewer than five tpy, which translates into an incremental cost-effectiveness of about $230,000 per ton for additional PM control. Based on our analysis and realizing the high degree of uncertainty regarding costs, emissions reductions and resulting cost-effectiveness for this particular CISWI subcategory, we have concluded that requiring beyond-the-floor controls on these units is unreasonable.

Solid waste ERUs. Existing units in this subcategory are equipped with various combinations of ESPs, FF, scrubbers, SNCR spray towers, and DIFF. We anticipate units within this subcategory may need to install or improve different combinations of ACI system/FF, DIFF, FF, LBMS, CO catalysts, and wet scrubber control technologies to meet the MACT floor limits. As discussed earlier, a FF is the best control available for PM, Cd, and Pb control. The Cd and Pb reductions necessary are greater than 90 percent in many cases, indicating that units will likely require highly efficient FF to meet the limits for these pollutants and PM. Therefore, beyond-the-floor limits for PM, Cd, and Pb would likely necessitate a second FF, essentially doubling the cost for little additional reduction in emissions. Furthermore, the ACI system is the BAT for reducing D/F and Hg emissions. The D/F reduction necessary for some of these units approaches 99 percent, indicating that beyond-the-floor limits that are more stringent than the MACT floor limits may not be achievable by the control technology.

In certain cases, units may require DIFF and wet scrubbers in series to meet acid gas limits. There are no additional controls that could be implemented in these cases to further reduce acid gas emissions. Carbon monoxide control for solid waste ERUs could also be achieved by using a RTO, but likely at a far greater energy requirement (specifically natural gas) with comparable control efficiency as the CO catalysts that we expect some units will need to install to meet the MACT floor CO limits. Therefore, we conclude that additional beyond-the-floor CO control would be unreasonable for this subcategory due to additional cost and energy impacts.

The demonstrated control technology for NO_X control on ERUs is SNCR. In fact, some of the ERUs are already equipped with this technology. A couple of the units appear to comply with the NO_X MACT limit because they already have a SNCR in place. As mentioned earlier, SCR is another technology that is used by some combustion sources to reduce NO_X emissions. However, SCR costs can be about four to five times more costly than SNCR. Furthermore, we observe that SCR has not been demonstrated to work effectively on waste combustion units in the United States. We realize that the industrial sectors that use units within this CISWI subcategory are typically wood and forest product industries, sectors that have suffered particular economic hardship. We are attempting to make sure that the regulatory requirements are being satisfied, while minimizing adverse economic impact wherever possible. Since there remain some questions about a demonstrated control beyond the control used to meet the MACT floor limits, and some units are already utilizing SNCR to meet the MACT limit, coupled with the fact that the potential beyond-the-floor technology is significantly more expensive, we are not selecting a limit for NO_X that is beyond-the-floor for the solid waste ERU subcategory.

New Units. As discussed elsewhere, we have concluded that only two of the CISWI subcategories may see any new units within the immediate future, primarily due to replacement of old units. These two subcategories are the incinerator subcategory and the small remote incinerator subcategory. While facilities may find alternative disposal options are available, we are cognizant of the fact that, for these subcategories, there may be instances where alternative disposal options are unavailable, and a new incineration unit may be required. For incinerators, we estimate units may require a combination of the ACI system/FF, SNCR, and wet scrubbers to achieve the new source MACT floor limits. As discussed above for existing incinerators, there are no control technologies demonstrated or reasonably cost-effective that we could consider at this time that would perform better or be more cost-effective than those being used to meet the new source MACT floor limits. Therefore, we have concluded that no beyond-the-floor emission limits should be selected for new incinerators. For small remote incinerators, we anticipate new sources will have an afterburner installed to achieve the CO limit and that the afterburner will also be equipped with low NO_X burners, require waste segregation for ferrous and non-ferrous metals and chlorinated plastics, and likely require ACI system/FF to meet the new source MACT floor limits. As discussed above for existing small remote incinerators, there are technical issues with any control technologies that require water for operation for this subcategory of unit. As a result, there are no additional or better control technologies available other than those being used to meet the new source MACT floor limits for the small remote incinerator subcategory.

D. Rationale for Subcategories

1. Incinerators

Comment: Some commenters argue that EPA wrongly concluded that all incinerators are sufficiently similar to meet one emission limit. The commenters suggest that the variability of combusted materials necessarily means variability in emissions concentrations and that variability cannot be masked exclusively by emissions control performance or statistical analysis. One commenter claims that it will be extremely difficult for incinerators combusting materials other than what the best-performing incinerators are combusting to comply with the limits in the proposed rule if EPA does not refine the overly-broad incinerator subcategory.

Response: EPA disagrees that incinerators should be further subcategorized. As stated at proposal, "incinerators, which are the units currently regulated by the 2000 CISWI rule, are used to dispose of solid waste materials, and emissions are a function of the types of materials burned. Incinerators are designed without integral heat recovery (but may include waste heat recovery). While there are different designs, they all serve the same purpose: reduction in the volume of solid waste materials. Incinerators can be operated on a batch or continuous basis." We note that the MACT floor pool of incinerators represents a wide variety of industrial sources, from pharmaceuticals to heavy equipment manufacturers. From the data available, these best-performing units also combust a wide variety of materials, including liquid waste streams, expired pharmaceutical products, and spent paint booth filters. Therefore, contrary to commenters' arguments, there is a wide variety of materials being combusted in the best-performing units. As we also explained at proposal, the same types of add-on controls, including FF, wet scrubbers, SNCR and ACI, can be applied to most incinerators. Our estimates indicate that the reductions achieved by these controls will allow incinerator units to comply with the emission limits.

Furthermore, the commenters have provided no information that indicates that the units in the incinerators subcategory are unable to retrofit and/or take other actions (*e.g.*, waste segregation) to satisfy the standards in the final rule. Even if it were true that some sources will be unable to meet the final standards, which we dispute, we still believe it would not be reasonable to further subcategorize incinerators based on the waste stream because such subcategorization, taken to its logical conclusion, would lead to many subcategories with one or only a few sources. We presume that Congress recognized when it enacted CAA section 129 that solid waste incineration units would be combusting a variety of waste and, in fact, CAA section 129 requires different standards based on the potential waste streams: MSW; HMI waste; and commercial and industrial waste. Congress provided additional discretion to further subcategorize solid waste incineration units, however, commenters have not provided compelling information that indicates these units, which are already complying with the 2000 CISWI standards, should be further subcategorized. For these reasons, we decline to further subcategorize the incinerators subcategory.

2. Energy Recovery Units

Comment: Many commenters suggested that the ERU subcategory is overly broad and should be subcategorized. The commenters stated that EPA has broad authority to distinguish among groups of sources within a source category or subcategory in setting a MACT standard. The commenters maintained that the statute provides that EPA "may distinguish among classes, types, and sizes of sources within a category or subcategory" when establishing MACT standards. Several commenters believed that Congress' use of the broad terms "class," "type," and "size" show that EPA is intended to have broad discretion in the appropriate factors that warrant distinguishing among sources, and EPA's proposed subcategories fall squarely within the meaning of "types" and "sizes." The commenters argued that to the extent that EPA may distinguish among sources within a category or subcategory on the basis of "any [reasonable] criterion of classification whatsoever," and may create subcategories as appropriate, the CAA clearly grants EPA authority to create additional subcategories for ERUs.

Many commenters suggested that the subcategorization of ERUs, where differences among sources affect the applicability of control technology, is consistent with MACT precedent. Commenters argued that EPA's proposed inclusion of all types of ERUs (coal units, biomass units, combination boilers, liquid boilers, and even gas fired units) into one subcategory is inadequate. Several commenters suggested that EPA create separate subcategories as it proposed in the Boiler and Process Heater MACT. The commenters supported their suggestion by offering the following rationale: (1) Since the CAA requires EPA to set SO_2 limits for CISWI units, and since coal contains significant concentrations of sulfur, and biomass generally would contain little or no sulfur, a subcategory for coal-fired boilers should be established; expensive control devices such as a spray dryer absorber could not reduce the outlet concentrations of SO_2 to the single ppm levels equivalent to those of a biomass boiler; (2) observation of the proposed Boiler MACT floor standards proposed for biomass and coal units shows that there are significant differences in outlet emissions of HCl, Hg, and CO; (3) likewise, the NO_xx emissions from the top performing biomass, coal, liquid, and gas-fired units would all be significantly different due to inherent differences in the design of these units.

Response: The CAA allows EPA to divide source categories into subcategories based on differences in class, type, or size. For example, differences between given types of units can lead to corresponding differences in the nature of emissions and the technical feasibility of applying emission control techniques. The design, operating, and emissions information that EPA has reviewed indicates differences in unit design that distinguish different types of ERUs. Data indicate that there are generally significant design and operational differences between units that burn coal, biomass, liquid, and gaseous fuels. Energy Recovery Units are therefore designed for specific fuel types and will encounter problems if a fuel with characteristics other than those originally specified is fired. Many ERUs in the database are indicated to co-fire liquids or gases with solid fuels, but, in actuality, most of these boilers commonly use fuel oil or natural gas as a startup fuel only and then operate on solid fuel during the remainder of their operation. In contrast, some co-fired units are specifically designed to fire combinations of solids, liquids, and gases. Changes to the fuel type would generally require extensive changes to the fuel handling and feeding system (*e.g.*, a stoker using wood as fuel would need to be redesigned to handle fuel oil or liquid wastes). Additionally, the burners and combustion chamber would need to be redesigned and modified to handle different fuel types and account for increases or decreases in the fuel volume. In some cases, the changes may reduce the capacity and efficiency of the ERU. An additional effect of these changes would be extensive retrofitting needed to operate using a different fuel; therefore, the design of the ERU impacts the degree of combustion.

In our investigations resulting from commenters' statements, we concluded that the data were sufficient for determining that a distinguishable difference in performance exists based on unit design type. Therefore, because different types of units have different emission characteristics which may influence the feasibility or effectiveness of emission control, they should be regulated separately (*i.e.,* subcategorized) for affected pollutants. Accordingly, we have subcategorized ERUs based on unit design in order to account for these differences in emissions and applicable controls. The two primary ERU subcategories are units designed to burn solid wastes (solids) with other solid fuels, and units designed to burn liquid wastes with liquid or gaseous fuel (liquid/gas). The ERU solids subcategory is further subcategorized into units designed to burn coal and units designed to burn biomass for CO, NO_X and SO_2 to address design differences and feasibility or effectiveness of emission control between these types of units as commenters have suggested. The subcategorization for these pollutants is also compelled by the data available for the solid fuel sources. Specifically, coal fired ERUs submitted exclusively CEMS data for CO, NO_X, and SO_2, and biomass fired ERUs submitted almost exclusively stack test data for these pollutants. We are unable to convert the vast majority of CEMS data into equivalent stack test data and the converse is true as well. Pursuant to CAA section 129(a)(2), EPA must establish emission standards for existing sources based on the average emissions limitation achieved by the best-performing 12 percent of sources. Because the data for CO, NO_X, and SO_2 from the biomass and coal fired ERUs are not in consistent formats, we would have to ignore a subset of the available data in establishing the floors for these pollutants if we did not further subcategorize solid fuel ERUs. We therefore think it is reasonable to further subcategorize these units for CO, NO_X, and SO_2 so the standards are reflective of the data available to EPA, and we are properly accounting for the different emissions characteristics associated with the different types of fuels.

These subcategories are based on the primary fuel that the ERU is designed to burn. We are aware that some ERUs burn a combination of fuel types or burn a different fuel type as a backup fuel if the primary fuel supply is curtailed. However, ERUs are designed based on the primary fuel type (and perhaps to burn a backup fuel) and can encounter operational problems if another fuel type that was not considered in its design is fired at more than 10 percent of the heat input to the unit. Therefore, we subcategorized ERUs that burn at least 10 percent coal (on an annual heat input basis) as being in solid fuel/coal subcategory, with the remaining solid ERUs being in the biomass subcategory for ERUs.

3. Cement Kilns

Comment: One commenter states that waste-burning cement kilns differ among themselves significantly in terms of type, size, configuration, and other relevant factors that can influence emissions, and EPA should consider the further sub-categorization of kilns on this basis. The commenters provide the example that in its evaluation of organic emissions from kilns in support of the Portland Cement rulemaking, they found significant differences due to configuration and raw materials. The commenter did not develop specific recommendations for sub-categorization of cement kilns under the proposed CISWI rule citing the limited data and the limited time EPA has allowed for comment in this rulemaking.

Response: The authority to subcategorize is discretionary, even where sources can otherwise be distinguished as a different class, type, or size. In evaluating the population of kilns that may be subject to CISWI and estimates of control technologies that may be required to meet the limits, we realize that most of the kilns in the

CISWI population at proposal were subject to the standard solely due to tire combustion. Further investigation indicated that all of these kilns obtained the tires from established tire recycling programs. Based on the new definition in Section 241.3, these tires would not be considered to be solid wastes. Therefore, kilns that we considered as CISWI units at proposal solely due to tire combustion are not part of the CISWI category, and we removed them from the CISWI inventory. In addition, we obtained information on used oil, biomass, and wood waste being combusted by cement kilns. Based on the definition in 241.3, we determined which of these materials would be considered to be solid waste and removed any kilns from the CISWI inventory where we determined none of the fuels were solid waste. This resulted in the inventory of CISWI kilns being reduced to 12 kilns total. Of the 12 kilns in the current CISWI inventory, one is a wet kiln, four are preheater kilns, and the remainder are preheater/precalciner kilns. We recognize that differences in kiln design and configuration can effect emissions. These effects are most evident on emissions of NO_X, CO, and SO_2. However; all of these pollutants are also affected by the site specific raw materials fed to the kiln. We have insufficient data to differentiate between the raw material affects and the kiln design affects. Therefore, we decided not to develop separate subcategories for cement kilns. However, all of our information indicates that NO_X, SO_2 and CO are controllable to the level of the standard whether a kiln is wet or dry. The control devices that may be necessary to comply with the CISWI limits (including the standards for NO_X, SO_2 and CO) may be applied to both types of kiln, and there do not appear to be any feasibility or effectiveness issues that would necessitate subcategorization in order for units to achieve the limits. For example, the controls we estimate the wet kiln units may require in order to meet the CISWI limits, such as SNCR, wet scrubbers, and RTO, may be applied to all types of kilns. We are unaware of any design considerations that prevent FF or RTO use for either the wet type or preheater type of kiln. Therefore, EPA disagrees with this comment and is not subcategorizing among waste-burning kilns.

4. Small Remote Incinerators

Comment: Several commenters requested that EPA revise the definition of small remote incinerator. Some commenters suggested that the proposed definition would inadvertently exclude those incinerators that are within the spirit of the definition, but are located within 50 miles of a MSW landfill or units that burn more than 1 ton of waste per day. Other commenters specifically requested an exemption for small remote incinerators that are not accessible by the Federal Highway System. Several commenters explained that not all units are accessible by vehicle, the affected units may or may not be within 50 miles of a MSW landfill, and road access can be seasonal in Alaska.

Commenters expressed particular concerns about small remote units operating in remote locations of Alaska. Commenters explained that waste accumulation due to unavoidable transportation delays could attract animals, in potential violation of state law and policy and the Federal Endangered Species Act. Several commenters explained that due to the location of facilities, increased fog conditions and harsh winters, it is unlikely that food waste can be transported off-site on a daily basis. In these circumstances, stored waste may attract wildlife to facility operations, which could in turn result in potentially dangerous interactions with personnel. Commenters argued that longer term on-site storage is not a safe option for either the wildlife or humans. Further commenters explained that operational areas, and areas where they can accumulate solid waste, are very small, such that the ability to store multiple days of solid waste could be problematic. The commenters asserted that the use of incinerators to manage food waste has proven to be a valuable tool for preventing human/wildlife interactions.

Response: EPA has revised the definition of small, remote incinerator to apply to a unit combusting less than 3 tons of waste per day and located more than 25 miles from the nearest landfill. The change to 25 miles and 3 tons of waste combusted per day, instead of the parameters that were proposed, will help address the commenters' concerns about applicability for intended units within this subcategory.

5. Burn-Off Ovens

Comment: Many commenters are opposed to regulating burn-off ovens under CISWI. They assert that EPA severely underestimated the universe of burn-off ovens and did not consider the potential subcategories of burn-off ovens (*e.g.,* metal parts recovery, drum reclamation, and electric motor rewinding ovens). Several commenters argue that the units do not use incineration or combustion processes and instead play a vital role in the reclaiming and recycling process. Many commenters claim that regulation of these units will result in job loss and closure of businesses.

Response: At proposal, we combined part, rack, and drum reclamation units into one burn-off oven subcategory. We estimated that there were approximately 36 units in the burn-off oven subcategory. We received comments during the comment period that indicated that there may be more than 15,000 units in the burn-off oven subcategory as we have defined it. Furthermore, we have no data on drum reclamation units. We also do not have data on all CAA section 129 pollutants for the burn-off ovens we identified at proposal. For all these reasons, and because we are not required to finalize standards for burn-off ovens to comply with our CAA section 112(c)(6) obligation, we have determined that this final action will not subject burn-off ovens to this standard.

6. Soil Treatment Units

Comment: EPA received a comment that soil treatment units are unique units and do not belong in the floor determination for kilns. The commenter stated that soil treatment units are "treating" and not "combusting" soil and therefore should be considered in an alternative floor analysis.

Response: Based on the information received during the comment period, EPA agrees that soil treatment units and kilns should be separate subcategories. In addition, information we have obtained since proposal indicates that there may be many more soil treatment units than the two we have identified; and, therefore, we do not have sufficient data to set emissions standards for soil treatment units. For these reasons, we have determined that this final action will not subject soil treatment units to this standard. We do not need to regulate soil treatment units at this time in order to comply with our CAA section 112(c)(6) obligation.

E. Emission Limits

1. Consistency Between Other Applicable NESHAP Limits

Comment: Many commenters stated that EPA should adopt MACT limitations of similar stringency for similar units, irrespective of whether the source is regulated as a kiln or ERU under CAA section 112 or a CISWI unit under CAA section 129. Commenters stated that for some emissions, the two rules apply to similar equipment burning similar fuels for similar purposes, but the emission limits are clearly different. They suggested that efforts be made by the EPA either to explain the differences or to develop more adequate and consistent limits in the regulations. One commenter stated that EPA should express standards for waste-burning cement kilns in a production-based form for a direct comparison of standards with the Portland Cement NESHAP.

Response: As commenters note, we have subcategorized units to the extent we determined appropriate within the CISWI population, to reflect similar design considerations as subcategories for non-CISWI units, however, the fact that units are similar does not authorize EPA to set similar standards under CAA section 112 and section 129. As we have discussed elsewhere in our descriptions of the MACT floor analysis, we are calculating emission limits based on data from units that we believe are CISWI units based on the definition of solid waste and the currently available information. Solid waste incineration units may not be regulated under CAA section 112 once we have established CAA section 129 performance standards for the category or subcategory, and solid waste incineration units should not be included in the floor calculations for CAA section 112 standards once the units are identified as solid waste incineration units. The converse is also true. The requirements for setting CAA section 129 standards are different for new and existing units. For new units, EPA must base the standards on the best-performing similar unit for each subcategory, and, for existing units, we must base the standards on the average emissions limitation achieved in practice for the best-performing 12 percent of units in the subcategory. *See* CAA section 129(a)(2). The statute, therefore, provides some discretion for EPA to establish new source standards based on the best controlled similar source, instead of the best controlled source in the subcategory. For this reason, EPA may consider CAA section 112 sources to the extent they are similar to the CAA section 129 units when establishing the MACT floor for new sources. For existing units, however, EPA is required to use information from sources in the subcategory when establishing the MACT standards. Section 112 of the CAA contains similar requirements for establishing the MACT floors. *See* CAA section 112(d)(3). Because the existing sources subject to CAA section 112 will have different emissions information than the sources subject to CAA section 129, we may not harmonize the existing source standards for similar units regulated under both CAA section 112 and section 129.

As to the comment that EPA should establish production based standards for waste-burning kilns to coincide with the Portland Cement NESHAP, we note that CAA section 129 solid waste incineration rules, including the 2000 CISWI standards, have consistently presented numeric limits in stack gas concentration bases. We are maintaining in the final CISWI standards emission limits as stack gas concentrations; however, in response to the comments on this issue, we note that the kiln limits in Tables 1 and 2 of the preamble can be converted to lb/ton clinker or lb/ton raw feed bases assuming 100,000 dscf/ton clinker and 1.65 ton raw feed/ton clinker.

2. Opacity Limits

Comment: Several commenters opposed the setting of opacity limits for CISWI units. Commenters argued that opacity has long been considered a surrogate monitoring methodology for demonstrating continuous compliance with PM standards and that the proposed controls and monitoring techniques eliminate the need for opacity monitoring. Many commenters also suggested that a certified reader is only able to distinguish opacity in increments of 5 percent and that the proposed single digit limits are beyond the capabilities of Method 9. Commenters also asserted that the correlation between PM and opacity is not demonstrated based on a review of the data available at proposal. Several commenters stated that it is not appropriate to apply a ratio of PM to opacity based only on data from one facility in the incinerator category and apply it to all types of units regulated under this rule.

Response: At proposal, we had opacity data for only one unit in the incinerator subcategory. We developed opacity standards for the CISWI subcategories by establishing a ratio of PM to opacity for the one incinerator and multiplying that ratio by the PM MACT standards for each of the subcategories to establish the opacity standards for the different subcategories. 75 FR 31956. We requested comment on this approach. We also requested comment on whether it was appropriate to establish opacity standards for CISWI units at all. EPA is not required to establish opacity standards for incineration units pursuant to CAA section 129(a)(4), which requires EPA to set numeric emission limitations for nine pollutants plus "opacity (as appropriate)."

EPA is not promulgating opacity limits for CISWI units at this time. As commenters note, opacity is often required in CAA rules as a surrogate for PM to assure compliance with PM standards when continuous PM monitoring is not required under the applicable standard. In this case, we are requiring PM stack testing in conjunction with continuous parametric monitoring; therefore, the need for an opacity limit is diminished with regards to CISWI units. In addition, we have determined it is not appropriate to set opacity standards given the lack of opacity data from all but one of the CISWI units. However, we continue to maintain that opacity serves as an indicator of PM, and we may in the future determine that it is appropriate to establish opacity limits for CISWI units; therefore, EPA is requiring opacity testing for units as part of their annual testing requirements. Opacity also serves as an indicator of good air pollution control practices, and as such, is a valuable tool for EPA in determining compliance with the general provision at 40 CFR 60.11(d) that sources maintain and operate their affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practices for minimizing emissions.

3. Limits for TMB and TEQ for D/F

Comment: Some commenters suggest that EPA arbitrarily set floors for TEQ based on a 0.078 ratio between total mass and TEQ D/F data. Commenters believe that the data EPA used to calculate the multiplier was not limited to the best-performing 12 percent of sources and thus, the approach does not conform to the statute, which requires MACT floors to be set on the basis of the average of the emissions levels actually achieved by the best-performing 12 percent of sources.

One commenter asserts that nondetected target compounds (*i.e.,* the 17 2,3,7,8-substituted PCDD/PCDF TEF congeners) were treated with a zero concentration in all of the stack test reports and that target compounds reported by the laboratory as an EMPC were treated with a zero concentration for TEQ calculations. The commenter further states that EPA used TEQs which treated both nondetected target compounds, as well as those reported as an EMPC, with a zero concentration (*i.e.,* ND=0; EMPC=0).

Response: EPA is no longer using a ratio of TMB to TEQ to calculate limits for D/F TEQ. EPA further reviewed the data, including data corrections submitted after proposal, and used individual and total mass congener data to establish TEQ limits for all subcategories. The commenter's assertion that EMPC and ND values were treated as zero concentration is incorrect. Estimated maximum possible concentration and ND values were not incorporated into the analysis unless a facility reported an actual value, including a reported value of zero. The TEQ limits were calculated using the same statistical approach used for the other regulated pollutants. *See* section V.B of this preamble for discussions on establishing MACT floors, incorporating nondetect values, and changes in the statistical approach used to set limits.

F. New Data/Corrections to Existing Data

1. Discussion of EPA Data Validation and Inclusion of New Data Received Since Proposal

Comment: EPA received several comments on suggested data corrections or new data to incorporate into the analysis.

Response: See "Data Amendments and Corrections Following Proposal" memorandum in the docket for a discussion on how data were incorporated to address comments.

G. Testing and Monitoring

1. Monitoring Alternatives (CEMS in Lieu of Testing or Parametric Monitoring, Decisions on PM CEMS and CO CEMS)

Comment: While some commenters supported the use of CO and PM CEMS to monitor emissions, others argued that CEMS should not be required for all units due to unreasonable costs and impracticality. Several commenters suggested that EPA evaluate the feasibility and measurement capabilities of CEMS before requiring their use. Commenters stated that multi-metals and PM CEMS can be inadequate in indicating the complex nature of emissions and urged EPA not to remove any of the parametric monitoring requirements in lieu of CEMS. Further, some commenters suggested that compliance testing is not needed if CEMS is used to monitor emissions.

Response: For the operations and facilities subject to the rule, we believe that the combination of periodic compliance emissions testing and continuous monitoring of operational and parametric control measure conditions is appropriate for assuring ongoing compliance. The rule allows a source owner or operator to install and operate CEMS in lieu of some testing and parametric monitoring requirements. This process requires source owners to propose site-specific monitoring plans for approval. These plans would include CEMS PS and periodic QA/QC steps to assure the quality of the alternative monitoring data. Currently, EPA has the requisite CEMS PS for Hg monitoring systems and not for multiple metals CEMS.

The final rule will not require CO CEMS for existing ERUs, as proposed. The rule will require operational parametric monitoring, as the commenter suggests, for most units affected by the rule, with CO CEMS allowed as an option at the source owner's discretion.

We agree that a PM CEMS installed and operated in accordance with PS 11 and the associated QA procedures can provide assurance of ongoing compliance without the need for additional periodic compliance testing. The final rule authorized the optional use of PM CEMS. We have retained the requirement for PM CEMS on existing ERUs greater than 250 mmBtu/hr to measure continuous compliance for these larger units.

2. CEMS Data To Set Standards

Comment: Several commenters suggested that any limit where CEMS are required, CEMS data must be used to develop the emission limits. The commenters discussed their experience with CEMS that shows variability is much higher than what a periodic stack test will show. The commenters suggested that 30 days of continuous emission monitoring is insufficient. They stated that biomass boilers have seasonal variability that would only be seen over the course of a year or more. Commenters also requested that EPA be aware that there may be sources that have installed for criteria pollutants under other permit requirements, particularly for NO_X, CO, and SO_2, and that sources would prefer to use the CEMS to demonstrate compliance but for the fact that the standards are established using stack test data. The commenters suggested that even if the standard only requires a stack test, there are sources that will be using continuous emission monitors for compliance purposes.

Response: As noted earlier, we are not requiring CEMS for compliance for existing units, other than PM CEMS for ERUs greater than 250 mmBtu/hr. No ERUs submitted PM CEMS data for us to evaluate in our development of emission limits. Therefore, we were unable to establish limits based on CEMS data as the commenter suggests; however, we have included a longer averaging period to account for the variability in PM emissions for these sources. In any case, given the controls available for PM, we do not believe that the PM emissions should vary as much as they may for other pollutants.

Also, as stated above, the rule allows sources to install and operate CEMS in lieu of some testing and parametric monitoring requirements at their discretion. This process requires source owners to propose site-specific monitoring plans for approval. These plans would include CEMS PS and periodic QA/QC steps to assure the quality of the alternative monitoring data. In allowing optional CEMS usage, we are providing facilities with compliance flexibility in case they wish to use existing CEMS to demonstrate compliance with the standards. Facilities that are concerned that they will not be able to continuously comply with the emissions limitations if they use CEMS for those limitations established based on stack test data should not avail themselves of the CEMS alternative.

3. Reduced Testing Provisions

Comment: Commenters contended that the proposed performance testing requirements are excessive and should be reduced to a reasonable and appropriate level. EPA proposed at 40 CFR 63.2710(b) that all units conduct performance tests for PM, HCl, fugitive emissions, and opacity on an annual basis. EPA further proposed for ERUs that annual performance tests be conducted for PM, HCl, Cd, lead, Hg, dioxins/furans, opacity, fugitive emissions, NO_X, and SO_2 (unless a CEMS is used for either PM, HCl, Hg, NO_X, and/or SO_2). Thereafter, EPA proposed to reduce the frequency to 3 years if there had been three tests in a row that had results of less than 75 percent of the emission standard. Commenters recognized EPA has included a provision to skip to a 3-year frequency provided a source passes three tests in a row with at least a 25 percent margin. However, commenters contended that with the very stringent limits EPA had proposed, very few units would likely to qualify for this provision and, therefore, they were not sure of its value.

Response: We disagree with the commenters' assertions that the performance testing requirements are excessive. As discussed earlier, the combination of periodic compliance emissions testing and continuous monitoring of operational and parametric control measure conditions is appropriate for assuring continuous compliance with the emissions limitations. Without recurring testing, we would have no way to know if parameter ranges established during initial performance testing remained viable in the future. The commenter correctly notes that CEMS may be used as an option and, if so, annual performance testing is not required for the pollutant being measured by a CEMS.

Regarding the assertion that the margin for reduced testing is too high to be effective, we disagree and note that the intent of this provision is to provide an incentive for better performers. By specifying the less than 75 percent of the emission standard margin, we are providing such an incentive for good performance, and not rewarding units that just barely meet the standard for a pollutant. Performance testing is required for all pollutants rather than PM and HCl only.

In addition, EPA is maintaining the reduced testing option for units that demonstrate emissions a specified percentage below the limits for 3 years. We have clarified and modified this option to state that performance testing for a given pollutant may be performed every 3 years, instead of annually, if measured emissions during 2 consecutive annual performance tests are less than 75 percent of the applicable emission limit.

Also note that sources that switch fuels during the year following a performance test will not qualify for reduced testing.

H. Start-Up, Shutdown, and Malfunction Requirements

Comment: Several commenters argued that emissions limits should not apply during SSM events while other commenters stated that SSM emissions should be included in calculations of emissions and standards. Several commenters suggested that in order to assure that SSM are appropriately accommodated, EPA must either assure that the data on which the standard is based include representative data from such periods or, alternatively, set a separate work practice standard to properly accommodate SSM. Several commenters contended that EPA did not consider enough data to adequately characterize emissions variability, as the standards were set based only on 3-run stack test data obtained under the best of operating conditions (and typically only one operating condition), no long-term CEMS data were used, no adjustment was made for fuel or feed pollutant content variability, and no data collected during periods of startup or shutdown were analyzed. Some commenters suggested that certain control devices take several hours to warm-up and that emissions during these startup periods will exceed the emissions standards and would never be able to recover to meet the average limitations. Further, several commenters stated that compliance with emissions standards during malfunction events will be difficult to gauge since emissions testing during such events is near impossible given the sporadic and unpredictable nature of malfunctions. The commenters contended that the rule could have the effect of forcing units to choose between safety and compliance with emissions requirements. The commenters stated that for some affected units, malfunctions by their very nature create unsafe conditions which can lead to excessive combustible mixtures that can result in explosions, equipment damage and personnel hazards.

Response: The Court vacated portions of two provisions in EPA's CAA section 112 regulations governing the emissions of HAP during periods of SSM. *Sierra Club* v. *EPA,* 551 F.3d 1019 (DC Cir. 2008), *cert. denied, 130 S. Ct. 1735 (U.S. 2010).* Specifically, the Court vacated the SSM exemption contained in 40 CFR 63.6(f)(1) and 40 CFR 63.6(h)(1), that are part of a regulation, commonly referred to as the "General Provisions Rule," that EPA promulgated under section 112 of the CAA. When incorporated into CAA section 112(d) regulations for specific source categories, these two provisions exempt sources from the requirement to comply with the otherwise applicable CAA section 112(d) emission standard during periods of SSM.

While the Court's ruling in *Sierra Club* v. *EPA,* 551 F.3d 1019 (DC Cir. 2008), directly affects only the subset of CAA section 112(d) rules that incorporate 40 CFR 63.6(f)(1) and (h)(1) by reference and that contain no other regulatory text exempting or excusing compliance during SSM events, the legality of source category-specific SSM provisions such as those adopted in the 2000 CISWI rule is questionable.

Periods of startup, normal operations, and shutdown are all predictable and routine aspects of a source's operations. However, by contrast, malfunction is defined as a "sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner * * *" (40 CFR 60.2). EPA has determined that malfunctions should not be viewed as a distinct operating mode and therefore, any emissions that occur at such times do not need to be factored into development of CAA section 129 standards, which, once promulgated, apply at all times. In *Mossville Environmental Action Now* v. *EPA,* 370 F.3d 1232, 1242 (DC Cir. 2004), the court upheld as reasonable standards that had factored in variability of emissions under all operating conditions. However, nothing in section 129 or in case law requires that EPA anticipate and account for the innumerable types of potential malfunction events in setting emission standards. *See Weyerhaeuser* v. *Costle,* 590 F.2d 1011, 1058 (DC Cir. 1978) ("In the nature of things, no general limit, individual permit, or even any upset provision can anticipate all upset situations. After a certain point, the transgression of regulatory limits caused by 'uncontrollable acts of third parties,' such as strikes, sabotage, operator intoxication or insanity, and a variety of other eventualities, must be a matter for the administrative exercise of case-by-case enforcement discretion, not for specification in advance by regulation.").

It is reasonable to interpret section 129 as not requiring EPA to account for malfunctions in setting performance standards. For example, we note that section 129 uses the concept of "best controlled" and "best-performing" unit in defining MACT, the level of stringency that section 129 performance standards must meet. Applying the concept of "best controlled" and "best-performing" to a unit that is malfunctioning presents significant difficulties. The goal of a best controlled or best-performing unit is to operate in such a way as to avoid malfunctions of the unit.

Moreover, even if malfunctions were considered a distinct operating mode, we believe it would be impracticable to take malfunctions into account in setting CAA section 129 standards for CISWI units. As noted above, by definition, malfunctions are sudden and unexpected events, and it would be difficult to set a standard that takes into account the myriad different types of malfunctions that can occur across all sources in the category. Moreover, malfunctions can vary in frequency, degree, and duration, further complicating standard setting.

In light of the *Sierra Club* decision, EPA proposed to require that sources be in continuous compliance with emissions limits at all times, even during SSM. 75 FR 31964. We proposed that these sources meet the same standards at all times. *Id.* We concluded that CISWI units would be able to meet the emissions limitations during periods of startup because most units used natural gas or clean distillate oil to start their incinerators and only add waste after the incinerator has reached combustion temperatures. *Id.* We proposed that emissions from burning natural gas or distillate fuel oil would generally be significantly lower than from burning solid waste. *Id.* We further proposed that emissions during shutdown would also be generally significantly lower because the waste would be almost fully combusted before the unit began shutting down. *Id.* We proposed that these factors, in conjunction with the variability built into the MACT standards and the longer averaging periods, meant that sources would be able to comply with the standards during periods of startup and shutdown. *Id.* For violations caused by malfunction events, EPA stated at proposal that we would consider relevant factors in determining the appropriate action to take.

We have eliminated the SSM exemption in this rule. Consistent with *Sierra Club* v. *EPA,* EPA has established standards in this rule that apply at all times. We have eliminated or revised certain recordkeeping and reporting related to the SSM exemption. EPA has attempted to ensure that we have not included in the regulatory language any provisions that are inappropriate, unnecessary, or redundant in the absence of the SSM exemption.

In establishing the standards in this final rule, EPA has taken into account startup and shutdown periods and have not established different standards for those periods. The standards that we are finalizing are based on short term stack tests for pollutants that generally are not expected to vary significantly at startup and shutdown. The possible exception here is CO, which in some subcategories such as ERUs, could vary at startup and shutdown. However, the percent oxygen operating limits will ensure that combustion conditions are optimized and the CO is minimized. Solid waste and fuel-fired ERUs do not normally startup and shutdown more the once per day. Thus, we are not establishing a separate emission standard for these periods because startup and shutdown are part of their routine operations and, therefore, are already addressed by the standards. Periods of startup, normal operations, and shutdown are all predictable and routine aspects of a source's operation. We have evaluated whether it is appropriate to have the same standards apply during startup and shutdown as applied to normal operations, and as the rule is structured, well operated and controlled units should be able to meet the standards at all times.

