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40 CFR Parts 60 and 241
Commercial and Industrial Solid Waste Incineration Units: Reconsideration and Final Amendments; Non-Hazardous Secondary Materials That Are Solid Waste; Final Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 60 and 241

[EPA–HQ–OAR–2003–0119 and EPA–HQ–RCRA 2008–0329; FRL–9764–1]

RIN 2060–AR15 and 2050–AG44

Commercial and Industrial Solid Waste Incineration Units: Reconsideration and Final Amendments; Non-Hazardous Secondary Materials That Are Solid Waste

AGENCY: Environmental Protection Agency.

ACTION: Final rule; notice of final action on reconsideration.

SUMMARY: This action sets forth the EPA's final decision on the issues for which it granted reconsideration in December 2011, which pertain to certain aspects of the March 21, 2011, final rule titled ''Standards of Performance for New Stationary Sources and Emissions Guidelines for Existing Sources: Commercial and Industrial Solid Waste Incineration Units'' (CISWI rule). This action also includes our final decision to deny the requests for reconsideration with respect to all issues raised in the petitions for reconsideration of the final commercial and industrial solid waste incineration rule for which we did not grant reconsideration. Among other things, this final action establishes effective dates for the standards and makes technical corrections to the final rule to clarify definitions, references, applicability and compliance issues. In addition, the EPA is issuing final amendments to the regulations that were codified by the Non-Hazardous Secondary Materials rule (NHSM rule). Originally promulgated on March 21, 2011, the non-hazardous secondary materials rule provides the standards and procedures for identifying whether non-hazardous secondary materials are solid waste under the Resource Conservation and Recovery Act when used as fuels or ingredients in combustion units. The purpose of these amendments is to clarify several provisions in order to implement the non-hazardous secondary materials rule as the agency originally intended.

DATES: The May 18, 2011 (76 FR 28662), delay of the effective date amending subparts CCCC and DDDD at 76 FR 15703 (March 21, 2011) is lifted February 7, 2013. The amendments in this rule to 40 CFR part 60, subpart DDDD, are effective February 7, 2013, and to 40 CFR part 60, subpart CCCC, are effective August 7, 2013. The amendments in this rule to 40 CFR part 241 are effective April 8, 2013. The incorporation by reference of certain publications listed in that rule is effective February 7, 2013.

ADDRESSES: The EPA established a single docket under Docket ID Number EPA–HQ–OAR–2003–0119 for this action on the commercial and industrial solid waste incineration rule. The EPA also established a single docket under Docket ID Number EPA–HQ–RCRA–2008–0329 for this action on the non-hazardous secondary materials rule. All documents in the docket are listed in the *http://www.regulations.gov* index. Although listed in the index, some information is not publicly available, e.g., confidential business information or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, will be publicly available only in hard copy. Publicly available docket materials are available either electronically in *http://www.regulations.gov* or in hard copy at the EPA Docket Center, EPA West Building, Room 3334, 1301 Constitution Ave. NW., Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566–1744 and the telephone number for the Docket Center is (202) 566–1742.

FOR FURTHER INFORMATION CONTACT: For further information regarding the commercial and industrial solid waste incineration reconsideration and final amendments, contact Ms. Toni Jones, Fuels and Incineration Group, Sector Policies and Programs Division (E143–05), Environmental Protection Agency, Research Triangle Park, North Carolina 27711; telephone number: (919) 541–0316; fax number: (919) 541–3470; email address: *jones.toni@epa.gov*, or Ms. Amy Hambrick, Fuels and Incineration Group, Sector Policies and Programs Division (E143–05), Environmental Protection Agency, Research Triangle Park, North Carolina 27711; telephone number: (919) 541–0964; fax number: (919) 541–3470; email address: *hambrick.amy@epa.gov*.

For further information regarding the Non-Hazardous Secondary Materials final rule, contact Mr. George Faison, Program Implementation and Information Division, Office of Resource Conservation and Recovery, 5303P, Environmental Protection Agency, Ariel Rios Building, 1200 Pennsylvania Avenue NW., Washington, DC 20460–0002; telephone number: 703–305–7652; fax number: 703–308–0509; email address: *faison.george@epa.gov*.

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A. Supplementary Information

Acronyms and Abbreviations. The following acronyms and abbreviations are used in this document.

ACI activated carbon injection
AF&PA American Forest & Paper Association
ANPRM Advanced Notice of Proposed Rulemaking
ANSI American National Standards Institute
APA Administrative Procedure Act
ARIPPA Anthracite Region Independent Power Producers Association
ASME American Society of Mechanical Engineers
AST activated sludge treatment
ASTM American Society for Testing and Materials
ATCM Air Toxic Control Measure
Btu British thermal unit
CAA Clean Air Act
CARB California Air Resources Board
CBI Confidential Business Information
CCA chromated copper arsenate
Cd cadmium
C&D construction & demolition
CDX Central Data Exchange
CFB circulating fluidized bed
CEMS continuous emissions monitoring systems
CERCLA Comprehensive Environmental Response, Compensation, and Liability Act
CFR Code of Federal Regulations
CISWI Commercial and Industrial Solid Waste Incineration
CO carbon monoxide
CO_2 carbon dioxide
Catalyst carbon monoxide oxidation catalyst
Cl_2 chlorine gas
CPMS continuous parametric monitoring system
CWA Clean Water Act
D/F dioxin/furan
dscm dry standard cubic meter
DSW Definition of Solid Waste
EG emission guidelines
EJ Environmental Justice
EOM extractable organic matter
EPA U.S. Environmental Protection Agency
ERT Electronic Reporting Tool
ERU energy recovery unit
ESP electrostatic precipitator
FF fabric filters
FR **Federal Register**
HAP hazardous air pollutants
HCl hydrogen chloride
HF hydrogen fluoride
Hg mercury
HMI hospital, medical and infectious
HMIWI Hospital, Medical and Infectious Waste Incineration
ICR Information Collection Request
Lb pound
LML lowest measured level
Mg milligram
Mn manganese
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
NCASI National Council on Air and Stream Improvement
ND nondetect
NESHAP National Emission Standards for Hazardous Air Pollutants
ng/dscm nanograms per dry standard cubic meter
NHSM non-hazardous secondary material(s)
NIST National Institute of Standards and Technology
NO_X nitrogen oxides
NSPS New Source Performance Standards
NTTAA National Technology Transfer and Advancement Act
OAQPS Office of Air Quality Planning and Standards
OMB Office of Management and Budget
OSWI Other Solid Waste Incineration
OSWER Office of Solid Waste and Emergency Response
O_2 Oxygen
PAH polycyclic aromatic hydrocarbons
Pb lead
PCBs polychlorinated biphenyls
PCDD polychlorinated dibenzodioxins
PCDF polychlorinated dibenzofurans
PIC product of incomplete combustion
PM particulate matter
POM polycyclic organic matter
ppm parts per million
ppmv parts per million by volume
ppmvd parts per million by dry volume
PQL practical quantitation limit
PRA Paper Reduction Act
PS Performance Specification
lb/MMBtu pound per million British thermal units
RCRA Resource Conservation and Recovery Act
RDL reported detection level
RFA Regulatory Flexibility Act
RIA Regulatory Impact Analysis
RIN Regulatory Information Number
RTO regenerative thermal oxidizer
RTR residual risk and technology review
SBA Small Business Administration
SBREFA Small Business Regulatory Enforcement Fairness Act

SISNOSE Significant Economic Impact on a Substantial Number of Small Entities
SMCRA Surface Mining Control and Reclamation Act of 1977
SNCR selective noncatalytic reduction
SO_2 sulfur dioxide
SSI Sewage Sludge Incineration
SSM startup, shutdown and malfunction
SVOC Semi-Volatile Organic Compound
SWDA Solid Waste Disposal Act
TBtu tera British thermal unit
TEOM Tapered Element Oscillating Microbalance
TEQ Toxic Equivalency
The Court U.S. Court of Appeals for the District of Columbia Circuit
TMB Total Mass Basis
TOX Total Organic Halogens
tpy tons per year
TSM Total Selected Metal
TTN Technology Transfer Network
UCL upper confidence limit
ug/dscm micrograms per dry standard cubic meter
UMRA Unfunded Mandates Reform Act
UL upper limit
UPL upper prediction limit
U.S.C. United States Code
USGS United States Geological Survey
VCS Voluntary Consensus Standards
VOC volatile organic compound
WWW Worldwide Web

B. Does this action apply to me?

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

Category	NAICS [1] Code	Examples of potentially regulated entities
Any industrial or commercial facility using a solid waste incinerator.	211, 212, 486	Oil and Gas Extraction, mining (except oil and gas); Pipeline Transportation
	221	Utilities
	321, 322, 337	Wood Product Manufacturing, Paper Manufacturing, Furniture and Related Product Manufacturing
	325, 326	Chemical Manufacturing, Plastics and Rubber Products Manufacturing
	327	Nonmetallic Mineral Product Manufacturing,
	333, 336	Machinery Manufacturing, Transportation Equipment Manufacturing
	423, 44	Merchant Wholesalers, Durable Goods, Retail Trade
Any facility or entity generating a non hazardous secondary material that may be burned for fuel or destruction [2].	111	Crop Production
	112	Animal Production
	113	Forestry and Logging
	115	Support Activities for Agriculture and Forestry
	211	Oil and Gas Extraction
	212	Mining (except oil and gas)
	221	Utilities
	236	Construction of Buildings
	311	Food Manufacturing
	312	Beverage and Tobacco Product Manufacturing
	313	Textile Mills
	316	Leather and Allied Product Manufacturing
	321	Wood Product Manufacturing
	322	Paper Manufacturing
	324	Petroleum and Coal Products Manufacturing
	325	Chemical Manufacturing
	326	Plastics and Rubber Products Manufacturing
	327	NonMetallic Mineral Product Manufacturing
	331	Primary Metal Manufacturing
	332	Fabricated Metal Product Manufacturing
	333	Machinery Manufacturing
	334	Computer and Electronic Product Manufacturing
	336	Transportation Equipment Manufacturing
	337	Furniture and Related Product Manufacturing
	339	Miscellaneous Manufacturing
	423	Merchant Wholesalers, Durable Goods
	424	Merchant Wholesalers, Nondurable Goods
	44–45	Retail Trade (all categories, including non-store retailers, vending and direct sellers)
	486	Pipeline Transportation
	493	Warehousing and Storage
	511	Publishing Industries (except internet)
	531	Real Estate
	541	Professional, Scientific and Technical Services
	611	Educational Services
	622	Hospitals
	623	Nursing and Residential Care Facilities
	624	Social Assistance
	713930	Boating Clubs with Marinas
	721	Accommodation
	722	Food Services and Drinking Places
	813	Religious, Grantmaking, Civic, Professional and Similar Organizations
	92	Public Administration

[1] North American Industry Classification System.
[2] Note that some of these NAICS may overlap with institutional facility types where incinerators are regulated by the Other Solid Waste Incinerators (OSWI) emission guidelines and NSPS.

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. To determine whether your facility would be affected by the final action, you should examine the applicability criteria in 40 CFR 60.2010 of subpart CCCC, 40 CFR 60.2505 of subpart DDDD, and 40 CFR 241. If you have any questions regarding the applicability of the final action to a particular entity, contact the persons listed in the preceding **FOR FURTHER INFORMATION CONTACT** section.

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

The docket number for the action regarding the CISWI NSPS (40 CFR part 60, subpart CCCC) and EG (40 CFR part 60, subpart DDDD) is Docket ID Number EPA–HQ–OAR–2003–0119.

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

D. Judicial Review

Under the CAA section 307(b)(1), judicial review of this final rule is available only by filing a petition for review in The Court April 8, 2013. Under CAA section 307(d)(7)(B), only an objection to this final rule that 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 this 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 the persons 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 the EPA to enforce these requirements. Resource Conservation and Recovery Act sections of the rule would be subject to judicial review under RCRA.

E. Executive Summary

Purpose of the Regulatory Action

The EPA is promulgating final rules that establish standards for new and existing CISWI units. Section 129 of the CAA, titled ''Solid Waste Combustion,'' requires the EPA to develop and adopt standards for commercial and industrial solid waste incineration units pursuant to CAA sections 111 and 129. This final rule makes certain revisions to the final ''Standards of Performance for New Stationary Sources and Emission Guidelines for Existing Sources: Commercial and Industrial Solid Waste Incineration Units,'' 76 FR 15704 (March 21, 2011), based on the issues proposed for reconsideration issues (76 FR 40582) and in response to public comments on the proposed CISWI reconsideration rule.

On May 18, 2011, the EPA issued a notice that delayed the effective dates of the March 21, 2011, CISWI rule (the ''Delay Notice''). 76 FR 28662 (May 18, 2011). As the result of that action, the 2000 CISWI rule remained in effect. The Court vacated the Delay Notice in January 2012. However, because the Delay Notice delayed the effectiveness of the CISWI rule from May 2011 through vacatur of that notice in January 2012, the revisions to the 2000 CISWI rule that were finalized in the 2011 CISWI rule were never codified in the CFR, but instead appear as notes after the corresponding provisions of the 2000 CISWI rule in the CFR. Although the issues on reconsideration were limited in the December 2011 CISWI reconsideration proposal, we had to include in that proposed reconsideration rule all of the regulatory changes that had been made since the 2000 rule because the 2011 CISWI rule was not codified in the CFR. Specifically, we included in the December 23, 2011, proposed reconsideration rule all of the regulatory changes the EPA had made to the 2000 CISWI rule in the 2011 CISWI rule, as well as the changes to the 2011 CISWI rule that the EPA proposed to make on reconsideration. In response to the Court's vacatur of the Delay Notice in January 2012, this final action lifts the delay of effectiveness so that the CFR can be revised to properly reflect the revisions to the 2000 CISWI rule that were finalized in the 2011 CISWI rule. This final action also contains regulatory text that amends the 2011 CISWI rule to address the reconsideration. Therefore, this final rule's amendatory language differs from that of the December 2011 reconsideration proposal as it amends the 2011 CISWI rule instead of the 2000 CISWI rule. This change to the amendatory baseline in no way alters our limitation of the issues for comment for which we granted reconsideration. We have provided in the CISWI docket a redline/strikeout file of the 2000 CISWI rule to help implementing agencies and affected sources to identify the sum total of the revisions made to the 2000 CISWI rule through today's final notice pursuant to the 2011 CISWI rule and this final action.

Summary of Major Provisions for the Final Reconsideration Rule

In general, the final rule establishes revised numeric emission limits for some new and existing CISWI units for certain of the nine pollutants listed in section 129(a)(4) of the CAA.[1]

The EPA established or revised standards for four subcategories of CISWI units in the 2011 CISWI rule: incinerators; small remote incinerators; ERUs; and waste-burning kilns. The 2011 CISWI rule also included two subcategories of ERUs. In this final rule, we have further subcategorized ERUs and subcategorized waste-burning kilns based on design type differences. Thus, the final rule includes three subcategories of ERUs and separate CO limits for two subcategories of waste-burning kilns.

We have further revised some of the CISWI limits proposed in the reconsideration notice in response to comments on CO span methodology and because we incorporated additional data, including new data submitted during the comment period. These changes primarily affect the ERU and waste-burning kiln subcategories but also affect some of the limits in each of the four subcategories.

To ensure compliance with the emission limits, this final rule establishes stack testing and continuous monitoring requirements. The rule allows sources to use CEMS if an owner

[1] The nine pollutants for which we must issue emission standards under section 129 are: PM, SO_2, HCl, NO_X, CO, Pb, Cd, Hg, D/F. CAA section 129(a)(4).

or operator chooses to do so. Continuous parameters and emissions levels (if used) are measured as either a 3-hour block or a 30-day rolling average basis, depending on the parameter being measured and the subcategory of CISWI.

Since sources may choose to cease or start combusting solid waste at any time due to market conditions or for other reasons, the final rule contains provisions that specify the steps necessary for sources to switch applicability between this final rule and other applicable emission standards issued pursuant to CAA section 112. This rule also contains revisions to some of the monitoring, recordkeeping and reporting requirements.

The date existing sources must comply with the final CISWI rule depends primarily on state plan approval but may be no later than the date 5 years after publication of this final rule in the **Federal Register**. For new sources, the effective date is either August 7, 2013, or the date of startup of the source, whichever is later. New sources are defined as sources that began construction on or after June 4, 2010, or commenced reconstruction or modification after August 7, 2013.

Costs and Benefits

The final rule affects 106 existing sources located at 76 facilities. The EPA projects an additional incinerator and five additional small remote incinerators to be subject to this rule over the next 5 years. This final rule applies to facilities in multiple sectors of our economy including small entities. Table 1 of this preamble summarizes the costs and benefits associated with this final rule. Note, these are the costs and benefits of the final 2011 CISWI rule as amended by today's final rule and replace the costs and benefits presented in the March 2011 final rule. For comparison, the 2011 final rule, at a 7 percent discount rate, had costs of $218 million and monetized benefits of $320 to $790 million (2008 dollars). (However, because the February 2011 RIA did not incorporate the final engineering costs and emission reductions estimates, it reported costs of $280 million and monetized benefits of $310 to $750 million (2008 dollars)).A more detailed discussion of the costs and benefits of this final rule is provided in section II.G of this preamble.

TABLE 1—SUMMARY OF THE MONETIZED BENEFITS, SOCIAL COSTS AND NET BENEFITS FOR THE FINAL CISWI NSPS AND EG IN 2015

[Millions of 2008$][1]

	3 Percent discount rate	7 Percent discount rate
Total Monetized Benefits[2]	$420 to $1,000	$380 to $930
Total Social Costs[3]	$258	$258
Net Benefits	$160 to $770	$120 to $670
Non-monetized Benefits	Health effects from exposure to HAP 780 tons of HCl, 2.5 tons of lead, 1.8 tons of Cd, 680 pounds of Hg, and 58 grams of dioxins/furans). Health effects from exposure to criteria pollutants (20,000 tons of CO_2 6,300 tons of SO_2, 5,400 tons of NO_2, and secondary formation of ozone). Ecosystem effects. Visibility impairment.	

[1] All estimates are for the implementation year (2015) and are rounded to two significant figures. These results reflect the lowest cost disposal assumption.

[2] The total monetized benefits reflect the human health benefits associated with reducing exposure to $PM_{2.5}$ through reductions of $PM_{2.5}$ precursors such as directly emitted particles, SO_2, and NO_X. It is important to note that the monetized benefits include many but not all health effects associated with $PM_{2.5}$ exposure. Monetized 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 the scientific evidence is not yet sufficient to allow differentiation of effect estimates by particle type.

[3] 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.

II. CISWI Reconsideration and Final Rule

A. Background Information

1. What is the history of the CISWI standards?

On December 1, 2000, the EPA promulgated NSPS and EG for CISWI units (60 FR 75338), hereinafter referred to as the 2000 CISWI rule. On January 30, 2001, the Sierra Club filed a petition for review in the Court challenging the EPA's final CISWI rule. On August 17, 2001, the EPA granted a Request for Reconsideration, pursuant to CAA section 307(d)(7)(B), 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 the 2000 CISWI rule. In granting the petition for reconsideration, the EPA agreed to undertake further notice and comment proceedings related to these definitions. On September 6, 2001, the Court entered an order granting the EPA's motion for a voluntary remand of the CISWI rule, without vacatur. The EPA requested a voluntary remand of the final CISWI rule to address concerns related to the 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 the 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. Therefore, the remand order had no effect on the effectiveness of the 2000 CISWI rule.

On February 17, 2004, the EPA published a proposed rule (CISWI Definitions 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, the 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 remained in effect.

On March 21, 2011, the EPA promulgated revised NSPS and EG for CISWI units (76 FR 15704)(2011 CISWI rule). That action constituted a partial response to the voluntary remand of the 2000 CISWI rule and to the 2007 vacatur and remand of the CISWI Definitions Rule. In addition, the EPA addressed the 5-year technology review that is required under CAA section 129(a)(5). On the same day, the EPA issued a notice that it intended to reconsider certain aspects of the 2011 CISWI rule that warrant further opportunity for public comment (76 FR 15266).

Following promulgation of the 2011 CISWI rule, the EPA received petitions for reconsideration from the following organizations (''Petitioners''): Alaska Oil and Gas Association/Alaska Miners Association/ConocoPhillips (AOGA), American Chemistry Council (ACC), American Foundry Society (AFS), American Iron and Steel Institute (AISI) and American Coke and Coal Chemicals Institute (ACCCI), Anthracite Region Independent Power Producers Association (ARIPPA), American Petroleum Institute (API) and National Petrochemical and Refiners Association (NPRA), Auto Industry Forum (AIF), Citizens Energy Group (CEG), Council of Industrial Boiler Owners (CIBO), Earthjustice/Sierra Club, Edison Mission Energy, Hovensa L.L.C. and Tesoro Hawaii Corp., Industry Coalition (AF&PA et al.), JELD–WEN Inc., Portland Cement Association (PCA), Renovar Energy Corp., and Waste Management Inc. (WM). Copies of these petitions are provided in the docket (see Docket ID Number EPA–HQ–OAR–2003–0119). Petitioners, pursuant to CAA section 307(d)(7)(B), requested that the EPA reconsider numerous provisions in the 2011 CISWI rule.

On May 18, 2011, the EPA issued a notice to postpone the effective dates of the March 21, 2011, final CISWI rule. This notice also requested that the public submit additional data and information to the EPA by July 15, 2011, for review and consideration in the reconsideration proceedings.

On December 23, 2011, the EPA published a proposed rule soliciting comment on the issues on which the EPA was granting reconsideration. In March 2011, the EPA had publically stated its intent to reconsider some of these issues. 76 FR 15266. The EPA limited comment in the December 23, 2011, proposed rule to the specific issues on which it was granting reconsideration which included the following:

- Revising the subcategories and emission limits for ERUs and waste-burning kilns to reflect updated inventories and additional data.
- Establishing limitations on fuel switching provisions.
- Definitions of cyclonic burn barrels, burn-off ovens, soil treatment units, laboratory analysis units and space heaters from CISWI subcategories.
- Providing an affirmative defense for malfunction events.
- Revisions to the CO monitoring requirements.
- Establishing a full-load stack test requirement for CO coupled with continuous O_2 (trim) monitoring.
- Establishing a definition of ''homogeneous waste.''
- Responding to comments on the 2011 CISWI rule regarding the use of fuel variability in emission limit calculations.
- Responding to comments on the 2011 CISWI rule regarding the review of D/F data and non-detect methodology using three times the detection level.
- Responding to comments on the 2011 CISWI rule regarding providing an option for sources to use emissions averaging to demonstrate compliance.
- Establishing a definition for foundry sand thermal reclamation unit.
- Reinstating the definition of contained gaseous material.
- Revising the definition of chemical recovery unit.
- Allowing for the use of feed stream analysis or other supplemental information to demonstrate compliance.
- Responding to comments on the 2011 CISWI rule regarding providing percent reduction alternative standards.
- Providing parametric monitoring provisions for additional control device types.
- Revisions to the continuous monitoring provisions for large ERUs.
- Extending effective dates.
- Technical corrections and clarifications.

2. How is the definition of solid waste addressed in the final CISWI rule?

The RCRA definition of solid waste is integral in defining the CISWI source category. The EPA defines NHSMs that are solid waste under RCRA in the final ''Identification of Non-Hazardous Secondary Materials That Are Solid Waste'' Rulemaking. In an action parallel to the March 21, 2011, final CISWI rule, the EPA promulgated a final rule that identifies whether NHSMs are or are not solid waste when used as fuels or ingredients in combustion units. That action, hereinafter referred to as the ''2011 NHSM final rule,'' is relevant to the final CISWI rule because some ERUs and waste-burning kilns combust, in their combustion units, secondary materials that are solid waste under the 2011 NHSM final rule. Commercial and industrial units that combust solid waste are subject to standards issued pursuant to CAA section 129, rather than to standards issued pursuant to CAA section 112 that would otherwise be applicable to such units (e.g., units that would be boilers, process heaters or cement kilns if they were not combusting solid waste).

3. What is the relationship between this rule and other combustion rules?

These amendments address the combustion of solid waste materials (as defined by the Administrator under RCRA in the NHSM Definition rule) 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 the CISWI rule because the unit would not be a solid waste incineration unit subject to standards under CAA section 129. Standards issued pursuant to section 112 of the CAA may apply to CISWI units that cease combusting solid waste. For example, CAA section 112 standards applicable to boilers and process heaters at major sources and boilers at area sources would apply to boilers and process heaters that cease combusting solid waste. Boilers and process heaters that are located at commercial and industrial facilities and that combust solid waste are subject to CISWI as ERUs. The EPA has also finalized the CAA section 112 standards for the Portland Cement Manufacturing Industry (75 FR 21136, September 9, 2010). Cement kilns combusting solid waste are waste-burning kilns subject to CISWI, not the otherwise applicable CAA section 112 standards.