In the event that a source fails to comply with the applicable CAA section 129 standards as a result of a malfunction event, EPA would determine an appropriate response based on, among other things, the good faith efforts of the source to minimize emissions during malfunction periods, including preventative and corrective actions, as well as root cause analyses to ascertain and rectify excess emissions. EPA would also consider whether the source's failure to comply with the CAA section 129 standard was, in fact, "sudden, infrequent, not reasonably preventable" and was not instead "caused in part by poor maintenance or careless operation." 40 CFR 60.2 (definition of malfunction).

Finally, EPA recognizes that even equipment that is properly designed and maintained can sometimes fail and that such failure can sometimes cause an exceedance of the relevant emission standard. (*See, e.g.,* State Implementation Plans: Policy Regarding Excessive Emissions During Malfunctions, Startup, and Shutdown (Sept. 20, 1999); Policy on Excess Emissions During Startup, Shutdown, Maintenance, and Malfunctions (Feb. 15, 1983)). EPA is therefore adding to the final rule an affirmative defense to civil penalties for exceedances of emission limits that are caused by malfunctions. *See* 40 CFR 60.2265 and 60.2875 (defining "affirmative defense" to mean, in the context of an enforcement proceeding, a response or defense put forward by a defendant, regarding which the defendant has the burden of proof, and the merits of which are independently and objectively evaluated in a judicial or administrative proceeding.). We also have added other regulatory provisions to specify the elements that are necessary to establish this affirmative defense; the source must prove by a preponderance of the evidence that it has met all of the elements set forth in 60.2120 and 60.2685. *See* 40 CFR 22.24. The criteria ensure that the affirmative defense is available only where the event that causes an exceedance of the emission limit meets the narrow definition of malfunction in 40 CFR 60.2 (sudden, infrequent, not reasonable preventable and not caused by poor maintenance and/or careless operation). For example, to successfully assert the affirmative defense, the source must prove by a preponderance of the evidence that excess emissions "[w]ere caused by a sudden, infrequent, and unavoidable failure of air pollution control and monitoring equipment, process equipment, or a process to operate in a normal or usual manner * * *" The criteria also are designed to ensure that steps are taken to correct the malfunction, to minimize emissions in accordance with section § 60.11(d) and to prevent future malfunctions. For example, the source must prove by a preponderance of the evidence that "[r]epairs were made as expeditiously as possible when the applicable emission limitations were being exceeded * * *" and that "[a]ll possible steps were taken to minimize the impact of the excess emissions on ambient air quality, the environment and human health * * *" In any judicial or administrative proceeding, the Administrator may challenge the assertion of the affirmative defense and, if the respondent has not met its burden of proving all of the requirements in the affirmative defense, appropriate penalties may be assessed in accordance with section 113 of the CAA. *See* also 40 CFR part 22.77.

I. Notification, Recordkeeping and Reporting Requirements

1. Electronic Reporting Tool

Comment: Several commenters requested that EPA remove the mandatory requirement to use the ERT for submitting test results. They also suggest that EPA revise the provision for test reports, such that these reports be due no sooner than 90 days following completion of testing. One commenter stated that sources had requested in the ICR proposal stage that EPA not use the ERT, which was going through Beta testing, and informed EPA that the ERT had serious flaws including difficulty of use, content problems, and inaccessibility. Several commenters suggested that data submitted through the ERT is error-prone and imposes additional burdens on reporting sources. Some commenters asserted that EPA provides no insight or justification in the preamble or otherwise for requiring this form of data submittal and that the cost of this requirement, as compared to conventional reporting, is not evaluated or disclosed in discussion of the cost and impact of the proposed rule. Commenters state that many of the affected facilities have not had to participate in such reporting procedures in the past, and that these facilities will require additional staff time, equipment, and training to accomplish this requirement. Several commenters argue that it is also likely that implementation of the initial testing and most subsequent testing will be done under state authority and that unless state agencies are willing to use this same ERT, facilities will have a dual requirement for reporting. Further, commenters declare that the ERT bypasses the state, creating data quality issues. Commenters maintain that it is important to look at the qualifiers, the test methods, the QA/QC plans, and the justifications before making any decisions on the validity of the numbers. The commenters explain that test results from testing companies can incorporate a number of "qualifiers" in their data reporting, and if the electronic tool cannot accommodate the use of textual explanation to explain "qualifiers" for reported data, then the tool's usefulness and accuracy is suspect and could cause additional burden on the facility to explain.

Response: EPA disagrees that the use of ERT should not be required. The primary purpose of the emissions test is the demonstration that the facility meets the requirements of the rule. The ERT is designed to streamline, standardize, and incorporate QA/QC information for all the test reports and facilitate their submittal to EPA. The ERT will also make the process of developing emissions factors for rulemaking much more transparent. All the steps taken and data used to develop emissions factors for rulemaking will be much clearer with our new system. We understand that there will be little or no reduction in the effort needed to produce the test report initially, but as users gain expertise with the system and it improves over time, the time, resources, and consistency for review and evaluation will be improved.

EPA agrees with the commenter on the length of time required to submit the ERT data. We plan to extend the period for entering data into the ERT and submitting these data to 90 days.

EPA recognizes that there have been some issues with the use of the ERT, and we have worked closely with stakeholders to identify and correct these issues. As with all new systems, there are always transition problems as changes to those systems are implemented. EPA also disagrees with comments regarding the error-prone data resulting from the use of the ERT. Use of the ERT will help ensure that QA/QC requirements in the test methods are addressed. There are data fields in the ERT that clearly indicate to all users what information and data are required for each performance test. Thus, we believe that the ERT will improve data quality rather than provide "error-prone" data. The ERT was established to facilitate performance data collection. There are many performance tests conducted each year and, along with the associated pertinent data, it would be very time-consuming and resource-intensive to compile, transfer, store, and analyze the tests and resultant data using a manual method. Electronic compilation, transfer, storage, and analysis are now our preferred ways to handle this amount and kind of information. EPA is committed to electronic compilation and submittal of data as demonstrated by the requirement to report data electronically in the TRI program. Other EPA programs, such as the acid rain and greenhouse gas reporting already also require electronic submittal of data. The ERT supplements the time-intensive manual preparation and transcription of stationary source emissions test plans and reports for emissions sources testing with an electronic alternative where the resulting data can be transmitted more easily and quickly to EPA and state, local, or tribal agencies who choose to use this system. The ERT provides a format and a process that: (1) Documents the key information and procedures required by the existing EPA Test Methods; (2) facilitates coordination among the source, the test contractor, and the regulatory agency in planning and preparing for the emissions test; (3) provides for consistent criteria to characterize quantitatively the quality of the data collected during the emissions test; (4) standardizes the form and content of test reports; and (5) calculates the emissions factor, and exports the emissions factor and associated data to WebFIRE. We expect the ERT to significantly reduce the monitoring and testing burden for testers, source owners or operators, state, local or tribal agencies, EPA, and other interested stakeholders in collecting, reviewing, storing, and accessing test data and reports. In addition, the ERT will produce a final report that we believe will satisfy test report requirements.

Although the effort required to compile the performance test information using the ERT and submitting it to EPA is different from the existing procedures, we believe that once the test contractors and reviewers have experience with the ERT, the burden will be comparable to the existing cost and resources required for performance testing and reporting. As stated above, we worked closely with stack testing companies to set up the ERT and have the ERT process mimic most of their work when producing a final performance test report. We believe that there is a learning curve for using the ERT, and it will take a few tests and reports to become proficient in its use. However, as users continue to employ the ERT, the time, effort, and subsequent costs needed to produce, review, process, and extract information from the report will decrease. In addition, we are working on a fix for the ERT that would allow the ERT to extract data directly into the ERT data fields by "tagging" the data from stack sampling or industry performance test spreadsheets.

Regarding the assertion that potential lack of state acceptance, EPA agrees that states provide an important function in verifying the accuracy of performance tests. EPA has developed the ERT to include a module for an independent "third party" review of test reports and data. In this third party review, EPA envisions an independent reviewer would evaluate the test reports and perhaps observe the performance test to provide an extra level of QA for the resultant data. EPA believes this step will help ensure quality tests are conducted and accurate data are obtained. State personnel would perform these reviews for each performance test before they submit the test reports to EPA. State personnel are more familiar with the sources and often observe the testing. EPA has attempted to address this issue by providing a third party review module to the ERT. In this ERT module, an independent reviewer would be given some questions to respond to regarding how the test was conducted and the quality of the resultant data. Where the third party reviewer provides negative responses to the conduct of a performance test, points will be deducted from the overall rating of the performance test. This, in turn, will impact the overall rating of the test. Thus, we believe that having an objective third party reviewer will improve performance tests and the resultant data by providing the incentive to conduct better performance tests. As mentioned above, states can be the third party reviewers, if they so choose. States routinely review performance tests conducted for permitting and compliance purposes, so they would be better suited to review the tests. EPA also recognizes the states as having an important role to play in ensuring that performance tests are conducted properly and provide quality data. EPA encourages states to continue to ensure that performance tests are conducted properly and subsequently provide the test reports and data to EPA.

Where stack testers need to deviate from the test methods, there are narrative fields that allow the submittal of this type of information. We understand that there are conditions that warrant minor changes or deviations from the test methods, and in these cases, there are fields in the ERT to include this kind of information and, at the discretion of the responsible agency, approval of these minor changes to test methods may be approved in the course of approving the test plan. Major changes to test methods, however, must be approved in writing by official letter from the EPA.

2. Records of Non-Waste Materials

Comment: One commenter recommended that EPA require facilities to notify appropriate regulatory agencies once they have determined that they comply with the requirements of the non-hazardous secondary materials legitimacy criteria and/or the processing requirements in the solid waste definition rule. The commenter suggested that notifications should include information on how the determination of a homogeneous fuel was made, and what methods will be employed to ensure that the fuel used will continue to comply with the "homogeneous" requirements. The commenter suggested that clear recordkeeping and reporting requirements must be put in place to ensure that enforcement staff can determine compliance status. Several commenters suggested that regulating the use of recyclable nonhazardous secondary materials such as tires will encourage greater use of landfilling which they asserted is counter to long-standing EPA policy that promotes such activities.

Response: EPA has added recordkeeping provisions for units that burn materials other than traditional fuels that document how each of those materials meet the non-waste criteria in the Solid Waste Definition Rule. The newly promulgated procedures for identification of non-hazardous secondary materials that are solid wastes when used as fuels in combustion units at 40 CFR 241.3 are self-implementing provisions that require each source owner or operator to determine whether the materials they are combusting meet certain legitimacy criteria, and/or whether the materials have been processed from a discarded non-hazardous secondary material. Materials that remain within the control of the generator and that meet the legitimacy criteria specified in § 241.3(d), as well as materials that are produced from the processing of discarded non-hazardous secondary materials, and that meet the legitimacy are not considered solid wastes (*see* § 241.3(b)). Traditional fuels are defined in the Solid Waste Definition Rule, and the rule exempts traditional fuels from being solid waste.

To ensure that owners or operators of units combusting materials review and apply the non-waste provisions in the Solid Waste Definition Rule, EPA is requiring owners or operators that combust materials that are not clearly listed as traditional fuels document how the materials meet the legitimacy criteria and/or the processing requirements in the Solid Waste Definition Rule. Failure of a source owner or operator to correctly apply the non-waste criteria would result in incorrect self-assessments as to whether their combustion units are subject to CISWI. Requiring sources to document how the non-waste criteria apply to the materials combusted will both improve self-assessments of applicability, and will assist EPA and states in the proper identification of sources subject to CISWI. The definition of CISWI unit is amended to require that any material combusted that is not a traditional fuel will be treated as a solid waste unless the source makes and keeps the record documenting how the material meets non-waste criteria in the Solid Waste Definition Rule.

If the material being combusted has received a non-waste determination pursuant to the petition process in the Solid Waste Definition Rule at 40 CFR 241.3(c), the source owner or operator must keep a copy of the non-waste determination granted by EPA. If the combustion unit is being regulated under CAA section 112 regulations for boilers and process heaters at major sources (Subpart DDDDD National Emission Standards for Hazardous Air Pollutants at Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters) or for boilers at area sources (Subpart JJJJJJ—National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources), the recordkeeping requirements in those rules that require documentation of non-waste criteria meet the non-waste recordkeeping requirements in CISWI.

EPA has similarly added a recordkeeping requirement and amended the definition of CISWI unit to require that sources burning tires make and keep a certification that confirms that the tire is part of an established tire collection program. The Solid Waste Definition Rule does not include tires from established tire collection programs as solid waste. An established tire collection program is defined in the solid waste rule as a comprehensive collection system that ensures scrap tires are not discarded and are handled as valuable commodities in accordance with 40 CFR 241.3(b)(2)(i) from the point of removal from the automobile through arrival at the combustion facility.

The source owner or operator combusting tires, who is not treating their tires as solid waste and is not subject to the CISWI emission limits, must keep a record which identifies the name, owner, and location of the tire collection program from which they obtained the tires, the quantity of tires received from that program and the date received, and they must document how the program handles the tires as valuable commodities consistent with 40 CFR 241.3(b)(2)(i) from the point of removal from the automobile through arrival at the combustion facility. The record may be generated and certified (signed) by the established tire collection program, or by the owner or operator of the unit combusting tires. A copy of the record must be retained by the owner or operator of the tire combustion unit, and produced upon request. The record must include a signed certification by either the owner or operator of the tire collection program, or the owner or operator of the combustion unit, that the tires from the program meet the EPA definition of an established tire collection program in 40 CFR 241. All tires on-site will be treated as solid waste, unless this record is retained, and it is clear as to which tires each certification pertains. If tires on-site are from more than one collection program or generator, there must be a separate certification for each generator or collection program from which the tires were obtained, and the owner or operator of the combustion unit must keep records which clearly identify the on-site location of tires associated with each certification

J. Air Curtain Incinerators

Comment: Commenters requested that EPA remove the requirement for air curtain incinerators regulated under CISWI to obtain a Title V permit. They suggested that EPA instead require only those units at major sources or sources that took federally enforceable limits to become minor sources to obtain a Title V permit under CISWI. Some argued that an air curtain incinerator is excluded from the statutory definition of "solid waste incineration unit." Commenters stated that although CAA section 129(e) requires a "solid waste incineration unit" to obtain a Title V permit, they suggested that the requirement does not extend to units that are excluded from the definition of "solid waste incineration unit," of which an air curtain incinerator is only one of several types of excluded units. One commenter suggested that that EPA allow permitting agencies flexibility in addressing the ACI system opacity limitation. This opacity requirement can be addressed through minor source permits, federally enforceable state operating permits, registration permits or Title V general permits.

Response: We are not exempting air curtain incinerators located at area/minor source facilities from the requirement to obtain a Title V permit in this final rule. Commenters appear to allege that the requirement to obtain a Title V requirement does not apply to them because they are not solid waste incineration units and the requirement in CAA section 129(e) applies only to solid waste incineration units. Commenters are correct that air curtain incinerators are not solid waste incineration units pursuant to CAA section 129(g)(1)(C), but that is only correct if the units "only burn wood wastes, yard wastes and clean lumber and [they] * * * comply with opacity limitations to be established by the Administrator by rule." EPA has established opacity limitations for air curtain incinerators pursuant to sections 111 and 129.

Pursuant to CAA section 502(a), sources subject to standards or regulations under CAA section 111 must obtain a Title V permit; therefore, air curtain incinerators are required to obtain a Title V permit. As commenters note, EPA may exempt minor and area sources from the requirement to obtain a Title V permit, but EPA must first determine that compliance with Title V requirements is "impracticable, infeasible, or unnecessarily burdensome" on the sources before exempting them (CAA section 502(a)). EPA has not made the necessary finding pursuant to CAA section 502(a) for air curtain incinerators in any of the CAA section 129 rulemakings, and we believe that air curtain incinerators exist at CAA section 129 facilities other than at the commercial and industrial facilities subject to this final rule. Because we think it is important to treat all air curtain incinerators in the same manner, we decline to consider a Title V exemption for minor and area source air curtain incinerators at commercial and industrial facilities.

K. Role of States

Comment: Several commenters believe that the states should retain as much authority as possible to implement and enforce the standards. Other commenters suggest that EPA allow states and local regulatory authorities an option for case-by-case determinations. Some commenters believe that the local permitting agency should retain the authority to approve alternate compliance approaches under CISWI rules. The commenters argue that the states are responsible for incorporating the EG into their own rules, for permitting and inspecting sources, for enforcing compliance with the rules, and can apply appropriate discretion when needed. Commenters assert that facilities have more frequent communication with their local permitting agency, and the permitting staff have been to the facility and have knowledge about how the facilities operate. They suggest that the local permitting agency can also be more timely in responding to facilities' requests, due to their knowledge of the facility and the limited number of sources they cover, as opposed to the larger number of sources under an EPA regional office.

Response: For previous rules, there has been some confusion about what authority can be delegated to and exercised by state, local, and tribal air pollution control agencies and what authority must be retained by EPA. In some cases, state, local, and tribal air pollution control agencies were making decisions, such as allowing waivers of some provisions of this subpart, which cannot be delegated to those agencies. We clarify the authorities retained by EPA in 40 CFR 60.2030(c), applicable to the EG and the NSPS. The following authorities, among others, must be retained by EPA for all NSPS and EG: Approval of alternatives to the emission limits; approval of major alternatives to test methods or monitoring; and approval of major alternatives to recordkeeping and reporting. The list also specifically includes establishment of operating limits for control devices other than those listed in the rule and review of status reports submitted when no qualified operators are available. EPA also retains sole authority for approval of performance test and data reduction waivers under 40 CFR 60.8(b), and preconstruction siting analyses. These authorities may affect the stringency of the emission standards or limitations, which can only be amended by federal rulemaking; EPA may not transfer these authorities to state, local, or tribal air pollution control agencies.

L. Biased Data Collection From Phase II ICR Testing

Comment: Many commenters suggested that EPA "cherry picked" the best data in setting each standard. Several commenters believe the data that EPA gathered to support the CISWI rule reflects bias, is incomplete, fundamentally flawed, and that the standards are arbitrary and capricious. Some commenters argued that EPA's data collection efforts were biased toward so-called "top performing facilities" because EPA directed its information requests to units that it had reason to believe were the better performing units in each subcategory. The commenters suggested that the sample population is tainted and has resulted in proposed standards that are inordinately stringent, are not representative of the overall performance of the sources in subcategories to which they apply, and are not in accord with the legal standards. One commenter suggested that EPA based the standards on a relatively minute pool of relevant data despite the decade and a half long process that lead to the proposed rules.

Response: EPA disagrees with the commenters' assertions that we obtained skewed data and that data collection efforts to support the CISWI rule were biased toward "top performing facilities." EPA documents the procedures used for identifying CISWI units and collecting information in the CISWI Test Data Database memo for the proposed rule dated April 26, 2010. As explained in the memo, the initial database of CISWI units operating in the United States as of 1998 was obtained from the information collected to support EPA's ICR and promulgate the 2000 CISWI rule. In the 2000 CISWI rule, EPA only regulated solid waste incineration units at commercial and industrial facilities that combusted solid waste solely for the purpose of destroying the waste. Energy recovery units (*i.e.,* boilers and process heaters) and waste-burning kilns (*i.e.,* cement kilns) were exempt from the 2000 CISWI rule. In 2005, EPA issued the CISWI Definitions Rule, which confirmed that ERUs were exempt from CISWI and maintained the exemption for cement kilns. In 2006, the list of CISWI incinerator units initially identified based on the CISWI Definitions Rule was distributed to the 10 EPA Regional offices to confirm whether the units were operational. Based on the information supplied by the EPA regions, the initial CISWI database was revised to reflect the unit deletions/additions provided by the regional contacts. In 2007, the Court vacated the CISWI Definitions Rule, concluding that the rule was flawed because CAA section 129 unambiguously regulates any commercial or industrial combustion unit combusting any solid waste and the CISWI Definitions Rule exempted units that combust waste if the units also recover energy in the process. *NRDC* v. *EPA,* 489 F.3d at 1260. While not explicitly addressed in the decision, the implication of the holding extended beyond ERUs to other commercial or industrial units combusting solid waste, *e.g.,* cement kilns.

EPA developed a two phase information collection process to collect information from units that may be subject to CISWI in light of the vacatur of the CISWI Definitions Rule. "Phase I" survey requests were sent to all commercial and industrial facilities that we determined may have solid waste incineration units and for which EPA did not already have information. The Phase I surveys were reviewed and used to update the CISWI inventory for incinerators or ERUs. "Phase II" surveys were then sent out to all CISWI units where emissions test data was missing from the Phase I database, requesting these units test and report for the missing pollutants. Through this process, EPA requested information from all known CISWI units, not solely the best performers as commenters assert, and we used the data to determine the best-performing sources to set the standards for this rule.

VI. Impacts of the Action

A. What are the primary air impacts?

We have estimated the potential emissions reductions from existing sources that may be achieved through implementation of the emission limits. However, we realize that some CISWI owners and operators are likely to determine that alternatives to waste incineration are viable, such as further waste segregation or sending the waste to a landfill or MWC, if available. In fact, sources operating incinerators, where energy recovery is not a goal, may find it cost-effective to discontinue use of their CISWI unit altogether. Therefore, we have estimated emissions reductions attributable to existing sources complying with the limits, as well as those reductions that would occur if the facilities with incinerators and small, remote incinerators decide to discontinue the use of their CISWI unit and use alternative waste disposal options.

For units combusting wastes for energy production, such as ERUs and waste-burning kilns, the decision to combust or not to combust waste will depend on several factors. One factor is the cost to replace the energy provided by the waste material with a traditional fuel, such as natural gas. Another factor would be whether the owner or operator is purchasing the waste or obtaining it at no cost from other generators, or if they are generating the waste on-site and will have to dispose of the materials in another fashion, such as landfills. Lastly, these units would have to compare the control requirements needed to meet the CISWI emission limits with those needed if they stop burning solid waste and are then subject to a NESHAP instead. As mentioned before, we have attempted to align the monitoring requirements for similar non-waste-burning sources as closely as possible in an effort to make them consistent and to help sources make the cross-walk between waste and non-waste regulatory requirements as simple as possible.

The emissions reductions that would be achieved under this rule using the definition of solid waste under RCRA are presented in Table 10 of this preamble.

TABLE 10—EMISSIONS REDUCTIONS FOR MACT COMPLIANCE AND ALTERNATIVE DISPOSAL OPTIONS FOR EXISTING CISWI USING THE EMISSION LIMITS

Pollutant	Reductions achieved through meeting MACT (ton/yr)	Reductions achieved assuming incinerators and small, remote incinerators use alternative disposal (ton/yr) [a]
HCl	431.2	443.3
CO	23,449	23,414
Pb	4.52	4.53
Cd	0.902	0.903
Hg	0.106	0.109
PM (filterable)	1,671	1,674
dioxin, furans	0.000125	0.000127
NO_X	5,627	5,734
SO_2	5,208	5,259
Total	36,392	36,530

[a] The estimated emission reduction does not account for any secondary impacts associated with alternate disposal of diverted ERU fuel.

EPA expects that many existing CISWI owners and operators may find that alternate disposal options are preferable to complying with the standards for the incinerator and small, remote incinerator subcategories. Our experience with regulations for MWC, HMIWI and, in fact, CISWI, has shown that negative growth in the source category historically occurs upon implementation of CAA section 129 standards. Since CISWI rules were promulgated in 2000 and have been in effect for existing sources since 2005, many existing units have closed. At promulgation in 2000, EPA estimated 122 units in the CISWI population. In comparison, the incinerator subcategory in this rule, which contains any such units subject to the 2000 CISWI rule, has 28 units. EPA is not aware of any construction of new units since 2000, so we do not believe there are any units that are currently subject to the 2000 CISWI NSPS. The revised CISWI rule is more stringent, so we expect this trend to continue. However, EPA does recognize that some facilities may opt to replace aging incinerator units with new units where it is cost effective or alternative disposal options are not feasible, as may be the case with some incinerators, or in very remote locations. We estimate that there could be one new incineration unit within the next 5 years, and possibly five new small remote incinerators within that time. In these cases, we have developed model CISWI unit emissions reduction estimates for these subcategories using the existing unit baseline and the new source emission limits. Table 11 of this preamble presents the model plant emissions reductions that would be expected for new sources.

TABLE 11—EMISSIONS REDUCTIONS ON A MODEL PLANT BASIS

Pollutant	Emission reduction for CISWI subcategory model units (tpy unless otherwise noted)	
	Incinerator	Small, remote incinerator
HCl	3.67	0.0
CO	1.23	0.25
Pb	0.83	0.0037
Cd	0.022	0.0007
Hg	0.004	0.000012
PM (filterable)	148	0.5
D/F (total mass) [a]	0.0018	0.0
NO_X	16.3	0.15
SO_2	7.6	0.15
Total	178	1.05

[a] D/F estimates are given in lb/yr.

We do not anticipate that any new energy recovery or waste-burning kiln units will be constructed and will instead use alternative waste disposal methods or alternative fuels that will not subject them to the CISWI rule. For example, whole tires obtained from approved tire management programs and tire-derived fuel from which the metal has been removed is not considered solid waste under the definition of solid waste. Consequently, new cement kiln owners will assess their regulatory requirements under CISWI for burning whole tires or tire-derived fuel that does not have metals removed against the costs associated with removing the metal or obtaining tires from an approved source and complying with the applicable NESHAP instead of the CISWI rule. Our research suggests that metal removal is routinely practiced and that several state waste tire management programs are already in place, and would most likely be a viable option for new kiln owners so that they would not be subject to the CISWI regulations. Indeed, we expect that all existing cement kilns that are classified as being waste-burning solely due to whole tires will, by the compliance date for the CISWI standards, find a way to obtain their tires through an approved tire management plan. Likewise, new sources could engineer their process to minimize waste generation in the first place, or to separate wastes so that the materials sent to a combustion unit would not meet the definition of solid waste to begin with. For waste that is generated, cost analyses have found that alternative waste disposal is generally available and less expensive.

B. What are the water and solid waste impacts?

In our analysis, we have selected the lowest cost alternative (*i.e.,* compliance or alternative disposal) for each facility. We anticipate affected sources will need to apply additional controls to meet the emission limits. These controls may use water, such as wet scrubbers, which would need to be treated. We estimate an annual requirement of 103 billion gallons per year of additional water would be required as a result of operating additional controls or increased sorbent use.

Likewise, the addition of PM controls or improvements to controls already in place will increase the amount of particulate collected that will require disposal. Furthermore, ACI may be used by some sources, which will result in additional solid waste needing disposal. The annual amounts of solid waste that would require disposal are anticipated to be approximately 19,23733,526 tpy from PM capture and 14,289,078 tpy from ACI.

Perhaps the largest impact on solid waste would come from owners and operators who decide to discontinue the use of their CISWI unit and instead send waste to the landfill or MWC for disposal. Based on tipping fees and availability, we would expect most, if not all, of this diverted waste to be sent to a local landfill. As we discuss above, it may be that a good portion of the incinerators would determine that alternative disposal is a better choice than compliance with the standards. We estimate that approximately 110,417 tpy of waste would be diverted to a landfill.

For new CISWI units, we estimate an annual requirement of 9102 million gallons per year of additional water would be required as a result of operating additional controls. The annual amounts of solid waste that would require disposal are anticipated to be approximately 7275.0 tpy from PM capture and 8173.0 tpy from ACI.

C. What are the energy impacts?

The energy impacts associated with meeting the emission limits would consist primarily of additional electricity needs to run added or improved air pollution control devices. For example, increased scrubber pump horsepower may cause slight increases in electricity consumption and sorbent injection controls would likewise require electricity to power pumps and motors. In our analysis, we have selected the lowest cost alternative (*i.e.,* compliance or alternative disposal) for each facility. By our estimate, we anticipate that an additional 214,356 MW-hours per year would be required for the additional and improved control devices.

As discussed earlier, there could be instances where owners and operators of ERUs and waste-burning kilns decide to cease burning waste materials. In these cases, the energy provided by the burning of waste would need to be replaced with a traditional fuel, such as natural gas. Assuming an estimate that 50 percent of the energy input to ERUs and kilns are from waste materials, an estimate of the energy that would be replaced with a traditional fuel if all existing units stopped burning waste materials, is approximately 56 TBtu/yr.

For new CISWI units, we anticipate that 511 MW-hours per year would be required for additional and improved control devices. Since we do not anticipate any new energy recovery or waste-burning kiln units to be constructed, there would be no additional estimate for energy that would be replaced with a traditional fuel.

D. What are the secondary air impacts?

For CISWI units adding controls to meet the emission limits, we anticipate minor secondary air impacts. The combustion of fuel needed to generate additional electricity and to operate RTO controls would yield slight increases in emissions, including NO_X, CO, PM, and SO_2 and an increase in CO_2 emissions. Since NO_X and SO_2 are covered by capped emissions trading programs, and methodological limitations prevent us from quantifying the change in CO and PM, we do not estimate an increase in secondary air impacts for this rule from additional electricity demand.

We believe it likely that the incinerators may elect to discontinue the use of their CISWI unit and send the waste to the landfill or other disposal means. As we discussed in the solid waste impacts above, this could result in approximately 110,417 tpy of waste going to landfills. By using EPA's Landfill Gas Estimation Model, we estimate that, over the 20-year expected life of a CISWI unit, the resulting methane generated by a landfill receiving the waste would be about 96,300 tons. If this landfill gas were combusted in a flare, assuming typical flare emission factors and landfill gas chlorine, Hg, and sulfur concentrations, the following emissions would be expected: 20 tons of PM; 8 tons of HCl; 16 tons of SO_2; 890 tons of CO; 46 tons of NO_X; and 1.4 lbs of Hg.

Similar to existing units, we anticipate minor secondary air impacts for new CISWI units adding controls as discussed above.

E. What are the cost and economic impacts?

We have estimated compliance costs for all existing units to add the necessary controls and monitoring equipment, and to implement the inspections, recordkeeping and reporting requirements to comply with the CISWI standards. We have also analyzed the costs of alternative disposal for the subcategories that may have alternative options to burning waste, specifically for the incinerators and the small, remote incinerators that may have an alternative to incineration. In our analysis, we have selected the lowest cost alternative (*i.e.,* compliance or alternative disposal) for each facility. Based on this analysis, we anticipate an overall total capital investment of $652 million with an associated total annual cost of $232 million ($2008).

Under the rule, EPA's economic model suggests the average national market-level variables (prices, production-levels, consumption, international trade) will not change significantly (e.g., are less than 0.02 percent).

EPA performed a screening analysis for impacts on small entities by comparing compliance costs to sales/revenues (*e.g.,* sales and revenue tests). EPA's analysis found the tests were below 3 percent for five of the nine small entities included in the screening analysis.

In addition to estimating this rule's social costs and benefits, EPA has estimated the employment impacts of the final rule. We expect that the rule's direct impact on employment will be small. We have not quantified the rule's indirect or induced impacts. For further explanation and discussion of our analysis, see Chapter 4 of the RIA.

For new CISWI units, we have estimated compliance costs for units coming online in the next 5 years. This analysis is based on the assumption that one new incinerator will come online over 5 years and one new small, remote incinerator will come online each year over the next 5 years. Additionally, it was assumed that each model unit will add the necessary controls, monitoring equipment, inspections, recordkeeping, and reporting requirements to comply with NSPS limits. Based on our analysis, we anticipate an overall total capital investment of $8.4 million over 5 years with an associated total annual cost (for 2015) of $2.6 million.

F. What are the benefits?

We estimate the monetized benefits of this regulatory action to be $340 million to $830 million (2008$), 3 percent discount rate) in the implementation year (2015). The monetized benefits of the regulatory action at a 7 percent discount rate are $310 million to $750 million (2008$). These estimates reflect energy disbenefits valued at $3.8 million. Using alternate relationships between $PM_{2.5}$ and premature mortality supplied by experts, higher and lower benefits estimates are plausible, but most of the expert-based estimates fall between these two estimates.[4] A summary of the monetized benefits estimates at discount rates of 3 percent and 7 percent is in Table 12 of this preamble.

TABLE 12—SUMMARY OF THE MONETIZED BENEFITS ESTIMATES FOR THE CISWI NSPS AND EG IN 2015

[Millions of 2008$] [1 2]

Pollutant	Estimated emission reductions (tpy)	Total monetized benefits (3% discount rate)	Total monetized benefits (7% discount rate)
$PM_{2.5}$	710	$160 to $400	$150 to $360.
$PM_{2.5}$ Precursors:			
SO_2	5,170	$150 to $370	$140 to $340.
NO_X	5,544	$27 to $66	$24 to $59.
Total		$340 to $830	$310 to $750.

[1] All estimates are for the implementation year (2015) and are rounded to two significant figures so numbers may not sum across rows. All fine particles are assumed to have equivalent health effects, but the benefit-per-ton estimates vary between precursors because each ton of precursor reduced has a different propensity to form $PM_{2.5}$. Benefits from reducing HAP are not included. These estimates do not include the energy disbenefits valued at $3.8 million, but the rounded totals do not change. CO_2-related disbenefits were calculated using the social cost of carbon, which is discussed further in the RIA.

[2] The estimates in this table reflect the estimates in the RIA. Due to last minute changes, we were unable to incorporate the final engineering costs and emission reductions into the RIA, which would decrease the costs by approximately 22% and increase the monetized benefits by approximately 4% from those shown here.

[4] Roman, *et al.,* 2008. Expert Judgment Assessment of the Mortality Impact of Changes in Ambient Fine Particulate Matter in the U.S. Environ. Sci. Technol., 42, 7, 2268–2274.

These benefits estimates represent the total monetized human health benefits for populations exposed to less $PM_{2.5}$ in 2015 from controls installed to reduce air pollutants in order to meet these standards. These estimates are calculated as the sum of the monetized value of avoided premature mortality and morbidity associated with reducing a ton of $PM_{2.5}$ and $PM_{2.5}$ precursor emissions. To estimate human health benefits derived from reducing $PM_{2.5}$ and $PM_{2.5}$ precursor emissions, we used the general approach and methodology laid out in Fann, Fulcher, and Hubbell (2009).[5]

To generate the benefit-per-ton estimates, we used a model to convert emissions of direct $PM_{2.5}$ and $PM_{2.5}$ precursors into changes in ambient $PM_{2.5}$ levels and another model to estimate the changes in human health associated with that change in air quality. Finally, the monetized health benefits were divided by the emission reductions to create the benefit-per-ton estimates. These models assume that all fine particles, regardless of their chemical composition, are equally potent in causing premature mortality because there is no clear scientific evidence that would support the development of differential effects estimates by particle type. Directly emitted $PM_{2.5}$, SO_2, and NO_X are the primary precursors affected by this rule. Even though we assume that all fine particles have equivalent health effects, the benefit-per-ton estimates vary between precursors because each ton of precursor reduced has a different propensity to form $PM_{2.5}$. For example, SO_2 has a lower benefit-per-ton estimate than direct $PM_{2.5}$ because it does not directly transform into $PM_{2.5}$, and because sulfate particles formed from SO_2 emissions can transport many miles, including over areas with low populations. Direct $PM_{2.5}$ emissions convert directly into ambient $PM_{2.5}$, thus, to the extent that emissions occur in population areas, exposures to direct $PM_{2.5}$ will tend to be higher, and monetized health benefits will be higher than for SO_2 emissions.

For context, it is important to note that the magnitude of the PM benefits is largely driven by the concentration response function for premature mortality. Experts have advised EPA to consider a variety of assumptions, including estimates based on both empirical (epidemiological) studies and judgments elicited from scientific experts, to characterize the uncertainty in the relationship between $PM_{2.5}$ concentrations and premature mortality. For this rule, we cite two key empirical studies, the American Cancer Society cohort study[6] and the extended Six Cities cohort study.[7] In the RIA for this rule, which is available in the docket, we also include benefits estimates derived from expert judgments and other assumptions.

EPA strives to use the best available science to support our benefits analyses. We recognize that interpretation of the science regarding air pollution and health is dynamic and evolving. After reviewing the scientific literature and recent scientific advice, we have determined that the no-threshold model is the most appropriate model for assessing the mortality benefits associated with reducing $PM_{2.5}$ exposure. Consistent with this recent advice, we are replacing the previous threshold sensitivity analysis with a new "LML" assessment. While an LML assessment provides some insight into the level of uncertainty in the estimated PM mortality benefits, EPA does not view the LML as a threshold and continues to quantify PM-related mortality impacts using a full range of modeled air quality concentrations.

Most of the estimated PM-related benefits in this rule would accrue to populations exposed to higher levels of $PM_{2.5}$. Using the Pope, et al., (2002) study, 85 percent of the population is exposed at or above the LML of 7.5 $\mu g/m^3$. Using the Laden, *et al.,* (2006) study, 40 percent of the population is exposed above the LML of 10 $\mu g/m^3$. It is important to emphasize that we have high confidence in $PM_{2.5}$-related effects down to the lowest LML of the major cohort studies. This fact is important, because as we estimate PM-related mortality among populations exposed to levels of $PM_{2.5}$ that are successively lower, our confidence in the results diminishes. However, our analysis shows that the great majority of the impacts occur at higher exposures.

This analysis does not include the type of detailed uncertainty assessment found in the 2006 $PM_{2.5}$ NAAQS RIA because we lack the necessary air quality input and monitoring data to run the benefits model. In addition, we have not conducted any air quality modeling for this rule. The 2006 $PM_{2.5}$ NAAQS benefits analysis[8] provides an indication of the sensitivity of our results to various assumptions.

It should be emphasized that the monetized benefits estimates provided above do not include benefits from several important benefit categories, including reducing other air pollutants, ecosystem effects, and visibility impairment. The benefits from reducing HAP have not been monetized in this analysis, including reducing 25,000 tons of CO, 470 tons of HCl, 4.1 tons of Pb, 0.95 tons of Cd, 260 pounds of Hg and 92 grams of total D/F each year. Although we do not have sufficient information or modeling available to provide monetized estimates for this rulemaking, we include a qualitative assessment of the health effects of these air pollutants in the RIA for this rule, which is available in the docket.

In addition, the monetized benefits estimates provided in Table 12 of this preamble do not reflect the disbenefits associated with increased electricity and fuel consumption to operate the control devices. We estimate that the increases in emissions of CO_2 would have disbenefits valued at $3.8M at a 3 percent discount rate. Carbon Dioxide-related disbenefits were calculated using the social cost of carbon, which is discussed further in the RIA. However, these disbenefits do not change the rounded total monetized benefits. In the RIA, we also provide the monetized CO_2 disbenefits using discount rates of 5 percent (average), 2.5 percent (average), and 3 percent (95th percentile).

VII. Statutory and Executive Order Reviews

A. Executive Order 12866 and 13563: Regulatory Planning and Review

Under section 3(f)(1) of Executive Order 12866 (58 FR 51735; October 4, 1993) and Executive Order 13563 (76 FR 3821, January 21, 2011), this action is a "significant regulatory action" because it will have an annual effect on the economy of $100 million or more. Accordingly, EPA submitted this action to the OMB for review under Executive Orders 12866 and 13563, and any changes made in response to OMB recommendations have been documented in the docket for this action. In addition, EPA prepared an analysis of the potential costs and benefits associated with this action. This analysis is contained in

[5] Fann, N., C.M. Fulcher, B.J. Hubbell. 2009. "The influence of location, source, and emission type in estimates of the human health benefits of reducing a ton of air pollution." Air Qual Atmos Health (2009) 2:169–176.

[6] Pope, *et al.,* 2002. "Lung Cancer, Cardiopulmonary Mortality, and Long-term Exposure to Fine Particulate Air Pollution." Journal of the American Medical Association 287:1132–1141.

[7] Laden, *et al.,* 2006. "Reduction in Fine Particulate Air Pollution and Mortality." *American Journal of Respiratory and Critical Care Medicine.* 173: 667–672.

[8] U.S. Environmental Protection Agency, 2006. Final Regulatory Impact Analysis: $PM_{2.5}$ NAAQS. Prepared by Office of Air and Radiation. October. Available on the Internet at *http://www.epa.gov/ttn/ecas/ria.html.*

"Regulatory Impact Analysis: Standards of Performance for New Stationary Sources and Emission Guidelines for Existing Sources: Commercial and Industrial Solid Waste Incineration Units." A copy of the analysis is available in the Docket EPA–HQ–OAR–2003–0119 and the analysis is briefly summarized in section VI of this preamble. The net benefits table is also provided here.

TABLE 13—SUMMARY OF THE MONETIZED BENEFITS, SOCIAL COSTS, AND NET BENEFITS FOR THE CISWI NSPS AND EMISSIONS GUIDELINES IN 2015

[Millions of 2008$] [a] [d]

	3% Discount rate	7% Discount rate
Option 1: MACT Floor:		
Total Monetized Benefits [b]	$340 to $830	$310 to $750.
Total Social Costs [c]	$280	$280.
Net Benefits	$60 to $550	$30 to $470.
Non-monetized Benefits	25,000 tons of CO.	
	470 tons of HCl.	
	260 pounds of Hg.	
	0.95 tons of Cd.	
	4.1 tons of lead.	
	92 grams of dioxins/furans.	
	Health effects from NO_2 and SO_2 exposure.	
	Ecosystem effects.	
	Visibility impairment.	
Option 2: Beyond-the-Floor:		
Total Monetized Benefits [b]	$430 to $1,100	$390 to $960.
Total Social Costs [c]	$300	$300.
Net Benefits	$130 to $770	$90 to $660.
Non-monetized Benefits	25,000 tons of CO.	
	470 tons of HCl.	
	260 pounds of Hg.	
	0.95 tons of Cd.	
	4.1 tons of lead.	
	92 grams of dioxins/furans.	
	Health effects from NO_2 and SO_2 exposure.	
	Ecosystem effects.	
	Visibility impairment.	

[a] All estimates are for the implementation year (2015), and are rounded to two significant figures. These results include units anticipated to come online and the lowest cost disposal assumption.

[b] The total monetized benefits reflect the human health benefits associated with reducing exposure to $PM_{2.5}$ through reductions of directly emitted $PM_{2.5}$ and $PM_{2.5}$ precursors such as NO_X and SO_2. It is important to note that the monetized benefits include many but not all health effects associated with $PM_{2.5}$ exposure. Benefits are shown as a range from Pope, *et al.* (2002) to Laden, *et al.* (2006). These models assume that all fine particles, regardless of their chemical composition, are equally potent in causing premature mortality because there is no clear scientific evidence that would support the development of differential effects estimates by particle type. These estimates include energy disbenefits valued at $3.8 million.

[c] The methodology used to estimate social costs for 1 year in the multimarket model using surplus changes results in the same social costs for both discount rates.

[d] The estimates in this table reflect the estimates in the RIA. Due to last minute changes, we were unable to incorporate the final engineering costs and emission reductions into the RIA, which would decrease the costs by approximately 22% and increase the monetized benefits by approximately 4% from those shown here.

B. Paperwork Reduction Act

The information collection requirements in this rule have been submitted for approval to the OMB under the PRA, 44 U.S.C. 3501 *et seq.* The information collection requirements are not enforceable until OMB approves them. The ICR documents prepared by EPA have been assigned EPA ICR number 2384.02 for subpart CCCC, 40 CFR part 60 and 2385.02 for subpart DDDD, 40 CFR part 60.

When a malfunction occurs, sources must report them according to the applicable reporting requirements of these Subparts. An affirmative defense to civil penalties for exceedances of emission limits that are caused by malfunctions is available to a source if it can demonstrate that certain criteria and requirements are satisfied. The criteria ensure that the affirmative defense is available only where the event that causes an exceedance of the emission limit meets the narrow definition of malfunction in 40 CFR 63.2 (sudden, infrequent, not reasonably preventable and not caused by poor maintenance and or careless operation) and where the source took necessary actions to minimize emissions. In addition, the source must meet certain notification and reporting requirements. For example, the source must prepare a written root cause analysis and submit a written report to the Administrator documenting that it has met the conditions and requirements for assertion of the affirmative defense.

To provide the public with an estimate of the relative magnitude of the burden associated with an assertion of the affirmative defense position adopted by a source, EPA provides an administrative adjustment to this ICR that shows what the notification, recordkeeping and reporting requirements associated with the assertion of the affirmative defense might entail. EPA's estimate for the required notification, reports and records, including the root cause analysis, totals $3,141 and is based on the time and effort required of a source to review relevant data, interview plant employees, and document the events surrounding a malfunction that has caused an exceedance of an emission limit. The estimate also includes time to produce and retain the record and reports for submission to EPA. EPA provides this illustrative estimate of this burden because these costs are only incurred if there has been a violation and a source chooses to take advantage of the affirmative defense.

The requirements in this final rule result in industry recordkeeping and reporting burden associated with review of the amendments for all CISWI, and inspections of scrubbers, FFs, and other air pollution control devices that may be used to meet the emission limits for all CISWI. Ongoing parametric monitoring requirements for ESPs, SNCR, and ACI are also required of all CISWI units. Stack testing and development of new parameter limits would be necessary for CISWI that need to make performance improvements in order to meet the emission limits and for CISWI that, prior to this action, have not been required to demonstrate compliance with certain pollutants. Visual emissions tests would be required for all subcategories except waste-burning kilns on an annual basis. Energy recovery units would be required to continuously monitor percent oxygen, and units larger than 250 mmBtu/hr would be required to monitor PM emissions using a PM CEMS. Waste-burning kilns would be required to continuously monitor Hg emissions using a Hg CEMS and PM emissions using a PM CEMS. Any new CISWI would also be required to continuously monitor CO emissions. The annual average burden associated with recordkeeping and reporting requirements for the EG over the first 3 years following promulgation is estimated to be 14,672 hours at a total annual labor cost of $522,323. The total capital and startup plus the O&M costs with the EG monitoring requirements, EPA Method 22 at 40 CFR part 60, appendix A–7 testing, initial stack testing, annual stack testing, storage of data and reports and photocopying and postage over the 3-year period of the ICR are estimated at $18,592,079 total and $6,197,360 per year. (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 final rule is estimated to be 858 hours at a total annual labor cost of $30,527, since we anticipate only one new small remote incineration unit to be constructed 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. When this ICR is approved by OMB, the Agency will publish a technical amendment to 40 CFR part 9 in the **Federal Register** to display the OMB control number for the approved information collection requirements contained in this final rule.

C. Regulatory Flexibility Act

The 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 rule 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 the rule on small entities, small entity is defined as: (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 the rule on small entities, I certify that this action will not have a significant economic impact on a substantial number of small entities. We estimate that there are 88 entities subject to this regulation, of which 10 of them are considered to be small companies. The small entities directly regulated by the rule are facilities engaged in industrial or commercial operations, such as paper and paperboard manufacturing and utility providers. The average cost-to-sales ratios for small companies are below 3.5 percent. The median ratio is 2.2 percent. Only four entities, which are in 3 different industries, have a sales test that exceeds 3 percent. For the purposes of this rulemaking, four is not considered a "substantial number" of small entities.

Although this 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.

D. Unfunded Mandates Reform Act

Title II of the UMRA of 1995, 2 U.S.C. 1531–1538, requires federal agencies, unless otherwise prohibited by law, to assess the effects of their regulatory actions on state, local, and tribal governments and the private sector. This rule contains a federal mandate that may result in expenditures of $100 million or more for state, local, and tribal governments, in the aggregate, or the private sector in any 1 year. Accordingly, EPA has prepared under section 202 of the UMRA a written statement, which is summarized below.

1. Statutory Authority

As discussed in section II.A of this preamble, the statutory authority for the final rule is CAA sections 129 and 111. CAA section 129 CISWI standards include numeric emissions limitations for the nine pollutants specified in CAA section 129(a)(4), and may include emission limitations for opacity. Section 129(a)(2) of the CAA directs EPA to develop standards based on MACT, which require existing and new major sources to control emissions of the nine pollutants.

In compliance with section 205(a) of the UMRA, we identified and considered a reasonable number of regulatory alternatives. The regulatory alternative upon which the rule is based is the least costly, most cost-effective alternative to achieve the statutory requirements of CAA section 129.

2. Social Costs and Benefits

The RIA prepared for the final rule, including the EPA's assessment of costs and benefits, is detailed in the "Regulatory Impact Analysis: Standards of Performance for New Stationary Sources and Emission Guidelines for Existing Sources: Commercial and Industrial Solid Waste Incineration Units" in the docket. Based on estimated compliance costs on all sources associated with the final rule and the predicted change in prices and production in the affected industries, the estimated social costs of the final rule are $218 million (2008 dollars). In the year of full implementation (2015), EPA estimates the monetized $PM_{2.5}$ benefits of the NSPS and EG are $340 million to $830 million and $310 million to $750 million, at 3 percent and 7 percent discount rates respectively. All estimates are in 2008$. Using alternate relationships between $PM_{2.5}$ and premature mortality supplied by experts, higher and lower benefits estimates are plausible, but most of the expert-based estimates fall between these estimates. The benefits from reducing other air pollutants have not been monetized in this analysis, including reducing 23,450 tons of CO, 431 tons of HCl, 4.5 tons of Pb, 0.9 tons of Cd, 210 pounds of Hg, and 110 grams of total dioxins and furans each year. In addition, ecosystem benefits and visibility benefits have not been monetized in this analysis.

Exposure to CO can affect the cardiovascular system and the central nervous system. Emissions of NO_X can transform into PM, which can result in fatalities and many respiratory problems (such as asthma or bronchitis); and NO_X can also transform into ozone causing several respiratory problems to affected populations.

The net benefits for the NSPS and EG are $60 million to $550 million and $30 million to $470 million, at 3 percent and 7 percent discount rates respectively. All estimates are in 2008$.

3. Future and Disproportionate Costs

The UMRA requires that we estimate, where accurate estimation is reasonably feasible, future compliance costs imposed by the rule and any disproportionate budgetary effects. Our estimates of the future compliance costs of the final rule are discussed previously in this preamble. We do not believe that there will be any disproportionate budgetary effects of the proposed rule on any particular areas of the country, state, or local governments, types of communities (*e.g.,* urban, rural), or particular industry segments.

4. Effects on the National Economy

The UMRA requires that we estimate the effect of the final rule on the national economy. To the extent feasible, we must estimate the effect on productivity, economic growth, full employment, creation of productive jobs, and international competitiveness of the United States goods and services if we determine that accurate estimates are reasonably feasible and that such effect is relevant and material. The nationwide economic impact of the rule is presented in the "Regulatory Impact Analysis: Standards of Performance for New Stationary Sources and Emission Guidelines for Existing Sources: Commercial and Industrial Solid Waste Incineration Units" in the docket. This analysis provides estimates of the effect of the rule on most of the categories mentioned above. The results of the economic impact analysis are summarized in section VI of this preamble.

5. Consultation With Government Officials

The UMRA requires that we describe the extent of EPA's prior consultation with affected state, local, and tribal officials, summarize the officials' comments or concerns and summarize our response to those comments or concerns. We have determined that this final rule contains no regulatory requirements that might significantly or uniquely affect small governments. Therefore, this final rule is not subject to the requirements of section 203 of the UMRA.

E. Executive Order 13132: Federalism

This action 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.

Under Executive Order 13132, EPA may not issue an action that has federalism implications, that imposes substantial direct compliance costs, and that is not required by statute, unless the federal government provides the funds necessary to pay the direct compliance costs incurred by state and local governments, or EPA consults with state and local officials early in the process of developing the proposed action.

EPA's proposed action estimated expenditures of greater than $100 million to state and local governments and therefore as specified by the Executive Order, EPA consulted with elected state and local government officials, or their representative national organizations, when developing regulations and policies that impose substantial compliance costs on state and local governments. Pursuant to Agency policy, EPA conducted a briefing for the "Big 10" intergovernmental organizations representing elected state and local government officials, as discussed in section VIII.D of the proposal preamble (75 FR 63260) to formally request their comments and input on the action. The Big 10 provided EPA with feedback on the proposed standards and EG for SSI units.

EPA has concluded that this final rule will not have federalism implications, as defined by Agency guidance for implementing the Executive Order, due to the final rule's direct compliance costs on state or local governments resulting in expenditures of less than $100 million.

In the spirit of Executive Order 13132 and consistent with EPA policy to promote communications between EPA and state and local governments, EPA specifically solicited comment on the 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 CISWI in Indian country or owned or operated by Indian tribal governments. Thus, Executive Order 13175 does not apply to this action.

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 Executive Order has the potential to influence the regulation. This 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 final rule would cause most CISWI in the ERU and waste-burning kiln subcategories 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 233,018 MW-hours per year of additional electricity being used.

Given the negligible change in energy consumption resulting from this final rule, EPA does not expect any significant price increase for any energy type. The cost of energy distribution should not be affected by this final rule at all since the rule 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 final rule, they would be minimal.

I. National Technology Transfer and Advancement Act

Section 12(d) of the NTTAA of 1995), Public Law 104–113 (15 U.S.C. 272 note) directs EPA to use 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. The NTTAA directs EPA to provide Congress, through OMB, explanations when the Agency decides not to use available and applicable VCS.

EPA conducted searches for the "Standards of Performance for New Stationary Sources and Emission Guidelines for Existing Sources: Commercial and Industrial Solid Waste Incineration Units" through the Enhanced NSSN database, which is a search engine that is defined as a National Resource for Global Standards, managed by the ANSI. We also contacted VCS organizations and accessed and searched their databases.

This rulemaking involves technical standards. EPA has decided to use ASME PTC 19.10–1981, "Flue and Exhaust Gas Analyses [Part 10, Instruments and Apparatus]," for its manual methods of measuring the oxygen or CO_2 content of the exhaust gas. These parts of ASME PTC 19.10–1981, Flue and Exhaust Gas Analyses [Part 10, Instruments and Apparatus] are acceptable alternatives to EPA Methods 3B, 6, 7 and 7C. This standard is available from the ASME, 3 Park Avenue, New York, NY 10016–5990.

Another VCS, ASTM D6735–01, "Standard Test Method for Measurement of Gaseous Chlorides and Fluorides from Mineral Calcining Exhaust Sources—Impinger Method," is an acceptable alternative to EPA Method 26A.

Another VCS, ASTM D6784–02, "Standard Test Method for Elemental, Oxidized, Particle-Bound and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method)" is an acceptable alternative to EPA Method 29.

During the search, if the title or abstract (if provided) of the VCS described technical sampling and analytical procedures that are similar to EPA's reference method, EPA ordered a copy of the standard and reviewed it as a potential equivalent method. All potential standards were reviewed to determine the practicality of the VCS for this rule. This review requires significant method validation data which meets the requirements of EPA Method 301 for accepting alternative methods or scientific, engineering and policy equivalence to procedures in EPA reference methods. The EPA may reconsider determinations of impracticality when additional information is available for particular VCS.

The search identified 24 other VCS that were potentially applicable to this rule in lieu of EPA reference methods. After reviewing the available standards, EPA determined that 22 candidate VCS (ASTM D3154–00 (2006), ASME B133.9–1994 (2001), ISO10396:1993 (2007), ISO12039:2001, ASTM D5835–95 (2007), ASTM D6522–00 (2005), CAN/CSA Z223.2–M86 (1999), ISO 9096:1992 (2003), ANSI/ASME PTC 38–1980 (1985), ASTM D3685/D3685M–98 (2005), ISO 7934:1998, ISO 11632:1998, ASTM D1608–98 (2003), ISO11564:1998, CAN/CSA Z223.24–M1983, CAN/CSA Z223.21–M1978, ASTM D3162–94 (2005), EN 1948–3 (1996), EN 1911–1,2,3 (1998), EN 13211:2001, CAN/CSA Z223.26–M1987), ASTM D6735–01 (2009) identified for measuring emissions of pollutants or their surrogates subject to emission standards in the rule would not be practical due to lack of equivalency, documentation, validation data, and other important technical and policy considerations.

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, PS, or procedures in the final rule and any amendments.

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 EJ. Its main provision directs federal agencies, to the greatest extent practicable and permitted by law, to make EJ 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, low-income, and tribal populations in the United States.

This final action establishes national emission standards for new and existing CISWI units. Based on data amendments and corrections that were incorporated following public comment on the proposed rule, the EPA estimates that there are approximately 100 such units, including incinerators, cement kilns, and ERUs, covered by this rule. The final rule will reduce emissions of all the listed HAP emitted from this source. This includes emissions of Cd, HC1, lead, Hg, and chlorinated D/F. Adverse health effects from these pollutants include cancer, irritation of the lungs, skin, and mucus membranes; effects on the central nervous system, and damage to the kidneys), and acute health disorders. The rule will also result in substantial reductions of criteria pollutants such as CO, NO_X, PM, and SO_2. Sulfur dioxide and NO2 are precursors for the formation of $PM_{2.5}$ and ozone. Reducing these emissions will reduce ozone and $PM_{2.5}$ formation and associated health effects, such as adult premature mortality, chronic and acute bronchitis, asthma, and other respiratory and cardiovascular diseases. The results of the demographic analysis are presented in RIA, a copy of which is available in the docket.

Based on the fact that the rule does not allow emission increases, the EPA has determined that the rule will not have disproportionately high and adverse human health or environmental effects on minority, low-income, or tribal populations. However, to the extent that any minority, low income, or tribal subpopulation is disproportionately impacted by the current emissions as a result of the proximity of their homes to these sources, that subpopulation also stands to see increased environmental and health benefit from the emissions reductions called for by this rule.

EPA defines "Environmental Justice" to include meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. To promote meaningful involvement, EPA developed a communication and outreach strategy to ensure that interested communities had access to the proposed rule, were aware of its content, and had an opportunity to comment during the comment period. During the comment period, EPA publicized the rulemaking via EJ newsletters, tribal newsletters, EJ listservs, and the Internet, including the Office of Policy's Rulemaking Gateway Web site (*http://yosemite.epa.gov/opei/RuleGate.nsf/*). EPA also provided general rulemaking fact sheets (*e.g.,* why is this important for my community) for EJ community groups and conducted conference calls with interested communities. In addition, in implementing the final rule, state and federal permitting requirements will provide state and local governments and members of affected communities the opportunity to provide comments on the permit conditions associated with permitting the sources affected by this rulemaking.

K. Congressional Review Act

The Congressional Review Act, 5 U.S.C. 801 *et seq.,* as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. EPA will submit a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the **Federal Register**. A major rule cannot take effect until 60 days after it is published in the **Federal Register**. This action is a "major rule" as defined by 5 U.S.C. 804(2). This rule will be effective May 20, 2011.

List of Subjects in 40 CFR Part 60

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

Dated: February 21, 2011.

Lisa Jackson,

Administrator.

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

PART 60—[AMENDED]

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

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

■ 2. Section 60.17 is amended by:
■ a. Adding paragraph (a)(93).
■ b. Revising paragraph (h)(4).
■ c. Adding paragraph (o).

§ 60.17 Incorporations by reference.

* * * * *

(a) * * *

(93) ASTM D6784–02 (Reapproved 2008) Standard Test Method for Elemental, Oxidized, Particle-Bound and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method), approved April 1, 2008, IBR approved for §§ 60.2165(j), 60.2730(j), tables 1, 5, 6 and 8 to subpart CCCC, and tables 2, 6, 7, and 9 to subpart DDDD, §§ 60.4900(b)(4)(v), 60.5220(b)(4)(v), tables 1 and 2 to subpart LLLL, and tables 2 and 3 to subpart MMMM.

* * * * *

(h) * * *

(4) ANSI/ASME PTC 19.10–1981, Flue and Exhaust Gas Analyses [Part 10, Instruments and Apparatus], IBR approved for § 60.56c(b)(4), § 60.63(f)(2) and (f)(4), § 60.106(e)(2), §§ 60.104a(d)(3), (d)(5), (d)(6), (h)(3), (h)(4), (h)(5), (i)(3), (i)(4), (i)(5), (j)(3), and (j)(4), § 60.105a(d)(4), (f)(2), (f)(4), (g)(2), and (g)(4), § 60.106a(a)(1)(iii), (a)(2)(iii), (a)(2)(v), (a)(2)(viii), (a)(3)(ii), and (a)(3)(v), and § 60.107a(a)(1)(ii), (a)(1)(iv), (a)(2)(ii), (c)(2), (c)(4), and (d)(2), tables 1 and 3 of subpart EEEE, tables 2 and 4 of subpart FFFF, table 2 of subpart JJJJ, §§ 60.4415(a)(2) and (a)(3), 60.2145(s)(1)(i) and (ii), 60.2145(t)(1)(ii), 60.2145(t)(5)(i), 60.2710(s)(1)(i) and (ii), 60.2710(t)(1)(ii), 60.2710(t)(5)(i), 60.2710(w)(3), 60.2730(q)(3), 60.4900(b)(4)(vii) and (viii), 60.4900(b)(5)(i), 60.5220(b)(4)(vii) and (viii), 60.5220(b)(5)(i), tables 1 and 2 to subpart LLLL, and tables 2 and 3 to subpart MMMM.

* * * * *

(o) The following material is available from the U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue, NW., Washington, DC 20460, (202) 272–0167, *http://www.epa.gov.*

(1) Office of Air Quality Planning and Standards (OAQPS) Fabric Filter Bag Leak Detection Guidance, EPA–454/R–98–015, September 1997, IBR approved for §§ 60.2145(r)(2), 60.2710(r)(2), 60.4905(b)(3)(i)(B), and 60.5225(b)(3)(i)(B).

(2) [Reserved]

■ 3. Revise the heading for subpart CCCC to read as follows:

Subpart CCCC—Standards of Performance for Commercial and Industrial Solid Waste Incineration Units

* * * * *

■ 4. Section 60.2005 is revised to read as follows:

§ 60.2005 When does this subpart become effective?

This subpart takes effect on September 21, 2011. Some of the requirements in this subpart apply to planning the CISWI unit (*i.e.,* the preconstruction requirements in §§ 60.2045 and 60.2050). Other requirements such as the emission limitations and operating limits apply after the CISWI unit begins operation.

■ 5. Section 60.2015 is revised to read as follows:

§ 60.2015 What is a new incineration unit?

(a) A new incineration unit is an incineration unit that meets any of the criteria specified in paragraph (a)(1) through (a)(2) of this section.

(1) A commercial and industrial solid waste incineration unit that commenced construction after May 20, 2011.

(2) A commercial and industrial solid waste incineration unit that commenced reconstruction or modification after September 21, 2011.

(b) This subpart does not affect your CISWI unit if you make physical or operational changes to your incineration unit primarily to comply with the EG in subpart DDDD of this part (Emission Guidelines and Compliance Times for Commercial and Industrial Solid Waste Incineration Units). Such changes do not qualify as reconstruction or modification under this subpart.

■ 6. Section 60.2020 is amended by:
■ a. Revising the introductory text.
■ b. Removing and reserving paragraph (b).
■ c. Revising paragraph (c).
■ d. Revising paragraphs (e)(3), (f)(3), (g), (m) and (n).
■ e. Removing and reserving paragraphs (j), (k), and (l).
■ f. Removing paragraph (o).

§ 60.2020 What combustion units are exempt from this subpart?

This subpart exempts the types of units described in paragraphs (a), (c) through (i) and (n) of this section, but some units are required to provide notifications. Air curtain incinerators are exempt from the requirements in this subpart except for the provisions in §§ 60.2242, 60.2250, and 60.2260.

* * * * *

(b) [Reserved]

(c) *Municipal waste combustion units.* Incineration units that are regulated under subpart Ea of this part (Standards of Performance for Municipal Waste Combustors); subpart Eb of this part (Standards of Performance for Large Municipal Waste Combustors); subpart Cb of this part (Emission Guidelines and Compliance Time for Large Municipal Combustors); subpart AAAA of this part (Standards of Performance for Small Municipal Waste Combustion Units); or subpart BBBB of this part (Emission Guidelines for Small Municipal Waste Combustion Units).

* * * * *

(e) * * *

(3) You submit a request to the Administrator for a determination that the qualifying cogeneration facility is combusting homogenous waste as that term is defined in § 60.2265. The request must include information sufficient to document that the unit meets the criteria of the definition of a small power production facility and that the waste material the unit is proposed to burn is homogeneous.

* * * * *

(f) * * *

(3) You submit a request to the Administrator for a determination that the qualifying cogeneration facility is combusting homogenous waste as that term is defined in § 60.2265. The

request must include information sufficient to document that the unit meets the criteria of the definition of a cogeneration facility and that the waste material the unit is combusting is homogeneous.

(g) *Hazardous waste combustion units.* Units for which you are required to get a permit under section 3005 of the Solid Waste Disposal Act.

* * * * *

(j) [Reserved]

(k) [Reserved]

(l) [Reserved]

(m) *Sewage treatment plants.* Incineration units regulated under subpart O of this part (Standards of Performance for Sewage Treatment Plants).

(n) *Sewage sludge incineration units.* Incineration units combusting sewage sludge for the purpose of reducing the volume of the sewage sludge by removing combustible matter that are subject to subpart LLLL of this part (Standards of Performance for Sewage Sludge Incineration Units) or subpart MMMM of this part (Emission Guidelines for Sewage Sludge Incineration Units). Sewage sludge incineration unit designs include fluidized bed and multiple hearth.

§ 60.2025 [Removed]

■ 7. Section 60.2025 is removed.

■ 8. Section 60.2030 is amended by:

■ a. Revising paragraph (c) introductory text.

■ b. Removing and reserving paragraph (c)(5).

■ c. Adding paragraphs (c)(8) through (c)(10).

§ 60.2030 Who implements and enforces this subpart?

* * * * *

(c) The authorities that will not be delegated to state, local, or tribal agencies are specified in paragraphs (c)(1) through (4) and (c)(6) through (10) of this section.

* * * * *

(5) [Reserved]

* * * * *

(8) Approval of alternative opacity emission limits in § 60.2105 under § 60.11(e)(6) through (e)(8).

(9) Performance test and data reduction waivers under § 60.2125(j), 60.8(b)(4) and (5).

(10) Determination of whether a qualifying small power production facility or cogeneration facility under § 60.2020(e) or (f) is combusting homogenous waste as that term is defined in § 60.2265.

■ 9. Section 60.2045 is revised to read as follows:

§ 60.2045 Who must prepare a siting analysis?

(a) You must prepare a siting analysis if you plan to commence construction of an incinerator after December 1, 2000.

(b) You must prepare a siting analysis for CISWI units that commenced construction after June 4, 2010, or that commenced reconstruction or modification after September 21, 2011.

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

■ 10. Section 60.2070 is amended by revising paragraph (c)(1)(vii) to read as follows:

§ 60.2070 What are the operator training and qualification requirements?

* * * * *

(c) * * *

(1) * * *

(vii) Actions to prevent and correct malfunctions or to prevent conditions that may lead to malfunctions.

* * * * *

■ 11. Section 60.2085 is amended by revising paragraph (d) to read as follows:

§ 60.2085 How do I maintain my operator qualification?

* * * * *

(d) Prevention and correction of malfunctions or conditions that may lead to malfunction.

* * * * *

■ 12. Section 60.2105 is revised to read as follows:.

§ 60.2105 What emission limitations must I meet and by when?

(a) You must meet the emission limitations for each CISWI unit, including bypass stack or vent, specified in table 1 of this subpart or tables 5 through 8 of this subpart by the applicable date in § 60.2140. You must be in compliance with the emission limitations of this subpart that apply to you at all times.

(b) An incinerator unit that commenced construction after November 30, 1999, but no later than June 4, 2010, or that commenced reconstruction or modification on or after June 1, 2001, but no later than September 21, 2011 must meet the more stringent emission limit for the respective pollutant in table 1 of this subpart or table 6 of subpart DDDD.

■ 13. Section 60.2110 is amended by:

■ a. Revising paragraph (a) introductory text.

■ b. Revising paragraphs (a)(2) through (a)(4).

■ c. Adding paragraphs (d) through (g).

§ 60.2110 What operating limits must I meet and by when?

(a) If you use a wet scrubber(s) to comply with the emission limitations, you must establish operating limits for up to four operating parameters (as specified in table 2 of this subpart) as described in paragraphs (a)(1) through (4) of this section during the initial performance test.

* * * * *

(2) Minimum pressure drop across the wet particulate matter scrubber, which is calculated as the lowest 1-hour average pressure drop across the wet scrubber measured during the most recent performance test demonstrating compliance with the particulate matter emission limitations; or minimum amperage to the fan for the wet scrubber, which is calculated as the lowest 1-hour average amperage to the wet scrubber measured during the most recent performance test demonstrating compliance with the particulate matter emission limitations.

(3) Minimum scrubber liquid flow rate, which is calculated as the lowest 1-hour average liquid flow rate at the inlet to the wet acid gas or particulate matter scrubber measured during the most recent performance test demonstrating compliance with all applicable emission limitations.

(4) Minimum scrubber liquor pH, which is calculated as the lowest 1-hour average liquor pH at the inlet to the wet acid gas scrubber measured during the most recent performance test demonstrating compliance with the HCl emission limitation.

* * * * *

(d) If you use an electrostatic precipitator to comply with the emission limitations, you must measure the (secondary) voltage and amperage of the electrostatic precipitator collection plates during the particulate matter performance test. Calculate the average electric power value (secondary voltage × secondary current = secondary electric power) for each test run. The operating limit for the electrostatic precipitator is calculated as the lowest 1-hour average secondary electric power measured during the most recent performance test demonstrating compliance with the particulate matter emission limitations.

(e) If you use activated carbon sorbent injection to comply with the emission limitations, you must measure the sorbent flow rate during the performance testing. The operating limit for the carbon sorbent injection is calculated as the lowest 1-hour average sorbent flow rate measured during the most recent performance test demonstrating compliance with the mercury emission limitations.

(f) If you use selective noncatalytic reduction to comply with the emission limitations, you must measure the charge rate, the secondary chamber temperature (if applicable to your CISWI unit), and the reagent flow rate during the nitrogen oxides performance testing. The operating limits for the selective noncatalytic reduction are calculated as the lowest 1-hour average charge rate, secondary chamber temperature, and reagent flow rate measured during the most recent performance test demonstrating compliance with the nitrogen oxides emission limitations.

(g) If you do not use a wet scrubber, electrostatic precipitator, or fabric filter to comply with the emission limitations, and if you do not determine compliance with your particulate matter emission limitation with a particulate matter continuous emission monitoring system, you must maintain opacity to less than or equal to 10 percent opacity (1-hour block average).

■ 14. Section 60.2115 is revised to read as follows:

§ 60.2115 What if I do not use a wet scrubber, fabric filter, activated carbon injection, selective noncatalytic reduction, or an electrostatic precipitator to comply with the emission limitations?

If you use an air pollution control device other than a wet scrubber, activated carbon injection, selective noncatalytic reduction, fabric filter, or an electrostatic precipitator or limit emissions in some other manner, including material balances, to comply with the emission limitations under § 60.2105, you must petition the EPA Administrator for specific operating limits to be established during the initial performance test and continuously monitored thereafter. You must not conduct the initial performance test until after the petition has been approved by the Administrator. Your petition must include the five items listed in paragraphs (a) through (e) of this section.

(a) Identification of the specific parameters you propose to use as additional operating limits.

(b) A discussion of the relationship between these parameters and emissions of regulated pollutants, identifying how emissions of regulated pollutants change with changes in these parameters and how limits on these parameters will serve to limit emissions of regulated pollutants.

(c) A discussion of how you will establish the upper and/or lower values for these parameters which will establish the operating limits on these parameters.

(d) A discussion identifying the methods you will use to measure and the instruments you will use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments.

(e) A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.

■ 15. Section 60.2120 is revised to read as follows:

§ 60.2120 Affirmative Defense for Exceedance of an Emission Limit During Malfunction.

In response to an action to enforce the standards set forth in paragraph § 60.2105, you may assert an affirmative defense to a claim for civil penalties for exceedances of such standards that are caused by malfunction, as defined at 40 CFR 60.2. Appropriate penalties may be assessed, however, if you fail to meet your burden of proving all of the requirements in the affirmative defense. The affirmative defense shall not be available for claims for injunctive relief.