4. What is the response to the vacatur of effective dates?

On January 9, 2012, the Court vacated the May 18, 2011, Delay Notice, which delayed the effective dates of the 2011 CISWI rule. On February 7, 2012, the EPA issued a no action assurance letter

regarding certain notification deadlines in the March 2011 CISWI rule.

The EPA has conducted outreach to each EPA Regional Office and it has not found any new CISWI units that commenced construction since the proposed CISWI rule was published on June 10, 2010. The CAA defines a ''new source,'' in part, as any source that commences construction after the publication date of proposed CAA section 111 and 129 standards[2] CAA section 129(g)(2). Based on our outreach efforts, we do not believe there are any CISWI units that are in noncompliance with the NSPS contained in the final 2011 CISWI rule.

As explained above, today's final rule amendatory text reflects changes to the 2011 CISWI rule, not the 2000 CISWI rule as in the reconsideration proposal notice. We have provided in the CISWI docket a redline/strikeout file of the 2000 CISWI rule to help implementing agencies and affected sources to identify the sum total of the revisions made to the 2000 CISWI rule pursuant to the 2011 CISWI rule and this final action.

B. Summary of This Final Rule

As stated above, the December 23, 2011, proposed rule addressed specific issues and provisions the EPA identified for reconsideration. This summary of the final rule reflects the agency's final action in regards to those provisions identified for reconsideration and on other discrete matters identified in response to comments or data received during the comment period. Information on other provisions and issues not proposed for reconsideration is contained in the notice and record for the 2011 CISWI rule. 76 FR 15704 (March 21, 2011).

1. Subcategories of Affected Units and Emission Standards

This final rule defines a CISWI unit, in part, 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)). We have established standards in this final rule for the following four subcategories of CISWI units: Incinerators (i.e., units designed to burn discarded waste materials for the purpose of disposal); small, remote incinerators; ERUs (i.e., units that would be boilers or process heaters if they did not combust solid waste); and waste burning kilns (i.e., units that would be cement kilns if they did not combust solid waste). We have further subcategorized ERUs into three subcategories and waste burning kilns into two subcategories for CO emission limits only. Changes to the subcategories made since proposal are discussed below in section II.C of this preamble: ''Summary of Significant Changes Since Proposal.''

The final rule emission limits for new and existing sources in the solid-fuel burning ERU subcategory and the waste-burning kilns subcategories were revised based on changes to the inventories for those subcategories as discussed below in section II.C of this preamble: ''Summary of Significant Changes Since Proposal.'' Tables 2 and 3 of this preamble present the final emission limits for all subcategories for existing and new sources, respectively.

TABLE 2—COMPARISON OF EXISTING SOURCE MACT FLOOR LIMITS FOR 2000 CISWI RULE AND THE FINAL MACT FLOOR LIMITS

Pollutant (units) [a]	Incinerators (2000 CISWI limit)	CISWI Subcategories				
		Incinerators	ERUs—Solids	ERUs—Liquid/Gas	Waste-burning kilns	Small, remote incinerators
HCl (ppmv)	62	29	0.20 (biomass units)/13 (coal units).	[b] 14	[b] 3.0	300
CO (ppmv)	157	17	260 (biomass units)/95 (coal units).	35	110 (long kilns)/790 (preheater/precalciner).	64
Pb (mg/dscm)	0.04	0.015	0.014[b] (biomass units)/0.14[b] (coal units).	0.096	0.014[b]	2.1
Cd (mg/dscm)	0.004	0.0026	0.0014[b] (biomass units)/0.0095 (coal units).	0.023	0.0014[b]	0.95
Hg (mg/dscm)	0.47	0.0048	0.0022 (biomass units)/0.016 (coal units).	[b] 0.0024	0.011[b]	0.0053
PM, filterable (mg/dscm).	70	34	11 (biomass units)/160 (coal units).	110	4.6	270
Dioxin, furans, total (ng/dscm).	(no limit)	4.6	0.52[b] (biomass units)/5.1[b] (coal units).	[b] 2.9	1.3	4,400
Dioxin, furans, TEQ (ng/dscm).	0.41	0.13	0.12 (biomass units)/0.075[b] (coal units).	[b] 0.32	0.075[b]	180
NO_X (ppmv)	388	53	290 (biomass units)/ 340 (coal units).	76	630	190
SO_2 (ppmv)	20	11	7.3 (biomass units)/650 (coal units).	720	600	150

[a] All emission limits are expressed as concentrations corrected to 7 percent O_2.
[b] See the memorandum in the CISWI docket ''CISWI Emission Limit Calculations for Existing and New Sources for the Reconsideration Final Rule'' for details on this calculation.

[2] The date for determining whether a source is a ''new'' source is the publication date of the proposed standards. The final rule and reconsideration proposal contained a typographical error in 40 CFR 60.2015(a)(1) that did not specify the June 4, 2010, proposal date.

TABLE 3—COMPARISON OF NEW SOURCE MACT FLOOR LIMITS FOR 2000 CISWI RULE AND THE FINAL MACT FLOOR LIMITS

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	[c]0.20 (biomass units)/13 (coal units).	[b]14	3.0 [b]	200
CO (ppmv)	157	17	240 (biomass units)/95 (coal units).	35	90 (long kilns)/190 (preheater/precalciner).	13
Pb (mg/dscm)	0.04	[b]0.015	0.014 [b] (biomass units)/0.14 [b] (coal units).	0.096	0.014 [b]	2.0
Cd (mg/dscm)	0.004	0.0023	0.0014 [c] (biomass units)/0.0095 (coal units).	0.023	0.0014 [b]	0.67
Hg (mg/dscm)	0.47	[b]0.00084	0.0022 [c] (biomass units)/0.016(coal units).	[d]0.00056	0.0037[b]	0.0035
PM, filterable (mg/dscm).	70	18	5.1 (biomass units)/160 (coal units).	110	2.2	[c]270
Dioxin, furans, total (ng/dscm).	(no limit)	[b]0.58	0.52 [b] (biomass units)/5.1 [b] (coal units).	(no limit)	0.51 [b]	1,800
Dioxin, furans, TEQ (ng/dscm).	0.41	0.13	0.076 [b] (biomass units)/0.075 [b] (coal units).	[d]0.093	0.075 [b]	31
NO_X (ppmv)	388	23	290 [c] (biomass units)/340 (coal units).	76	200 [b]	170
SO_2 (ppmv)	20	[c]11	7.3 [c] (biomass units)/650 (coal units).	720	28	1.2

[a] All emission limits are measured at 7 percent O_2.
[b] See the memorandum ''CISWI Emission Limit Calculations for Existing and New Sources for the Reconsideration Final Rule'' for details on this calculation.
[c] The NSPS limit equals the EG limit. The EG limit was selected as the NSPS limit.
[d] D/F 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 the Reconsideration Final Rule'' for details.
[e] SO_2 limits for Waste-burning kilns were replaced with SO_2 limits for Portland Cement NSPS kilns. See ''CISWI Emission Limit Calculations for Existing and New Sources for the Reconsideration Final Rule'' for details.

2. Fuel Switching Provisions

The EPA is finalizing the proposed fuel switching provisions that address the situation where CISWI units cease combusting solid waste, and where existing commercial and industrial combustion units begin combusting solid waste (40 CFR 60.2330 for existing units and 40 CFR 60.2710 for new units). Units that cease combusting solid waste remain subject to CISWI for at least 6 months after solid waste is last added to the combustion chamber. After 6 months, sources must either comply with any applicable section 112 standard or, if they intend to combust solid waste in the future, opt to remain subject to CISWI and continue to comply with the applicable provisions. Combustion units located at commercial or industrial facilities that begin combusting solid waste are solid waste incineration units on the date they begin combusting solid waste. Existing units that begin combusting solid waste within 6 months of the effective date of the CISWI EG must comply with the standards on the effective date of those standards. Existing units that begin combusting solid waste after the effective date of the CISWI EG must comply with those standards at the time the unit begins combusting solid waste.

3. Definitions of Cyclonic Burn Barrels, Burn-off Ovens, Soil Treatment Units, Laboratory Analysis Units and Space Heaters

We are finalizing the proposed definitions for cyclonic burn barrels, burn-off ovens, soil treatment units, and laboratory analysis units. We have revised the proposed definition for space heaters to clarify applicability for units that meet the requirements of 40 CFR part 279. The final definitions describe the types of units and state that these different types of units are not incinerators, small remote incinerators, ERUs, or waste burning kilns. The EPA is including these definitions in the final rule to differentiate these units from the units for which the agency established standards in the 2011 CISWI rule and this final action.

4. Affirmative Defense for Malfunction Events

The EPA is retaining in the final rule the proposed affirmative defense to civil penalties for malfunction events. The EPA first included an affirmative defense in the 2011 final rule in an attempt to balance a tension, inherent in many types of air regulation, to ensure adequate compliance while simultaneously recognizing that despite the most diligent of efforts, emission standards may be violated under circumstances beyond the control of the source. This final reconsideration attempts to add clarification to the affirmative defense by revising some of the regulatory provisions that specify the elements that are necessary to establish this affirmative defense as proposed—with minor changes from proposal described later in this section.

Sources are required to comply with the CISWI standards at all times, and the EPA recognizes that even equipment that is properly designed and maintained can sometimes fail and that such failure may cause an exceedance of the relevant standard. The EPA must establish emission standards that ''limit the quantity, rate, or concentration of emissions of air pollutants on a continuous basis.'' 42 U.S.C. 7602(k) (defining ''emission limitation and emission standard''). See generally *Sierra Club* v. *EPA,* 551 F.3d 1019, 1021 (D.C. Cir. 2008.) The affirmative defense for malfunction events meets this requirement by ensuring that even where there is a malfunction, the emission standard is still enforceable through injunctive relief. See generally, *Luminant Generation Co.* v. *EPA,* 2012 U.S. App. LEXIS 15722 (5th Cir. 2012)

(upholding EPA's approval of affirmative defense provisions in a CAA State Implementation Plan). While ''continuous'' standards, on the one hand, are required, there is also case law indicating that in many situations it is appropriate for the EPA to account for the practical realities of technology. For example, in *Essex Chemical* v. *Ruckelshaus,* 486 F.2d 427, 433 (D.C. Cir. 1973), the D.C. Circuit acknowledged that in setting standards under CAA section 111 ''variant provisions'' such as provisions allowing for upsets during startup, shutdown and equipment malfunction ''appear necessary to preserve the reasonableness of the standards as a whole and that the record does not support the 'never to be exceeded' standard currently in force.'' See also, *Portland Cement Association* v. *Ruckelshaus,* 486 F.2d 375 (D.C. Cir. 1973). Though intervening case law such as *Sierra Club* v. *EPA* and the CAA 1977 amendments call into question the relevance of these cases today, they support the EPA's view that a system that incorporates some level of flexibility is reasonable.

The affirmative defense provisions allow sources to avoid civil penalties for exceedances caused by a malfunction event if the source demonstrates by a preponderance of the evidence that the malfunction event meets the definition of malfunction in 40 CFR 60.2. By incorporating an affirmative defense, the EPA has formalized its approach to upset events beyond the control of the source. In a Clean Water Act setting, the Ninth Circuit required this type of formalized approach when regulating ''upsets beyond the control of the permit holder.'' *Marathon Oil Co.* v. *EPA,* 564 F.2d 1253, 1272–73 (9th Cir. 1977). See also, *Mont. Sulphur & Chem. Co.* v. *United States EPA,* 2012 U.S. App. LEXIS 1056 (Jan 19, 2012) (rejecting industry argument that reliance on the affirmative defense was not adequate). But see, *Weyerhaeuser Co.* v. *Costle,* 590 F.2d 1011, 1057–58 (D.C. Cir. 1978) (holding that an informal approach is adequate). The affirmative defense provisions give the EPA the flexibility to both ensure that its emission standards are ''continuous'' as required by 42 U.S.C. 7602(k), and account for unplanned upsets and thus support the reasonableness of the standard as a whole. In addition, the affirmative defense provisions are designed to ensure that steps are taken to correct the malfunction, minimize emissions during the malfunction, and prevent future malfunctions.