(a) To establish the affirmative defense in any action to enforce such a limit, you must timely meet the notification requirements in paragraph (b) of this section, and must prove by a preponderance of evidence that:

(1) The excess emissions:

(i) Were caused by a sudden, infrequent, and unavoidable failure of air pollution control and monitoring equipment, process equipment, or a process to operate in a normal or usual manner; and

(ii) Could not have been prevented through careful planning, proper design or better operation and maintenance practices; and

(iii) Did not stem from any activity or event that could have been foreseen and avoided, or planned for; and

(iv) Were not part of a recurring pattern indicative of inadequate design, operation, or maintenance; and

(2) Repairs were made as expeditiously as possible when the applicable emission limitations were being exceeded. Off-shift and overtime labor were used, to the extent practicable to make these repairs; and

(3) The frequency, amount and duration of the excess emissions (including any bypass) were minimized to the maximum extent practicable during periods of such emissions; and

(4) If the excess emissions resulted from a bypass of control equipment or a process, then the bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; and

(5) All possible steps were taken to minimize the impact of the excess emissions on ambient air quality, the environment and human health; and

(6) All emissions and/or parameter monitoring and systems, as well as control systems, were kept in operation if at all possible, consistent with safety and good air pollution control practices; and

(7) All of the actions in response to the excess emissions were documented by properly signed, contemporaneous operating logs; and

(8) At all times, the facility was operated in a manner consistent with good practices for minimizing emissions; and

(9) A written root cause analysis has been prepared, the purpose of which is to determine, correct, and eliminate the primary causes of the malfunction and the excess emissions resulting from the malfunction event at issue. The analysis shall also specify, using best monitoring methods and engineering judgment, the amount of excess emissions that were the result of the malfunction.

(b) Notification. The owner or operator of the facility experiencing an exceedance of its emission limit(s) during a malfunction shall notify the Administrator by telephone or facsimile (FAX) transmission as soon as possible, but no later than two business days after the initial occurrence of the malfunction, if it wishes to avail itself of an affirmative defense to civil penalties for that malfunction. The owner or operator seeking to assert an affirmative defense shall also submit a written report to the Administrator within 45 days of the initial occurrence of the exceedance of the standard in § 60.2105 to demonstrate, with all necessary supporting documentation, that it has met the requirements set forth in paragraph (a) of this section. The owner or operator may seek an extension of this deadline for up to 30 additional days by submitting a written request to the Administrator before the expiration of the 45 day period. Until a request for an extension has been approved by the Administrator, the owner or operator is subject to the requirement to submit such report within 45 days of the initial occurrence of the exceedance.

■ 16. Section 60.2125 is amended by:

■ a. Revising paragraph (c).

■ b. Revising paragraphs (g)(1) and (g)(2).

■ c. Adding paragraphs (h) and (i) to read as follows:

§ 60.2125 How do I conduct the initial and annual performance test?

* * * * *

(c) All performance tests must be conducted using the minimum run duration specified in table 1 of this subpart or tables 5 through 8 of this subpart.

* * * * *

(g) * * *

(1) Measure the concentration of each dioxin/furan tetra-through octa-chlorinated isomer emitted using EPA Method 23 at 40 CFR part 60, appendix A–7.

(2) For each dioxin/furan (tetra-through octa-chlorinated) isomer measured in accordance with paragraph (g)(1) of this section, multiply the isomer concentration by its corresponding toxic equivalency factor specified in table 3 of this subpart.

* * * * *

(h) Method 22 at 40 CFR part 60, appendix A–7 of this part must be used to determine compliance with the fugitive ash emission limit in table 1 of this subpart or tables 5 through 8 of this subpart.

(i) If you have an applicable opacity operating limit, you must determine compliance with the opacity limit using Method 9 at 40 CFR part 60, appendix A–4 of this part, based on three 1-hour blocks consisting of ten 6-minute average opacity values, unless you are required to install a continuous opacity monitoring system, consistent with §§ 60.2145 and 60.2165.

■ 17. Section 60.2130 is revised to read as follows:

§ 60.2130 How are the performance test data used?

You use results of performance tests to demonstrate compliance with the emission limitations in table 1 of this subpart or tables 5 through 8 of this subpart.

■ 18. Section 60.2135 is revised to read as follows:

§ 60.2135 How do I demonstrate initial compliance with the emission limitations and establish the operating limits?

You must conduct a performance test, as required under §§ 60.2125 and 60.2105 to determine compliance with the emission limitations in table 1 of this subpart or tables 5 through 8 of this subpart, to establish compliance with any opacity operating limit in § 60.2110,and to establish operating limits using the procedures in §§ 60.2110 or 60.2115. The performance test must be conducted using the test methods listed in table 1 of this subpart or tables 5 through 8 of this subpart and the procedures in § 60.2125. The use of the bypass stack during a performance test shall invalidate the performance test. You must conduct a performance evaluation of each continuous monitoring system within 60 days of installation of the monitoring system.

■ 19. Section 60.2140 is amended by designating the existing text as paragraph (a) and adding paragraphs (b) and (c) to read as follows:

§ 60.2140 By what date must I conduct the initial performance test?

* * * * *

(b) If you commence or recommence combusting a solid waste at an existing combustion unit at any commercial or industrial facility, and you conducted a test consistent with the provisions of this subpart while combusting the solid waste within the 6 months preceding the reintroduction of that solid waste in the combustion chamber, you do not need to retest until 6 months from the date you reintroduce that solid waste.

(c) If you commence combusting or recommence combusting a solid waste at an existing combustion unit at any commercial or industrial facility and you have not conducted a performance test consistent with the provisions of this subpart while combusting the given solid waste within the 6 months preceding the reintroduction of that solid waste in the combustion chamber, you must conduct a performance test within 60 days commencing or recommencing solid waste combustion.

■ 20. Section 60.2141 is added to read as follows:

§ 60.2141 By what date must I conduct the initial air pollution control device inspection?

(a) The initial air pollution control device inspection must be conducted within 60 days after installation of the control device and the associated CISWI unit reaches the charge rate at which it will operate, but no later than 180 days after the device's initial startup.

(b) Within 10 operating days following an air pollution control device inspection, all necessary repairs must 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 must be completed.

■ 21. Section 60.2145 is revised to read as follows:

§ 60.2145 How do I demonstrate continuous compliance with the emission limitations and the operating limits?

(a) Compliance with standards.

(1) The emission standards and operating requirements set forth in this subpart apply at all times.

(2) If you cease combusting solid waste, you may opt to remain subject to the provisions of this subpart. Consistent with the definition of CISWI unit, you are subject to the requirements of this subpart at least 6 months following the last date of solid waste combustion. Solid waste combustion is ceased when solid waste is not in the combustion chamber (*i.e.,* the solid waste feed to the combustor has been cut off for a period of time not less than the solid waste residence time).

(3) If you cease combusting solid waste, you must be in compliance with any newly applicable standards on the effective date of the waste-to-fuel switch. The effective date of the waste-to-fuel switch is a date selected by you, that must be at least 6 months from the date that you ceased combusting solid waste, consistent with § 60.2145(a)(2). Your source must remain in compliance with this subpart until the effective date of the waste-to-fuel switch.

(4) If you own or operate an existing commercial or industrial combustion unit that combusted a fuel or non-waste material, and you commence or recommence combustion of solid waste, you are subject to the provisions of this subpart as of the first day you introduce or reintroduce solid waste to the combustion chamber, and this date constitutes the effective date of the fuel-to-waste switch. You must complete all initial compliance demonstrations for any section 112 standards that are applicable to your facility before you commence or recommence combustion of solid waste. You must provide 30 days prior notice of the effective date of the waste-to-fuel switch. The notification must identify:

(i) The name of the owner or operator of the CISWI unit, the location of the source, the emissions unit(s) that will cease burning solid waste, and the date of the notice;

(ii) The currently applicable subcategory under this subpart, and any 40 CFR part 63 subpart and subcategory that will be applicable after you cease combusting solid waste;

(iii) The fuel(s), non-waste material(s) and solid waste(s) the CISWI unit is currently combusting and has combusted over the past 6 months, and the fuel(s) or non-waste materials the unit will commence combusting;

(iv) The date on which you became subject to the currently applicable emission limits;

(v) The date upon which you will cease combusting solid waste, and the date (if different) that you intend for any new requirements to become applicable (*i.e.,* the effective date of the waste-to-fuel switch), consistent with paragraphs (a)(2) and (3)of this section.

(5) All air pollution control equipment necessary for compliance with any newly applicable emissions limits which apply as a result of the cessation or commencement or recommencement of combusting solid waste must be installed and operational as of the effective date of the waste-to-fuel, or fuel-to-waste switch.

(6) All monitoring systems necessary for compliance with any newly applicable monitoring requirements which apply as a result of the cessation or commencement or recommencement of combusting solid waste must be installed and operational as of the effective date of the waste-to-fuel, or fuel-to-waste switch. All calibration and drift checks must be performed as of the effective date of the waste-to-fuel, or fuel-to-waste switch. Relative accuracy tests must be performed as of the performance test deadline for PM CEMS. Relative accuracy testing for other CEMS need not be repeated if that testing was previously performed consistent with Clean Air Act section 112 monitoring requirements or monitoring requirements under this subpart.

(b) You must conduct an annual performance test for the pollutants listed in table 1 of this subpart or tables 5 through 8 of this subpart and opacity for each CISWI unit as required under § 60.2125. The annual performance test must be conducted using the test methods listed in table 1 of this subpart or tables 5 through 8 of this subpart and the procedures in § 60.2125. Annual performance tests are not required if you use continuous emission monitoring systems or continuous opacity monitoring systems to determine compliance.

(c) You must continuously monitor the operating parameters specified in § 60.2110 or established under § 60.2115 and as specified in § 60.2170. Use three-hour block average values to determine compliance (except for baghouse leak detection system alarms) unless a different averaging period is established under § 60.2115. Operation above the established maximum, below the established minimum, or outside the allowable range of the operating limits specified in paragraph (a) of this section constitutes a deviation from your operating limits established under this subpart, except during performance tests conducted to determine compliance with the emission and operating limits or to establish new operating limits. Operating limits are confirmed or reestablished during performance tests.

(d) You must burn only the same types of waste used to establish operating limits during the performance test.

(e) For energy recovery units, incinerators, and small remote units, you must perform an annual visual emissions test for ash handling.

(f) For energy recovery units, you must conduct an annual performance test for opacity (except where particulate matter continuous emission monitoring system or continuous opacity monitoring systems are used are used) and the pollutants listed in table 6 of this subpart.

(g) You must demonstrate continuous compliance with the carbon monoxide emission limit using a carbon monoxide continuous emission monitoring system according to the following requirements:

(1) You must measure emissions according to § 60.13 to calculate 1-hour arithmetic averages, corrected to 7 percent oxygen. You must demonstrate initial compliance with the carbon monoxide emissions limit using a 30-day rolling average of these 1-hour arithmetic average emission concentrations, calculated using Equation 19–19 in section 12.4.1 of EPA Reference Method 19 at 40 CFR part 60, appendix A–7 of this part.

(2) Operate the carbon monoxide continuous emission monitoring system in accordance with the requirements of performance specification 4A of appendix B of this part and quality assurance procedure 1 of appendix F of this part.

(h) For energy recovery units with design capacities greater than or equal to 250 MMBtu/hr and waste-burning kilns, demonstrate continuous compliance with the particulate matter emissions limit using a particulate matter continuous emission monitoring system according to the procedures in § 60.2165(n).

(i) For energy recovery units with design capacities greater than or equal to 10 MMBtu/hour, if you have an opacity operating limit, you must install, operate, certify and maintain a continuous opacity monitoring system (COMS) according to the procedures in § 60.2165.

(j) For waste-burning kilns, you must conduct an annual performance test for cadmium, lead, dioxins/furans and hydrogen chloride as listed in table 7 of this subpart. You must determine compliance with hydrogen chloride using a hydrogen chloride continuous emission monitoring system if you do not use an acid gas wet scrubber. You must determine compliance with nitrogen oxides, sulfur dioxide, carbon monoxide, and particulate matter using continuous emission monitoring systems. You must determine compliance with the mercury emissions limit using a mercury continuous emission monitoring system according to the following requirements:

(1) Operate a continuous emission monitoring system in accordance with performance specification 12A of 40 CFR part 60, appendix B or a sorbent trap based integrated monitor in accordance with performance specification 12B of 40 CFR part 60, appendix B. The duration of the performance test must be a calendar month. For each calendar month in which the waste-burning kiln operates, hourly mercury concentration data, and stack gas volumetric flow rate data must be obtained.

(2) Owners or operators using a mercury continuous emission monitoring system must install, operate, calibrate, and maintain an instrument for continuously measuring and recording the mercury mass emissions rate to the atmosphere according to the requirements of performance specifications 6 and 12A of 40 CFR part 60, appendix B, and quality assurance procedure 6 of 40 CFR part 60, appendix F.

(3) The owner or operator of a waste-burning kiln must demonstrate initial compliance by operating a mercury continuous emission monitoring system while the raw mill of the in-line kiln/raw mill is operating under normal conditions and while the raw mill of the in-line kiln/raw mill is not operating.

(k) If you use an air pollution control device to meet the emission limitations in this subpart, you must conduct an initial and annual inspection of the air pollution control device. The inspection must include, at a minimum, the following:

(1) Inspect air pollution control device(s) for proper operation.

(2) Develop a site-specific monitoring plan according to the requirements in paragraph (l) of this section. This requirement also applies to you if you petition the EPA Administrator for alternative monitoring parameters under § 60.13(i).

(l) For each continuous monitoring system required in this section, you must develop and submit to the EPA Administrator for approval a site-specific monitoring plan according to the requirements of this paragraph (l) that addresses paragraphs (l)(1)(i) through (vi) of this section.

(1) You must submit this site-specific monitoring plan at least 60 days before your initial performance evaluation of your continuous monitoring system.

(i) Installation of the continuous monitoring system sampling probe or other interface at a measurement location relative to each affected process unit such that the measurement is representative of control of the exhaust emissions (*e.g.,* on or downstream of the last control device).

(ii) Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer and the data collection and reduction systems.

(iii) Performance evaluation procedures and acceptance criteria (*e.g.,* calibrations).

(iv) Ongoing operation and maintenance procedures in accordance with the general requirements of § 60.11(d).

(v) Ongoing data quality assurance procedures in accordance with the general requirements of § 60.13.

(vi) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of § 60.7(b), (c), (c)(1), (c)(4), (d), (e), (f), and (g).

(2) You must conduct a performance evaluation of each continuous monitoring system in accordance with your site-specific monitoring plan.

(3) You must operate and maintain the continuous monitoring system in continuous operation according to the site-specific monitoring plan.

(m) If you have an operating limit that requires the use of a flow monitoring system, you must meet the requirements in paragraphs (l) and (m)(1) through (4) of this section.

(1) Install the flow sensor and other necessary equipment in a position that provides a representative flow.

(2) Use a flow sensor with a measurement sensitivity of no greater than 2 percent of the expected process flow rate.

(3) Minimize the effects of swirling flow or abnormal velocity distributions due to upstream and downstream disturbances.

(4) Conduct a flow monitoring system performance evaluation in accordance with your monitoring plan at the time of each performance test but no less frequently than annually.

(n) If you have an operating limit that requires the use of a pressure monitoring system, you must meet the requirements in paragraphs (l) and (n)(1) through (6) of this section.

(1) Install the pressure sensor(s) in a position that provides a representative measurement of the pressure (*e.g.,* PM scrubber pressure drop).

(2) Minimize or eliminate pulsating pressure, vibration, and internal and external corrosion.

(3) Use a pressure sensor with a minimum tolerance of 1.27 centimeters of water or a minimum tolerance of 1 percent of the pressure monitoring system operating range, whichever is less.

(4) Perform checks at least once each process operating day to ensure pressure measurements are not obstructed (*e.g.,* check for pressure tap pluggage daily).

(5) Conduct a performance evaluation of the pressure monitoring system in accordance with your monitoring plan at the time of each performance test but no less frequently than annually.

(6) If at any time the measured pressure exceeds the manufacturer's specified maximum operating pressure range, conduct a performance evaluation of the pressure monitoring system in accordance with your monitoring plan and confirm that the pressure monitoring system continues to meet the performance requirements in your monitoring plan. Alternatively, install and verify the operation of a new pressure sensor.

(o) If you have an operating limit that requires a pH monitoring system, you must meet the requirements in paragraphs (l) and (o)(1) through (4) of this section.

(1) Install the pH sensor in a position that provides a representative measurement of scrubber effluent pH.

(2) Ensure the sample is properly mixed and representative of the fluid to be measured.

(3) Conduct a performance evaluation of the pH monitoring system in accordance with your monitoring plan at least once each process operating day.

(4) Conduct a performance evaluation (including a two-point calibration with one of the two buffer solutions having a pH within 1 of the pH of the operating limit) of the pH monitoring system in accordance with your monitoring plan at the time of each performance test but no less frequently than quarterly.

(p) If you have an operating limit that requires a secondary electric power monitoring system for an electrostatic precipitator, you must meet the requirements in paragraphs (l) and (p)(1) through (2) of this section.

(1) Install sensors to measure (secondary) voltage and current to the precipitator collection plates.

(2) Conduct a performance evaluation of the electric power monitoring system in accordance with your monitoring plan at the time of each performance test but no less frequently than annually.

(q) If you have an operating limit that requires the use of a monitoring system to measure sorbent injection rate (*e.g.,* weigh belt, weigh hopper, or hopper flow measurement device), you must meet the requirements in paragraphs (l) and (q)(1) and (2) of this section.

(1) Install the system in a position(s) that provides a representative measurement of the total sorbent injection rate.

(2) Conduct a performance evaluation of the sorbent injection rate monitoring system in accordance with your monitoring plan at the time of each performance test but no less frequently than annually.

(r) If you elect to use a fabric filter bag leak detection system to comply with the requirements of this subpart, you must install, calibrate, maintain, and continuously operate a bag leak detection system as specified in paragraphs (l) and (r)(1) through (5) of this section.

(1) Install a bag leak detection sensor(s) in a position(s) that will be representative of the relative or absolute particulate matter loadings for each exhaust stack, roof vent, or compartment (*e.g.,* for a positive pressure fabric filter) of the fabric filter.

(2) Use a bag leak detection system certified by the manufacturer to be capable of detecting particulate matter emissions at concentrations of 10 milligrams per actual cubic meter or less.

(3) Conduct a performance evaluation of the bag leak detection system in accordance with your monitoring plan and consistent with the guidance provided in EPA–454/R–98–015 (incorporated by reference, *see* § 60.17).

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

(5) Use a bag leak detection system equipped with a system that will sound an alarm when an increase in relative particulate matter emissions over a preset level is detected. The alarm must be located where it is observed readily by plant operating personnel.

(s) For facilities using a continuous emission monitoring system to demonstrate compliance with the sulfur dioxide emission limit, compliance with the sulfur dioxide emission limit may be demonstrated by using the continuous emission monitoring system specified in § 60.2165 to measure sulfur dioxide and calculating a 30-day rolling average emission concentration using Equation 19–19 in section 12.4.1 of EPA Reference Method 19 at 40 CFR part 60, Appendix A–7 of this part. The sulfur dioxide continuous emission monitoring system must be operated according to performance specification 2 in appendix B of this part and must follow the procedures and methods specified in this paragraph(s). For sources that have actual inlet emissions less than 100 parts per million dry volume, the relative accuracy criterion for inlet sulfur dioxide continuous emission monitoring systems should be no greater than 20 percent of the mean value of the reference method test data in terms of the units of the emission standard, or 5 parts per million dry volume absolute value of the mean difference between the reference method and the continuous emission monitoring systems, whichever is greater.

(1) During each relative accuracy test run of the continuous emission monitoring system required by performance specification 2 in appendix B of this part, collect sulfur dioxide and oxygen (or carbon dioxide) data concurrently (or within a 30- to 60-minute period) with both the continuous emission monitors and the test methods specified in paragraphs (s)(1)(i) and (s)(1)(ii) of this section.

(i) For sulfur dioxide, EPA Reference Method 6 or 6C, or as an alternative ANSI/ASME PTC 19.10–1981 (incorporated by reference, *see* § 60.17) must be used.

(ii) For oxygen (or carbon dioxide), EPA Reference Method 3A or 3B, or as an alternative ANSI/ASME PTC 19.10–1981 (incorporated by reference, *see* § 60.17), must be used.

(2) The span value of the continuous emission monitoring system at the inlet to the sulfur dioxide control device must be 125 percent of the maximum estimated hourly potential sulfur dioxide emissions of the unit subject to this rule. The span value of the continuous emission monitoring system at the outlet of the sulfur dioxide control device must be 50 percent of the maximum estimated hourly potential sulfur dioxide emissions of the unit subject to this rule.

(3) Conduct accuracy determinations quarterly and calibration drift tests daily in accordance with procedure 1 in appendix F of this part.

(t) For facilities using a continuous emission monitoring system to demonstrate continuous compliance with the nitrogen oxides emission limit, compliance with the nitrogen oxides emission limit may be demonstrated by using the continuous emission monitoring system specified in § 60.2165 to measure nitrogen oxides and calculating a 30-day rolling average emission concentration using Equation 19–19 in section 12.4.1 of EPA Reference Method 19 at 40 CFR part 60, appendix A–7 of this part. The nitrogen oxides continuous emission monitoring system must be operated according to performance specification 2 in appendix B of this part and must follow the procedures and methods specified in paragraphs (t)(1) through (t)(5) of this section.

(1) During each relative accuracy test run of the continuous emission monitoring system required by performance specification 2 of appendix B of this part, collect nitrogen oxides and oxygen (or carbon dioxide) data concurrently (or within a 30- to 60-minute period) with both the continuous emission monitoring systems and the test methods specified in paragraphs (t)(1)(i) and (t)(1)(ii) of this section.

(i) For nitrogen oxides, EPA Reference Method 7 or 7E at 40 CFR part 60, appendix A–4 must be used.

(ii) For oxygen (or carbon dioxide), EPA Reference Method 3A or 3B at 40 CFR part 60, appendix A–3, or as an alternative ANSI/ASME PTC 19–10.1981 (incorporated by reference, *see* § 60.17), as applicable, must be used.

(2) The span value of the continuous emission monitoring system must be 125 percent of the maximum estimated hourly potential nitrogen oxide emissions of the unit.

(3) Conduct accuracy determinations quarterly and calibration drift tests daily in accordance with procedure 1 in appendix F of this part.

(4) The owner or operator of an affected facility may request that compliance with the nitrogen oxides emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. If carbon dioxide is selected for use in diluent corrections, the relationship between oxygen and carbon dioxide levels must be established during the initial performance test according to the procedures and methods specified in paragraphs (t)(4)(i) through (t)(4)(iv) of this section. This relationship may be re-established during performance compliance tests.

(i) The fuel factor equation in Method 3B must be used to determine the relationship between oxygen and carbon dioxide at a sampling location. Method 3A or 3B, or as an alternative ANSI/ASME PTC 19.10–1981 (incorporated by reference, *see* § 60.17), as applicable, must be used to determine the oxygen concentration at the same location as the carbon dioxide monitor.

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

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

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

(u) For facilities using a continuous emission monitoring system to demonstrate continuous compliance with any of the emission limits of this subpart, you must complete the following:

(1) Demonstrate compliance with the appropriate emission limit(s) using a 30-day rolling average, calculated using Equation 19–19 in section 12.4.1 of EPA Reference Method 19 at 40 CFR part 60, appendix A–7 of this part.

(2) Operate all continuous emission monitoring systems in accordance with the applicable procedures under appendices B and F of this part.

(v) Use of the bypass stack at any time is an emissions standards deviation for particulate matter, HCl, Pb, Cd, Hg, NO_X, SO_2, and dioxin/furans.

■ 22. Section 60.2150 is revised to read as follows:

§ 60.2150 By what date must I conduct the annual performance test?

You must conduct annual performance tests between 11 and 13 months of the previous performance test.

■ 23. Section 60.2151 is added to read as follows:

§ 60.2151 By what date must I conduct the annual air pollution control device inspection?

On an annual basis (no more than 12 months following the previous annual air pollution control device inspection), you must complete the air pollution control device inspection as described in § 60.2141.

■ 24. Section 60.2155 is revised to read as follows:

§ 60.2155 May I conduct performance testing less often?

(a) You must conduct annual performance tests according to the schedule specified in § 60.2150, with the following exceptions:

(1) You may conduct a repeat performance test at any time to establish new values for the operating limits to apply from that point forward, as specified in § 60.2160. The Administrator may request a repeat performance test at any time.

(2) You must repeat the performance test within 60 days of a process change, as defined in § 60.2265.

(3) If the initial or any subsequent performance test for any pollutant in table 1 or tables 5 through 8 of this subpart, as applicable, demonstrates that the emission level for the pollutant is no greater than the emission level specified in paragraph (a)(3)(i) or (a)(3)(ii) of this section, as applicable, and you are not required to conduct a performance test for the pollutant in response to a request by the Administrator in paragraph (a)(1) of this section or a process change in paragraph

(a)(2) of this section, you may elect to skip conducting a performance test for the pollutant for the next 2 years. You must conduct a performance test for the pollutant during the third year and no more than 37 months following the previous performance test for the pollutant. For cadmium and lead, both cadmium and lead must be emitted at emission levels no greater than their respective emission levels specified in paragraph (a)(3)(i) of this section for you to qualify for less frequent testing under this paragraph.

(i) For particulate matter, hydrogen chloride, mercury, nitrogen oxides, sulfur dioxide, cadmium, lead and dioxins/furans, the emission level equal to 75 percent of the applicable emission limit in table 1 or tables 5 through 8 of this subpart, as applicable, to this subpart.

(ii) For fugitive emissions, visible emissions (of combustion ash from the ash conveying system) for 2 percent of the time during each of the three 1-hour observations periods.

(4) If you are conducting less frequent testing for a pollutant as provided in paragraph (a)(3) of this section and a subsequent performance test for the pollutant indicates that your CISWI unit does not meet the emission level specified in paragraph (a)(3)(i) or (a)(3)(ii) of this section, as applicable, you must conduct annual performance tests for the pollutant according to the schedule specified in paragraph (a) of this section until you qualify for less frequent testing for the pollutant as specified in paragraph (a)(3) of this section.

(b) [Reserved]

■ 25. Section 60.2165 is amended by:
■ a. Revising paragraph (b)(6).
■ b. Revising paragraph (c).
■ c. Adding paragraphs (d) through (p) to read as follows:

§ 60.2165 What monitoring equipment must I install and what parameters must I monitor?

* * * * *

(b) * * *

(6) The bag leak detection system must be equipped with an alarm system that will alert automatically an operator when an increase in relative particulate matter emissions over a preset level is detected. The alarm must be located where it is observed easily by plant operating personnel.

* * * * *

(c) If you are using something other than a wet scrubber, activated carbon, selective non-catalytic reduction, or an electrostatic precipitator to comply with the emission limitations under § 60.2105, you must install, calibrate (to the manufacturers' specifications), maintain, and operate the equipment necessary to monitor compliance with the site-specific operating limits established using the procedures in § 60.2115.

(d) If you use activated carbon injection to comply with the emission limitations in this subpart, you must measure the minimum mercury sorbent flow rate once per hour.

(e) If you use selective noncatalytic reduction to comply with the emission limitations, you must complete the following:

(1) Following the date on which the initial performance test is completed or is required to be completed under § 60.2125, whichever date comes first, ensure that the affected facility does not operate above the maximum charge rate, or below the minimum secondary chamber temperature (if applicable to your CISWI unit) or the minimum reagent flow rate measured as 3-hour block averages at all times.

(2) Operation of the affected facility above the maximum charge rate, below the minimum secondary chamber temperature and below the minimum reagent flow rate simultaneously constitute a violation of the nitrogen oxides emissions limit.

(f) If you use an electrostatic precipitator to comply with the emission limits of this subpart, you must monitor the secondary power to the electrostatic precipitator collection plates and maintain the 3-hour block averages at or above the operating limits established during the mercury or particulate matter performance test.

(g) For waste-burning kilns not equipped with a wet scrubber, in place of hydrogen chloride testing with EPA Method 321 at 40 CFR part 63, appendix A, an owner or operator must install, calibrate, maintain, and operate a continuous emission monitoring system for monitoring hydrogen chloride emissions discharged to the atmosphere and record the output of the system. To demonstrate continuous compliance with the hydrogen chloride emissions limit for units other than waste-burning kilns not equipped with a wet scrubber, a facility may substitute use of a hydrogen chloride continuous emission monitoring system for conducting the hydrogen chloride annual performance test, monitoring the minimum hydrogen chloride sorbent flow rate, and monitoring the minimum scrubber liquor pH.

(h) To demonstrate continuous compliance with the particulate matter emissions limit, a facility may substitute use of a particulate matter continuous emission monitoring system for conducting the particulate matter annual performance test and monitoring the minimum pressure drop across the wet scrubber, if applicable.

(i) To demonstrate continuous compliance with the dioxin/furan emissions limit, a facility may substitute use of a continuous automated sampling system for the dioxin/furan annual performance test. You must record the output of the system and analyze the sample according to EPA Method 23 at 40 CFR part 60, appendix A–7 of this part. You may propose alternative continuous monitoring consistent with the requirements in § 60.13(i). The owner or operator who elects to continuously sample dioxin/furan emissions instead of sampling and testing using EPA Method 23 at 40 CFR part 60, appendix A–7 must install, calibrate, maintain, and operate a continuous automated sampling system and must comply with the requirements specified in § 60.58b(p) and (q).

(j) To demonstrate continuous compliance with the mercury emissions limit, a facility may substitute use of a continuous automated sampling system for the mercury annual performance test. You must record the output of the system and analyze the sample at set intervals using any suitable determinative technique that can meet performance specification 12B. The owner or operator who elects to continuously sample mercury emissions instead of sampling and testing using EPA Reference Method 29 or 30B at 40 CFR part 60, appendix A–8 of this part, ASTM D6784–02 (Reapproved 2008) (incorporated by reference, see § 60.17), or an approved alternative method for measuring mercury emissions, must install, calibrate, maintain, and operate a continuous automated sampling system and must comply with performance specification 12A and quality assurance procedure 5, as well as the requirements specified in § 60.58b(p) and (q).

(k) To demonstrate continuous compliance with the nitrogen oxides emissions limit, a facility may substitute use of a continuous emission monitoring system for the nitrogen oxides annual performance test to demonstrate compliance with the nitrogen oxides emissions limits.

(1) Install, calibrate, maintain, and operate a continuous emission monitoring system for measuring nitrogen oxides emissions discharged to the atmosphere and record the output of the system. The requirements under performance specification 2 of appendix B of this part, the quality assurance procedure one of appendix F of this part and the procedures under § 60.13 must

be followed for installation, evaluation, and operation of the continuous emission monitoring system.

(2) Following the date that the initial performance test for nitrogen oxides is completed or is required to be completed under § 60.2125, compliance with the emission limit for nitrogen oxides required under § 60.52b(d) must be determined based on the 30-day rolling average of the hourly emission concentrations using continuous emission monitoring system outlet data. The 1-hour arithmetic averages must be expressed in parts per million by volume (dry basis) and used to calculate the 30-day rolling average concentrations. The 1-hour arithmetic averages must be calculated using the data points required under § 60.13(e)(2).

(l) To demonstrate continuous compliance with the sulfur dioxide emissions limit, a facility may substitute use of a continuous automated sampling system for the sulfur dioxide annual performance test to demonstrate compliance with the sulfur dioxide emissions limits.

(1) Install, calibrate, maintain, and operate a continuous emission monitoring system for measuring sulfur dioxide emissions discharged to the atmosphere and record the output of the system. The requirements under performance specification 2 of appendix B of this part, the quality assurance requirements of procedure one of appendix F of this part and procedures under § 60.13 must be followed for installation, evaluation, and operation of the continuous emission monitoring system.

(2) Following the date that the initial performance test for sulfur dioxide is completed or is required to be completed under § 60.2125, compliance with the sulfur dioxide emission limit may be determined based on the 30-day rolling average of the hourly arithmetic average emission concentrations using continuous emission monitoring system outlet data. The 1-hour arithmetic averages must be expressed in parts per million corrected to 7 percent oxygen (dry basis) and used to calculate the 30-day rolling average emission concentrations and daily geometric average emission percent reductions. The 1-hour arithmetic averages must be calculated using the data points required under § 60.13(e)(2).

(m) For energy recovery units over 10 MMBtu/hr design heat input that do not use a wet scrubber, fabric filter with bag leak detection system, or particulate matter continuous emission monitoring system, you must install, operate, certify, and maintain a continuous opacity monitoring system according to the procedures in paragraphs (m)(1) through (5) of this section by the compliance date specified in § 60.2105. Energy recovery units that use a particulate matter continuous emission monitoring system to demonstrate initial and continuing compliance according to the procedures in § 60.2165(n) are not required to install a continuous opacity monitoring system and must perform the annual performance tests for the opacity consistent with § 60.2145(f).

(1) Install, operate, and maintain each continuous opacity monitoring system according to performance specification 1 of 40 CFR part 60, appendix B.

(2) Conduct a performance evaluation of each continuous opacity monitoring system according to the requirements in § 60.13 and according to PS–1 of 40 CFR part 60, appendix B.

(3) As specified in § 60.13(e)(1), each continuous opacity monitoring system must complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

(4) Reduce the continuous opacity monitoring system data as specified in § 60.13(h)(1).

(5) Determine and record all the 6-minute averages (and 1-hour block averages as applicable) collected.

(n) For energy recovery units with design capacities greater than 250 MMBtu/hr, in place of particulate matter testing with EPA Method 5 at 40 CFR part 60, appendix A–3, an owner or operator must install, calibrate, maintain, and operate a continuous emission monitoring system for monitoring particulate matter emissions discharged to the atmosphere and record the output of the system. The owner or operator of an affected facility who continuously monitors particulate matter emissions instead of conducting performance testing using EPA Method 5 at 40 CFR part 60, appendix A–3 must install, calibrate, maintain, and operate a continuous emission monitoring system and must comply with the requirements specified in paragraphs (n)(1) through (n)(14) of this section.

(1) Notify the Administrator 1 month before starting use of the system.

(2) Notify the Administrator 1 month before stopping use of the system.

(3) The monitor must be installed, evaluated, and operated in accordance with the requirements of performance specification 11 of appendix B of this part and quality assurance requirements of procedure two of appendix F of this part and § 60.13. Use Method 5 or Method 5I of Appendix A of this part for the PM CEMS correlation testing.

(4) The initial performance evaluation must be completed no later than 180 days after the date of initial startup of the affected facility, as specified under § 60.2125 or within 180 days of notification to the Administrator of use of the continuous monitoring system if the owner or operator was previously determining compliance by Method 5 performance tests, whichever is later.

(5) The owner or operator of an affected facility may request that compliance with the particulate matter emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. The relationship between oxygen and carbon dioxide levels for the affected facility must be established according to the procedures and methods specified in § 60.2145(s)(5)(i) through (s)(5)(iv).

(6) The owner or operator of an affected facility must conduct an initial performance test for particulate matter emissions as required under § 60.2125. Compliance with the particulate matter emission limit must be determined by using the continuous emission monitoring system specified in paragraph (n) of this section to measure particulate matter and calculating a 30-day rolling average emission concentration using Equation 19–19 in section 12.4.1 of EPA Reference Method 19 at 40 CFR part 60, appendix A–7.

(7) Compliance with the particulate matter emission limit must be determined based on the 30-day rolling average calculated using Equation 19–19 in section 12.4.1 of EPA Reference Method 19 at 40 CFR part 60, appendix A–7 from the 1-hour arithmetic average continuous emission monitoring system outlet data.

(8) At a minimum, valid continuous monitoring system hourly averages must be obtained as specified in § 60.2170(e).

(9) The 1-hour arithmetic averages required under paragraph (n)(7) of this section must be expressed in milligrams per dry standard cubic meter corrected to 7 percent oxygen (dry basis) and must be used to calculate the 30-day rolling average emission concentrations. The 1-hour arithmetic averages must be calculated using the data points required under § 60.13(e)(2).

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

(11) The continuous emission monitoring system must be operated according to performance specification 11 in appendix B of this part.

(12) During each relative accuracy test run of the continuous emission monitoring system required by performance specification 11 in appendix B of this part, particulate matter and oxygen (or carbon dioxide) data must be collected concurrently (or within a 30- to 60-minute period) by both the continuous emission monitors and the following test methods.

(i) For particulate matter, EPA Reference Method 5 must be used.

(ii) For oxygen (or carbon dioxide), EPA Reference Method 3A or 3B, as applicable, must be used.

(13) Quarterly accuracy determinations and daily calibration drift tests must be performed in accordance with procedure 2 in appendix F of this part.

(14) When particulate matter emissions data are not obtained because of continuous emission monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments, emissions data must be obtained by using other monitoring systems as approved by the Administrator or EPA Reference Method 19 at 40 CFR part 60, appendix A–7 to provide, as necessary, valid emissions data for a minimum of 85 percent of the hours per day, 90 percent of the hours per calendar quarter, and 95 percent of the hours per calendar year that the affected facility is operated and combusting waste.

(o) To demonstrate continuous compliance with the carbon monoxide emissions limit, you must use a continuous automated sampling system.

(1) Install, calibrate, maintain, and operate a continuous emission monitoring system for measuring carbon monoxide emissions discharged to the atmosphere and record the output of the system. The requirements under performance specification 4B of appendix B of this part, the quality assurance procedure 1 of appendix F of this part and the procedures under § 60.13 must be followed for installation, evaluation, and operation of the continuous emission monitoring system.

(2) Following the date that the initial performance test for carbon monoxide is completed or is required to be completed under § 60.2140, compliance with the carbon monoxide emission limit must be determined based on the 30-day rolling average of the hourly arithmetic average emission concentrations using continuous emission monitoring system outlet data. The 1-hour arithmetic averages must be expressed in parts per million corrected to 7 percent oxygen (dry basis) and used to calculate the 30-day rolling average emission concentrations. The 1-hour arithmetic averages must be calculated using the data points required under § 60.13(e)(2).

(p) The owner/operator of an affected source with a bypass stack shall install, calibrate (to manufacturers' specifications), maintain, and operate a device or method for measuring the use of the bypass stack including date, time and duration.

■ 26. Section 60.2170 is revised to read as follows:

§ 60.2170 Is there a minimum amount of monitoring data I must obtain?

For each continuous monitoring system required or optionally allowed under § 60.2165, you must collect data according to this section:

(a) You must operate the monitoring system and collect data at all required intervals at all times compliance is required except for periods of monitoring system malfunctions or out-of-control periods, repairs associated with monitoring system malfunctions or out-of-control periods (as specified in 60.2210(o) of this part), and required monitoring system quality assurance or quality control activities (including, as applicable, calibration checks and required zero and span adjustments). A monitoring system malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring system failures that are caused in part by poor maintenance or careless operation are not malfunctions. You are required to effect monitoring system repairs in response to monitoring system malfunctions or out-of-control periods and to return the monitoring system to operation as expeditiously as practicable.

(b) You may not use data recorded during monitoring system malfunctions or out-of-control periods, repairs associated with monitoring system malfunctions or out-of-control periods, or required monitoring system quality assurance or control activities in calculations used to report emissions or operating levels. You must use all the data collected during all other periods in assessing the operation of the control device and associated control system.

(c) Except for periods of monitoring system malfunctions or out-of-control periods, repairs associated with monitoring system malfunctions or out-of-control periods, and required monitoring system quality assurance or quality control activities including, as applicable, calibration checks and required zero and span adjustments, failure to collect required data is a deviation of the monitoring requirements.

■ 27. Section 60.2175 is amended by:
■ a. Revising the introductory text.
■ b. Revising paragraphs (b)(5) and (e).
■ c. Removing and reserving paragraphs (c) and (d).
■ d. Adding paragraphs (o) through (w).

§ 60.2175 What records must I keep?

You must maintain the items (as applicable) as specified in paragraphs (a), (b), and (e) through (u) of this section for a period of at least 5 years:

* * * * *

(b) * * *

(5) For affected CISWI units that establish operating limits for controls other than wet scrubbers under § 60.2110(d) through (f) or § 60.2115, you must maintain data collected for all operating parameters used to determine compliance with the operating limits.

* * * * *

(c) [Reserved]

(d) [Reserved]

(e) Identification of calendar dates and times for which data show a deviation from the operating limits in table 2 of this subpart or a deviation from other operating limits established under § 60.2110(d) through (f) or § 60.2115 with a description of the deviations, reasons for such deviations, and a description of corrective actions taken.

* * * * *

(o) Maintain records of the annual air pollution control device inspections that are required for each CISWI unit subject to the emissions limits in table 1 of this subpart or tables 5 through 8 of this subpart, any required maintenance, and any repairs not completed within 10 days of an inspection or the timeframe established by the state regulatory agency.

(p) For continuously monitored pollutants or parameters, you must document and keep a record of the following parameters measured using continuous monitoring systems.

(1) All 6-minute average levels of opacity.

(2) All 1-hour average concentrations of sulfur dioxide emissions.

(3) All 1-hour average concentrations of nitrogen oxides emissions.

(4) All 1-hour average concentrations of carbon monoxide emissions.

(5) All 1-hour average concentrations of particulate matter emissions.

(6) All 1-hour average concentrations of mercury emissions.

(7) All 1-hour average concentrations of hydrogen chloride emissions.

(q) Records indicating use of the bypass stack, including dates, times, and durations.

(r) If you choose to stack test less frequently than annually, consistent with § 60.2155(a) through (c), you must keep annual records that document that your emissions in the previous stack test(s) were less than 75 percent of the applicable emission limit and document that there was no change in source operations including fuel composition and operation of air pollution control equipment that would cause emissions of the relevant pollutant to increase within the past year.

(s) Records of the occurrence and duration of each malfunction of operation (*i.e.,* process equipment) or the air pollution control and monitoring equipment.

(t) Records of all required maintenance performed on the air pollution control and monitoring equipment.

(u) Records of actions taken during periods of malfunction to minimize emissions in accordance with § 60.11(d), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

(v) For operating units that burn materials other than traditional fuels as defined in § 241.2, a description of each material burned, and a record which documents how each material that is not a traditional fuel meets each of the legitimacy criteria in § 241.3(d). If you combust a material that has been processed from a discarded non-hazardous secondary material pursuant to § 241.3(b)(4), you must keep records as to how the operations that produced the material satisfy the definition of processing in § 241.2. If the material received a non-waste determination pursuant to the petition process submitted under § 241.3(c), you must keep a copy of the non-waste determination granted by EPA.

(w) For operating units that burn tires,

(1) A certification that the shipment of tires that are non-waste per 40 CFR 241.3(b)(2)(i), are part of an established tire collection program, consistent with the definition of that term in § 241.2. The certification must document that the tires were not discarded and are handled as valuable commodities in accordance with § 241.3(d), from the point of removal from the automobile through arrival at the combustion facility. The certification must identify the entity the tires were received from (for example, the name of the state or private collection program), the quantity, volume, or weight of tires received by you, and the dates received. The certification must be signed by the owner or operator of the combustion unit, or by a responsible official of the established tire collection program, and must include the following certification of compliance, "The tires from this tire collection program meet the EPA definition of an established tire collection program in 40 CFR section 241." and state the title or position of the person signing the certification.

(2) You must also keep a record that identifies where on your plant site the tires from each tire collection program are located, and that accounts for all tires at the plant site.

■ 27. Section 60.2210 is amended by revising paragraph (e) and adding paragraphs (k) through (o) to read as follows:

§ 60.2210 What information must I include in my annual report?

* * * * *

(e) If no deviation from any emission limitation or operating limit that applies to you has been reported, a statement that there was no deviation from the emission limitations or operating limits during the reporting period.

* * * * *

(k) If you had a malfunction during the reporting period, the compliance report must include the number, duration, and a brief description for each type of malfunction that occurred during the reporting period and that caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with § 60.11(d), including actions taken to correct a malfunction.

(l) For each deviation from an emission or operating limitation that occurs for a CISWI unit for which you are not using a continuous monitoring system to comply with the emission or operating limitations in this subpart, the annual report must contain the following information.

(1) The total operating time of the CISWI unit at which the deviation occurred during the reporting period.

(2) Information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken.

(m) If there were periods during which the continuous monitoring system, including the continuous emission monitoring system, was out of control as specified in paragraph (o) of this section, the annual report must contain the following information for each deviation from an emission or operating limitation occurring for a CISWI unit for which you are using a continuous monitoring system to comply with the emission and operating limitations in this subpart.

(1) The date and time that each malfunction started and stopped.

(2) The date, time, and duration that each CMS was inoperative, except for zero (low-level) and high-level checks.

(3) The date, time, and duration that each continuous monitoring system was out-of-control, including start and end dates and hours and descriptions of corrective actions taken.

(4) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of malfunction or during another period.

(5) A summary of the total duration of the deviation during the reporting period, and the total duration as a percent of the total source operating time during that reporting period.

(6) A breakdown of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, other known causes, and other unknown causes.

(7) A summary of the total duration of continuous monitoring system downtime during the reporting period, and the total duration of continuous monitoring system downtime as a percent of the total operating time of the CISWI unit at which the continuous monitoring system downtime occurred during that reporting period.

(8) An identification of each parameter and pollutant that was monitored at the CISWI unit.

(9) A brief description of the CISWI unit.

(10) A brief description of the continuous monitoring system.

(11) The date of the latest continuous monitoring system certification or audit.

(12) A description of any changes in continuous monitoring system, processes, or controls since the last reporting period.

(n) If there were periods during which the continuous monitoring system, including the continuous emission monitoring system, was not out of control as specified in paragraph (o) of this section, a statement that there were not periods during which the continuous monitoring system was out of control during the reporting period.

(o) A continuous monitoring system is out of control in accordance with the procedure in 40 CFR part 60, appendix F of this part, as if any of the following occur.

(1) The zero (low-level), mid-level (if applicable), or high-level calibration drift exceeds two times the applicable calibration drift specification in the

applicable performance specification or in the relevant standard.

(2) The continuous monitoring system fails a performance test audit (*e.g.,* cylinder gas audit), relative accuracy audit, relative accuracy test audit, or linearity test audit.

(3) The continuous opacity monitoring system calibration drift exceeds two times the limit in the applicable performance specification in the relevant standard.

* * * * *

■ 28. Section 60.2220 is amended by revising paragraph (c) and removing paragraphs (e) and (f).

§ 60.2220 What must I include in the deviation report?

* * * * *

(c) Durations and causes of the following:

(1) Each deviation from emission limitations or operating limits and your corrective actions.

(2) Bypass events and your corrective actions.

* * * * *

■ 29. Section 60.2230 is revised to read as follows:

§ 60.2230 Are there any other notifications or reports that I must submit?

(a) Yes. You must submit notifications as provided by § 60.7.

(b) If you cease combusting solid waste but continue to operate, you must provide 30 days prior notice of the effective date of the waste-to-fuel switch, consistent with 60.2145(a). The notification must identify:

(1) The name of the owner or operator of the CISWI unit, the location of the source, the emissions unit(s) that will cease burning solid waste, and the date of the notice;

(2) The currently applicable subcategory under this subpart, and any 40 CFR part 63 subpart and subcategory that will be applicable after you cease combusting solid waste;

(3) The fuel(s), non-waste material(s) and solid waste(s) the CISWI unit is currently combusting and has combusted over the past 6 months, and the fuel(s) or non-waste materials the unit will commence combusting;

(4) The date on which you became subject to the currently applicable emission limits;

(5) The date upon which you will cease combusting solid waste, and the date (if different) that you intend for any new requirements to become applicable (*i.e.,* the effective date of the waste-to-fuel switch), consistent with paragraphs (b)(2) and (3)of this section.

■ 30. Section 60.2235 is revised to read as follows:

§ 60.2235 In what form can I submit my reports?

(a) Submit initial, annual and deviation reports electronically or in paper format, postmarked on or before the submittal due dates.

(b) As of January 1, 2012, and within 60 days after the date of completing each performance test, as defined in § 63.2, conducted to demonstrate compliance with this subpart, you must submit relative accuracy test audit (*i.e.,* reference method) data and performance test (*i.e.,* compliance test) data, except opacity data, electronically to EPA's Central Data Exchange (CDX) by using the Electronic Reporting Tool (ERT) (*see http://www.epa.gov/ttn/chief/ert/ert tool.html/*) or other compatible electronic spreadsheet. Only data collected using test methods compatible with ERT are subject to this requirement to be submitted electronically into EPA's WebFIRE database.

■ 31. Section 60.2242 is revised to read as follows:

§ 60.2242 Am I required to apply for and obtain a Title V operating permit for my unit?

Yes. Each CISWI unit and air curtain incinerator subject to standards under this subpart must operate pursuant to a permit issued under Section 129(e) and Title V of the Clean Air Act.

■ 32. Section 60.2250 is revised to read as follows:

§ 60.2250 What are the emission limitations for air curtain incinerators?

Within 60 days after your air curtain incinerator reaches the charge rate at which it will operate, but no later than 180 days after its initial startup, you must meet the two limitations specified in paragraphs (a) and (b) of this section.

(a) Maintain opacity to less than or equal to 10 percent opacity (as determined by the average of three 1-hour blocks consisting of ten 6-minute average opacity values), except as described in paragraph (b) of this section.

(b) Maintain opacity to less than or equal to 35 percent opacity (as determined by the average of three 1-hour blocks consisting of ten 6-minute average opacity values) during the startup period that is within the first 30 minutes of operation.

■ 33. Section 60.2260 is amended by revising paragraph (d) to read as follows:

§ 60.2260 What are the recordkeeping and reporting requirements for air curtain incinerators?

* * * * *

(d) You must submit the results (as determined by the average of three 1-hour blocks consisting of ten 6-minute average opacity values) of the initial opacity tests no later than 60 days following the initial test. Submit annual opacity test results within 12 months following the previous report.

* * * * *

■ 34. Section 60.2265 is amended by:

■ a. Adding definitions for "Affirmative defense", "Burn-off oven", "Bypass stack", "Chemical recovery unit", "Continuous monitoring system", "Cyclonic burn barrel", "Energy recovery unit", "Energy recovery unit designed to burn biomass (Biomass)", "Energy recovery unit designed to burn coal (Coal)", "Energy recovery unit designed to burn solid materials (Solids)", "Homogeneous wastes" "Incinerator", "Kiln", "Laboratory analysis unit", "Minimum voltage or amperage", "Opacity", "Operating day", "Performance evaluation", "Performance test", "Process change", "Raw mill", "Small remote incinerator", "Soil treatment unit", "Solid waste incineration unit," "Space heater" and "Waste-burning kiln", in alphabetical order.

■ b. Revising the definition for "Commercial and industrial solid waste incineration (CISWI) unit", "dioxin/furans", "Modification or modified CISWI unit", and "Wet scrubber".

■ c. Removing paragraph (3) of the definition for "Deviation."

■ d. Removing the definition for "Agricultural waste", "Commercial or industrial waste", "Contained gaseous material", and "Solid waste".

§ 60.2265 What definitions must I know?

* * * * *

Affirmative defense means, in the context of an enforcement proceeding, a response or defense put forward by a defendant, regarding which the defendant has the burden of proof, and the merits of which are independently and objectively evaluated in a judicial or administrative proceeding.

* * * * *

Burn-off oven means any rack reclamation unit, part reclamation unit, or drum reclamation unit. A burn-off oven is not an incinerator, waste-burning kiln, an energy recovery unit or a small, remote incinerator under this subpart.

Bypass stack means a device used for discharging combustion gases to avoid severe damage to the air pollution control device or other equipment.

* * * * *

Chemical recovery unit means combustion units burning materials to recover chemical constituents or to produce chemical compounds where there is an existing commercial market for such recovered chemical constituents or compounds. The following seven types of units are considered chemical recovery units:

(1) Units burning only pulping liquors (*i.e.,* black liquor) that are reclaimed in a pulping liquor recovery process and reused in the pulping process.

(2) Units burning only spent sulfuric acid used to produce virgin sulfuric acid.

(3) Units burning only wood or coal feedstock for the production of charcoal.

(4) Units burning only manufacturing byproduct streams/residue containing catalyst metals which are reclaimed and reused as catalysts or used to produce commercial grade catalysts.

(5) Units burning only coke to produce purified carbon monoxide that is used as an intermediate in the production of other chemical compounds.

(6) Units burning only hydrocarbon liquids or solids to produce hydrogen, carbon monoxide, synthesis gas, or other gases for use in other manufacturing processes.

(7) Units burning only photographic film to recover silver.

* * * * *

Commercial and industrial solid waste incineration (CISWI) unit means any distinct operating unit of any commercial or industrial facility that combusts, or has combusted in the preceding 6 months, any solid waste as that term is defined in 40 CFR part 241. If the operating unit burns materials other than traditional fuels as defined in § 241.2 that have been discarded, and you do not keep and produce records as required by § 60.2175(v), the material is a solid waste and the operating unit is a CISWI unit. While not all CISWI units will include all of the following components, a CISWI unit includes, but is not limited to, the solid waste feed system, grate system, flue gas system, waste heat recovery equipment, if any, and bottom ash system. The CISWI unit does not include air pollution control equipment or the stack. The CISWI unit boundary starts at the solid waste hopper (if applicable) and extends through two areas: The combustion unit flue gas system, which ends immediately after the last combustion chamber or after the waste heat recovery equipment, if any; and the combustion unit bottom ash system, which ends at the truck loading station or similar equipment that transfers the ash to final disposal. The CISWI unit includes all ash handling systems connected to the bottom ash handling system.

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Continuous monitoring system means the total equipment, required under the emission monitoring sections in applicable subparts, used to sample and condition (if applicable), to analyze, and to provide a permanent record of emissions or process parameters.

* * * * *

Cyclonic burn barrel means a combustion device for waste materials that is attached to a 55 gallon, openhead drum. The device consists of a lid, which fits onto and encloses the drum, and a blower that forces combustion air into the drum in a cyclonic manner to enhance the mixing of waste material and air. A cyclonic burn barrel is not an incinerator, waste-burning kiln, an energy recovery unit or a small, remote incinerator under this subpart.

Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

(1) Fails to meet any requirement or obligation established by this subpart, including but not limited to any emission limitation, operating limit, or operator qualification and accessibility requirements.

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit.

Dioxins/furans means tetra- through octa-chlorinated dibenzo-p-dioxins and dibenzofurans.

* * * * *

Energy recovery unit means a combustion unit combusting solid waste (as that term is defined by the Administrator under RCRA in 40 CFR 240) for energy recovery. Energy recovery units include units that would be considered boilers and process heaters if they did not combust solid waste.

Energy recovery unit designed to burn biomass (Biomass) means an energy recovery unit that burns solid waste and at least 10 percent biomass, but less than 10 percent coal, on a heat input basis on an annual average, either alone or in combination with liquid waste, liquid fuel or gaseous fuels.

Energy recovery unit designed to burn coal (Coal) means an energy recovery unit that burns solid waste and at least 10 percent coal on a heat input basis on an annual average, either alone or in combination with liquid waste, liquid fuel or gaseous fuels.

Energy recovery unit designed to burn liquid waste materials and gas (Liquid/gas) means an energy recovery unit that burns a liquid waste with liquid or gaseous fuels not combined with any solid fuel or waste materials.

Energy recovery unit designed to burn solid materials (Solids) includes energy recovery units designed to burn coal and energy recovery units designed to burn biomass.

* * * * *

Homogeneous wastes are stable, consistent in formulation, have known fuel properties, have a defined origin, have predictable chemical and physical attributes, and result in consistent combustion characteristics and have a consistent emissions profile.

Incinerator means any furnace used in the process of combusting solid waste (as that term is defined by the Administrator under RCRA in 40 CFR part 240) for the purpose of reducing the volume of the waste by removing combustible matter. Incinerator designs include single chamber and two-chamber.

Kiln means an oven or furnace, including any associated preheater or precalciner devices, used for processing a substance by burning, firing or drying. Kilns include cement kilns that produce clinker by heating limestone and other materials for subsequent production of Portland Cement.

Laboratory analysis unit means units that burn samples of materials for the purpose of chemical or physical analysis. A laboratory analysis unit is not an incinerator, waste-burning kiln, an energy recovery unit or a small, remote incinerator under this subpart.

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Minimum voltage or amperage means 90 percent of the lowest test-run average voltage or amperage to the electrostatic precipitator measured during the most recent particulate matter or mercury performance test demonstrating compliance with the applicable emission limits.

Modification or modified CISWI unit means a CISWI unit that has been changed later than June 1, 2001, and that meets one of two criteria:

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

(2) Any physical change in the CISWI unit or change in the method of operating it that increases the amount of any air pollutant emitted for which

section 129 or section 111 of the Clean Air Act has established standards.

Opacity means the degree to which emissions reduce the transmission of light and obscure the view of an object in the background.

Operating day means a 24-hour period between 12:00 midnight and the following midnight during which any amount of solid waste is combusted at any time in the CISWI unit.

* * * * *

Performance evaluation means the conduct of relative accuracy testing, calibration error testing, and other measurements used in validating the continuous monitoring system data.

Performance test means the collection of data resulting from the execution of a test method (usually three emission test runs) used to demonstrate compliance with a relevant emission standard as specified in the performance test section of the relevant standard.

Process change means a significant permit revision, but only with respect to those pollutant-specific emission units for which the proposed permit revision is applicable, including but not limited to a change in the air pollution control devices used to comply with the emission limits for the affected CISWI unit (*e.g.,* change in the sorbent used for activated carbon injection).

* * * * *

Raw mill means a ball and tube mill, vertical roller mill or other size reduction equipment, that is not part of an in-line kiln/raw mill, used to grind feed to the appropriate size. Moisture may be added or removed from the feed during the grinding operation. If the raw mill is used to remove moisture from feed materials, it is also, by definition, a raw material dryer. The raw mill also includes the air separator associated with the raw mill.

* * * * *

Small, remote incinerator means an incinerator that combusts solid waste (as that term is defined by the Administrator under RCRA in 40 CFR part 240) and combusts 3 tons per day or less solid waste and is more than 25 miles driving distance to the nearest municipal solid waste landfill.

Soil treatment unit means a unit that thermally treats petroleum contaminated soils for the sole purpose of site remediation. A soil treatment unit may be direct-fired or indirect fired. A soil treatment unit is not an incinerator, waste-burning kiln, an energy recovery unit or a small, remote incinerator under this subpart.

Solid waste incineration unit means a distinct operating unit of any facility which combusts any solid waste (as that term is defined by the Administrator under RCRA in 40 CFR part 240) material from commercial or industrial establishments or the general public (including single and multiple residences, hotels and motels). Such term does not include incinerators or other units required to have a permit under section 3005 of the Solid Waste Disposal Act. The term "solid waste incineration unit" does not include: (A) Materials recovery facilities (including primary or secondary smelters) which combust waste for the primary purpose of recovering metals; (B) qualifying small power production facilities, as defined in section 3(17)(C) of the Federal Power Act (16 U.S.C. 769(17)(C)), or qualifying cogeneration facilities, as defined in section 3(18)(B) of the Federal Power Act (16 U.S.C. 796(18)(B)), which burn homogeneous waste (such as units which burn tires or used oil, but not including refuse-derived fuel) for the production of electric energy or in the case of qualifying cogeneration facilities which burn homogeneous waste for the production of electric energy and steam or forms of useful energy (such as heat) which are used for industrial, commercial, heating or cooling purposes; or (C) air curtain incinerators provided that such incinerators only burn wood wastes, yard wastes, and clean lumber and that such air curtain incinerators comply with opacity limitations to be established by the Administrator by rule.

Space heater means a usually portable appliance for heating a relatively small area. These units are not subject to the incinerator, waste-burning kiln, or small, remote subcategories.

* * * * *

Waste-burning kiln means a kiln that is heated, in whole or in part, by combusting solid waste (as that term is defined by the Administrator pursuant to Subtitle D of RCRA).

Wet scrubber means an add-on air pollution control device that uses an aqueous or alkaline scrubbing liquor to collect particulate matter (including nonvaporous metals and condensed organics) and/or to absorb and neutralize acid gases.

* * * * *

■ 35. Table 1 of subpart CCCC is revised to read as follows:

TABLE 1 TO SUBPART CCCC OF PART 60—EMISSION LIMITATIONS FOR CISWI UNITS FOR WHICH CONSTRUCTION IS COMMENCED AFTER NOVEMBER 30, 1999, BUT NO LATER THAN JUNE 4, 2010, OR FOR WHICH MODIFICATION OR RECONSTRUCTION IS COMMENCED ON OR AFTER JUNE 1, 2001, BUT NO LATER THAN SEPTEMBER 21, 2011

For the air pollutant	You must meet this emission limitation [a]	Using this averaging time	And determining compliance using this method
Cadmium	0.004 milligrams per dry standard cubic meter.	3-run average (collect a minimum volume of 1 dry standard cubic meter per run).	Performance test (Method 29 at 40 CFR part 60, appendix A–8).
Carbon Monoxide	157 parts per million by dry volume.	30 day rolling average	Carbon Monoxide CEMS (Performance Specification 4A of this part, use a span value of 300 ppm.).
Dioxin/Furan (toxic equivalency basis).	0.41 nanograms per dry standard cubic meter.	3-run average (collect a minimum volume of 2 dry standard cubic meters per run).	Performance test (Method 23 of appendix A–7 of this part).
Hydrogen Chloride	62 parts per million by dry volume	3-run average (For Method 26, collect a minimum volume of 60 liters per run. For Method 26A, collect a minimum volume of 1 dry standard cubic meter per run).	Performance test (Method 26 or 26A at 40 CFR part 60, appendix A–8).
Lead	0.04 milligrams per dry standard cubic meter.	3-run average (collect a minimum volume of 1 dry standard cubic meter per run).	Performance test (Method 29 at 40 CFR part 60, appendix A–8).

TABLE 1 TO SUBPART CCCC OF PART 60—EMISSION LIMITATIONS FOR CISWI UNITS FOR WHICH CONSTRUCTION IS COMMENCED AFTER NOVEMBER 30, 1999, BUT NO LATER THAN JUNE 4, 2010, OR FOR WHICH MODIFICATION OR RECONSTRUCTION IS COMMENCED ON OR AFTER JUNE 1, 2001, BUT NO LATER THAN SEPTEMBER 21, 2011—Continued

For the air pollutant	You must meet this emission limitation [a]	Using this averaging time	And determining compliance using this method
Mercury	0.47 milligrams per dry standard cubic meter.	3-run average (For Method 29 and ASTM D6784–02 (Reapproved 2008),[b] collect a minimum volume of 1 dry standard cubic meter per run. For Method 30B, collect a minimum sample as specified in Method 30B at 40 CFR part 60, appendix A).	Performance test (Method 29 or 30B at 40 CFR part 60, appendix A–8) or ASTM D6784–02 (Reapproved 2008).[b]
Nitrogen Oxides	388 parts per million by dry volume.	3-run average (1 hour minimum sample time per run).	Performance test (Method 7 7E at 40 CFR part 60, appendix A–4). Use a span gas with a concentration of 800 ppm or less.
Opacity	10 percent	Three 1-hour blocks consisting of ten 6-minute averages opacity values.	Performance test (Method 9 at 40 CFR part 60, appendix A–4).
Particulate matter	70 milligrams per dry standard cubic meter.	3-run average (collect a minimum volume of 1 dry standard cubic meter per run).	Performance test (Method 5 or 29 at 40 CFR part 60, appendix A–3 or A–8).
Sulfur Dioxide	20 parts per million by dry volume	3-run average (For Method 6, collect a minimum volume of 200 liters per run. For Method 6C, collect sample for a minimum duration of 1 hour per run).	Performance test (Method 6 or 6C at 40 CFR part 60, appendix A–4. Use a span gas with a concentration of 50 ppm or less.

a All emission limitations (except for opacity) are measured at 7 percent oxygen, dry basis at standard conditions.
b Incorporated by reference, *see* § 60.17.

■ 36. Table 4 of subpart CCCC is amended by revising the entry for “Annual Report” and “Emission limitation or operating limit deviation report.”

TABLE 4 TO SUBPART CCCC OF PART 60—SUMMARY OF REPORTING REQUIREMENTS [a]

Report	Due date	Contents	Reference
*	* *	* * *	*
Annual report	No later than 12 months following the submission of the initial test report. Subsequent reports are to be submitted no more than 12 months following the previous report.	• Name and address • Statement and signature by responsible official. • Date of report • Values for the operating limits • Highest recorded 3-hour average and the lowest 3-hour average, as applicable, for each operating parameter recorded for the calendar year being reported. • If a performance test was conducted during the reporting period, the results of the test. • If a performance test was not conducted during the reporting period, a statement that the requirements of § 60.2155(a) were met. • Documentation of periods when all qualified CISWI unit operators were unavailable for more than 8 hours but less than 2 weeks.	§§ 60.2205 and 60.2210.

TABLE 4 TO SUBPART CCCC OF PART 60—SUMMARY OF REPORTING REQUIREMENTS [a]—Continued

Report	Due date	Contents	Reference
		• If you are conducting performance tests once every 3 years consistent with § 60.2155(a), the date of the last 2 performance tests, a comparison of the emission level you achieved in the last 2 performance tests to the 75 percent emission limit threshold required in § 60.2155(a) and a statement as to whether there have been any operational changes since the last performance test that could increase emissions.	
* * *	* * *	*	*
Emission limitation or operating limit deviation report.	By August 1 of that year for data collected during the first half of the calendar year. By February 1 of the following year for data collected during the second half of the calendar year.	• Dates and times of deviation • Averaged and recorded data for those dates. • Duration and causes of each deviation and the corrective actions taken. • Copy of operating limit monitoring data and any test reports. • Dates, times and causes for monitor downtime incidents.	§ 60.2215 and 60.2220.
* * *	* * *	*	*

[a] This table is only a summary, *see* the referenced sections of the rule for the complete requirements.

■ 37. Table 5 to Subpart CCCC is added to read as follows:

TABLE 5 TO SUBPART CCCC OF PART 60—EMISSION LIMITATIONS FOR INCINERATORS THAT COMMENCED CONSTRUCTION AFTER JUNE 4, 2010, OR THAT COMMENCED RECONSTRUCTION OR MODIFICATION AFTER SEPTEMBER 21, 2011

For the air pollutant	You must meet this emission limitation [a]	Using this averaging time	And determining compliance using this method
Cadmium	0.0023 milligrams per dry standard cubic meter.	3-run average (collect a minimum volume of 4 dry standard cubic meter per run).	Performance test (Method 29 at 40 CFR part 60, appendix A–8 of this part). Use ICPMS for the analytical finish.
Carbon Monoxide	12 parts per million by dry volume	30 day rolling average	Carbon Monoxide CEMS (Performance Specification 4A of this part, using an RA of 0.5 ppm instead of 5 ppm as specified in section 13.2. For the cylinder gas audit, +/− 15% or 0.5 ppm, whichever is greater.) Use a span gas with a concentration of 20 ppm or less.
Dioxin/furan (Total Mass Basis)	0.052 nanograms per dry standard cubic meter.	3-run average (collect a minimum volume of 4 dry standard cubic meter per run).	Performance test (Method 23 at 40 CFR part 60, appendix A–7).
Dioxin/furan (toxic equivalency basis).	0.13 nanograms per dry standard cubic meter.	3-run average (collect a minimum volume of 4 dry standard cubic meter per run).	Performance test (Method 23 at 40 CFR part 60, appendix A–7).
Fugitive ash	Visible emissions for no more than 5 percent of the hourly observation period.	Three 1-hour observation periods	Visible emission test (Method 22 at 40 CFR part 60, appendix A–7).
Hydrogen Chloride	0.091 part per million by dry volume.	3-run average (For Method 26, collect a minimum volume of 200 liters per run. For Method 26A, collect a minimum volume of 3 dry standard cubic meter per run).	Performance test (Method 26 or 26A at 40 CFR part 60, appendix A–8).
Lead	0.0019 milligrams per dry standard cubic meter.	3-run average (collect a minimum volume of 4 dry standard cubic meter per run).	Performance test (Method 29 of appendix A–8 at 40 CFR part 60). Use ICPMS for the analytical finish.

TABLE 5 TO SUBPART CCCC OF PART 60—EMISSION LIMITATIONS FOR INCINERATORS THAT COMMENCED CONSTRUCTION AFTER JUNE 4, 2010, OR THAT COMMENCED RECONSTRUCTION OR MODIFICATION AFTER SEPTEMBER 21, 2011—Continued

For the air pollutant	You must meet this emission limitation [a]	Using this averaging time	And determining compliance using this method
Mercury	0.00016 milligrams per dry standard cubic meter.	3-run average (collect enough volume to meet a detection limit data quality objective of 0.03 µg/dry standard cubic meter).	Performance test (Method 29 or 30B at 40 CFR part 60, appendix A–8) or ASTM D6784–02 (Reapproved 2008) [b].
Nitrogen Oxides	23 parts per million dry volume	3-run average (1 hour minimum sample time per run).	Performance test (Method 7E at 40 CFR part 60, appendix A–4). Use a span gas with a concentration of 50 ppm or less.
Particulate matter (filterable)	18 milligrams per dry standard cubic meter.	3-run average (collect a minimum volume of 2 dry standard cubic meters per run).	Performance test (Method 5 or 29 at 40 CFR part 60, appendix A–3 or appendix A–8 at 40 CFR part 60).
Sulfur dioxide	11 parts per million dry volume	3-run average (1 hour minimum sample time per run).	Performance test (Method 6 or 6C at 40 CFR part 60, appendix A–4. Use a span gas with a concentration of 20 ppm or less.

[a] All emission limitations are measured at 7 percent oxygen, dry basis at standard conditions. For dioxins/furans, you must meet either the Total Mass Limit or the toxic equivalency basis limit.
[b] Incorporated by reference, *see* § 60.17.

■ 38. Table 6 to Subpart CCCC is added to read as follows:

TABLE 6 TO SUBPART CCCC OF PART 60—EMISSION LIMITATIONS FOR ENERGY RECOVERY UNITS THAT COMMENCED CONSTRUCTION AFTER JUNE 4, 2010, OR THAT COMMENCED RECONSTRUCTION OR MODIFICATION AFTER SEPTEMBER 21, 2011

For the air pollutant	You must meet this emission limitation [a]		Using this averaging time	And determining compliance using this method
	Liquid/gas	Solids		
Cadmium	0.023 milligrams per dry standard cubic meter.	0.00051 milligrams per dry standard cubic meter.	3-run average (collect a minimum volume of 4 dry standard cubic meters per run).	Performance test (Method 29 at 40 CFR part 60, appendix A–8). Use ICPMS for the analytical finish.
Carbon monoxide	36 parts per million dry volume. Coal—46 parts per million dry volume.	Biomass—160 parts per million dry volume.	30 day rolling average	Carbon Monoxide CEMS (Performance Specification 4A of this part, using a RA of 0.5 ppm instead of 5 ppm as specified in section 13.2. For the cylinder gas audit, +/−15% or 0.5 ppm, whichever is greater. Use a span gas with a concentration of 100 ppm or less for a liquid/gas or coal-fed boiler. Use a span gas with a concentration of 300 ppm or less for a biomass-fed boiler.
Dioxins/furans (Total Mass Basis).	No Total Mass Basis limit, must meet the toxic equivalency basis limit below.	0.068 nanograms per dry standard cubic meter.	3-run average (collect a minimum volume of 4 dry standard cubic meters).	Performance test (Method 23 at 40 CFR part 60, appendix A–7).
Dioxins/furans (toxic equivalency basis).	0.002 nanograms per dry standard cubic meter.	0.011 nanograms per dry standard cubic meter.	3-run average (collect a minimum volume of 4 dry standard cubic meters per run).	Performance test (Method 23 of appendix A–7 of this part).
Fugitive ash	Visible emissions for no more than 5 percent of the hourly observation period.	Visible emissions for no more than 5 percent of the hourly observation period.	Three 1-hour observation periods.	Visible emission test (Method 22 at 40 CFR part 60, appendix A–7).