We are promulgating revisions to the affirmative defense provisions in section 60.2120 and 60.2685 as described at proposal (76 FR 80461) and making some minor additional revisions. The terms ''exceedance'' and ''excess emissions'' and ''applicable emission limitations were being exceeded'' were replaced with the term ''violation'' to more accurately reflect that the affirmative defense is only available when there has been a violation of the standard. The phrase ''emission limit'' was changed to ''emission standards'' to reflect that the affirmative defense could be applicable to certain work practice standards. The word ''however'' was removed to incorporate more plain language into the regulation. The term ''notification'' was changed to ''reporting'' to reflect that the root cause analysis required under affirmative defense would be submitted with other periodic reporting. The term ''and monitoring'' was deleted because monitoring malfunctions are defined differently than malfunctions of process and control units and the affirmative defense is intended to apply to malfunctions to affected units that cause a failure to meet an emission standard. In multiple instances the word ''were'' was changed to ''was'' to improve the clarity of a provision. The term ''facility'' was changed to ''affected source'' to clarify that the affected source regulated by the rule must be operated in a manner consistent with good practices for minimizing emissions versus the entire facility. The phrase ''off shift and overtime labor were used, to the extent practicable to make these repairs'' was removed. The EPA no longer believes the language concerning the use of off-shift and overtime labor is necessary because the regulation requires that to establish the affirmative defense the owner must prove by a preponderance of the evidence that repairs were made as expeditiously as possible when a violation occurs. Although we believe that use of off-shift or overtime labor could be cited as evidence that the owner or operator expedited repairs, we do not believe this level of detail is necessary in the regulatory text. The written report required when asserting an affirmative defense was changed from a separate ''semiannual'' report to a report that is submitted with the first periodic compliance, deviation report, or excess emission report due after the event. Lastly, the requirement to notify the Administrator by telephone or facsimile within two business days'' was removed when we refined the affirmative defense reporting requirements based upon comments received.

5. Oxygen Correction Requirements and CO Monitoring Requirements

We are finalizing provisions for calculating the 30-day CO rolling average that allow uncorrected CEMS reading to be used during the period of operation from a cold start to bring the combustion unit up to minimal normal operating temperature. We are also allowing uncorrected CEMS readings to be used in 30-day average calculations for the period of operation following the last waste material (or material feed for waste burning kilns) being fed to the combustion unit during shutdown procedures of the unit. For every type of CISWI unit except waste-burning kilns, the period of time allowed for uncorrected CEMS data during a startup shall be 48 hours or less per startup event and shall be 24 hours or less for each shutdown event. For waste-burning kilns, the period of startup begins when the kiln's induced draft fan is turned on and fuel is being combusted and continues until continuous feed is introduced into the kiln, at which time the kiln is in normal operating mode. Shutdown begins when feed to the kiln is halted. Sources must indicate in the CEMS data records which CEMS data are obtained during the startup and shutdown periods. Since the O_2 correction calculation will affect all corrected CEMS data, we have expanded these provisions in the final rule to allow for uncorrected CEMS data for any pollutant that sources elect to measure continuously with CEMS and calculate 30-day rolling averages to demonstrate continuous compliance.

Additionally, we have finalized removal of continuous CO monitoring requirements for new and existing ERU units. We are instead requiring annual CO stack tests and continuous O_2 monitoring and we are allowing CO monitoring with CEMS as a compliance alternative. We have also removed the continuous CO monitoring requirements for new CISWI units in the other subcategories, but sources may demonstrate compliance using CO CEMS if they so choose. The authority to use uncorrected CEMS data during startup and shutdowns discussed above applies to all CISWI sources that elect to demonstrate compliance with any emission limits with a CEMS instead of performing annual stack tests. Changes to the CO and other optional CEMS monitoring requirements made since proposal are discussed below in Section II.C of this preamble: ''Summary of Significant Changes Since Proposal.''

6. Full-Load Stack Test Requirement for CO Coupled With Continuous O_2 Monitoring

We are finalizing the full-load stack test and continuous O_2 monitoring provisions in today's action that allow existing sources to use their current O_2 analyzer and O_2 trim systems to demonstrate continuous compliance. Based on comments received, we have made some clarifying changes to these provisions to be clear that existing O_2 trim systems and O_2 monitors may be used to demonstrate continuous compliance, as well as clarifications on establishing the operating limits for O_2 content. Changes to the continuous O_2 monitoring requirements made since proposal are discussed below in section II.C of this preamble: ''Summary of Significant Changes Since Proposal.''

7. Non-Detect Methodology Using Three Times the Detection Level

Since proposal, the EPA continued its review of sampling volumes and detection levels across various emission testing ICR efforts on various combustion sources to encompass additional pollutants measured using EPA Reference Method 29 (See memorandum ''Updated data and procedure for handling below detection level data in analyzing various pollutant emissions databases for MACT and RTR emissions limits'' in the CISWI docket). As a result of this analysis, we have determined recommended values for three times the RDL that may be used as a minimum emission limit value that can be accurately measured by most laboratories for Cd and Pb.[3]

Furthermore, based on comments on our application of this non-detect methodology approach to CO data measured using instrument methods, we have made some modifications to the span calculation approach used in the proposed rule. Changes to the emission limits for Cd, Pb and the span adjustment calculations for CO made since proposal are discussed below in section II.C of this preamble: ''Summary of Significant Changes Since Proposal.''

8. Definitions for Foundry Sand Thermal Reclamation Unit and Chemical Recovery Unit

We are finalizing the proposed definitions of ''foundry sand thermal reclamation unit'' and ''chemical recovery unit'' to clarify that these units are not incinerators, waste-burning kilns, ERUs or small, remote incinerators under subparts CCCC or DDDD.

9. Definition of Contained Gaseous Material

In today's final rule, we have reintroduced and finalized the definition for ''contained gaseous material'' as found in the 2000 CISWI rule as proposed. As discussed earlier, the Court's vacatur of the Delay Notice now requires this definition to be reintroduced since we are now amending the 2011 CISWI rule instead of making amendments to the 2000 CISWI rule as when we published the December 2011 reconsideration proposal.

10. Parametric Monitoring Provisions for Additional Control Device Types

In the proposed rule, we requested comment on whether there were additional control device types that we should identify monitoring provisions for in the rule. We received comments on this topic and, in today's final rule, are including monitoring provisions for sorbent injection rate for dry scrubber control devices (40 CFR 60.2165 and 40 CR 60.2730). We have also clarified that sources that elect to use optional CEMS to monitor continuous compliance for Hg, D/Fs or NO_2 may do so as a substitute for parametric monitoring of ACI and SNCR control devices, respectively. Changes to the parametric monitoring provisions made since proposal are discussed below in section II.C of this preamble: ''Summary of Significant Changes Since Proposal.''

11. Particulate Matter Continuous Monitoring Provisions for Large ERUs and Waste-Burning Kilns

In today's rule, we are finalizing some revisions to the monitoring requirements for ERUs with an annual average heat input rate greater than 250 MMBtu/hr and extending the same PM continuous monitoring provisions to waste-burning kilns. In the final 2011 CISWI rule, these units were required to monitor continuously for PM using a PM CEMS; however, the PM CEMS technology may not be sufficient to certify accurate monitor performance in the PM concentration range of the CISWI biomass ERU and waste-burning kiln limits. Therefore, we are requiring continuous PM parameter monitoring systems for these units similar to those being required for major industrial boilers and utility boilers. The EPA is further requiring that a site-specific parametric operating limit be established during the performance test, that there be continuous monitoring of that parametric limit using a PM CPMS, that four deviations within a 12-month operating period constitute a violation and trigger immediate corrective action and a Method 5 performance test within 30 days with an additional 15 days to reestablish a site-specific operating limit.

We have revised all operating parameter averaging for ERU units to be on a 30-day rolling average and allowed the sorbent injection parameter to be adjusted for varying ERUs based on load. Changes to the PM continuous monitoring provisions and operating parameter provisions made since proposal are discussed below in section II.C of this preamble: ''Summary of Significant Changes Since Proposal.''

12. Revised Definition of Waste-Burning Kiln

This final rule includes a definition of waste-burning kiln that has been revised since the March 2011 CISWI Rule. This definition helps clarify the EPA's intent regarding which types of Portland cement kilns are considered subject to CISWI standards and which kilns are subject to the Portland cement NESHAP. Since proposal, some additional language was added to this definition to further clarify our proposed definition. Changes to the definition of waste burning kiln made since proposal are discussed below in section II.C of this preamble: ''Summary of Significant Changes Since Proposal.''

13. Revised Definition of Solid Waste

In the March 21, 2011, final CISWI rule, we removed the definition of solid waste that was present in the 2000 CISWI Rule in light of the definition of solid waste in the final NHSM rule. Because applicability of section 129 hinges on sources combusting solid waste, we believe it is appropriate to include a definition of that term in the CISWI rule. For that reason, the final rule contains a definition of solid waste that refers to the final NHSM rule at 40 CFR 241.2.

14. Compliance Dates

In the final rule, we are revising the compliance dates for new and existing CISWI units to reflect the effective dates of this final rule. The compliance date for existing sources depends primarily on state plan approval but may be no later than the date 5 years after publication of this final rule in the **Federal Register**. The EG are implemented through a state implementation plan or a federal plan. Under the final amendments to the EG, and consistent with the CAA section 129, revised state plans containing the revised existing source emission limits

[3] The RDL methodology is consistent with the RDL methodology outlined in the December 2011 reconsideration proposal. 76 FR 80463.

and other requirements in the final amendments are due within 1 year after promulgation of the final reconsideration amendments. States must submit revised state plans to the EPA by February 7, 2014. The EPA will revise the existing federal plan to incorporate any changes and other requirements that the EPA has promulgated. The federal plan applies to CISWI units in any state without an approved state plan. Additional discussion of the state plan implementation schedule can be found at 76 FR 15711.

For new sources, the compliance date is either August 7, 2013 or the date of startup of the source, whichever is later. New sources are defined as sources that began construction on or after June 4, 2010, or commenced reconstruction or modification after August 7, 2013.

15. Revised New Source Performance Standards

In the 2011 CISWI rule and the proposed reconsideration rule, EPA determined that the best controlled similar unit under section 129(a)(2) was not a solid waste incineration unit for certain new source standards. Specifically, the new source limits for certain pollutants from waste burning kilns and ERUs were based on cement kilns and boilers, respectively. See memorandum ''CISWI Emission Limit Calculations for Existing and New Sources'' in the CISWI docket. Both the industrial boiler NESHAP and the Portland cement NESHAP are being revised, and additional data has been incorporated into the new source MACT analyses for those rules. As a result of the new data and analyses, several of the new source NESHAP limits are being revised and EPA is changing the following new source limits in CISWI based on the revised limits in the NESHAPs: NO_X for waste-burning kilns, and Hg and PCDD/PCDF for ERU-liquid/gas units.

C. Summary of Significant Changes Since Proposal

1. Revision of the Subcategories

Energy Recovery Units

In the final 2011 CISWI Rule, we established separate subcategories based on the types of fuels and wastes ERUs were designed to burn. Energy Recovery Units (e.g., units that would be boilers and process heaters but for that fact that they combust solid waste) designed to burn gaseous fuels and liquids that are solid waste were included in one primary subcategory and the other primary subcategory was for units designed to burn solid fuels or predominantly non-coal solid materials. In the final 2011 CISWI rule, the solid fuel ERU subcategory was further divided into separate subcategories for coal and biomass units, with separate limits for CO, NO_X and SO_2 to account for significant differences in unit design for these two types of fuels and the impacts the different unit designs have on emissions of these pollutants.

Because the public was not afforded an opportunity to comment on the revision to the ERU subcategory, we identified this as a reconsideration issue in the March 21, 2011, notice of intent to reconsider certain aspects of the 2011 CISWI Rule. Certain petitions for reconsideration supported the further subcategorization of the solid-fuel ERU subcategory and suggested that all nine emission limits should be divided between coal and biomass ERUs, instead of only having different limits for CO, NO_X and SO_2.

We granted reconsideration of our subcategorization approach for ERUs and proposed to establish different emission limits for PM, Cd, Pb, and D/F between coal and biomass units, in addition to establishing different limits for CO, NO_X and SO_2. We also solicited comment on whether we should also subcategorize solid-fuel ERUs for HCl and Hg.