TABLE 6 TO SUBPART CCCC OF PART 60—EMISSION LIMITATIONS FOR ENERGY RECOVERY UNITS THAT COMMENCED CONSTRUCTION AFTER JUNE 4, 2010, OR THAT COMMENCED RECONSTRUCTION OR MODIFICATION AFTER SEPTEMBER 21, 2011—Continued

For the air pollutant	You must meet this emission limitation [a]		Using this averaging time	And determining compliance using this method
	Liquid/gas	Solids		
Hydrogen chloride	14 parts per million dry volume.	0.45 parts per million dry volume.	3-run average (For Method 26, collect a minimum volume of 200 liters per run. For Method 26A, collect a minimum volume of 3 dry standard cubic meters per run).	Performance test (Method 26 or 26A at 40 CFR part 60, appendix A–8).
Lead	0.096 milligrams per dry standard cubic meter.	0.00313 milligrams per dry standard cubic meter.	3-run average (collect a minimum volume of 4 dry standard cubic meters per run).	Performance test (Method 29 at 40 CFR part 60, appendix A–8). Use ICPMS for the analytical finish.
Mercury	0.00025 milligrams per dry standard cubic meter.	0.00033 milligrams per dry standard cubic meter.	3-run average (collect enough volume to meet an in-stack detection limit data quality objective of 0.03 ug/dscm).	Performance test (Method 29 or 30B at 40 CFR part 60, appendix A–8) or ASTM D6784–02 (Reapproved 2008).[b]
Oxides of nitrogen	76 parts per million dry volume.	Biomass—290 parts per million dry volume. Coal—340 parts per million dry volume.	3-run average (1 hour minimum sample time per run).	Performance test (Method 7E at 40 CFR part 60, appendix A–4). Use a span gas with a concentration of 150 ppm or less for liquid/gas fuel boilers. Use a span gas with a concentration of 700 ppm or less for solid fuel boilers.
Particulate matter (filterable).	110 milligrams per dry standard cubic meter.	250 milligrams per dry standard cubic meter.	3-run average (collect a minimum volume of 1 dry standard cubic meter per run).	Performance test (Method 5 or 29 at 40 CFR part 60, appendix A–3 or appendix A–8) if the unit has a design capacity less than 250 MMBtu/hr; or PM CEMS (performance specification 11 of appendix B of this part) if the unit has a design capacity equal to or greater than 250 MMBtu/hr. Use Method 5 or 5I of Appendix A of this part and collect a minimum sample volume of 1 dscm per test run for the PM CEMS correlation testing.
Sulfur dioxide	720 parts per million dry volume.	Biomass—6.2 parts per million dry volume. Coal—650 parts per million dry volume.	3-run average (1 hour minimum sample time per run).	Performance test (Method 6 or 6C at 40 CFR part 60, appendix A–4. Use a span gas with a concentration of 20 ppm or less for a biomass-fed boiler. Use a span gas with a concentration of 1500 ppm or less for a liquid/gas boiler or coal-fed boiler.

[a] All emission limitations are measured at 7 percent oxygen, dry basis at standard conditions. For dioxins/furans, you must meet either the Total Mass Basis limit or the toxic equivalency basis limit.
[b] Incorporated by reference, *see* § 60.17.

■ 39. Table 7 to Subpart CCCC is added to read as follows:

TABLE 7 TO SUBPART CCCC OF PART 60—EMISSION LIMITATIONS FOR WASTE-BURNING KILNS THAT COMMENCED CONSTRUCTION AFTER JUNE 4, 2010, OR RECONSTRUCTION OR MODIFICATION AFTER SEPTEMBER 21, 2011

For the air pollutant	You must meet this emission limitation [a]	Using this averaging time	And determining compliance using this method
Cadmium	0.00048 milligrams per dry standard cubic meter.	3-run average (collect a minimum volume of 4 dry standard cubic meters per run).	Performance test (Method 29 at 40 CFR part 60, appendix A–8). Use ICPMS for the analytical finish.

TABLE 7 TO SUBPART CCCC OF PART 60—EMISSION LIMITATIONS FOR WASTE-BURNING KILNS THAT COMMENCED CONSTRUCTION AFTER JUNE 4, 2010, OR RECONSTRUCTION OR MODIFICATION AFTER SEPTEMBER 21, 2011—Continued

For the air pollutant	You must meet this emission limitation [a]	Using this averaging time	And determining compliance using this method
Carbon monoxide	90 parts per million dry volume	30-day rolling average	Carbon monoxide CEMS (Performance Specification 4A of this part, using an RA of 1 ppm instead of 5 ppm as specified in section 13.2. For the cylinder gas audit, +/− 15% or 0.5 ppm, whichever is greater). Use a span gas with a concentration of 200 ppm or less.
Dioxins/furans (total mass basis)	0.090 nanograms per dry standard cubic meter.	3-run average (collect a minimum volume of 4 dry standard cubic meters per run).	Performance test (Method 23 at 40 CFR part 60, appendix A–7).
Dioxins/furans (toxic equivalency basis).	0.0030 nanograms per dry standard cubic meter.	3-run average (collect a minimum volume of 4 dry standard cubic meters).	Performance test (Method 23 at 40 CFR part 60, appendix A–7).
Hydrogen chloride	3.0 parts per million dry volume	3-run average (1 hour minimum sample time per run) or 30-day rolling average if HCl CEMS are used.	Performance test (Method 321 at 40 CFR part 63, appendix A) or HCl CEMS if a wet scrubber is not used.
Lead	0.0026 milligrams per dry standard cubic meter.	3-run average (collect a minimum volume of 4 dry standard cubic meters).	Performance test (Method 29 at 40 CFR part 60, appendix A–8). Use ICPMS for the analytical finish.
Mercury	0.0062 milligrams per dry standard cubic meter.	30-day rolling average	Mercury CEMS or sorbent trap monitoring system (performance specification 12A or 12B, respectively, of appendix B of this part.)
Oxides of nitrogen	200 [b] parts per million dry volume	30-day rolling average	NO_X Continuous Emissions Monitoring System (performance specification 2 of appendix B of this part). Use a span gas with a concentration of 400 ppm or less.
Particulate matter (filterable)	2.5 milligrams per dry standard cubic meter.	30-day rolling average	PM Continuous Emissions Monitoring System (performance specification 11 of appendix B of this part).
Sulfur dioxide	38 parts per million dry volume	30-day rolling average	Sulfur dioxide Continuous Emissions Monitoring System (performance specification 2 of appendix B of this part). Use a span gas with a concentration of 100 ppm or less.

[a] All emission limitations are measured at 7 percent oxygen, dry basis at standard conditions. For dioxins/furans, you must meet either the total mass basis limit or the toxic equivalency basis limit.

[b] NO_X limits for new waste-burning kilns based on data for best-performing similar source, Portland Cement kilns. *See* "CISWI Emission Limit Calculations for Existing and New Sources" for details.

■ 40. Table 8 to Subpart CCCC is added to read as follows:

TABLE 8 TO SUBPART CCCC OF PART 60—EMISSION LIMITATIONS FOR SMALL, REMOTE INCINERATORS THAT COMMENCED CONSTRUCTION AFTER JUNE 4, 2010, OR THAT COMMENCED RECONSTRUCTION OR MODIFICATION AFTER SEPTEMBER 21, 2011

For the air pollutant	You must meet this emission limitation [a]	Using this averaging time	And determining compliance using this method
Cadmium	0.61 milligrams per dry standard cubic meter.	3-run average (collect a minimum volume of 1 dry standard cubic meter per run).	Performance test (Method 29 at 40 CFR part 60, appendix A–8).

TABLE 8 TO SUBPART CCCC OF PART 60—EMISSION LIMITATIONS FOR SMALL, REMOTE INCINERATORS THAT COMMENCED CONSTRUCTION AFTER JUNE 4, 2010, OR THAT COMMENCED RECONSTRUCTION OR MODIFICATION AFTER SEPTEMBER 21, 2011—Continued

For the air pollutant	You must meet this emission limitation[a]	Using this averaging time	And determining compliance using this method
Carbon monoxide	12 parts per million dry volume	24 hour block average	Carbon monoxide CEMS (Performance Specification 4A of this part, using a RA of 0.5 ppm instead of 5 ppm as specified in section 13.2. For the cylinder gas audit, +/− 15% or 0.5 ppm, whichever is greater.). Use a span gas with a concentration of 25 ppm or less.
Dioxins/furans (total mass basis)	1,200 nanograms per dry standard cubic meter.	3-run average (collect a minimum volume of 1 dry standard cubic meter per run).	Performance test (Method 23 at 40 CFR part 60, appendix A–7).
Dioxins/furans (toxic equivalency basis).	31 nanograms per dry standard cubic meter.	3-run average (collect a minimum volume of 1 dry standard cubic meter per run).	Performance test (Method 23 at 40 CFR part 60, appendix A–7).
Fugitive ash	Visible emissions for no more than 5 percent of the hourly observation period.	Three 1-hour observation periods	Visible emission test (Method 22 at 40 CFR part 60, appendix A–7).
Hydrogen chloride	200 parts per million by dry volume.	3-run average (For Method 26, collect a minimum volume of 60 liters per run. For Method 26A, collect a minimum volume of 1 dry standard cubic meter per run).	Performance test (Method 26 or 26A at 40 CFR part 60, appendix A–8).
Lead	0.26 milligrams per dry standard cubic meter.	3-run average (collect a minimum volume of 1 dry standard cubic).	Performance test (Method 29 at 40 CFR part 60,appendix A–8). Use ICPMS for the analytical finish.
Mercury	0.0035 milligrams per dry standard cubic meter.	3-run average (For Method 29 and ASTM D6784–02 (Reapproved 2008)[b], collect a minimum volume of 2 dry standard cubic meters per run. For Method 30B, collect a minimum volume as specified in Method 30B at 40 CFR part 60, appendix A).	Performance test (Method 29 or 30B at 40 CFR part 60, appendix A–8) or ASTM D6784–02 (Reapproved 2008)b.
Oxides of nitrogen	78 parts per million dry volume	3-run average (1 hour minimum sample time per run).	Performance test (Method 7E at 40 CFR part 60,appendix A–4). Use a span gas with a concentration of 150 ppm or less.
Particulate matter (filterable)	230 milligrams per dry standard cubic meter.	3-run average (collect a minimum volume of 1 dry standard cubic meter).	Performance test (Method 5 or 29 at 40 CFR part 60, appendix A–3 or appendix A–8).
Sulfur dioxide	1.2 parts per million dry volume	3-run average (1 hour minimum sample time per run).	Performance test (Method 6 or 6c at 40 CFR part 60, appendix A–4. Use a span gas with a concentration of 5 ppm or less.

[a] All emission limitations (except for opacity) are measured at 7 percent oxygen, dry basis at standard conditions. For dioxins/furans, you must meet either the total mass basis limit or the toxic equivalency basis limit.
[b] Incorporated by reference, *see* § 60.17.

■ 41. Revise the heading for subpart DDDD to read as follows:

Subpart DDDD—Emissions Guidelines and Compliance Times for Commercial and Industrial Solid Waste Incineration Units

* * * * *

■ 42. Section 60.2500 is revised to read as follows:

§ 60.2500 What is the purpose of this subpart?

This subpart establishes emission guidelines and compliance schedules for the control of emissions from commercial and industrial solid waste incineration (CISWI) units. The pollutants addressed by these emission guidelines are listed in table 2 of this subpart and tables 6 through 9 of this subpart. These emission guidelines are developed in accordance with sections 111(d) and 129 of the Clean Air Act and subpart B of this part.

■ 43. Section 60.2505 is revised to read as follows:

§ 60.2505 Am I affected by this subpart?

(a) If you are the Administrator of an air quality program in a state or United States protectorate with one or more existing CISWI units that meets the criteria in paragraphs (b) through (d) of this section, you must submit a state plan to EPA that implements the emission guidelines contained in this subpart.

(b) You must submit a state plan to EPA by December 3, 2001 for incinerator units that commenced construction on or before November 30, 1999 and that were not modified or reconstructed after June 1, 2001.

(c) You must submit a state plan that meets the requirements of this subpart and contains the more stringent emission limit for the respective pollutant in table 6 of this subpart or table 1 of subpart CCCC of this part to EPA by March 21, 2012 for incinerators that commenced construction after November 30, 1999, but no later than June 4, 2010, or commenced modification or reconstruction after June 1, 2001 but no later than September 21, 2011.

(d) You must submit a state plan to EPA that meets the requirements of this subpart and contains the emission limits in tables 7 through 9 of this subpart by March 21, 2012 for CISWI units other than incinerator units that commenced construction on or before June 4, 2010.

■ 44. Section 60.2525 is revised to read as follows:

§ 60.2525 What if my state plan is not approvable?

(a) If you do not submit an approvable state plan (or a negative declaration letter) by December 2, 2002, EPA will develop a federal plan according to § 60.27 to implement the emission guidelines contained in this subpart. Owners and operators of CISWI units not covered by an approved state plan must comply with the federal plan. The federal plan is an interim action and will be automatically withdrawn when your state plan is approved.

(b) If you do not submit an approvable state plan (or a negative declaration letter) to EPA that meets the requirements of this subpart and contains the emission limits in tables 6 through 9 of this subpart for CISWI units that commenced construction after November 30, 1999, but on or before by June 4, 2010, then EPA will develop a federal plan according to § 60.27 to implement the emission guidelines contained in this subpart. Owners and operators of CISWI units not covered by an approved state plan must comply with the federal plan. The federal plan is an interim action and will be automatically withdrawn when your state plan is approved.

■ 45. Section 60.2535 is amended by:

■ a. Revising paragraph (a) introductory text.

■ b. Redesignating paragraph (b) as paragraph (c).

■ c. Adding paragraph (b).

§ 60.2535 What compliance schedule must I include in my state plan?

(a) For CISWI units in the incinerator subcategory that commenced construction on or before November 30, 1999, your state plan must include compliance schedules that require CISWI units to achieve final compliance as expeditiously as practicable after approval of the state plan but not later than the earlier of the two dates specified in paragraphs (a)(1) and (2) of this section.

* * * * *

(b) For CISWI units in the incinerator subcategory that commenced construction after November 30, 1999, but on or before June 4, 2010, and for CISWI units in the energy recovery units, waste-burning kilns, and small remote incinerators subcategories that commenced construction before June 4, 2010, your state plan must include compliance schedules that require CISWI units to achieve final compliance as expeditiously as practicable after approval of the state plan but not later than the earlier of the two dates specified in paragraphs (b)(1) and (b)(2) of this section.

(1) March 21, 2016.

(2) 3 years after the effective date of state plan approval.

* * * * *

■ 46. Section 60.2540 is amended by revising paragraph (a) to read as follows:

§ 60.2540 Are there any state plan requirements for this subpart that apply instead of the requirements specified in subpart B?

* * * * *

(a) State plans developed to implement this subpart must be as protective as the emission guidelines contained in this subpart. State plans must require all CISWI units to comply by the dates specified in § 60.2535. This applies instead of the option for case-by-case less stringent emission standards and longer compliance schedules in § 60.24(f).

* * * * *

■ 47. Section 60.2541 is added to read as follows:

§ 60.2541 In lieu of a state plan submittal, are there other acceptable option(s) for a state to meet its Clean Air Act section 111(d)/129(b)(2) obligations?

Yes, a state may meet its Clean Air Act section 111(d)/129 obligations by submitting an acceptable written request for delegation of the federal plan that meets the requirements of this section. This is the only other option for a state to meet its Clean Air Act section 111(d)/129 obligations.

(a) An acceptable federal plan delegation request must include the following:

(1) A demonstration of adequate resources and legal authority to administer and enforce the federal plan.

(2) The items under § 60.2515(a)(1), (2) and (7).

(3) Certification that the hearing on the state delegation request, similar to the hearing for a state plan submittal, was held, a list of witnesses and their organizational affiliations, if any, appearing at the hearing, and a brief written summary of each presentation or written submission.

(4) A commitment to enter into a Memorandum of Agreement with the Regional Administrator who sets forth the terms, conditions, and effective date of the delegation and that serves as the mechanism for the transfer of authority. Additional guidance and information is given in EPA's Delegation Manual, Item 7–139, Implementation and Enforcement of 111(d)(2) and 111(d)/(2)/129(b)(3) federal plans.

(b) A state with an already approved CISWI Clean Air Act section 111(d)/129 state plan is not precluded from receiving EPA approval of a delegation request for the revised federal plan, providing the requirements of paragraph (a) of this section are met, and at the time of the delegation request, the state also requests withdrawal of EPA's previous state plan approval.

(c) A state's Clean Air Act section 111(d)/129 obligations are separate from its obligations under Title V of the Clean Air Act.

■ 48. Section 60.2542 is added to read as follows:

§ 60.2542 What authorities will not be delegated to state, local, or tribal agencies?

The authorities listed under § 60.2030(c) will not be delegated to state, local, or tribal agencies.

■ 49. Section 60.2545 is amended by revising paragraph (b) and adding paragraph (c) to read as follows:

§ 60.2545 Does this subpart directly affect CISWI unit owners and operators in my state?

* * * * *

(b) If you do not submit an approvable plan to implement and enforce the guidelines contained in this subpart for CISWI units that commenced construction before November 30, 1999 by December 2, 2002, EPA will implement and enforce a federal plan, as provided in § 60.2525, to ensure that each unit within your state reaches compliance with all the provisions of this subpart by December 1, 2005.

(c) If you do not submit an approvable plan to implement and enforce the guidelines contained in this subpart by March 21, 2012 for CISWI units that commenced construction after November 29, 1999, but on or before June 4, 2010, EPA will implement and enforce a federal plan, as provided in § 60.2525, to ensure that each unit within your state that commenced construction after November 29, 1999, but on or before June 4, 2010, reaches compliance with all the provisions of this subpart by March 21, 2016.

■ 50. Section § 60.2550 is amended by revising paragraph (a)(1) to read as follows:

§ 60.2550 What CISWI units must I address in my state plan?

(a) * * *

(1) Incineration units in your state that commenced construction on or before June 4, 2010.

* * * * *

■ 51. Section § 60.2555 is amended by:

■ a. Revising the introductory text.

■ b. Removing and reserving paragraph (b).

■ c. Revising paragraphs (c), (e)(3), (f)(3), and (g).

■ d. Removing and reserving paragraphs (j), (k) and (l).

■ e. Revising paragraphs (m) and (n).

■ f. Removing paragraph (o).

§ 60.2555 What combustion units are exempt from my state plan?

This subpart exempts the types of units described in paragraphs (a), (c) through (i), (m), and (n) of this section, but some units are required to provide notifications. Air curtain incinerators are exempt from the requirements in this subpart except for the provisions in §§ 60.2805, 60.2860, and 60.2870.

* * * * *

(b) [Reserved]

(c) *Municipal waste combustion units.* Incineration units that are regulated under subpart Ea of this part (Standards of Performance for Municipal Waste Combustors); subpart Eb of this part (Standards of Performance for Large Municipal Waste Combustors); subpart Cb of this part (Emission Guidelines and Compliance Time for Large Municipal Combustors); AAAA of this part (Standards of Performance for Small Municipal Waste Combustion Units); or subpart BBBB of this part (Emission Guidelines for Small Municipal Waste Combustion Units).

* * * * *

(e) * * *

(3) You submit a request to the Administrator for a determination that the qualifying cogeneration facility is combusting homogenous waste as that term is defined in § 60.2875. The request must include information sufficient to document that the unit meets the criteria of the definition of a small power production facility and that the waste material the unit is proposed to burn is homogeneous.

* * * * *

(f) * * *

(3) You submit a request to the Administrator for a determination that the qualifying cogeneration facility is combusting homogenous waste as that term is defined § 60.2875. The request must include information sufficient to document that the unit meets the criteria of the definition of a cogeneration facility and that the waste material the unit is proposed to burn is homogeneous.

(g) *Hazardous waste combustion units.* Units for which you are required to get a permit under section 3005 of the Solid Waste Disposal Act.

* * * * *

(j) [Reserved]

(k) [Reserved]

(l) [Reserved]

(m) *Sewage treatment plants.* Incineration units regulated under subpart O of this part (Standards of Performance for Sewage Treatment Plants).

(n) *Sewage sludge incineration units.* Incineration units combusting sewage sludge for the purpose of reducing the volume of the sewage sludge by removing combustible matter that are subject to subpart LLLL of this part (Standards of Performance for Sewage Sludge Incineration Units) or subpart MMMM of this part (Emission Guidelines for Sewage Sludge Incineration Units). Sewage sludge incineration unit designs may include fluidized bed and multiple hearth.

§ 60.2558 [Removed]

■ 52. Section 60.2558 is removed.

■ 53. Section 60.2635 is amended by revising paragraph (c)(1)(vii) to read as follows:

§ 60.2635 What are the operator training and qualification requirements?

* * * * *

(c) * * *

(1) * * *

(vii) Actions to prevent and correct malfunctions or to prevent conditions that may lead to malfunctions.

* * * * *

■ 54. Section 60.2650 is amended by revising paragraph (d) to read as follows:

§ 60.2650 How do I maintain my operator qualification?

* * * * *

(d) Prevention and correction of malfunctions or conditions that may lead to malfunction.

* * * * *

■ 55. Section 60.2670 is revised to read as follows:

§ 60.2670 What emission limitations must I meet and by when?

(a) You must meet the emission limitations for each CISWI unit, including bypass stack or vent, specified in table 2 of this subpart or tables 6 through 9 of this subpart by the final compliance date under the approved state plan, federal plan, or delegation, as applicable. The emission limitations apply at all times the unit is operating including and not limited to startup, shutdown, or malfunction.

(b) Units that do not use wet scrubbers must maintain opacity to less than or equal to the percent opacity (three 1-hour blocks consisting of ten 6-minute average opacity values) specified in table 2 of this subpart, as applicable.

■ 56. Section 60.2675 is amended by:

■ a. Revising paragraphs (a) introductory text and paragraphs (a)(2), (a)(3), and (a)(4).

■ b. Revising paragraph (b).

■ c. Adding paragraphs (d), (e), (f), and (g) to read as follows:

§ 60.2675 What operating limits must I meet and by when?

(a) If you use a wet scrubber(s) to comply with the emission limitations, you must establish operating limits for up to four operating parameters (as specified in table 3 of this subpart) as described in paragraphs (a)(1) through (4) of this section during the initial performance test.

* * * * *

(2) Minimum pressure drop across the wet particulate matter scrubber, which is calculated as the lowest 1-hour average pressure drop across the wet scrubber measured during the most recent performance test demonstrating compliance with the particulate matter emission limitations; or minimum amperage to the fan for the wet scrubber, which is calculated as the lowest 1-hour average amperage to the wet scrubber measured during the most recent performance test demonstrating compliance with the particulate matter emission limitations.

(3) Minimum scrubber liquid flow rate, which is calculated as the lowest 1-hour average liquid flow rate at the inlet to the wet acid gas or particulate matter scrubber measured during the

most recent performance test demonstrating compliance with all applicable emission limitations.

(4) Minimum scrubber liquor pH, which is calculated as the lowest 1-hour average liquor pH at the inlet to the wet acid gas scrubber measured during the most recent performance test demonstrating compliance with the HCl emission limitation.

* * * * *

(b) You must meet the operating limits established during the initial performance test on the date the initial performance test is required or completed (whichever is earlier). You must conduct an initial performance evaluation of each continuous monitoring system and continuous parameter monitoring system within 60 days of installation of the monitoring system.

* * * * *

(d) If you use an electrostatic precipitator to comply with the emission limitations, you must measure the (secondary) voltage and amperage of the electrostatic precipitator collection plates during the particulate matter performance test. Calculate the average electric power value (secondary voltage × secondary current = secondary electric power) for each test run. The operating limit for the electrostatic precipitator is calculated as the lowest 1-hour average secondary electric power measured during the most recent performance test demonstrating compliance with the particulate matter emission limitations.

(e) If you use activated carbon sorbent injection to comply with the emission limitations, you must measure the sorbent flow rate during the performance testing. The operating limit for the carbon sorbent injection is calculated as the lowest 1-hour average sorbent flow rate measured during the most recent performance test demonstrating compliance with the mercury emission limitations.

(f) If you use selective noncatalytic reduction to comply with the emission limitations, you must measure the charge rate, the secondary chamber temperature (if applicable to your CISWI unit), and the reagent flow rate during the nitrogen oxides performance testing. The operating limits for the selective noncatalytic reduction are calculated as the lowest 1-hour average charge rate, secondary chamber temperature, and reagent flow rate measured during the most recent performance test demonstrating compliance with the nitrogen oxides emission limitations.

(g) If you do not use a wet scrubber, electrostatic precipitator, or fabric filter to comply with the emission limitations, and if you do not determine compliance with your particulate matter emission limitation with a particulate matter continuous emissions monitoring system, you must maintain opacity to less than or equal to ten percent opacity (1-hour block average).

■ 57. Section 60.2680 is revised to read as follows:

§ 60.2680 What if I do not use a wet scrubber, fabric filter, activated carbon injection, selective noncatalytic reduction, or an electrostatic precipitator to comply with the emission limitations?

(a) If you use an air pollution control device other than a wet scrubber, activated carbon injection, selective noncatalytic reduction, fabric filter, or an electrostatic precipitator or limit emissions in some other manner, including mass balances, to comply with the emission limitations under § 60.2670, you must petition the EPA Administrator for specific operating limits to be established during the initial performance test and continuously monitored thereafter. You must not conduct the initial performance test until after the petition has been approved by the Administrator. Your petition must include the five items listed in paragraphs (a)(1) through (5) of this section.

(1) Identification of the specific parameters you propose to use as additional operating limits.

(2) A discussion of the relationship between these parameters and emissions of regulated pollutants, identifying how emissions of regulated pollutants change with changes in these parameters and how limits on these parameters will serve to limit emissions of regulated pollutants.

(3) A discussion of how you will establish the upper and/or lower values for these parameters which will establish the operating limits on these parameters.

(4) A discussion identifying the methods you will use to measure and the instruments you will use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments.

(5) A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.

(b) [Reserved]

■ 58. Section 60.2685 is revised to read as follows:

§ 60.2685 Affirmative Defense for Exceedance of an Emission Limit During Malfunction.

In response to an action to enforce the standards set forth in paragraph § 60.2670 you may assert an affirmative defense to a claim for civil penalties for exceedances of such standards that are caused by malfunction, as defined at § 60.2. Appropriate penalties may be assessed, however, if you fail to meet your burden of proving all of the requirements in the affirmative defense. The affirmative defense shall not be available for claims for injunctive relief.

(a) To establish the affirmative defense in any action to enforce such a limit, you must timely meet the notification requirements in paragraph (b) of this section, and must prove by a preponderance of evidence that:

(1) The excess emissions:

(i) Were caused by a sudden, infrequent, and unavoidable failure of air pollution control and monitoring equipment, process equipment, or a process to operate in a normal or usual manner; and

(ii) Could not have been prevented through careful planning, proper design or better operation and maintenance practices; and

(iii) Did not stem from any activity or event that could have been foreseen and avoided, or planned for; and

(iv) Were not part of a recurring pattern indicative of inadequate design, operation, or maintenance; and

(2) Repairs were made as expeditiously as possible when the applicable emission limitations were being exceeded. Off-shift and overtime labor were used, to the extent practicable to make these repairs; and

(3) The frequency, amount and duration of the excess emissions (including any bypass) were minimized to the maximum extent practicable during periods of such emissions; and

(4) If the excess emissions resulted from a bypass of control equipment or a process, then the bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; and

(5) All possible steps were taken to minimize the impact of the excess emissions on ambient air quality, the environment and human health; and

(6) All emissions and/or parameter monitoring and systems, as well as control systems, were kept in operation if at all possible, consistent with safety and good air pollution control practices;

(7) All of the actions in response to the excess emissions were documented by properly signed, contemporaneous operating logs; and

(8) At all times, the facility was operated in a manner consistent with good practices for minimizing emissions; and

(9) A written root cause analysis has been prepared, the purpose of which is

to determine, correct, and eliminate the primary causes of the malfunction and the excess emissions resulting from the malfunction event at issue. The analysis shall also specify, using best monitoring methods and engineering judgment, the amount of excess emissions that were the result of the malfunction.

(b) *Notification.* The owner or operator of the facility experiencing an exceedance of its emission limit(s) during a malfunction shall notify the Administrator by telephone or facsimile (FAX) transmission as soon as possible, but no later than two business days after the initial occurrence of the malfunction, if it wishes to avail itself of an affirmative defense to civil penalties for that malfunction. The owner or operator seeking to assert an affirmative defense shall also submit a written report to the Administrator within 45 days of the initial occurrence of the exceedance of the standard in § 60.2670 to demonstrate, with all necessary supporting documentation, that it has met the requirements set forth in paragraph (a) of this section. The owner or operator may seek an extension of this deadline for up to 30 additional days by submitting a written request to the Administrator before the expiration of the 45 day period. Until a request for an extension has been approved by the Administrator, the owner or operator is subject to the requirement to submit such report within 45 days of the initial occurrence of the exceedances.

■ 59. Section 60.2690 is amended by revising paragraphs (c) and (g)(1) and (2) and adding paragraphs (h) and (i) to read as follows:

§ 60.2690 How do I conduct the initial and annual performance test?

* * * * *

(c) All performance tests must be conducted using the minimum run duration specified in tables 2 and 6 through 9 of this subpart.

* * * * *

(g) * * *

(1) Measure the concentration of each dioxin/furan tetra- through octa-isomer emitted using EPA Method 23 at 40 CFR part 60, appendix A.

(2) For each dioxin/furan (tetra- through octa-chlorinated) isomer measured in accordance with paragraph (g)(1) of this section, multiply the isomer concentration by its corresponding toxic equivalency factor specified in table 4 of this subpart.

* * * * *

(h) Method 22 at 40 CFR part 60, appendix A–7 must be used to determine compliance with the fugitive ash emission limit in table 2 of this subpart or tables 6 through 9 of this subpart.

(i) If you have an applicable opacity operating limit, you must determine compliance with the opacity limit using Method 9 at 40 CFR part 60, appendix A–4, based on three 1-hour blocks consisting of ten 6-minute average opacity values, unless you are required to install a continuous opacity monitoring system, consistent with § 60.2710 and § 60.2730.

■ 60. Section 60.2695 is revised to read as follows:

§ 60.2695 How are the performance test data used?

You use results of performance tests to demonstrate compliance with the emission limitations in table 2 of this subpart or tables 6 through 9 of this subpart.

■ 61. Section 60.2700 is revised to read as follows:

§ 60.2700 How do I demonstrate initial compliance with the amended emission limitations and establish the operating limits?

You must conduct a performance test, as required under §§ 60.2690 and 60.2670, to determine compliance with the emission limitations in table 2 of this subpart and tables 6 through 9 of this subpart, to establish compliance with any opacity operating limits in § 60.2675, and to establish operating limits using the procedures in § 60.2675 or § 60.2680. The performance test must be conducted using the test methods listed in table 2 of this subpart and tables 6 through 9 of this subpart and the procedures in § 60.2690. The use of the bypass stack during a performance test shall invalidate the performance test. You must conduct a performance evaluation of each continuous monitoring system within 60 days of installation of the monitoring system.

■ 62. Section 60.2705 is revised to read as follows:

§ 60.2705 By what date must I conduct the initial performance test?

(a) The initial performance test must be conducted no later than 180 days after your final compliance date. Your final compliance date is specified in table 1 of this subpart.

(b) If you commence or recommence combusting a solid waste at an existing combustion unit at any commercial or industrial facility and you conducted a test consistent with the provisions of this subpart while combusting the given solid waste within the 6 months preceding the reintroduction of that solid waste in the combustion chamber, you do not need to retest until 6 months from the date you reintroduce that solid waste.

(c) If you commence combusting or recommence combusting a solid waste at an existing combustion unit at any commercial or industrial facility and you have not conducted a performance test consistent with the provisions of this subpart while combusting the given solid waste within the 6 months preceding the reintroduction of that solid waste in the combustion chamber, you must conduct a performance test within 60 days commencing or recommencing solid waste combustion.

■ 63. Section 60.2706 is added to read as follows:

§ 60.2706 By what date must I conduct the initial air pollution control device inspection?

(a) The initial air pollution control device inspection must be conducted within 60 days after installation of the control device and the associated CISWI unit reaches the charge rate at which it will operate, but no later than 180 days after the final compliance date for meeting the amended emission limitations.

(b) Within 10 operating days following an air pollution control device inspection, all necessary repairs must 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 must be completed.

■ 64. Section 60.2710 is revised to read as follows:

§ 60.2710 How do I demonstrate continuous compliance with the amended emission limitations and the operating limits?

(a) Compliance with standards.

(1) The emission standards and operating requirements set forth in this subpart apply at all times.

(2) If you cease combusting solid waste you may opt to remain subject to the provisions of this subpart. Consistent with the definition of CISWI unit, you are subject to the requirements of this subpart at least 6 months following the last date of solid waste combustion. Solid waste combustion is ceased when solid waste is not in the combustion chamber (*i.e.,* the solid waste feed to the combustor has been cut off for a period of time not less than the solid waste residence time).

(3) If you cease combusting solid waste you must be in compliance with any newly applicable standards on the effective date of the waste-to-fuel switch. The effective date of the waste-to-fuel switch is a date selected by you,

that must be at least 6 months from the date that you ceased combusting solid waste, consistent with § 60.2710(a)(2). Your source must remain in compliance with this subpart until the effective date of the waste-to-fuel switch.

(4) If you own or operate an existing commercial or industrial combustion unit that combusted a fuel or non-waste material, and you commence or recommence combustion of solid waste, you are subject to the provisions of this subpart as of the first day you introduce or reintroduce solid waste to the combustion chamber, and this date constitutes the effective date of the fuel-to-waste switch. You must complete all initial compliance demonstrations for any Section 112 standards that are applicable to your facility before you commence or recommence combustion of solid waste. You must provide 30 days prior notice of the effective date of the waste-to-fuel switch. The notification must identify:

(i) The name of the owner or operator of the CISWI unit, the location of the source, the emissions unit(s) that will cease burning solid waste, and the date of the notice;

(ii) The currently applicable subcategory under this subpart, and any 40 CFR part 63 subpart and subcategory that will be applicable after you cease combusting solid waste;

(iii) The fuel(s), non-waste material(s) and solid waste(s) the CISWI unit is currently combusting and has combusted over the past 6 months, and the fuel(s) or non-waste materials the unit will commence combusting;

(iv) The date on which you became subject to the currently applicable emission limits;

(v) The date upon which you will cease combusting solid waste, and the date (if different) that you intend for any new requirements to become applicable (*i.e.,* the effective date of the waste-to-fuel switch), consistent with paragraphs (a)(2) and (3) of this section.

(5) All air pollution control equipment necessary for compliance with any newly applicable emissions limits which apply as a result of the cessation or commencement or recommencement of combusting solid waste must be installed and operational as of the effective date of the waste-to-fuel, or fuel-to-waste switch.

(6) All monitoring systems necessary for compliance with any newly applicable monitoring requirements which apply as a result of the cessation or commencement or recommencement of combusting solid waste must be installed and operational as of the effective date of the waste-to-fuel, or fuel-to-waste switch. All calibration and drift checks must be performed as of the effective date of the waste-to-fuel, or fuel-to-waste switch. Relative accuracy tests must be performed as of the performance test deadline for PM CEMS. Relative accuracy testing for other CEMS need not be repeated if that testing was previously performed consistent with section 112 monitoring requirements or monitoring requirements under this subpart.

(b) You must conduct an annual performance test for the pollutants listed in table 2 of this subpart or tables 6 through 9 of this subpart and opacity for each CISWI unit as required under § 60.2690. The annual performance test must be conducted using the test methods listed in table 2 of this subpart or tables 6 through 9 of this subpart and the procedures in § 60.2690. Annual performance tests are not required if you use continuous emission monitoring systems or continuous opacity monitoring systems to determine compliance.

(c) You must continuously monitor the operating parameters specified in § 60.2675 or established under § 60.2680 and as specified in § 60.2735. Operation above the established maximum or below the established minimum operating limits constitutes a deviation from the established operating limits. Three-hour block average values are used to determine compliance (except for baghouse leak detection system alarms) unless a different averaging period is established under § 60.2680. Operating limits are confirmed or reestablished during performance tests.

(d) You must burn only the same types of waste used to establish operating limits during the performance test.

(e) For energy recovery units, incinerators, and small remote units, you must perform annual visual emissions test for ash handling.

(f) For energy recovery units, you must conduct an annual performance test for the pollutants listed in table 7 of this subpart.

(g) For facilities using a continuous emission monitoring system to demonstrate compliance with the carbon monoxide emission limit, compliance with the carbon monoxide emission limit may be demonstrated by using the continuous emission monitoring system according to the following requirements:

(1) You must measure emissions according to § 60.13 to calculate 1-hour arithmetic averages, corrected to 7 percent oxygen. You must demonstrate initial compliance with the carbon monoxide emissions limit using a 30-day rolling average of the 1-hour arithmetic average emission concentrations, calculated using Equation 19–19 in section 12.4.1 of EPA Reference Method 19 at 40 CFR part 60, appendix A–7.

(2) Operate the carbon monoxide continuous emissions monitoring system in accordance with the applicable requirements of performance specification 4A of appendix B and the quality assurance procedures of appendix F of this part.

(h) For energy recovery units with design capacities greater than 250 MMBtu/hr and waste-burning kilns, demonstrate continuous compliance with the particulate matter emissions limit using a particulate matter continuous emissions monitoring system according to the procedures in § 60.2730(n).

(i) For energy recovery units with design capacities greater than or equal to 10 MMBTU/hour, if you have an opacity operating limit, you must install, operate, certify and maintain a continuous opacity monitoring system (COMS) according to the procedures in § 60.2730.

(j) For waste-burning kilns, you must conduct an annual performance test for the pollutants (except mercury and particulate matter, and hydrogen chloride if no acid gas wet scrubber is used) listed in table 8 of this subpart. If your waste-burning kiln is not equipped with a wet scrubber, you must determine compliance with the hydrogen chloride emission limit using a continuous emission monitoring system as specified in § 60.2730. You must determine compliance with the mercury emissions limit using a mercury continuous emission monitoring system according to the following requirements:

(1) Operate a continuous emission monitoring system in accordance with performance specification 12A at 40 CFR part 60, appendix B or a sorbent trap based integrated monitor in accordance with performance specification 12B at 40 CFR part 60, appendix B. The duration of the performance test must be a calendar month. For each calendar month in which the waste-burning kiln operates, hourly mercury concentration data and stack gas volumetric flow rate data must be obtained.

(2) Owners or operators using a mercury continuous emissions monitoring systems must install, operate, calibrate and maintain an instrument for continuously measuring and recording the mercury mass emissions rate to the atmosphere according to the requirements of performance specifications 6 and 12A at

40 CFR part 60, appendix B and quality assurance procedure 5 at 40 CFR part 60, appendix F.

(3) The owner or operator of a waste-burning kiln must demonstrate initial compliance by operating a mercury continuous emission monitor while the raw mill of the in-line kiln/raw mill is operating under normal conditions and while the raw mill of the in-line kiln/raw mill is not operating.

(k) If you use an air pollution control device to meet the emission limitations in this subpart, you must conduct an initial and annual inspection of the air pollution control device. The inspection must include, at a minimum, the following:

(1) Inspect air pollution control device(s) for proper operation.

(2) Develop a site-specific monitoring plan according to the requirements in paragraph (l) of this section. This requirement also applies to you if you petition the EPA Administrator for alternative monitoring parameters under § 60.13(i).

(l) For each continuous monitoring system required in this section, you must develop and submit to the EPA Administrator for approval a site-specific monitoring plan according to the requirements of this paragraph (l) that addresses paragraphs (l)(1)(i) through (vi) of this section.

(1) You must submit this site-specific monitoring plan at least 60 days before your initial performance evaluation of your continuous monitoring system.

(i) Installation of the continuous monitoring system sampling probe or other interface at a measurement location relative to each affected process unit such that the measurement is representative of control of the exhaust emissions (*e.g.,* on or downstream of the last control device).

(ii) Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer and the data collection and reduction systems.

(iii) Performance evaluation procedures and acceptance criteria (*e.g.,* calibrations).

(iv) Ongoing operation and maintenance procedures in accordance with the general requirements of § 60.11(d).

(v) Ongoing data quality assurance procedures in accordance with the general requirements of § 60.13.

(vi) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of § 60.7(b),(c), (c)(1), (c)(4), (d), (e), (f) and (g).

(2) You must conduct a performance evaluation of each continuous monitoring system in accordance with your site-specific monitoring plan.

(3) You must operate and maintain the continuous monitoring system in continuous operation according to the site-specific monitoring plan.

(m) If you have an operating limit that requires the use of a flow monitoring system, you must meet the requirements in paragraphs (l) and (m)(1) through (4) of this section.

(1) Install the flow sensor and other necessary equipment in a position that provides a representative flow.

(2) Use a flow sensor with a measurement sensitivity of no greater than 2 percent of the expected process flow rate.

(3) Minimize the effects of swirling flow or abnormal velocity distributions due to upstream and downstream disturbances.

(4) Conduct a flow monitoring system performance evaluation in accordance with your monitoring plan at the time of each performance test but no less frequently than annually.

(n) If you have an operating limit that requires the use of a pressure monitoring system, you must meet the requirements in paragraphs (l) and (n)(1) through (6) of this section.

(1) Install the pressure sensor(s) in a position that provides a representative measurement of the pressure (*e.g.,* PM scrubber pressure drop).

(2) Minimize or eliminate pulsating pressure, vibration, and internal and external corrosion.

(3) Use a pressure sensor with a minimum tolerance of 1.27 centimeters of water or a minimum tolerance of 1 percent of the pressure monitoring system operating range, whichever is less.

(4) Perform checks at least once each process operating day to ensure pressure measurements are not obstructed (*e.g.,* check for pressure tap pluggage daily).

(5) Conduct a performance evaluation of the pressure monitoring system in accordance with your monitoring plan at the time of each performance test but no less frequently than annually.

(6) If at any time the measured pressure exceeds the manufacturer's specified maximum operating pressure range, conduct a performance evaluation of the pressure monitoring system in accordance with your monitoring plan and confirm that the pressure monitoring system continues to meet the performance requirements in your monitoring plan. Alternatively, install and verify the operation of a new pressure sensor.

(o) If you have an operating limit that requires the use of a pressure monitoring system, you must meet the requirements in paragraphs (l) and (n)(1) through (6) of this section.

(1) Install the pressure sensor(s) in a position that provides a representative measurement of the pressure (*e.g.,* PM scrubber pressure drop).

(2) Minimize or eliminate pulsating pressure, vibration, and internal and external corrosion.

(3) Use a pressure sensor with a minimum tolerance of 1.27 centimeters of water or a minimum tolerance of 1 percent of the pressure monitoring system operating range, whichever is less.

(4) Perform checks at least once each process operating day to ensure pressure measurements are not obstructed (*e.g.,* check for pressure tap pluggage daily).

(5) Conduct a performance evaluation of the pressure monitoring system in accordance with your monitoring plan at the time of each performance test but no less frequently than annually.

(6) If at any time the measured pressure exceeds the manufacturer's specified maximum operating pressure range, conduct a performance evaluation of the pressure monitoring system in accordance with your monitoring plan and confirm that the pressure monitoring system continues to meet the performance requirements in your monitoring plan. Alternatively, install and verify the operation of a new pressure sensor.

(p) If you have an operating limit that requires a secondary electric power monitoring system for an electrostatic precipitator, you must meet the requirements in paragraphs (l) and (p)(1) through (2) of this section.

(1) Install sensors to measure (secondary) voltage and current to the precipitator collection plates.

(2) Conduct a performance evaluation of the electric power monitoring system in accordance with your monitoring plan at the time of each performance test but no less frequently than annually.

(q) If you have an operating limit that requires the use of a monitoring system to measure sorbent injection rate (*e.g.,* weigh belt, weigh hopper, or hopper flow measurement device), you must meet the requirements in paragraphs (l) and (q)(1) through (3) of this section.

(1) Install the system in a position(s) that provides a representative measurement of the total sorbent injection rate.

(2) Conduct a performance evaluation of the sorbent injection rate monitoring system in accordance with your monitoring plan at the time of each performance test but no less frequently than annually.

(r) If you elect to use a fabric filter bag leak detection system to comply with the requirements of this subpart, you must install, calibrate, maintain, and continuously operate a bag leak detection system as specified in paragraphs (l) and (r)(1) through (5) of this section.

(1) Install a bag leak detection sensor(s) in a position(s) that will be representative of the relative or absolute particulate matter loadings for each exhaust stack, roof vent, or compartment *e.g.*, for a positive pressure fabric filter) of the fabric filter.

(2) Use a bag leak detection system certified by the manufacturer to be capable of detecting particulate matter emissions at concentrations of 10 milligrams per actual cubic meter or less.

(3) Conduct a performance evaluation of the bag leak detection system in accordance with your monitoring plan and consistent with the guidance provided in EPA–454/R–98–015 (incorporated by reference, *see* § 60.17).

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

(5) Use a bag leak detection system equipped with a system that will sound an alarm when an increase in relative particulate matter emissions over a preset level is detected. The alarm must be located where it is observed readily by plant operating personnel.

(s) For facilities using a continuous emission monitoring system to demonstrate compliance with the sulfur dioxide emission limit, compliance with the sulfur dioxide emission limit may be demonstrated by using the continuous emission monitoring system specified in § 60.2730 to measure sulfur dioxide and calculating a 30-day rolling average emission concentration using Equation 19–19 in section 12.4.1 of EPA Reference Method 19 at 40 CFR part 60, appendix A–7. The sulfur dioxide continuous emission monitoring system must be operated according to performance specification 2 in appendix B of this part and must follow the procedures and methods specified in this paragraph (s). For sources that have actual inlet emissions less than 100 parts per million dry volume, the relative accuracy criterion for inlet sulfur dioxide continuous emission monitoring systems should be no greater than 20 percent of the mean value of the reference method test data in terms of the units of the emission standard, or 5 parts per million dry volume absolute value of the mean difference between the reference method and the continuous emission monitoring systems, whichever is greater.

(1) During each relative accuracy test run of the continuous emission monitoring system required by performance specification 2 in appendix B of this part, collect sulfur dioxide and oxygen (or carbon dioxide) data concurrently (or within a 30- to 60-minute period) with both the continuous emission monitors and the test methods specified in paragraphs (s)(1)(i) and (s)(1)(ii) of this section.

(i) For sulfur dioxide, EPA Reference Method 6 or 6C, or as an alternative ANSI/ASME PTC 19.10–1981 (incorporated by reference, see § 60.17) must be used.

(ii) For oxygen (or carbon dioxide), EPA Reference Method 3A or 3B, or as an alternative ANSI/ASME PTC 19.10–1981 (incorporated by reference, see § 60.17), as applicable, must be used.

(2) The span value of the continuous emissions monitoring system at the inlet to the sulfur dioxide control device must be 125 percent of the maximum estimated hourly potential sulfur dioxide emissions of the unit subject to this rule. The span value of the continuous emission monitoring system at the outlet of the sulfur dioxide control device must be 50 percent of the maximum estimated hourly potential sulfur dioxide emissions of the unit subject to this rule.

(3) Conduct accuracy determinations quarterly and calibration drift tests daily in accordance with procedure 1 in appendix F of this part.

(t) For facilities using a continuous emission monitoring system to demonstrate continuous compliance with the nitrogen oxides emission limit, compliance with the nitrogen oxides emission limit may be demonstrated by using the continuous emission monitoring system specified in § 60.2730 to measure nitrogen oxides and calculating a 30-day rolling average emission concentration using Equation 19–19 in section 12.4.1 of EPA Reference Method 19 at 40 CFR part 60, appendix A–7. The nitrogen oxides continuous emission monitoring system must be operated according to performance specification 2 in appendix B of this part and must follow the procedures and methods specified in paragraphs (t)(1) through (t)(5) of this section.

(1) During each relative accuracy test run of the continuous emission monitoring system required by performance specification 2 of appendix B of this part, collect nitrogen oxides and oxygen (or carbon dioxide) data concurrently (or within a 30- to 60-minute period) with both the continuous emission monitoring systems and the test methods specified in paragraphs (t)(1)(i) and (t)(1)(ii) of this section.

(i) For nitrogen oxides, EPA Reference Method 7 or 7E at 40 CFR part 60, appendix A–4 must be used.

(ii) For oxygen (or carbon dioxide), EPA Reference Method 3A or 3B, or as an alternative ANSI/ASME PTC 19.10–1981 (incorporated by reference, see § 60.17), as applicable, must be used.

(2) The span value of the continuous emission monitoring system must be 125 percent of the maximum estimated hourly potential nitrogen oxide emissions of unit.

(3) Conduct accuracy determinations quarterly and calibration drift tests daily in accordance with procedure 1 in appendix F of this part.

(4) The owner or operator of an affected facility may request that compliance with the nitrogen oxides emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. If carbon dioxide is selected for use in diluent corrections, the relationship between oxygen and carbon dioxide levels must be established during the initial performance test according to the procedures and methods specified in paragraphs (t)(4)(i) through (t)(4)(iv) of this section. This relationship may be reestablished during performance compliance tests.

(i) The fuel factor equation in Method 3B must be used to determine the relationship between oxygen and carbon dioxide at a sampling location. Method 3A, 3B, or as an alternative ANSI/ASME PTC 19.10–1981 (incorporated by reference, see § 60.17), as applicable, must be used to determine the oxygen concentration at the same location as the carbon dioxide monitor.

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

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

(iv) A minimum of 3 runs must be performed.

(u) For facilities using a continuous emissions monitoring system to demonstrate continuous compliance with any of the emission limits of this subpart, you must complete the following:

(1) Demonstrate compliance with the appropriate emission limit(s) using a 30-day rolling average, calculated using Equation 19–19 in section 12.4.1 of EPA Reference Method 19 at 40 CFR part 60, appendix A–7.

(2) Operate all continuous emissions monitoring systems in accordance with the applicable procedures under appendices B and F of this part.

(v) Use of the bypass stack at any time is an emissions standards deviation for particulate matter, HCl, Pb, Cd, Hg, NO_X, SO_2, and dioxin/furans.

(w) For energy recovery units with a heat input capacity of 100 MMBtu per hour or greater that do not use a carbon monoxide continuous emission monitoring system, you must operate and maintain the continuous oxygen monitoring system specified in § 60.2730 according to the procedures in paragraphs (w)(1) through (4) of this section by the compliance date specified in table 1 of this subpart. The oxygen level shall be monitored at the outlet of the energy recovery unit.

(1) Each monitor must be operated and maintained according to the applicable procedures under performance specification 3 of appendix B of this part and according to the site-specific monitoring plan developed according to paragraph (1) of this section.

(2) During each relative accuracy test run of the continuous emission monitoring system required by performance specification 3 of appendix B of this part, oxygen data must be collected concurrently (or within a 30- to 60-minute period) by both the continuous emission monitor and the test methods specified in paragraphs (w)(3) of this section.

(3) For oxygen, EPA Reference Method 3A or 3B, or as an alternative ANSI/ASME PTC 19.10–1981 (incorporated by reference, see § 60.17), as applicable, must be used.

(4) You must calculate and record a 30-day rolling average oxygen concentration using Equation 19–19 in section 12.4.1 of EPA Reference Method 19 of Appendix A–7 of this part.

■ 65. Section 60.2715 is revised to read as follows:

§ 60.2715 By what date must I conduct the annual performance test?

You must conduct annual performance tests between 11 and 13 months of the previous performance test.

■ 66. Section 60.2716 is added to read as follows:

§ 60.2716 By what date must I conduct the annual air pollution control device inspection?

On an annual basis (no more than 12 months following the previous annual air pollution control device inspection), you must complete the air pollution control device inspection as described in § 60.2706.

■ 67. Section 60.2720 is revised to read as follows:

§ 60.2720 May I conduct performance testing less often?

(a) You must conduct annual performance tests according to the schedule specified in § 60.2715, with the following exceptions:

(1) You may conduct a repeat performance test at any time to establish new values for the operating limits to apply from that point forward, as specified in § 60.2725. The Administrator may request a repeat performance test at any time.

(2) You must repeat the performance test within 60 days of a process change, as defined in § 60.2875.

(3) If the initial or any subsequent performance test for any pollutant in table 2 or tables 6 through 9 of this subpart, as applicable, demonstrates that the emission level for the pollutant is no greater than the emission level specified in paragraph (a)(3)(i) or (a)(3)(ii) of this section, as applicable, and you are not required to conduct a performance test for the pollutant in response to a request by the Administrator in paragraph (a)(1) of this section or a process change in paragraph (a)(2) of this section, you may elect to skip conducting a performance test for the pollutant for the next 2 years. You must conduct a performance test for the pollutant during the third year and no more than 37 months following the previous performance test for the pollutant. For cadmium and lead, both cadmium and lead must be emitted at emission levels no greater than their respective emission levels specified in paragraph (a)(3)(i) of this section for you to qualify for less frequent testing under this paragraph.

(i) For particulate matter, hydrogen chloride, mercury, carbon monoxide, nitrogen oxides, sulfur dioxide, cadmium, lead, and dioxins/furans, the emission level equal to 75 percent of the applicable emission limit in table 2 or tables 6 through 9 of this subpart, as applicable, to this subpart.

(ii) For fugitive emissions, visible emissions (of combustion ash from the ash conveying system) for 2 percent of the time during each of the three 1-hour observations periods.

(4) If you are conducting less frequent testing for a pollutant as provided in paragraph (a)(3) of this section and a subsequent performance test for the pollutant indicates that your CISWI unit does not meet the emission level specified in paragraph (a)(3)(i) or (a)(3)(ii) of this section, as applicable, you must conduct annual performance tests for the pollutant according to the schedule specified in paragraph (a) of this section until you qualify for less frequent testing for the pollutant as specified in paragraph (a)(3) of this section.

(b) [Reserved]

■ 68. Section 60.2730 is amended by revising paragraphs (b)(6) and (c) and adding paragraphs (d) through (q) to read as follows:

§ 60.2730 What monitoring equipment must I install and what parameters must I monitor?

* * * * *

(b) * * *

(6) The bag leak detection system must be equipped with an alarm system that will alert automatically an operator when an increase in relative particulate matter emission over a preset level is detected. The alarm must be located where it is observed easily by plant operating personnel.

* * * * *

(c) If you are using something other than a wet scrubber, activated carbon, selective non-catalytic reduction, or an electrostatic precipitator to comply with the emission limitations under § 60.2670, you must install, calibrate (to the manufacturers' specifications), maintain and operate the equipment necessary to monitor compliance with the site-specific operating limits established using the procedures in § 60.2680.

(d) If you use activated carbon injection to comply with the emission limitations in this subpart, you must measure the minimum sorbent flow rate once per hour.

(e) If you use selective noncatalytic reduction to comply with the emission limitations, you must complete the following:

(1) Following the date on which the initial performance test is completed or is required to be completed under § 60.2690, whichever date comes first, ensure that the affected facility does not operate above the maximum charge rate, or below the minimum secondary chamber temperature (if applicable to your CISWI unit) or the minimum reagent flow rate measured as 3-hour block averages at all times.

(2) Operation of the affected facility above the maximum charge rate, below the minimum secondary chamber temperature and below the minimum reagent flow rate simultaneously constitute a violation of the nitrogen oxides emissions limit.

(f) If you use an electrostatic precipitator to comply with the emission limits of this subpart, you must monitor the secondary power to the electrostatic precipitator collection plates and maintain the 3-hour block averages at or above the operating limits established during the mercury or particulate matter performance test.

(g) For waste-burning kilns not equipped with a wet scrubber, in place of hydrogen chloride testing with EPA Method 321 at 40 CFR part 63, appendix A, an owner or operator must install, calibrate, maintain, and operate a continuous emission monitoring system for monitoring hydrogen chloride emissions discharged to the atmosphere and record the output of the system. To demonstrate continuous compliance with the hydrogen chloride emissions limit for units other than waste-burning kilns not equipped with a wet scrubber, a facility may substitute use of a hydrogen chloride continuous emissions monitoring system for conducting the hydrogen chloride annual performance test, monitoring the minimum hydrogen chloride sorbent flow rate and monitoring the minimum scrubber liquor pH.

(h) To demonstrate continuous compliance with the particulate matter emissions limit, a facility may substitute use of a particulate matter continuous emissions monitoring system for conducting the particulate matter annual performance test and monitoring the minimum pressure drop across the wet scrubber, if applicable.

(i) To demonstrate continuous compliance with the dioxin/furan emissions limit, a facility may substitute use of a continuous automated sampling system for the dioxin/furan annual performance test. You must record the output of the system and analyze the sample according to EPA Method 23 at 40 CFR part 60, appendix A–7. You may propose alternative continuous monitoring consistent with the requirements in § 60.13(i). The owner or operator who elects to continuously sample dioxin/furan emissions instead of sampling and testing using EPA Method 23 at 40 CFR part 60, appendix A–7 must install, calibrate, maintain and operate a continuous automated sampling system and must comply with the requirements specified in § 60.58b(p) and (q).

(j) To demonstrate continuous compliance with the mercury emissions limit, a facility may substitute use of a continuous automated sampling system for the mercury annual performance test. You must record the output of the system and analyze the sample at set intervals using any suitable determinative technique that can meet performance specification 12B criteria. This option to use a continuous automated sampling system takes effect on the date a final performance specification applicable to mercury from monitors is published in the **Federal Register**. The owner or operator who elects to continuously sample mercury emissions instead of sampling and testing using EPA Method 29 or 30B at 40 CFR part 60, appendix A–8, ASTM D6784–02 (Reapproved 2008) (incorporated by reference, see § 60.17), or an approved alternative method for measuring mercury emissions, must install, calibrate, maintain and operate a continuous automated sampling system and must comply with the requirements specified in § 60.58b(p) and (q).

(k) To demonstrate continuous compliance with the nitrogen oxides emissions limit, a facility may substitute use of a continuous emissions monitoring system for the nitrogen oxides annual performance test to demonstrate compliance with the nitrogen oxides emissions limits.

(1) Install, calibrate, maintain and operate a continuous emission monitoring system for measuring nitrogen oxides emissions discharged to the atmosphere and record the output of the system. The requirements under performance specification 2 of appendix B of this part, the quality assurance procedure 1 of appendix F of this part and the procedures under § 60.13 must be followed for installation, evaluation and operation of the continuous emission monitoring system.

(2) Following the date that the initial performance test for nitrogen oxides is completed or is required to be completed under § 60.2690, compliance with the emission limit for nitrogen oxides required under § 60.52b(d) must be determined based on the 30-day rolling average of the hourly emission concentrations using continuous emission monitoring system outlet data. The 1-hour arithmetic averages must be expressed in parts per million by volume (dry basis) and used to calculate the 30-day rolling average concentrations. The 1-hour arithmetic averages must be calculated using the data points required under § 60.13(e)(2).

(l) To demonstrate continuous compliance with the sulfur dioxide emissions limit, a facility may substitute use of a continuous automated sampling system for the sulfur dioxide annual performance test to demonstrate compliance with the sulfur dioxide emissions limits.

(1) Install, calibrate, maintain and operate a continuous emission monitoring system for measuring sulfur dioxide emissions discharged to the atmosphere and record the output of the system. The requirements under performance specification 2 of appendix B of this part, the quality assurance requirements of procedure 1 of appendix F of this part and the procedures under § 60.13 must be followed for installation, evaluation and operation of the continuous emission monitoring system.

(2) Following the date that the initial performance test for sulfur dioxide is completed or is required to be completed under § 60.2690, compliance with the sulfur dioxide emission limit may be determined based on the 30-day rolling average of the hourly arithmetic average emission concentrations using continuous emission monitoring system outlet data. The 1-hour arithmetic averages must be expressed in parts per million corrected to 7 percent oxygen (dry basis) and used to calculate the 30-day rolling average emission concentrations. The 1-hour arithmetic averages must be calculated using the data points required under § 60.13(e)(2).

(m) For energy recovery units that do not use a wet scrubber, fabric filter with bag leak detection system, or particulate matter continuous emission monitoring system, you must install, operate, certify and maintain a continuous opacity monitoring system according to the procedures in paragraphs (m)(1) through (5) of this section by the compliance date specified in § 60.2670. Energy recovery units that use a particulate matter continuous emissions monitoring system to demonstrate initial and continuing compliance according to the procedures in § 60.2730(n) are not required to install a continuous opacity monitoring system and must perform the annual performance tests for opacity consistent with § 60.2710(f).

(1) Install, operate and maintain each continuous opacity monitoring system according to performance specification 1 at 40 CFR part 60, appendix B.

(2) Conduct a performance evaluation of each continuous opacity monitoring system according to the requirements in § 60.13 and according to performance specification 1 at 40 CFR part 60, appendix B.

(3) As specified in § 60.13(e)(1), each continuous opacity monitoring system must complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

(4) Reduce the continuous opacity monitoring system data as specified in § 60.13(h)(1).

(5) Determine and record all the 6-minute averages (and 1-hour block averages as applicable) collected.

(n) For energy recovery units with design capacities greater than 250 MMBtu/hr and waste-burning kilns, in place of particulate matter testing with EPA Method 5 at 40 CFR part 60, appendix A–3, an owner or operator must install, calibrate, maintain and operate a continuous emission monitoring system for monitoring particulate matter emissions discharged to the atmosphere and record the output of the system. The owner or operator of an affected facility who continuously monitors particulate matter emissions instead of conducting performance testing using EPA Method 5 at 40 CFR part 60, appendix A–3 must install, calibrate, maintain and operate a continuous emission monitoring system and must comply with the requirements specified in paragraphs (n)(1) through (n)(14) of this section.

(1) Notify the Administrator 1 month before starting use of the system.

(2) Notify the Administrator 1 month before stopping use of the system.

(3) The monitor must be installed, evaluated and operated in accordance with the requirements of performance specification 11 of appendix B of this part and quality assurance requirements of procedure 2 of appendix F of this part and § 60.13.

(4) The initial performance evaluation must be completed no later than 180 days after the final compliance date for meeting the amended emission limitations, as specified under § 60.2690 or within 180 days of notification to the Administrator of use of the continuous monitoring system if the owner or operator was previously determining compliance by Method 5 at 40 CFR part 60, appendix A–3 performance tests, whichever is later.

(5) The owner or operator of an affected facility may request that compliance with the particulate matter emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. The relationship between oxygen and carbon dioxide levels for the affected facility must be established according to the procedures and methods specified in § 60.2710(s)(5)(i) through (s)(5)(iv).

(6) The owner or operator of an affected facility must conduct an initial performance test for particulate matter emissions as required under § 60.2690. Compliance with the particulate matter emission limit must be determined by using the continuous emission monitoring system specified in paragraph (n) of this section to measure particulate matter and calculating a 30-day rolling average emission concentration using Equation 19–19 in section 12.4.1 of EPA Reference Method 19 at 40 CFR part 60, appendix A–7 of this part.

(7) Compliance with the particulate matter emission limit must be determined based on the 30-day rolling average calculated using Equation 19–19 in section 12.4.1 of EPA Reference Method 19 at 40 CFR part 60, Appendix A–7 of the part from the 1-hour arithmetic average of the continuous emission monitoring system outlet data.

(8) At a minimum, valid continuous monitoring system hourly averages must be obtained as specified § 60.2735.

(9) The 1-hour arithmetic averages required under paragraph (n)(7) of this section must be expressed in milligrams per dry standard cubic meter corrected to 7 percent oxygen (or carbon dioxide) (dry basis) and must be used to calculate the 30-day rolling average emission concentrations. The 1-hour arithmetic averages must be calculated using the data points required under § 60.13(e)(2).

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

(11) The continuous emission monitoring system must be operated according to performance specification 11 in appendix B of this part.

(12) During each relative accuracy test run of the continuous emission monitoring system required by performance specification 11 in appendix B of this part, particulate matter and oxygen (or carbon dioxide) data must be collected concurrently (or within a 30-to 60-minute period) by both the continuous emission monitors and the following test methods.

(i) For particulate matter, EPA Reference Method 5 at 40 CFR part 60, appendix A–3 must be used.

(ii) For oxygen (or carbon dioxide), EPA Reference Method 3A or 3B at 40 CFR part 60, appendix A–2, as applicable, must be used.

(13) Quarterly accuracy determinations and daily calibration drift tests must be performed in accordance with procedure 2 in appendix F of this part.

(14) When particulate matter emissions data are missing because of continuous emission monitoring system breakdowns, repairs, calibration checks and zero and span adjustments, you must collect emissions data by using other monitoring systems as approved by the Administrator or EPA Reference Method 19 at 40 CFR part 60, appendix A–7 to provide, as necessary, valid emissions data for a minimum of 85 percent of the hours per day, 90 percent of the hours per calendar quarter, and 95 percent of the hours per calendar year that the affected facility is operated and combusting waste.

(o) To demonstrate continuous compliance with the carbon monoxide emissions limit, a facility may substitute use of a continuous automated sampling system for the carbon monoxide annual performance test to demonstrate compliance with the carbon monoxide emissions limits.

(1) Install, calibrate, maintain, and operate a continuous emission monitoring system for measuring carbon monoxide emissions discharged to the atmosphere and record the output of the system. The requirements under performance specification 4B of appendix B of this part, the quality assurance procedure 1 of appendix F of this part and the procedures under § 60.13 must be followed for installation, evaluation, and operation of the continuous emission monitoring system.

(2) Following the date that the initial performance test for carbon monoxide is completed or is required to be completed under § 60.2690, compliance with the carbon monoxide emission limit may be determined based on the 30-day rolling average of the hourly arithmetic average emission concentrations using continuous emission monitoring system outlet data. The 1-hour arithmetic averages must be expressed in parts per million corrected to 7 percent oxygen (dry basis) and used to calculate the 30-day rolling average emission concentrations. The 1-hour arithmetic averages must be calculated using the data points required under § 60.13(e)(2).

(p) The owner/operator of an affected source with a bypass stack shall install, calibrate (to manufacturers' specifications), maintain and operate a device or method for measuring the use of the bypass stack including date, time and duration.

(q) For energy recovery units with a heat input capacity of 100 MMBtu per hour or greater that do not use a carbon monoxide continuous emission monitoring system, you must install, operate and maintain the continuous oxygen monitoring system according to the procedures in paragraphs (q)(1) through (4) of this section by the compliance date specified in table 1 of this subpart. The oxygen level shall be monitored at the outlet of the energy recovery unit.

(1) Each monitor must be installed, operated, and maintained according to the applicable procedures under performance specification 3 of appendix B of this part, the quality assurance procedure 1 of appendix F of this part, the procedures under § 60.13 and according to the site-specific monitoring plan developed according to paragraph (l) of this section.

(2) During each relative accuracy test run of the continuous emission monitoring system required by performance specification 3 of appendix B of this part, oxygen data must be collected concurrently (or within a 30- to 60-minute period) by both the continuous emission monitor and the test methods specified in paragraphs (w)(3) of this section.

(3) For oxygen, EPA Reference Method 3A or 3B, or as an alternative ANSI/ASME PTC 19.10–1981 (incorporated by reference, *see* § 60.17), as applicable, must be used.

(4) You must calculate and record a 30-day rolling average oxygen concentration using Equation 19–19 in section 12.4.1 of EPA Reference Method 19 of Appendix A–7 of this part. The 1-hour arithmetic averages must be calculated using the data points required under § 60.13(e)(2).

■ 69. Section 60.2735 is revised to read as follows:

§ 60.2735 Is there a minimum amount of monitoring data I must obtain?

For each continuous monitoring system required or optionally allowed under § 60.2730, you must monitor and collect data according to this section:

(a) You must operate the monitoring system and collect data at all required intervals at all times compliance is required except for periods of monitoring system malfunctions or out-of-control periods, repairs associated with monitoring system malfunctions or out-of-control periods (as specified in § 60.2770(o) of this part), and required monitoring system quality assurance or quality control activities including, as applicable, calibration checks and required zero and span adjustments. A monitoring system malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring system failures that are caused in part by poor maintenance or careless operation are not malfunctions. You are required to effect monitoring system repairs in response to monitoring system malfunctions or out-of-control periods and to return the monitoring system to operation as expeditiously as practicable.

(b) You may not use data recorded during the monitoring system malfunctions, repairs associated with monitoring system malfunctions or out-of control periods, or required monitoring system quality assurance or control activities in calculations used to report emissions or operating levels. You must use all the data collected during all other periods in assessing the operation of the control device and associated control system.

(c) Except for periods of monitoring system malfunctions or out-of-control periods, repairs associated with monitoring system malfunctions or out-of-control periods, and required monitoring system quality assurance or quality control activities including, as applicable, calibration checks and required zero and span adjustments, failure to collect required data is a deviation of the monitoring requirements.

■ 70. Section 60.2740 is amended by:
■ a. Revising the introductory text.
■ b. Revising paragraphs (b)(5) and (e).
■ c. Removing and reserving paragraphs (c) and (d).
■ d. Adding paragraphs (n) through (v).

§ 60.2740 What records must I keep?

You must maintain the items (as applicable) as specified in paragraphs (a), (b), and (e) through (v) of this section for a period of at least 5 years:

* * * * *

(b) * * *

(5) For affected CISWI units that establish operating limits for controls other than wet scrubbers under § 60.2675(d) through (f) or § 60.2680, you must maintain data collected for all operating parameters used to determine compliance with the operating limits.

* * * * *

(c) [Reserved]

(d) [Reserved]

(e) Identification of calendar dates and times for which data show a deviation from the operating limits in table 3 of this subpart or a deviation from other operating limits established under § 60.2675(d) through (f) or § 60.2680 with a description of the deviations, reasons for such deviations, and a description of corrective actions taken.

* * * * *

(n) Maintain records of the annual air pollution control device inspections that are required for each CISWI unit subject to the emissions limits in table 2 of this subpart or tables 6 through 9 of this subpart, any required maintenance and any repairs not completed within 10 days of an inspection or the timeframe established by the state regulatory agency.

(o) For continuously monitored pollutants or parameters, you must document and keep a record of the following parameters measured using continuous monitoring systems.

(1) All 6-minute average levels of opacity.

(2) All 1-hour average concentrations of sulfur dioxide emissions.

(3) All 1-hour average concentrations of nitrogen oxides emissions.

(4) All 1-hour average concentrations of carbon monoxide emissions.

(5) All 1-hour average concentrations of particulate matter emissions.

(6) All 1-hour average concentrations of mercury emissions.

(7) All 1-hour average concentrations of hydrogen chloride emissions.

(p) Records indicating use of the bypass stack, including dates, times and durations.

(q) If you choose to stack test less frequently than annually, consistent with § 60.2720(a) through (c), you must keep annual records that document that your emissions in the previous stack test(s) were less than 75 percent of the applicable emission limit and document that there was no change in source operations including fuel composition and operation of air pollution control equipment that would cause emissions of the relevant pollutant to increase within the past year.

(r) Records of the occurrence and duration of each malfunction of operation (*i.e.*, process equipment) or the air pollution control and monitoring equipment.

(s) Records of all required maintenance performed on the air pollution control and monitoring equipment.

(t) Records of actions taken during periods of malfunction to minimize emissions in accordance with § 60.11(d), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

(u) For operating units that burn materials other than traditional fuels as defined in § 241.2, a description of each material burned, and a record which documents how each material that is not a traditional fuel meets each of the legitimacy criteria in § 241.3(d). If you combust a material that has been processed from a discarded non-hazardous secondary material pursuant to § 241.3(b)(4), you must keep records as to how the operations that produced the material satisfy the definition of processing in § 241.2. If the material received a non-waste determination pursuant to the petition process submitted under § 241.3(c), you must keep a copy of the non-waste determination granted by EPA.

(v) For operating units that burn tires, a certification that the shipments of tires that are non-waste per 40 CFR 241.3(b)(2)(i), are part of an established tire collection program, consistent with the definition of that term in § 241.2. The certification must document that the tires were not discarded and are handled as valuable commodities in accordance with § 241.3(b)(2)(i), from the point of removal from the automobile through arrival at the combustion facility. The certification must identify the entity the tires were received from (for example, the name of the state or private collection program), the quantity, volume, or weight of tires received by you, and the dates received. The certification must be signed by the owner or operator of the combustion unit, or by a responsible official of the established tire collection program, and must include the following certification of compliance, "The tires from this tire collection program meet the EPA definition of an established tire collection program in § 241" and state the title or position of the person signing the certification. You must also keep a record that identifies where on your plant site the tires from each tire collection program are located, and that accounts for all tires at the plant site.

■ 71. Section 60.2770 is amended by revising paragraph (e) and adding paragraphs (k) through (o) to read as follows:

§ 60.2770 What information must I include in my annual report?