Based on comments and information received during the comment period, we have determined that it is appropriate to subcategorize solid fuel ERUs for all nine CAA section 129 pollutants. We recognize that there are significant design and operational differences between biomass and coal ERU units that impact the generation of all nine regulated pollutants, and, for this reason, we are establishing separate emission standards for all nine pollutants from coal and biomass ERUs in this final rule.

In addition, since issuing the proposed reconsideration CISWI rule, we have received comments and data which allowed us to update our inventory of ERUs. The inventory adjustments we made more accurately reflect the inventory of solid waste combustion units. Based on comments from the operator of the units, we removed three units from the final rule inventory of biomass ERUs that were determined to be non-waste burning units and we re-analyzed the emission limits for the solid-biomass ERU subcategory. The commenter explained that, although permitted to burn materials that would be considered solid waste, these units had ceased burning the materials in question several years ago and would not recommence burning these in the future. Thus, at the time of testing, these units were not solid waste incineration units. We also received additional CO emissions data and re-analyzed the performance of the best-performing ERU in the solid-coal ERU subcategory. The emission limits in this final rule reflect the new inventory and emission data received; however, we have used the same methodology as in the 2011 CISWI rule and December 23, 2011, reconsideration proposal for establishing the emission limits.

Waste-Burning Kilns

Prior to the reconsideration proposal, the EPA performed an analysis of the materials being combusted in the entire inventory of Portland cement kilns in light of the final NHSM rule (See memorandum ''Revised Floors without Kilns that Would have been CISWI Kilns Had the Solid Waste Definition Applied'' in the CISWI docket). As a result of this analysis, we added 11 kilns to our inventory of waste-burning kilns. In addition to this, we further reviewed the Portland cement emissions test records and identified some additional test data for kilns that were added to the CISWI inventory following the March 21, 2011, final rule publication. This newly-identified data was extracted and compiled into the CISWI database, and then the MACT floor emission limits were re-calculated in the December 23, 2011, proposed rule to reflect the updated inventory and additional data. Following proposal, we were also notified of one additional waste-burning kiln and that one of the kilns in the inventory was not burning waste materials. We made these adjustments to our inventory, bringing the total waste-burning kiln inventory to 23 kilns. We recalculated the standards in this final rule to include all 23 waste burning kilns.

As with the new ERU standards, we have used the same methodology to establish today's emission limits as we used for the final 2011 CISWI rule. We have also retained the emissions concentration basis for the standards. However, Table 4 of this preamble presents the emission limits for PM, NO_X, SO_2 and Hg on a production basis for comparison.

TABLE 4—WASTE-BURNING KILN EMISSION LIMITS EXPRESSED IN PRODUCTION BASIS

Pollutant (units)	Existing kilns [a]	New kilns [a]
Hg (lb/MM ton clinker) ..	58	21
PM (lb/ton clinker)	0.026	0.013
NO_X (lb/ton clinker)	6.7	1.5

TABLE 4—WASTE-BURNING KILN EMISSION LIMITS EXPRESSED IN PRODUCTION BASIS—Continued

Pollutant (units)	Existing kilns [a]	New kilns [a]
SO_2 (lb/ton clinker)	8.9	0.4

[a] Approximate.

Small Remote Incinerators

After the reconsideration proposal, we received additional information from stakeholders of additional units in operation and planned for operation within the next year or two that would qualify as small remote incinerators. The resulting changes included moving one unit from the small remote incinerator subcategory to the incinerator subcategory due to the unit's proximity to a landfill in Alaska. An additional 15 small remote incinerators were added to our inventory of existing units, bringing the total of this subcategory to 28 units. This additional information resulted in changes to the emissions limits.

2. Revisions to the Monitoring Requirements

After the March 21, 2001 final rule, petitioners identified computational issues for correcting CO concentration measurements to 7 percent O_2 for periods when the O_2 content of the flue gas approaches the ambient air O_2 content during startup and shutdown periods for sources that demonstrate compliance with the CO limit using CEMS. The equation for the 7 percent O_2 correction is X ppm CO* $(20.9-7)/(20.9-\%O_2$ of flue gas stream). As seen by this equation, as the flue gas stream O_2 content gets closer to 20.9, the value of X is multiplied by an ever increasing factor. For example, when the stack gas O_2 content is 4 percent, the factor is 0.82. If the stack gas O_2 content is 20 percent, the factor increases to 15.4. Therefore, a flue gas CO concentration reading of 100 ppm would be corrected to 82 ppm for a stack gas at 4 percent O_2 content, but would become a 1,540 ppm corrected concentration for a stack gas at 20 percent O_2 content. In the extreme, at a 20.8 percent stack gas concentration (i.e., approximating ambient air O_2 content), the same 100 ppm measurement would be corrected to 13,900 ppm.

Petitioners noted that O_2 contents relatively close to ambient air often are maintained during combustion unit startup and shutdown in order to safely operate the combustion unit. Therefore, CO readings during these periods would be multiplied by an uncharacteristically high correction factor, and the resulting corrected CO concentrations inflated due to the 7 percent O_2 correction. Petitioners and commenters presented data that show these corrected data points would have the potential to drive the 30-day rolling average values beyond the emission limit for the affected units, but this would not be an accurate reflection of the CO emissions.

Petitioners suggested various approaches to remedy this situation, with one being to not require the 7 percent O_2 correction requirement during unit startup and shutdown for sources that demonstrate compliance with the CO limit using CEMS. In other words, the CEMS data as reported at stack gas concentration without O_2 correction would be included in the rolling average calculations for periods when the combustion unit is either being started up or shutdown instead of applying the O_2 correction to that data before it is included in the calculation of the 30 day rolling average. During all other operating periods, the CEMS data would be corrected to a 7 percent O_2 concentration prior to calculating the rolling average. Stated otherwise, the data obtained during startup and shutdown, which will not include the 7 percent O_2 correction, will be added to the O_2 corrected data collected during all other periods to calculate the 30-day average that is used to determine continuous compliance with the applicable CO limit for sources that demonstrate compliance using CEMS.

Prior to issuing the reconsideration proposal, we received data for one unit in one subcategory (coal ERUs) that indicated startups usually occur over a 4-hour period and shutdowns occur over a 1 hour period. Therefore, we proposed provisions for calculating the 30-day CO rolling average that would allow the source to use CEMS data that does not include the O_2 correction to be used during the first 4 hours of operation from a cold start and the 1 hour of operation following the last waste material being fed to the combustion unit during shutdown procedures of the unit. Since proposal, however, we received comments on this provision, primarily pointing out that longer periods are required to protect combustion equipment from rapid temperature swings, which could cause damage to the fireboxes or kiln surfaces. Commenters also contended that the limited information concerning the startup and shutdown periods during which the O_2 correction would not be required did not reflect the needs for all combustor types or control device configurations. We have therefore revised the shutdown and startup period of operation to be more generally applicable to CISWI units. In the case of ERUs, incinerators and small remote incinerators, we determined that the startup period should include the times prior to the source reaching the minimal operating temperature, but in no case longer than 48 hours. For shutdown, we determined as at proposal that shutdown begins after the last waste has been fed to the combustor prior to shutdown but we have revised the final rule to indicate that the shutdown period may not exceed 24 hours. We have, therefore, specified in the final rule an UL of 48 hours for startup periods to use uncorrected CEMS data and 24 hours for shutdown periods to use uncorrected CEMS data for ERUs, incinerators and small remote incinerators. For waste-burning kilns, these periods are triggered off of material feed to the kiln rather than solely waste feed. This addresses the fact that kilns, unlike other CISWI units, are producing product rather than solely disposing of waste or recovering energy. Therefore, for waste-burning kilns, startup begins when the kiln's induced fan is turned on and continues until continuous feed is introduced into the kiln at which time the kiln is in normal operating mode. Shutdown begins when feed to the kiln is halted.

As at proposal, sources must indicate in the CEMS data records which CEMS data are uncorrected because they were obtained during the startup and shutdown period.

The O_2 correction issue described above for CO CEMS data collected during startup and shutdown applies equally to other pollutants measured with a CEMS that is corrected to 7 percent O_2. The final CISWI rule allows sources to demonstrate compliance with any of the standards using CEMS, and, for this reason, we have expanded authorization to use uncorrected CEMS data during periods of startup and shutdown to all pollutants for which a source demonstrates compliance with CEMS. In the final rule, the 7 percent O_2 correction is not required during startup and shutdowns for any CISWI sources that elect to demonstrate continuous compliance with any of the emission limits with a CEMS instead of stack tests.

3. Oxygen Monitoring Requirements

At proposal, we included provisions and definitions in an attempt to ensure that sources would be able to use existing O_2 monitoring systems to meet the continuous O_2 monitoring requirements. However, commenters identified potential issues with our proposed provisions and definitions. To address these commenters' concerns, we

have revised the provisions in 40 CFR 60.2165 and 40 CFR 60.2730 to clarify the methodology for establishing and monitoring the O_2 level. Furthermore, the definition of ''oxygen analyzer system'' has been revised to clarify the appropriate locations and nomenclature of possible existing monitoring systems so that their use to meet these requirements is fully enabled.

4. Removal of the Definition of Homogeneous Waste

The EPA included in the final 2011 CISWI Rule a definition of homogenous waste and a process for evaluating claims that a particular waste stream is homogenous. The definition was added to the 2011 CISWI rule in response to comment. Because the determination of homogeneity of a waste stream is relevant to applicability of CAA section 129 to qualifying small power producers and qualifying cogeneration facilities, we determined it was reasonable to include a definition of ''homogenous waste'' and a process by which sources could obtain a determination that a waste stream is homogenous from the EPA.

In the 2011 CISWI Rule, the EPA stated that a determination concerning whether a waste is homogeneous is made on a case-by-case basis. The EPA added provisions to the CISWI final rule that require source owners or operators seeking the exemption to submit a request for a homogeneous waste determination to the EPA, and that they support their request with information describing the materials to be combusted and why they believe the waste is homogeneous. The 2011 CISWI rule also stated that the determination of what constitutes a homogeneous waste is not delegable to the state or local agencies. In the December 23, 2011, reconsideration proposal, we proposed for comment the definition of ''homogeneous waste'' and the provisions for making homogeneous waste determinations that were included in the 2011 CISWI rule.

Commenters generally did not agree with the proposed definition and provisions for making a homogeneous waste determination, arguing that the definition and provisions introduced ambiguities and stipulations that would prevent classification of many materials (including fossil fuels) as being ''homogeneous.'' We reevaluated the definition and provisions in light of the comments and determined that the definition and provisions could be interpreted in a manner that would be unduly restrictive; however, we also determined that commenters proposed alternative definitions and provisions were equally problematic. Therefore, the final rule does not include a definition of ''homogeneous waste''. We are also removing the requirement that qualifying small power producers and qualifying cogeneration facilities that combust solid waste obtain a determination from EPA that such waste is homogenous. Because the final rule does not include a homogenous waste definition or a process to obtain a determination from EPA, we believe that it is appropriate to inform the EPA when a unit qualifies as a small power generator or cogeneration facility as defined under section 129 because the site specific fact patterns for different types of waste may vary considerably. Therefore, the final rule requires qualifying small power producers and qualifying cogeneration facilities that combust solid waste notify the EPA that such waste is homogeneous. (40 CFR 60.2020 and 40 CFR 60.2555).

Section 129 states, in part, that the term ''solid waste incineration unit'' does not include:

> * * * qualifying small power production facilities, as defined in section *796 (17)(C)* of title *16*, or qualifying cogeneration facilities, as defined in section *796 (18)(B)* of title *16*, 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 * * * CAA Section 129(g)(1)(B) (*emphasis added*)

We believe that the parenthetical contained in the exemption that prohibits refuse derived fuel, which is made from municipal solid waste, from qualifying as homogenous waste and allows tires and used oil to qualify as homogenous wastes provides guidance on what constitutes a homogenous waste. We do not accept industry's assertion that any waste from a common source is homogeneous, or that in all cases combining two homogeneous wastes results in a homogeneous waste, as doing so could result in almost any waste stream being homogenous. We do not believe that is consistent with the statute. Instead, we believe Congress intended this exemption to apply only when the waste stream has a consistent makeup that allows the source and the enforcement authority to predict the range of emissions from the combustion of the waste on an ongoing basis.