* * * * *

(e) If no deviation from any emission limitation or operating limit that applies to you has been reported, a statement that there was no deviation from the emission limitations or operating limits during the reporting period.

* * * * *

(k) If you had a malfunction during the reporting period, the compliance report must include the number, duration, and a brief description for each type of malfunction that occurred during the reporting period and that caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with § 60.11(d), including actions taken to correct a malfunction.

(l) For each deviation from an emission or operating limitation that occurs for a CISWI unit for which you are not using a CMS to comply with the emission or operating limitations in this subpart, the annual report must contain the following information.

(1) The total operating time of the CISWI unit at which the deviation occurred during the reporting period.

(2) Information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken.

(m) If there were periods during which the continuous monitoring system, including the continuous emission monitoring system, was out of control as specified in paragraph (o) of this section, the annual report must contain the following information for each deviation from an emission or operating limitation occurring for a CISWI unit for which you are using a continuous monitoring system to comply with the emission and operating limitations in this subpart.

(1) The date and time that each malfunction started and stopped.

(2) The date, time, and duration that each CMS was inoperative, except for zero (low-level) and high-level checks.

(3) The date, time, and duration that each continuous monitoring system was out-of-control, including start and end dates and hours and descriptions of corrective actions taken.

(4) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of malfunction or during another period.

(5) A summary of the total duration of the deviation during the reporting period, and the total duration as a percent of the total source operating time during that reporting period.

(6) A breakdown of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, other known causes, and other unknown causes.

(7) A summary of the total duration of continuous monitoring system downtime during the reporting period, and the total duration of continuous monitoring system downtime as a percent of the total operating time of the CISWI unit at which the continuous monitoring system downtime occurred during that reporting period.

(8) An identification of each parameter and pollutant that was monitored at the CISWI unit.

(9) A brief description of the CISWI unit.

(10) A brief description of the continuous monitoring system.

(11) The date of the latest continuous monitoring system certification or audit.

(12) A description of any changes in continuous monitoring system, processes, or controls since the last reporting period.

(n) If there were periods during which the continuous monitoring system, including the continuous emission monitoring system, was not out of control as specified in paragraph (o) of this section, a statement that there were not periods during which the continuous monitoring system was out of control during the reporting period.

(o) A continuous monitoring system is out of control if any of the following occur.

(1) The zero (low-level), mid-level (if applicable), or high-level calibration drift exceeds two times the applicable calibration drift specification in the applicable performance specification or in the relevant standard.

(2) The continuous monitoring system fails a performance test audit (*e.g.*, cylinder gas audit), relative accuracy audit, relative accuracy test audit, or linearity test audit.

(3) The continuous opacity monitoring system calibration drift exceeds two times the limit in the applicable performance specification in the relevant standard.

■ 72. Section 60.2780 is amended by revising paragraph (c) and removing paragraphs (e) and (f).

§ 60.2780 What must I include in the deviation report?

* * * * *

(c) Durations and causes of the following:

(1) Each deviation from emission limitations or operating limits and your corrective actions.

(2) Bypass events and your corrective actions.

* * * * *

■ 73. Section 60.2790 is revised to read as follows:

§ 60.2790 Are there any other notifications or reports that I must submit?

(a) Yes. You must submit notifications as provided by § 60.7.

(b) If you cease combusting solid waste but continue to operate, you must provide 30 days prior notice of the effective date of the waste-to-fuel switch, consistent with § 60.2710(a). The notification must identify:

(1) The name of the owner or operator of the CISWI unit, the location of the source, the emissions unit(s) that will cease burning solid waste, and the date of the notice;

(2) The currently applicable subcategory under this subpart, and any 40 CFR part 63 subpart and subcategory that will be applicable after you cease combusting solid waste;

(3) The fuel(s), non-waste material(s) and solid waste(s) the CISWI unit is currently combusting and has combusted over the past 6 months, and the fuel(s) or non-waste materials the unit will commence combusting;

(4) The date on which you became subject to the currently applicable emission limits;

(5) The date upon which you will cease combusting solid waste, and the date (if different) that you intend for any new requirements to become applicable (i.e., the effective date of the waste-to-fuel switch), consistent with paragraphs (b)(2) and (3)of this section.

■ 74. Section 60.2795 is revised to read as follows:

§ 60.2795 In what form can I submit my reports?

(a) Submit initial, annual and deviation reports electronically or in paper format, postmarked on or before the submittal due dates.

(b) After December 31, 2011, within 60 days after the date of completing each performance evaluation or performance test, as they are defined in § 63.2, conducted to demonstrate compliance with this subpart, the owner or operator of the affected facility must submit the relative accuracy test audit data and performance test data, except opacity data, to EPA by successfully submitting the data electronically to EPA's Central Data Exchange (CDX) by using the Electronic Reporting Tool (ERT) (see *http://www.epa.gov/ttn/chief/ert/ert_tool.html*).

■ 75. Section 60.2805 is revised to read as follows:

§ 60.2805 Am I required to apply for and obtain a Title V operating permit for my unit?

Yes. Each CISWI unit and air curtain incinerator subject to standards under this subpart must operate pursuant to a permit issued under Clean Air Act sections 129(e) and Title V.

■ 76. Section 60.2860 is revised to read as follows:

§ 60.2860 What are the emission limitations for air curtain incinerators?

After the date the initial stack test is required or completed (whichever is earlier), you must meet the limitations in paragraphs (a) and (b) of this section.

(a) Maintain opacity to less than or equal to 10 percent opacity (as determined by the average of three 1-hour blocks consisting of ten 6-minute average opacity values), except as described in paragraph (b) of this section.

(b) Maintain opacity to less than or equal to 35 percent opacity (as determined by the average of three 1-hour blocks consisting of ten 6-minute average opacity values) during the startup period that is within the first 30 minutes of operation.

■ 77. Section 60.2870 is amended by revising paragraph (c)(2) to read as follows:

§ 60.2870 What are the recordkeeping and reporting requirements for air curtain incinerators?

* * * * *

(c) * * *

(2) The results (as determined by the average of three 1-hour blocks consisting of ten 6-minute average opacity values) of the initial opacity tests.

* * * * *

■ 78. Section 60.2875 is amended by:

■ a. Adding definitions for "Affirmative defense," "Burn-off oven," "Bypass stack," "Chemical recovery unit," "Continuous monitoring system," "Cyclonic burn barrel," "Energy recovery unit," "Energy recovery unit designed to burn biomass (Biomass)," "Energy recovery unit designed to burn coal (Coal)," "Energy recovery unit designed to burn liquid wastes material and gas (Liquid/gas)," "Energy recovery unit designed to burn solid materials (Solid)," "Fabric filter," "Homogeneous wastes," "Incinerator," "Kiln," "Laboratory analysis unit," "Minimum voltage or amperage," "Opacity," "Operating day," "Performance evaluation," "Performance test," "Process change," "Raw mill," "Small remote incinerator," "Soil treatment unit," "Solid waste incineration unit," "Space heater" and "Waste-burning kiln," in alphabetical order.

■ b. Revising the definition for "Commercial and industrial solid waste incineration (CISWI) unit," "Modification," and "Wet scrubber."

■ c. Removing paragraph (3) of the definition for "Deviation."

■ d. Removing the definition for "Commercial or industrial waste," "Contained gaseous material," and "Solid Waste."

§ 60.2875 What definitions must I know?

* * * * *

Affirmative defense means, in the context of an enforcement proceeding, a response or defense put forward by a defendant, regarding which the defendant has the burden of proof, and the merits of which are independently and objectively evaluated in a judicial or administrative proceeding.

* * * * *

Burn-off oven means any rack reclamation unit, part reclamation unit, or drum reclamation unit. A burn-off oven is not an incinerator, waste-burning kiln, an energy recovery unit or a small, remote incinerator under this subpart.

Bypass stack means a device used for discharging combustion gases to avoid severe damage to the air pollution control device or other equipment.

* * * * *

Chemical recovery unit means combustion units burning materials to recover chemical constituents or to produce chemical compounds where there is an existing commercial market for such recovered chemical constituents or compounds. The following seven types of units are considered chemical recovery units:

(1) Units burning only pulping liquors (*i.e.,* black liquor) that are reclaimed in a pulping liquor recovery process and reused in the pulping process.

(2) Units burning only spent sulfuric acid used to produce virgin sulfuric acid.

(3) Units burning only wood or coal feedstock for the production of charcoal.

(4) Units burning only manufacturing byproduct streams/residue containing catalyst metals that are reclaimed and reused as catalysts or used to produce commercial grade catalysts.

(5) Units burning only coke to produce purified carbon monoxide that is used as an intermediate in the production of other chemical compounds.

(6) Units burning only hydrocarbon liquids or solids to produce hydrogen, carbon monoxide, synthesis gas, or other gases for use in other manufacturing processes.

(7) Units burning only photographic film to recover silver.

* * * * *

Commercial and industrial solid waste incineration (CISWI) unit means any distinct operating unit of any commercial or industrial facility that combusts, or has combusted in the preceding 6 months, any solid waste as that term is defined in 40 CFR part 241. If the operating unit burns materials other than traditional fuels as defined in § 241.2 that have been discarded, and you do not keep and produce records as required by § 60.2740(u), the material is a solid waste and the operating unit is a CISWI unit. While not all CISWI units will include all of the following components, a CISWI unit includes, but is not limited to, the solid waste feed system, grate system, flue gas system, waste heat recovery equipment, if any, and bottom ash system. The CISWI unit does not include air pollution control equipment or the stack. The CISWI unit boundary starts at the solid waste hopper (if applicable) and extends through two areas: The combustion unit flue gas system, which ends immediately after the last combustion chamber or after the waste heat recovery equipment, if any; and the combustion unit bottom ash system, which ends at the truck loading station or similar equipment that transfers the ash to final disposal. The CISWI unit includes all ash handling systems connected to the bottom ash handling system.

* * * * *

Continuous monitoring system (CMS) means the total equipment, required under the emission monitoring sections in applicable subparts, used to sample and condition (if applicable), to analyze, and to provide a permanent record of emissions or process parameters.

* * * * *

Cyclonic burn barrel *means a combustion device for waste materials that is attached to a 55 gallon, openhead drum. The device consists of a lid, which fits onto and encloses the drum, and a blower that forces combustion air into the drum in a cyclonic manner to enhance the mixing of waste material and air.* A cyclonic burn barrel is not an incinerator, waste-burning kiln, an energy recovery unit or a small, remote incinerator under this subpart.

Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

(1) Fails to meet any requirement or obligation established by this subpart, including but not limited to any emission limitation, operating limit, or operator qualification and accessibility requirements.

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit.

* * * * *

Energy recovery unit means a combustion unit combusting solid waste (as that term is defined by the Administrator under Resource Conservation and Recovery Act in 40 CFR 240) for energy recovery. Energy recovery units include units that would be considered boilers and process heaters if they did not combust solid waste.

Energy recovery unit designed to burn biomass (Biomass) means an energy recovery unit that burns solid waste and at least 10 percent biomass, but less than 10 percent coal, on a heat input basis on an annual average, either alone or in combination with liquid waste, liquid fuel or gaseous fuels.

Energy recovery unit designed to burn coal (Coal) means an energy recovery unit that burns solid waste and at least 10 percent coal on a heat input basis on an annual average, either alone or in combination with liquid waste, liquid fuel or gaseous fuels.

Energy recovery unit designed to burn liquid waste material and gas (Liquid/gas) means an energy recovery unit that burns a liquid waste with liquid or gaseous fuels not combined with any solid fuel or waste materials.

Energy recovery unit designed to burn solid materials (Solids) includes energy recovery units designed to burn coal and energy recovery units designed to burn biomass

Fabric filter means an add-on air pollution control device used to capture particulate matter by filtering gas streams through filter media, also known as a baghouse.

Homogeneous wastes are stable, consistent in formulation, have known fuel properties, have a defined origin, have predictable chemical and physical attributes, and result in consistent combustion characteristics and have a consistent emissions profile.

Incinerator means any furnace used in the process of combusting solid waste (as the term is defined by the Administrator under Resource Conservation and Recovery Act in 40 CFR 240) for the purpose of reducing the volume of the waste by removing combustible matter. Incinerator designs include single chamber and two-chamber.

Kiln means an oven or furnace, including any associated preheater or precalciner devices, used for processing a substance by burning, firing or drying. Kilns include cement kilns that produce clinker by heating limestone and other materials for subsequent production of Portland Cement.

Laboratory analysis unit means units that burn samples of materials for the purpose of chemical or physical analysis. A laboratory analysis unit is not an incinerator, waste-burning kiln, an energy recovery unit or a small, remote incinerator under this subpart.

* * * * *

Minimum voltage or amperage means 90 percent of the lowest test-run average voltage or amperage to the electrostatic precipitator measured during the most recent particulate matter or mercury performance test demonstrating compliance with the applicable emission limits.

Modification or *modified CISWI unit* means a CISWI unit that has been changed later than June 1, 2001, and that meets one of two criteria:

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

(2) Any physical change in the CISWI unit or change in the method of operating it that increases the amount of any air pollutant emitted for which Clean Air Act section 129 or section 111 has established standards.

Opacity means the degree to which emissions reduce the transmission of light and obscure the view of an object in the background.

Operating day means a 24-hour period between 12:00 midnight and the following midnight during which any amount of solid waste is combusted at any time in the CISWI unit.

* * * * *

Performance evaluation means the conduct of relative accuracy testing, calibration error testing, and other measurements used in validating the continuous monitoring system data.

Performance test means the collection of data resulting from the execution of a test method (usually three emission test runs) used to demonstrate compliance with a relevant emission standard as specified in the performance test section of the relevant standard.

Process change means a significant permit revision, but only with respect to those pollutant-specific emission units for which the proposed permit revision is applicable, including but not limited to a change in the air pollution control devices used to comply with the emission limits for the affected CISWI unit (*e.g.,* change in the sorbent used for activated carbon injection).

* * * * *

Raw mill means a ball and tube mill, vertical roller mill or other size reduction equipment, that is not part of an in-line kiln/raw mill, used to grind feed to the appropriate size. Moisture may be added or removed from the feed during the grinding operation. If the raw mill is used to remove moisture from feed materials, it is also, by definition, a raw material dryer. The raw mill also includes the air separator associated with the raw mill.

* * * * *

Small, remote incinerator means an incinerator that combusts solid waste (as that term is defined by the Administrator under RCRA in 40 CFR 240) and combusts 3 tons per day or less solid waste and is more than 25 miles driving distance to the nearest municipal solid waste landfill.

Soil treatment unit means a unit that thermally treats petroleum–contaminated soils for the sole purpose of site remediation. A soil treatment unit may be direct-fired or indirect fired. A soil treatment unit is not an incinerator, waste-burning kiln, an energy recovery unit or a small, remote incinerator under this subpart.

Solid waste incineration unit means a distinct operating unit of any facility which combusts any solid (as that term is defined by the Administrator under the Resource Conservation and Recovery Act in 40 CFR part 240) waste material from commercial or industrial establishments or the general public (including single and multiple residences, hotels and motels). Such term does not include incinerators or other units required to have a permit under section 3005 of the Solid Waste Disposal Act. The term "solid waste incineration unit" does not include (A) materials recovery facilities (including primary or secondary smelters) which combust waste for the primary purpose of recovering metals, (B) qualifying small power production facilities, as defined in section 3(17)(C) of the Federal Power Act (16 U.S.C. 769(17)(C)), or qualifying cogeneration facilities, as defined in section 3(18)(B) of the Federal Power Act (16 U.S.C. 796(18)(B)), which burn homogeneous waste (such as units which burn tires or used oil, but not including refuse-derived fuel) for the production of electric energy or in the case of qualifying cogeneration facilities which burn homogeneous waste for the production of electric energy and steam or forms of useful energy (such as heat) which are used for industrial, commercial, heating or cooling purposes, or (C) air curtain incinerators provided that such incinerators only burn wood wastes, yard wastes and clean lumber and that such air curtain incinerators comply with opacity limitations to be established by the Administrator by rule.

Space heater means a usually portable appliance for heating a relatively small area.

* * * * *

Waste-burning kiln means a kiln that is heated, in whole or in part, by combusting solid waste (as that term is defined by the Administrator under the Resource Conservation and Recovery Act pursuant in 40 CFR part 240).

* * * * *

■ 79. Table 1 to Subpart DDDD of Part 60 is revised to read as follows:

TABLE 1 TO SUBPART DDDD OF PART 60—MODEL RULE—INCREMENTS OF PROGRESS AND COMPLIANCE SCHEDULES

Comply with these increments of progress	By these dates[a]
Increment 1—Submit final control plan.	(Dates to be specified in state plan).
Increment 2—Final compliance.	(Dates to be specified in state plan).[b]

[a] Site-specific schedules can be used at the discretion of the state.

[b] The date can be no later than 3 years after the effective date of state plan approval or December 1, 2005 for CISWI units that commenced construction on or before November 30, 1999. The date can be no later than 3 years after the effective date of approval of a revised state plan or March 21, 2012 for CISWI units that commenced construction on or before June 4, 2010.

■ 80. Table 2 to subpart DDDD is amended by:

■ a. Revising the title to read "Table 2 to Subpart DDDD of Part 60—Model Rule—Emission Limitations That Apply Before [Date to be specified in state plan]."

■ b. Revising the entries for "Hydrogen chloride," "Mercury," "Opacity" and "Oxides of nitrogen."

■ c. Adding footnotes b and c.

TABLE 2 TO SUBPART DDDD OF PART 60—MODEL RULE—EMISSION LIMITATIONS THAT APPLY BEFORE [Date to be specified in state plan][b]

For the air pollutant	You must meet this emission limitation[a]	Using this averaging time	And determining compliance using this method
* * *	* *	*	* *
Hydrogen chloride	62 parts per million by dry volume	3-run average (For Method 26, collect a minimum volume of 60 liters per run. For Method 26A, collect a minimum volume of 1 dry standard cubic meter per run).	Performance test (Method 26 or 26A at 40 CFR part 60, appendix A–8).
* * *	* *	*	* *
Mercury	0.47 milligrams per dry standard cubic meter.	3-run average (1 hour minimum sample time per run).	Performance test (Method 29 or 30B at 40 CFR part 60, appendix A–8) or ASTM D6784–02 (Reapproved 2008).[c]
Opacity	10 percent	Three 1-hour blocks consisting of ten 6-minute average opacity values.	Performance test (Method 9 at 40 CFR part 60, appendix A–4).
* * *	* *	*	* *
Oxides of nitrogen	388 parts per million by dry volume.	3-run average (1 hour minimum sample time per run).	Performance test (Methods 7 or 7E at 40 CFR part 60, appendix A–4). Use a span gas with a concentration of 800 ppm or less.
* * *	* *	*	* *

[b] The date specified in the state plan can be no later than 3 years after the effective date of approval of a revised state plan or March 21, 2016.

[c] Incorporated by reference, *see* § 60.17.

■ 81. Table 4 of subpart DDDD is amended by revising the row headings to read as follows:

TABLE 4 TO SUBPART DDDD OF PART 60—MODEL RULE—TOXIC EQUIVALENCY FACTORS

Dioxin/furan isomer	Toxic equivalency factor
* * * * * * *	

■ 82. Table 5 of subpart DDDD is amended by:

■ a. Revising the entry for "Annual Report".

■ b. Revising the entry for "Emission limitation or operating limit deviation report".

TABLE 5 TO SUBPART DDDD OF PART 60—SUMMARY OF REPORTING REQUIREMENTS [a]

Report	Due date	Contents	Reference
* * * * * * *			
Annual report	No later than 12 months following the submission of the initial test report. Subsequent reports are to be submitted no more than 12 months following the previous report.	• Name and address • Statement and signature by responsible official. • Date of report • Values for the operating limits • Highest recorded 3-hour average and the lowest 3-hour average, as applicable, for each operating parameter recorded for the calendar year being reported. • If a performance test was conducted during the reporting period, the results of the test. • If a performance test was not conducted during the reporting period, a statement that the requirements of § 60.2720(a) were met. • Documentation of periods when all qualified CISWI unit operators were unavailable for more than 8 hours but less than 2 weeks. • If you are conducting performance tests once every 3 years consistent with § 60.2720(a), the date of the last 2 performance tests, a comparison of the emission level you achieved in the last 2 performance tests to the 75 percent emission limit threshold required in § 60.2720(a) and a statement as to whether there have been any operational changes since the last performance test that could increase emissions.	§§ 60.2765 and 60.2770.
* * * * * * *			
Emission limitation or operating limit deviation report.	By August 1 of that year for data collected during the first half of the calendar year. By February 1 of the following year for data collected during the second half of the calendar year.	• Dates and times of deviation • Averaged and recorded data for those dates. • Duration and causes of each deviation and the corrective actions taken. • Copy of operating limit monitoring data and any test reports. • Dates, times and causes for monitor downtime incidents.	§ 60.2775 and 60.2780.
* * * * * * *			

[a] This table is only a summary, see the referenced sections of the rule for the complete requirements.

■ 83. Table 6 to Subpart DDDD is added as follows:

TABLE 6 TO SUBPART DDDD OF PART 60—MODEL RULE—EMISSION LIMITATIONS THAT APPLY TO INCINERATORS ON AND AFTER [DATE TO BE SPECIFIED IN STATE PLAN] [a]

For the air pollutant	You must meet this emission limitation [b]	Using this averaging time	And determining compliance using this method
Cadmium	0.0026 milligrams per dry standard cubic meter.	3-run average (collect a minimum volume of 2 dry standard cubic meters).	Performance test (Method 29 at 40 CFR part 60, appendix A–8). Use ICPMS for the analytical finish.
Carbon monoxide	36 parts per million dry volume	3-run average (1 hour minimum sample time per run).	Performance test (Method 10 at 40 CFR part 60, appendix A–4). Use a maximum allowable drift of 0.2 ppm and a span gas with a CO concentration of 75 ppm or less. The span gas must contain approximately the same concentration of CO_2 expected from the source.
Dioxins/furans (total mass basis)	4.6 nanograms per dry standard cubic meter.	3-run average (collect a minimum volume of 2 dry standard cubic meters).	Performance test (Method 23 at 40 CFR part 60, appendix A–7).
Dioxins/furans (toxic equivalency basis).	0.13 nanograms per dry standard cubic meter.	3-run average (collect a minimum volume of 2 dry standard cubic meters).	Performance test (Method 23 at 40 CFR part 60, appendix A–7).
Hydrogen chloride	29 parts per million dry volume	3-run average (For Method 26, collect a minimum volume of 60 liters per run. For Method 26A, collect a minimum volume of 1 dry standard cubic meter per run).	Performance test (Method 26 or 26A at 40 CFR part 60, appendix A–8).
Lead	0.0036 milligrams per dry standard cubic meter.	3-run average (collect a minimum volume of 2 dry standard cubic meters).	Performance test (Method 29 at 40 CFR part 60, appendix A–8). Use ICPMS for the analytical finish.
Mercury	0.0054 milligrams per dry standard cubic meter.	3-run average (For Method 29 an ASTM D6784–02 (Reapproved 2008)b, collect a minimum volume of 2 dry standard cubic meters per run. For Method 30B, collect a minimum sample as specified in Method 30B at 40 CFR part 60, appendix A).	Performance test (Method 29 or 30B at 40 CFR part 60, appendix A–8) or ASTM D6784–02 (Reapproved 2008) [c].
Oxides of nitrogen	53 parts per million dry volume	3-run average (1 hour minimum sample time per run).	Performance test (Method 7E at 40 CFR part 60, appendix A–4). Use a span gas with a concentration of 100 ppm or less.
Particulate matter filterable	34 milligrams per dry standard cubic meter.	3-run average (collect a minimum volume of 1 dry standard cubic meter).	Performance test (Method 5 or 29 at 40 CFR part 60, appendix A–3 or appendix A–8).
Sulfur dioxide	11 parts per million dry volume	3-run average (1 hour minimum sample time per run).	Performance test (Method 6 or 6c at 40 CFR part 60, appendix A–4. Use a maximum allowable drift of 0.2 ppm and a span gas with concentration of 20 ppm or less.
Fugitive ash	Visible emissions for no more than 5% of the hourly observation period.	Three 1-hour observation periods	Visible emission test (Method 22 at 40 CFR part 60, appendix A–7).

[a] The date specified in the state plan can be no later than 3 years after the effective date of approval of a revised state plan or March 21, 2016.

[b] All emission limitations are measured at 7 percent oxygen, dry basis at standard conditions. For dioxins/furans, you must meet either the total mass basis limit or the toxic equivalency basis limit.

[c] Incorporated by reference, see § 60.17.

■ 84. Table 7 of Subpart DDDD is added as follows:

TABLE 7 TO SUBPART DDDD OF PART 60—MODEL RULE—EMISSION LIMITATIONS THAT APPLY TO ENERGY RECOVERY UNITS AFTER MAY 20, 2011

For the air pollutant	You must meet this emission limitation [a]		Using this averaging time	And determining compliance using this method
	Liquid/gas	Solids		
Cadmium	0.023 milligrams per dry standard cubic meter.	0.00051 milligrams per dry standard cubic meter.	3-run average (collect a minimum volume of 2 dry standard cubic meters).	Performance test (Method 29 at 40 CFR part 60, appendix A–8). Use ICPMS for the analytical finish.
Carbon monoxide	36 parts per million dry volume.	Biomass—490 parts per million dry volume. Coal—59 parts per million dry volume.	3-run average (1 hour minimum sample time per run).	Performance test (Method 10 at 40 CFR part 60, appendix A–4). Use a span gas with a concentration of 100 ppm or less for liquid/gas boilers and coal-fed boilers. Use a span gas with a concentration of 1000 ppm or less for biomass-fed boilers.
Dioxins/furans (total mass basis).	2.9 nanograms per dry standard cubic meter.	0.35 nanograms per dry standard cubic meter.	3-run average (collect a minimum volume of 1 dry standard cubic meter).	Performance test (Method 23 at 40 CFR part 60, appendix A–7).
Dioxins/furans (toxic equivalency basis).	0.32 nanograms per dry standard cubic meter.	0.059 nanograms per dry standard cubic meter.	3-run average (collect a minimum volume of 1 dry standard cubic meter).	Performance test (Method 23 at 40 CFR part 60, appendix A–7).
Hydrogen chloride	14 parts per million dry volume.	0.45 parts per million dry volume.	3-run average (collect a minimum volume of 1 dry standard cubic meters).	Performance test (Method 26 or 26A at 40 CFR part 60, appendix A–8).
Lead	0.096 milligrams per dry standard cubic meter.	0.0036 milligrams per dry standard cubic meter.	3-run average (collect a minimum volume of 2 dry standard cubic meters).	Performance test (Method 29 at 40 CFR part 60, appendix A–8). Use ICPMS for the analytical finish.
Mercury	0.0013 milligrams per dry standard cubic meter.	0.00033 milligrams per dry standard cubic meter.	3-run average (For Method 29 and ASTM D6784–02 (Reapproved 2008),[b] collect a minimum volume of 2 dry standard cubic meters per run. For Method 30B, collect a minimum sample as specified in Method 30B at 40 CFR part 60, appendix A).	Performance test (Method 29 or 30B at 40 CFR part 60, appendix A–8) or ASTM D6784–02 (Reapproved 2008).[b]
Oxides of nitrogen	76 parts per million dry volume.	Biomass—290 parts per million dry volume. Coal—340 parts per million dry volume.	3-run average (1 hour minimum sample time per run).	Performance test (Method 7E at 40 CFR part 60, appendix A–4). Use a span gas with a concentration of 150 ppm or less for liquid/gas fuel boilers. Use a span gas with a concentration of 700 ppm or less for solid fuel boilers.

TABLE 7 TO SUBPART DDDD OF PART 60—MODEL RULE—EMISSION LIMITATIONS THAT APPLY TO ENERGY RECOVERY UNITS AFTER MAY 20, 2011—Continued

For the air pollutant	You must meet this emission limitation[a]		Using this averaging time	And determining compliance using this method
	Liquid/gas	Solids		
Particulate matter filterable	110 milligrams per dry standard cubic meter.	250 milligrams per dry standard cubic meter or 30-day rolling average if PM CEMS is required or being used.	3-run average (collect a minimum volume of 1 dry standard cubic meter).	Performance test (Method 5 or 29 at 40 CFR part 60, appendix A–3 or appendix A–8) if the unit has a design capacity less than or equal to 250 MMBtu/hr; or PM CEMS (performance specification 11 of appendix B of this part) if the unit has a design capacity greater than 250 MMBtu/hr. Use Method 5 or 5I of Appendix A of this part and collect a minimum sample volume of 1 dscm for the PM CEMS correlation testing.
Sulfur dioxide	720 parts per million dry volume.	Biomass—6.2 parts per million dry volume. Coal—650 parts per million dry volume.	3-run average (1 hour minimum sample time per run).	Performance test (Method 6 or 6c at 40 CFR part 60, appendix A–4. Use a span gas with a concentration of 20 ppm or less for biomass-fed boilers. Use a span gas with a concentration of 1500 ppm or less for liquid/gas and coal-fed boilers.
Fugitive ash	Visible emissions for no more than 5 percent of the hourly observation period.	Visible emissions for no more than 5 percent of the hourly observation period.	Three 1-hour observation periods.	Visible emission test (Method 22 at 40 CFR part 60, appendix A–7).

[a] All emission limitations (except for opacity) are measured at 7 percent oxygen, dry basis at standard conditions. For dioxins/furans, you must meet either the total mass basis limit or the toxic equivalency basis limit.
[b] Incorporated by reference, see § 60.17.

■ 85. Table 8 of Subpart DDDD is added as follows:

TABLE 8 TO SUBPART DDDD OF PART 60—MODEL RULE—EMISSION LIMITATIONS THAT APPLY TO WASTE-BURNING KILNS AFTER MAY 20, 2011

For the air pollutant	You must meet this emission limitation[a]	Using this averaging time	And determining compliance using this method
Cadmium	0.00048 milligrams per dry standard cubic meter.	3-run average (collect a minimum volume of 2 dry standard cubic meters).	Performance test (Method 29 at 40 CFR part 60, appendix A–8).
Carbon monoxide	110 parts per million dry volume ..	3-run average (1 hour minimum sample time per run).	Performance test (Method 10 at 40 CFR part 60, appendix A–4). Use a span gas with a concentration of 200 ppm or less.
Dioxins/furans (total mass basis) ...	0.02 nanograms per dry standard cubic meter.	3-run average (collect a minimum volume of 1 dry standard cubic meter).	Performance test (Method 23 at 40 CFR part 60, appendix A–7).
Dioxins/furans (toxic equivalency basis).	0.0070 nanograms per dry standard cubic meter.	3-run average (collect a minimum volume of 1 dry standard cubic meter).	Performance test (Method 23 at 40 CFR part 60, appendix A–7).
Hydrogen chloride	25 parts per million dry volume	3-run average (collect a minimum volume of 1 dry standard cubic meter) or 30-day rolling average if HCl CEMS is being used.	Performance test (Method 321 at 40 CFR part 63, appendix A) or HCl CEMS if a wet scrubber is not used.

TABLE 8 TO SUBPART DDDD OF PART 60—MODEL RULE—EMISSION LIMITATIONS THAT APPLY TO WASTE-BURNING KILNS AFTER MAY 20, 2011—Continued

For the air pollutant	You must meet this emission limitation [a]	Using this averaging time	And determining compliance using this method
Lead	0.0026 milligrams per dry standard cubic meter.	3-run average (collect a minimum volume of 2 dry standard cubic meters).	Performance test (Method 29 at 40 CFR part 60, appendix A–8).
Mercury	0.0079 milligrams per dry standard cubic meter.	30-day rolling average	Mercury CEMS or sorbent trap monitoring system (performance specification 12A or 12B, respectively, of appendix B of this part.)
Oxides of nitrogen	540 parts per million dry volume	3-run average (1 hour minimum sample time per run).	Performance test (Method 7E at 40 CFR part 60, appendix A–4). Use a span gas with a concentration of 1,000 ppm or less.
Particulate matter filterable	6.2 milligrams per dry standard cubic meter.	30-day rolling average	PM CEMS (performance specification 11 of appendix B of this part; Use Method 5 or 5I of Appendix A of this part and collect a minimum sample volume of 2 dscm for the PM CEMS correlation testing.)
Sulfur dioxide	38 parts per million dry volume	3-run average (1 hour minimum sample time per run).	Performance test (Method 6 or 6c at 40 CFR part 60, appendix A–4). Use a span gas with a concentration of 80 ppm or less.

[a] All emission limitations (except for opacity) are measured at 7 percent oxygen, dry basis at standard conditions. For dioxins/furans, you must meet either the total mass basis limit or the toxic equivalency basis limit.

■ 86. Table 9 of Subpart DDDD is added as follows:

TABLE 9 TO SUBPART DDDD OF PART 60—MODEL RULE—EMISSION LIMITATIONS THAT APPLY TO SMALL, REMOTE INCINERATORS AFTER MAY 20, 2011

For the air pollutant	You must meet this emission limitation [a]	Using this averaging time	And determining compliance using this method
Cadmium	0.61 milligrams per dry standard cubic meter.	3-run average (collect a minimum volume of 1 dry standard cubic meter).	Performance test (Method 29 at 40 CFR part 60, appendix A–8).
Carbon monoxide	20 parts per million dry volume	3-run average (1 hour minimum sample time per run).	Performance test (Method 10 at 40 CFR part 60, appendix A–4). Use a span gas with a concentration of 50 ppm or less.
Dioxins/furans (total mass basis)	1,200 nanograms per dry standard cubic meter.	3-run average (collect a minimum volume of 1 dry standard cubic meter).	Performance test (Method 23 at 40 CFR part 60, appendix A–7).
Dioxins/furans (toxic equivalency basis).	57 nanograms per dry standard cubic meter.	3-run average (collect a minimum volume of 1 dry standard cubic meter).	Performance test (Method 23 at 40 CFR part 60, appendix A–7).
Hydrogen chloride	220 parts per million dry volume	3-run average (For Method 26, collect a minimum volume of 60 liters per run. For Method 26A, collect a minimum volume of 1 dry standard cubic meter per run).	Performance test (Method 26 or 26A at 40 CFR part 60, appendix A–8).
Lead	2.7 milligrams per dry standard cubic meter.	3-run average (collect a minimum volume of 1 dry standard cubic meter).	Performance test (Method 29 at 40 CFR part 60, appendix A–8).
Mercury	0.0057 milligrams per dry standard cubic meter.	3-run average (For Method 29 and ASTM D6784–02 (Reapproved 2008)b, collect a minimum volume of 2 dry standard cubic meters per run. For Method 30B, collect a minimum sample as specified in Method 30B at 40 CFR part 60, appendix A).	Performance test (Method 29 or 30B at 40 CFR part 60, appendix A–8) or ASTM D6784–02 (Reapproved 2008).[b]

TABLE 9 TO SUBPART DDDD OF PART 60—MODEL RULE—EMISSION LIMITATIONS THAT APPLY TO SMALL, REMOTE INCINERATORS AFTER MAY 20, 2011—Continued

For the air pollutant	You must meet this emission limitation [a]	Using this averaging time	And determining compliance using this method
Oxides of nitrogen	240 parts per million dry volume	3-run average (1 hour minimum sample time per run).	Performance test (Method 7E at 40 CFR part 60, appendix A–4). Use a span gas with a concentration of 500 ppm or less.
Particulate matter filterable	230 milligrams per dry standard cubic meter.	3-run average (collect a minimum volume of 1 dry standard cubic meter).	Performance test (Method 5 or 29 at 40 CFR part 60, appendix A–3 or appendix A–8).
Sulfur dioxide	420 parts per million dry volume	3-run average (1 hour minimum sample time per run).	Performance test (Method 6 or 6c at 40 CFR part 60, appendix A–4). Use a span gas with a concentration of 1000 ppm or less.
Fugitive ash	Visible emissions for no more than 5 percent of the hourly observation period.	Three 1-hour observation periods	Visible emission test (Method 22 at 40 CFR part 60, appendix A–7).

[a] All emission limitations (except for opacity) are measured at 7 percent oxygen, dry basis at standard conditions.
[b] Incorporated by reference, *see* § 60.17.

[FR Doc. 2011–4495 Filed 3–18–11; 8:45 am]

BILLING CODE 6560–50–P