In keeping with this interpretation, we maintain that the homogeneous wastes are generally material specific (e.g., tires or used oil). We believe this means that a homogeneous waste is of known origin and that it can be identified as a specific material or materials—using the example in the Act, certain used oils or scrap tires. By contrast, municipal solid waste can be identified as municipal solid waste as a general term, but it is not composed of only one or two specific type of waste; e.g. municipal solid waste cannot be identified as one specific material or group of materials. Regarding variability of the composition of homogeneous waste throughout, homogeneous waste may have variations in composition, but it should generally be within the range of operations which produce the waste (e.g., size, contaminant levels, state of matter.) We also believe that off-spec materials may be homogeneous, even if they are not homogeneous to the on-spec material, and that, if combusted together, both the on-spec and off-spec materials may require separate homogenous waste determinations. We also believe that homogeneous waste should have predictable known contaminant levels, even if those contaminant levels vary within a range. We may question the homogeneity of a specific material if it is adulterated such that it takes on the characteristics of a different type of waste (e.g., used oil which is so contaminated with PCB's from a leaking heat exchanger, such that the used oil takes on the characteristics of a waste PCB stream as opposed to a used oil stream) or where the BTU value of a waste is so altered that other fuels must be introduced to ensure combustion and preserve the purpose of combustion under the exemption, i.e. to produce energy.

5. Non-Detect Methodology Using Three Times the Detection Level

Prior to reconsideration proposal, the EPA conducted a review of sampling volumes and detection levels across various emission testing ICR efforts on various combustion sources (See memorandum ''Updated data and procedure for handling below detection level data in analyzing various pollutant emissions databases for MACT and RTR emissions limits'' in the CISWI docket). As a result of this analysis, we determined recommended values for three times the RDL (3xRDL) that may be used as a minimum emission limit value that can be accurately measured by most laboratories. These recommended values were then compared with calculated emission limits and, if the calculated limit was less than the recommended 3xRDL, the 3xRDL value was selected as the limit. Since the December 23, 2011, reconsideration proposal was published,

we have continued our review and determined 3xRDL values for additional metals measured using EPA Reference Method 29. These include recommended values for Cd and Pb and we have applied this methodology to those emission limits in addition to the D/F and Hg limits that were reevaluated in the reconsideration proposal. As discussed in the reconsideration proposal, the premise for this approach is the same as described in the final 2011 CISWI rule but using a broader data set to establish the 3xRDL value. We have not changed the methodology of the emission limit calculation or tabulation of the three times the detection limit value that was used in the final 2011 CISWI rule.

Since reconsideration proposal, some commenters have noted that the EPA Method 5 minimum catch values were below levels established in similar studies on this reference method. In light of these comments, we have reconsidered the 1 mg minimum catch value used in the reconsideration proposal and are now using a 1 mg minimum catch in establishing the final rule emission limits. Our review and determination of the 1 mg minimum catch are discussed in ''Minimum Detection Limit for EPA Method 5'' in the CISWI docket.

In a similar fashion, the CO span adjustment methodology has been further refined in consideration of comments on the approach used to adjust CO instrumental test methods readings in reconsideration proposal. The methodology for adjusting CO emission test run data to reflect the limitations from the instrument span used at testing is described in the ''CISWI Emission Limit Calculations for Existing and New Sources for the Reconsideration Final Rule'' memorandum in the CISWI docket.

6. Parametric Monitoring for Additional Control Device Types

In the December 23, 2011, reconsideration proposal, we stated that we believed the control devices with monitoring provisions expressly identified in the rules should encompass most types of control devices that we anticipate the various types of CISWI units will use to meet the emission limits. However, recognizing that a source might want to employ another type of control that is not addressed, we provided provisions for sources to petition for specific operating limits for alternative control devices to be established during a performance test. These provisions also allow specific operating limits to be established for CISWI units without any air pollution control devices, such as for units that employ material balance operating limits in conjunction with periodic stack testing to demonstrate continuous compliance.

We also determined that dry sorbent injection (or dry scrubbers) may be one type of additional control device that CISWI units may widely use to control acid gases. Commenters agreed with our statement and encouraged the EPA to identify operating parameters for dry scrubbing systems in the final rule. We have done so, by both defining ''dry scrubber'' in the rule, and specifying that the sorbent injection rate must be monitored and maintained at or above the operating rate established during the HCl performance test (40 CFR 60.2165 and 40 CFR 60.2730). Furthermore, we have determined that the sorbent injection rate for ERUs can be adjusted to reflect operating loads that are less than those during the performance testing. Commenters have made arguments that requiring a high sorbent injection rate during reduced boiler loads can lead to fouling and plugging issues, especially for acid gas sorbent injection. To address this particular concern, and to provide consistency with other industrial boiler rules, we are also providing this parametric monitoring provision for sorbent injection air pollution control devices.

Also regarding monitoring, we determined after proposal that we had not clarified in the rule that sources opting to use CEMS to measure NO_X, Hg or D/F were not required to monitor ACI rates (for Hg and D/F CEMS-equipped units) or SNCR parameter monitoring (for NO_X CEMS-equipped units). Our intent had been to not require applicable control device parameter monitoring if a CEMS was in use for the pollutant being controlled by the device. Control device parameter monitoring is an acceptable and established method for determining continuous compliance and it is appropriate to require such monitoring when coupled with period stack testing. However, direct, continuous emission measurements with a CEMS are sufficient for determining compliance for CISWI units without requiring parametric monitoring. In cases where CEMS data are available to directly measure regulated pollutants, operating parameter data would be duplicative.

7. Particulate Matter Continuous Monitoring Provisions for Large ERUs and Waste-Burning Kilns

In today's rule, we are finalizing monitoring requirements for ERUs with an annual average heat input rate greater than 250 MMBtu/hr. As we stated in the proposal, recent EPA experience with the utility boiler source category has led the EPA to allow PM CEMS as an alternative, rather than a requirement. Industry commenters have maintained that there were several problems with implementing the monitoring requirements to demonstrate compliance using a PM CEMS and with the requirements to conduct a periodic audit of the PM CEMS in accordance with PS 11 of appendix B and Procedure 2 of appendix F to part 60. As we discuss in response to these comments later in this preamble (See II.E), the PM CEMS technology may not be sufficient to certify accurate monitor performance in the PM concentration range of the CISWI biomass ERU limits. Furthermore, in related ongoing work on the Portland cement source category, we realize that similar concerns regarding PM CEMS are applicable. Therefore, we are also removing PM CEMS (PS–11) requirements for waste-burning kilns, and instead, requiring PM CEMS equipment for these units that are used for continuous parametric monitoring rather than for direct measure of compliance with the numerical PM emissions limit, similar to those being required for major industrial boilers and utility boilers. However, PM CEMS (PS–11), are still allowed as an option for coal ERUs, incinerators and small remote incinerators, since the emission limits for these subcategories do not pose the same technical concerns as for biomass ERUs and waste-burning kilns. To be consistent with these other rules, we have incorporated 30-day rolling averages to be measured with PM CPMS. The EPA is further requiring that a site-specific parametric operating limit be established during the performance test, that there be continuous monitoring of that parametric limit using a PM CPMS, that an exceedance of that site-specific operating limit be reported as a deviation and trigger immediate corrective action and a Method 5 performance test within 45 days.

8. Compliance Dates

At reconsideration proposal, we proposed to extend the compliance dates for existing units in the incinerator, ERU and waste-burning kiln subcategories. We are finalizing the revision of the effective dates for those three subcategories and, based on comments received, we are also extending the compliance date for units in the small remote incinerator subcategory. The EPA proposed to amend the standards for CO for all subcategories of CISWI; to further

subcategorize certain subcategories; to change several other pollutant standards for incinerator, ERU and waste burning kilns subcategories; to change the compliance regime from CEMS-based to stack-test/parametric-monitoring based for certain pollutants and unit types; and to change the compliance calculation provisions for sources that are required or that elect to use CEMS to demonstrate continuous compliance. These proposed changes may occasion the need for additional time for sources to study the possibility of different control and monitoring strategies than would have been considered if we had not amended the 2011 CISWI rule. New compliance strategies may require time to implement. New engineering studies may be needed, potential suppliers identified, a new bidding/procurement process undertaken and the appropriate construction and operating permits obtained. Significant plant redesign, in the form of new ductwork and new fan design and changes in the main control equipment may be needed. See US EPA, Engineering and Economic Factors Affecting the Installation of Control Technologies for Multipollutant Strategies, October 2002. Depending on the type of control, this normally requires 15–27 months. Multiple control systems may take longer. Id. Installation of controls normally occurs at times of unit outages, which will likely end up being at differing times of the year for each of the CISWI subcategories. For example, for waste-burning kilns, this would occur during winter months (to coincide with kiln outages during low production seasons). However, for small remote incinerators, facility retrofits would need to occur while road access to the site is available and climatic conditions allow for construction. Also, small remote incinerators have the additional component of having to increase the footprint of the site to accommodate additional space for control devices and waste segregation facilities. This additional permitting requirement and construction effort is not something other CISWI subcategories have to face but adds an additional consideration to developing a compliance strategy. In general, though, the differing construction constraints for the various subcategories of CISWI likely mean that there will be a wide variety to the rate of progress towards compliance for the differing CISWI sources. Further, commenters have argued that, due to the delay of the final 2011 CISWI rule, uncertainty on selecting a compliance strategy was created, essentially putting internal compliance implementation activities on hold until the reconsideration was complete. As a result of these considerations, we have finalized extending compliance for all subcategories of CISWI. Comments on extending the compliance date and our responses to these comments are found in the ''Summary of Comments and Responses to the CISWI Reconsideration'' document in the CISWI docket.

The compliance date for existing CISWI sources subject to standards in this final rule is 5 years after the date of publication of this final rule or 3 years after the state plan is approved, whichever happens earlier. This date is being finalized in order to provide facilities sufficient time to install controls or to make other compliance-related decisions. However, the CAA section 129(f)(2) does require that the promulgated standards be effective ''as expeditiously as practicable after approval of a State plan,'' so that states have the flexibility to determine that the standards for existing units within their purview may have a compliance date which is less than the allowable 3 years following approval of the state plan. For new sources, the EPA is finalizing the proposed change of the compliance date to 6 months after the date of publication of the final reconsideration rule or at startup, whichever is later.

9. Definition of Waste-Burning Kiln

In the December 23, 2011, reconsideration proposal, we proposed revisions to the definition of ''waste-burning kiln'' to indicate that the term ''does not include a kiln that is feeding non-hazardous secondary ingredients exclusively into the cold end of the kiln.'' In proposing this language, the EPA intended to codify principles set out in a previous action granting and denying reconsideration of the NESHAP for Portland cement kilns. See 76 FR 28318, 28322 (May 17, 2011); see also Memorandum ''Revised Floors Without Kilns That Would Have Been CISWI Kilns Had the Solid Waste Definition Applied'' (EPA, April 25, 2011) (which memorandum is summarized in the May 17 **Federal Register** notice). The May 17, 2011, notice and April 25, 2011, memorandum state in essence that combustion does not occur in any region of a cement kiln except the hot end and that cement kiln dust added to the hot end of a cement kiln also is not combusted since it is inorganic and essentially inert.

The language used at proposal captured some but not all of these principles, since it referred only to the ''cold end'' of a cement kiln, as pointed out by a number of commenters. The EPA is revising the definition in the final rule to accurately reflect the May 17 preamble and April 25 memorandum discussion of when combustion occurs in a cement kiln. In addition, we are adding the fact that combustion in a cement kiln does also take place in the combustion zone of a precalciner or riser duct burner.

One further clarification is appropriate. The May 17, 2011, preamble contains one reference to legitimacy criteria for determining when a secondary material is being recycled. 76 FR at 28322/1–2. The threshold issue for determining if a unit is subject to section 129 is whether it ''combusts'' solid waste material (see section 129 (g)(1)). For cement kilns, this determination does not necessarily turn on legitimacy of recycling, but rather on the nature of the cement kiln process. Consequently, if combustion of solid waste is not occurring, a unit is not a CISWI, irrespective of whether or not legitimate recycling is occurring.

10. Exemption for Other Solid Waste Incineration (OSWI) Units

Following publication of the December 23, 2011, reconsideration proposal, we realized that the CISWI rule did not contain any language to clarify overlap with another CAA section 129 regulation applicable to OSWI units. The CISWI rule already contains exemptions for MWCs, HMIWIs and SSIs, but omitted similar language for OSWI units. Therefore, in this final rule, we are providing language in 40 CFR 60.2020 and 60.2555 that clarifies that incineration units that are subject to 40 CFR part 60 subparts EEEE or FFFF are exempt from the CISWI rule.

D. Technical Corrections and Clarifications

We are also including some technical corrections and clarifications in the final rule, as outlined below:

- Operating parameter limits during performance testing—While we believe it is intrinsic that established operating parameter limits do not apply during subsequent performance testing since they are being confirmed or reestablished during the subsequent testing, we provided language in the proposed rule in the NSPS to clarify that they are waived during performance testing (40 CFR 60.2145(c)). However, we inadvertently omitted this clarifying language in the emission guidelines so we have added clarifying language in the final emission guidelines at 40 CFR 60.2710(c).
- Bypass stacks on waste-burning kilns—While not included in the final

rule text, we are clarifying here that the definition of ''bypass stack'' in today's final rule does not have the same meaning as an ''alkali bypass'' used by some waste-burning kilns that manufacture Portland cement.

• Clarifying that, consistent with CAA section 129(f)(1), June 4, 2010, is the appropriate new source applicability date in 40 CFR 60.2015(a)(1).

• Revising the title of Table 2 to subpart DDDD to clarify that these emission limits apply to incinerators which are currently subject to CISWI emission limits promulgated in the 2000 CISWI rule.

• Clarifying that petitions for specific operating limits for control devices not listed in this subpart must be submitted to the Administrator at least 60 days before the performance test is scheduled to begin (40 CFR 60.2115 and 40 CFR 60.2680).

• Providing definitions of ''30-day rolling average'' and ''responsible official'' to clarify what is meant by these terms.

• Adding text to the provisions for PM monitoring provisions for ERUs to clarify that the 250 MMBtu/hr threshold is based upon the average annual heat input rate, consistent with how this threshold is applied in the industrial boiler NESHAP.

• Revising the affirmative defense text to clarify that these provisions apply to violations of standards and to further clarify the reporting requirements and criteria for sources seeking to assert an affirmative defense (40 CFR 60.2120 and 40 CFR 60.2685).

• Revising the recordkeeping provisions in 40 CFR 60.2175(v) and 40 CFR 60.2740(u) to reflect the categorical non-waste determination provisions of 40 CFR 241.4.

• Revising the electronic reporting provisions in 40 CFR 60.2235 and 40 CFR 60.2795 to clarify the timing and mechanism for submitting these reports and to be consistent with the electronic reporting language in more recent rulemakings.

• Revising the definition of ''process change'' to clarify the intended types of changes that would require re-testing.

• Making corrections to the D/F calculation methodologies for toxic equivalency basis and adding calculation methodology provisions for D/F TMB.

• Revising the definition of ''space heater'' to clarify applicability for units that meet the requirements of 40 CFR 279.

• Revising the emission limits for those pollutants for which data available from a similar source was determined to be better suited for calculating the new source limits. Notably, this is the case for NO_X for waste-burning kilns, and for Hg and PCDD/PCDF for ERU-liquid/gas units. These revisions reflect updates made to emission limits of the selected similar sources.

E. Major Public Comments and Responses

We have included some of the major comment topics and our responses below in the preamble. All other comments and responses are provided in the ''Reconsideration Response to Public Comments Document'' in the CISWI docket.

Solid-Fuel ERU Subcategorization

Comment: Several commenters support the proposed separate coal and biomass standards for D/Fs, CO, NO_X, SO_2, PM, Cd and Pb. However, these commenters further urge the EPA to establish separate standards for HCl and Hg for coal and biomass. Commenters state that the EPA's recognition that design and operational differences between combustors designed to combust coal and those designed to combust biomass is evidence to support subcategorizing emission limits for all pollutants. One commenter discussed differences in biomass and coal fuel rank, and the significant boiler design differences in furnace height and volume that exist between units designed to combust different fuel ranks of coal-fired boiler furnaces. As an example, one commenter noted that a low-rank coal (high slagging lignite) furnace can be 1.65 times the plan area, and 1.45 times the furnace height, of a similar capacity furnace combusting a high rank coal (medium volatile bituminous). The commenter stated that this large difference exists even among varying grades of coal, with biomass units being fuels of even lower rank than lignite. Therefore, according to the commenter, furnace area and height (and hence, volume) are significantly different between ERUs designed to combust coal and those designed for biomass combustion. The commenter highlighted an analysis of their existing boilers to see the feasibility of substituting biomass for coal. The commenter's results indicated that, due to fundamental design attributes of their coal-fired units, they could only co-fire up to 20 percent biomass in the units. The commenter explained that this limitation was due to design issues pertaining to the unit being designed for coal, such as superheater tube spacing, number and location of soot blowers, fouling characteristics of biomass ash and the impact the high moisture levels of biomass fuels have on fan capacity. The commenter stated that these findings further support that coal and biomass are not interchangeable within ERUs and therefore supports subcategorizing emission limits between the two types of unit. The commenter also contended that the EPA acknowledged significant design differences and their impacts on Hg emissions during development of the Utility MACT Final Rule. The commenter urges the EPA to take a similar approach in CISWI. One commenter agreed with differentiation between coal-fired and biomass ERUs but supported keeping solid-fuel ERUs together for purposed of HCl and Hg emission limits. Another commenter argued that all of the EPA's subcategories are unlawful and arbitrary, noting that their reasons for this belief were given in their comments on the 2010 proposal.

Response: Based on our proposal and follow-up comments summarized below, the EPA is finalizing separate limits for all nine pollutants for biomass and coal ERUs. We agree with comments concerning differences in moisture content between biomass and coal-fired units. We reviewed data in the CISWI database and see that the stack gas moisture content of coal-fired ERUs is around 11.6 percent and is about 19.2 percent for the biomass ERUs. We have considered the technical arguments provided by commenters on CISWI ERUs, other technical differences we have previously considered in our decision to subcategorize ERUs and how these design differences impact pollutant emission characteristics of the ERU. As a result, we have determined that subcategorizing all nine pollutant emission limits between coal and biomass solid-fuel ERUs is appropriate for the final CISWI rule.

One commenter supported the differentiation between coal and biomass, but in keeping HCl and Hg limits together. However, for the reasons given above, we have determined that all nine pollutants should be subcategorized.

Contained Gaseous Material

Comment: Commenters support the EPA retaining the 2000 CISWI rule's definition of ''contained gaseous material.'' Some commenters believe that the EPA should expressly include the definition of ''contained gaseous material'' in the amendatory text to confirm that the definition is back in the CISWI rule.

Response: We believe that the commenters misunderstood what the EPA proposed. Specifically, the basis of

the reconsideration proposal amendatory text was the 2000 CISWI rule—not the 2011 CISWI rule—because the 2011 CISWI rule had not been codified in the CFR pursuant to the Delay Notice. Therefore, by not including the amendatory instruction to delete the definition in the 2000 rule in the proposed reconsideration rule, we proposed to retain the definition as contained in the 2000 CISWI rule. However, as explained above, due to the vacatur of the Delay Notice, the 2011 CISWI rule is in effect and the definition of contained gaseous material does not appear in that rule. For that reason, we are including the definition of ''contained gaseous material'' found in the 2000 CISWI rule in today's final rule.

Comment: Many commenters who supported the EPA retaining the 2000 CISWI rule's definition of ''contained gaseous material'' also urged the Agency to make clear that this definition should apply when interpreting the term ''solid waste'' under RCRA.

Response: As aforementioned, the Agency is including the definition of ''contained gaseous material'' found in the 2000 CISWI Rule in today's final rule. Specifically, the definition of ''contained gaseous material'' is codified today, consistent with the 2000 CISWI Rule, as meaning, ''gases that are in a container when that container is combusted.''[4]

CAA section 129(g)(6) states that the definition of ''solid waste'' shall have the meaning established by the Administrator pursuant to RCRA. We agree that the definition of contained gaseous materials in the final CISWI rule is consistent with the interpretation of that term under RCRA for the purpose of defining when non-hazardous secondary materials are solid wastes when combusted in CISWI units.[5] As discussed in more detail in the NHSM portion of the December 2011 reconsideration proposal and in various letters issued by EPA,[6] the NHSM rulemaking did not change any previous EPA position as it relates to whether ''contained gaseous material'' is a solid waste under RCRA.''[7]

We note, however, that although gases must be ''contained'' to be solid wastes under RCRA, EPA maintains separate and independent authority under RCRA to regulate certain types of uncontained gases whether or not they themselves are solid wastes (e.g., gases emitted from the management of hazardous waste).[8]

Comment: Some commenters also requested that EPA clarify that landfill gas is not considered to be a ''contained gaseous material'' and/or a ''solid waste'' under RCRA.

Response: We agree with commenters that landfill gases must be in a container when that container is combusted to be considered ''contained gaseous material'' under today's final CISWI regulations.

However, given that landfill gas is emitted from solid waste (i.e., non-hazardous solid waste landfills or municipal waste landfills), EPA has distinct and independent authority under RCRA to regulate this material as part of our authority to regulate solid waste landfills (for example, in order to address the risk of explosions posed by methane emissions per 40 CFR 258.23).[9]

Oxygen Correction During Startup and Shutdown

Comment: Commenters generally support allowing the use of uncorrected CEMS data during startup and shutdown. Several commenters are concerned that the 4- hour startup and a 1-hour shutdown period (derived from a single coal fired unit) are not sufficient for all the CISWI unit types and technologies. Other commenters believe there should be no time limitations on shutdown and startups. One commenter, however, believes the proposed time limit is appropriate. Some commenters recommend using the Boiler MACT rule approach using load to define when the O_2 corrections do not apply.

Commenters also urge the EPA to eliminate the O_2 correction for all CEM-measured emission limits, not just CO, during startup and shutdown periods. Commenters also support making this allowance available to all types of CISWI unit, not only ERUs.

Response: In today's final rule, we are retaining the provision that allows sources to use uncorrected CO CEMS data during periods of startup and shutdown. Based on comments and the technical justifications for allowing the use of uncorrected CEMS data identified during the comment period, we are expanding this provision to any pollutant for which continuous compliance is being determined using CEMS as explained above in ''Section II.C: Summary of Significant Changes Since Proposal.''

Particulate Matter Continuous Monitoring Provisions for Large ERUs and Waste-Burning Kilns

Comment: Several commenters supported the EPA's proposal to remove requirements for PM CEMS (using PS–11) for continuous compliance for large ERUs and waste-burning kilns, stating that PM CEMS usefulness and application issues of these monitors are uncertain. Commenters asserted that, for biomass ERUs and sources with low PM concentration, PM CEMS were not adequate to accurately monitor low PM concentrations. Commenters further contended that PM CPMS are essentially the same thing as PM CEMS, and that there were no clear instructions on how to ''certify'' PM CPMS, as was required in the proposed rule. Commenters added that they do not understand how the recording of hourly and 30-day rolling averages of the output from these monitors will be useful to demonstrate

[4] See 65 FR at 75359 and 75373.

[5] Note that for the purposes of CISWI, contained gaseous materials are limited to gases in a container when that container is combusted. This limitation is due to the fact that CAA section 129 is focused exclusively on combustion of non-hazardous solid wastes. On the other hand, RCRA is focused on more than just combustion of non-hazardous solid wastes (e.g., treatment, storage, and disposal of hazardous and non-hazardous wastes); thus, this limitation is inapplicable to RCRA. We also note that the term 'container' as used in this definition is broader than the term as used in the hazardous waste regulations (see 40 CFR 260.10, definition of container). Specifically, the term here is not limited to a portable device, but also includes stationary containers. We believe that these interpretations under the CAA and RCRA are consistent.

[6] For example, see June 25, 2012 letter from Assistant Administrator Mathy Stanislaus to Paul Noe. A copy of this letter has been placed in the docket for today's rulemaking.

[7] See 76 FR at 80472–80473.

[8] RCRA section 3002(a) directs EPA to establish standards for hazardous waste generators and RCRA section 3004(a) directs EPA to establish performance standards for all facilities that treat, store or dispose of hazardous waste. Both of these provisions grant authority to control gaseous emissions from hazardous waste management as may be necessary to protect human health and the environment. RCRA sections 3004(n), and (o)(1)(B), further direct EPA to regulate air emissions from, respectively, hazardous waste treatment, storage and disposal facilities; and hazardous waste incinerators. The authority provided in RCRA section 3004(q) to regulate fuel produced from hazardous waste also encompasses gaseous fuels (when they are produced from hazardous wastes).The authority provided in RCRA section 3004(u) to control ''releases'' of hazardous constituents from solid waste management units at a facility seeking a RCRA permit also encompasses gaseous releases (when the gases are hazardous constituents). The authority granted under these sections of the statute is independent of EPA's authorities over solid waste. As an example, EPA has authority to regulate emissions generated during treatment of hazardous waste, including volatilization and incineration of hazardous waste.

[9] RCRA Subtitle D gives EPA authority to set standards for non-hazardous waste disposal facilities, including standards for air emissions. For example, EPA's criteria for municipal solid waste landfills, established pursuant to RCRA sections 1008(a)(3), 2002, 4004(a), and 4010(c), generally address air quality by prohibiting the open burning of waste and by setting limits on the concentration of explosive gases (i.e., methane). See also March 6, 1986 Letter from Marcia E. Williams to Mr. H. Lanier Hickman, Jr., which states, ''[W]e believe it is clear that the U.S. Environmental Protection Agency (EPA) has the authority under both Sections 3004(n) and 4004(a) of RCRA, as well as the CAA, to regulate gaseous emissions from hazardous and non-hazardous waste landfills.''

performance or evaluate compliance with a PM limit. One commenter suggested that the EPA remove the PM CPMS requirements altogether for all industrial boilers.

Response: We are revising the PM CEMS requirements in the final rule as explained above.

In responding to this comment specifically, we believe it is useful to review the procedures and acceptance criteria of PS–11, the protocol mandated by the 2011 final CISWI rule.

Performance Specification-11

PS–11 is structured differently than other PSs that apply to validating the performance of gaseous pollutant CEMS. This is primarily because the pollutant, PM, is defined entirely by the test method specified by regulation to measure it. As the industry commenters note, there are no independent standard reference materials for PM concentrations as there are for gaseous pollutants (e.g., NIST traceable compressed gases for validating SO_2 or NO_X instrumental measurements). The only reference standard for determining the PM concentration in an air or stack gas sample is the reference test method. In the case of the CISWI final rule, the rule specifies EPA Method 5 for measuring filterable PM concentration (e.g., in mg/dscm).

Performance Specification 11 provides procedures and acceptance criteria for validating the performance of several types of PM CEMS technologies. Although there are multiple instrument and data reporting operational performance checks in PS–11 that are similar in concept to those for gaseous pollutant CEMS, there is a principal PM CEMS performance requirement that is distinctly different. That difference is the development of a site-specific PM CEMS correlation or mathematical response curve. There are two key procedural elements to developing that correlation. First, PS–11 requires that the source conduct stack test runs using an EPA PM test method (e.g., Method 5) and simultaneously collect corresponding PM CEMS output data. Second, the source must vary the operation of the control device manually in order to produce a range of PM concentrations. Performance Specification 11, section 8.6, requires at least five test runs at each of three different operating conditions (i.e., low, mid and high PM concentrations) for a total of 15 or more test runs that range from 25 to 100 percent of allowable emissions. Then the source must use the test method data and the corresponding PM CEMS output data to develop an equation (i.e., a calculated linear or nonlinear curve) that will be used to define the relationship between the PM CEMS output and the test method measured PM concentrations. Each site-specific correlation must meet several PS–11 acceptance criteria including limits on confidence interval and tolerance interval equating to ±25 percent of the applicable emissions limit.

Discussion of Technical Issues

In prior comments submitted to the EPA on the PM CEMS requirements for waste-burning kilns, one issue raised about conducting the testing to meet the PS–11 correlation development requirement is the impracticality of varying the emissions from a FF control device. Many CISWI units subject to the standards use FF control devices.

We agree with commenters that there are typically few, if any, physical adjustments one can apply to a FF or to the waste-burning kiln process to change the outlet PM concentration significantly. A FF produces essentially a constant outlet concentration even with changes to the inlet loading or flow (*http://www.epa.gov/ttnchie1/mkb/documents/ff-pulse.pdf*). Although PS–11 allows some flexibility when control device perturbations are not possible, the resulting correlation would apply for only the narrow range of concentrations measured during the testing. The result would be that the PM CEMS would be correlated only for a relatively small range of conditions below the applicable compliance limit. This range would not necessarily include situations where the standard might be exceeded. Without the ability to calculate emissions should the FF performance change from initial test conditions (e.g., bag leaks begin to develop), such a limited correlation range would render the PM CEMS less reliable for calculating long term average concentrations or emissions rates and for verifying compliance. Additionally, it is difficult and resource intensive to modify baghouse control efficiency in a way that is representative of normal operations at a waste-burning kiln.

Commenters also cited problems in developing correlations in stack gases with variable PM constituents and physical characteristics when using light scatter or scintillation detection PM CEMS devices. As noted above and in the EPA's technology background documents (e.g., *http://www.epa.gov/ttn/emc/cem/pmcemsknowfinalrep.pdf* and *http://www.epa.gov/ttn/emc/cem/r4703-02-07.pdf*), the correlations developed for these types of instruments are inherently dependent on the particle structure, size and other physical characteristics as well as PM mass in the exhaust gases for each site. Put another way, these light-based PM CEMS produce a signal that can vary when different fuels or raw materials are introduced to the kilns or ERU even when the FF outlet mass concentration remains unchanged.

To the extent that physical characteristics of the PM in the stack remain stable, correlations for light-based PM CEMS meeting PS–11 performance criteria can represent mass rates to the degree of accuracy required by PS–11. For example, there are various design structures used in some light-based PM CEMS devices that can mitigate the effects of changes in the physical aspects of particles on measurement uncertainty. In addition to the type of light effect measured (e.g., Rayleigh or Mie scattering or light scintillation), the detector wavelength and the frequency are design factors that will affect how the PM CEMS responds to small changes in the physical appearance of the PM.

On this point, we note that if a source owner were concerned about the ability of a light-based PM CEMS to meet the requirements of PS–11 because of variable physical characteristics of particles in the stack, there is at least one other PM CEMS technology based more directly on mass measurement rather than on light scatter or light scintillation characteristics. The currently available Beta gauge technology does not suffer from this particular technical problem. The Beta attenuation PM CEMS, also called Beta gauge, extracts a sample for the stack gas and collects the PM on a filter tape. The device periodically advances the tape from the sampling mode to an area where the sample is exposed to Beta radiation. The detector measures the amount of Beta emitted by the sample and that amount can be directly related to the mass of PM on the filter. The Beta gauge sensitivity or detection limit can be enhanced (i.e., lowered) with greater sample volumes produced from sampling intervals up to an hour or longer.

Another PM mass detector projected for greater use as PM CEMS is the TEOM. Often used in measuring ambient levels of PM, the TEOM operates on a basic principle that can be made traceable to NIST laboratory standards. The TEOM can provide a continuous measure of PM mass in a sample extracted from the stack and routed to the detector. Tapered element oscillating microbalance based PM CEMS are not yet commercially available.

Commenters identified another factor contributing to the difficulty of meeting PS–11 correlation requirements for low PM concentrations corresponding to a low applicable emissions limit, as with the promulgated PM standards here for waste-burning kilns and biomass ERUs. We have recently reevaluated the capabilities of the EPA Method 5 for measuring low concentrations of PM (See the memo ''Revision of Estimated Method 5 Detection Limit'' in the CISWI docket) and have determined a Method 5 method detection limit of approximately 2 mg/dscm for a 1-hour test run. The uncertainty of a measurement with Method 5 at this PM concentration would be from 50 to 100 percent (i.e., ±1 to 2 mg/dscm). We can determine a PQL using ~3 × method detection limit to reduce that Method 5 measurement uncertainty to ±10 to 20 percent. That means that the PQL for a 1-hour test run with Method 5 would be approximately 6 mg/dscm ±0.6 to 1.2 mg/dscm.

The CISWI PM emissions limit for existing waste-burning kiln sources is 3.6 mg/dscm, and is 11 mg/dscm for biomass ERUs. The new source limits are the same for waste-burning kilns but are 5.1 mg/dscm for biomass ERUs. As noted above, PS–11 specifies acceptable criteria for a correlation directly related to the applicable emissions limit. For a PM CEMS set up to measure compliance with a 3.6 mg/dscm limit, the inherent uncertainty associated with a 1-hour Method 5 measurement (±0.6 to 1.2 mg/dscm) would constitute more than half of the ±25 percent of the applicable PS–11 acceptance threshold (i.e., ±0.9 mg/dscm) of the mid-level PS–11 correlation test (i.e., the correlation for the middle of the three PS–11 correlation points). Factoring in the inherent PM CEMS response variability and the uncertainty associated with the representative sampling (e.g., PM and flow stratification), we agree with commenters that trying to satisfy PS–11 at such low concentrations using 1-hour Method 5 test runs would be problematic. This drawback applies regardless of the type of PM CEMS technology used.

As commenters to the Portland Cement NESHAP have noted, one can improve the method detection capabilities of the Method 5 or other filterable PM test method by increasing sampling volume and run time. For example, a test run time of about 2 hours will improve the Method 5 PQL to about 3 mg/dscm. The measurement uncertainty associated with a 2-hour test run at 3 mg/dscm would be about ±0.3 to 0.6 mg/dscm. At this level, the uncertainty associated with the PM test method measurements alone would be about half of the correlation limit allowed in PS–11. To achieve a PQL of 1 mg/dscm and a measurement uncertainty of about ±0.01 to 0.2 mg/dscm, one would need to conduct a test run of 6 hours or longer. As noted above, the PS–11 correlation calculations would also have to account for any PM CEMS analytical and measurement variability.

Using data from longer Method 5 test runs will improve the probability of a PM CEMS meeting PS–11 correlation requirements but, as commenters note, will also raise practicality concerns without completely resolving the issue. For example, the time to complete 15 1-hour test runs under three different emissions conditions may be 3 to 6 days of field work, while the time to complete 15 6-hour test runs under three different emissions conditions will require at least 2 weeks of field work in order to produce and maintain the operating conditions associated with three different emissions rates. Longer test runs lower the variability of Method 5 PM measurements at near detection limit levels from ± 50 percent to below ± 25 percent; however, the variability of Method 5 results at these low levels represents a significantly larger portion of the ± 25 percent correlation requirement of PS–11 than would Method 5 data collected at higher PM concentrations. Method 5 measurement uncertainty becomes increasingly greater with lowering PM concentration and thus reference measurement variability hinders the PS–11 correlation process the most for the best performing sources. Thus, the ultimate result might still lack certainty and would also pose the most difficulty and uncertainty to those sources with lower PM concentrations (potentially disadvantaging more efficient operators).

Although longer Method 5 test runs and longer beta gauge sampling times reduce difficulties with PS–11 correlation for a PM CEMS, the EPA believes that this correlation will not be technically achievable for a significant number of waste-burning kiln and biomass ERU sources, a result in part due to the Method 5 PM emissions measurement variability at the low concentrations necessary to maintain compliance with the standard. The PM CEMS correlations then become approximations more qualitative than quantitative with high levels of uncertainty at low concentrations (i.e., the correlations do not meet PS–11 requirements). This characteristic exists regardless of the type of PM CEMS technology used by the source since it involves variability not only of the PM CEMS but also the Method 5 test data, variability of raw material and additive feeds to the waste-burning kiln, and the changing particle sizes, shapes, and density with process operations (e.g., mill on versus mill off, type of fuel being used in the ERU).

Making PM CEMS work at low concentrations (<10 mg/dscm) at waste-burning kiln and biomass ERU sources is not impossible; although, to expect that correlations would be achievable at all low emissions sources would be unrealistic. Additionally, the technical limitations do not mean that PM CEMS cannot be used to monitor for compliance. A PM CEMS that does not meet the EPA correlation requirements can still produce data indicative of trends and changes in emissions control. Particulate Matter CEMS technology can be effective in monitoring control device performance (see, e.g., 77 FR 9371 (February 16, 2012)) where the EPA established PM CPMS parametric operating limits for electric utility steam generating units.

A Monitoring Approach Alternative to PM CEMS and PS–11

To address technical issues associated with PM CEMS meeting PS–11 correlation requirements at low PM emissions concentrations from waste-burning kilns and biomass ERUs, the impracticability in perturbing FF emission rates to establish PS 11 correlation curves, and the potentially variable PM emissions characteristics expected from waste-burning kilns, the EPA is finalizing the change of the compliance basis for the PM emissions limit from PM CEMS. For monitoring continuous compliance, the rule requires PM CEMS equipment but, as explained below, that equipment would be used for continuous parametric monitoring rather than for direct measure of compliance with the numerical PM emissions limit.

Specifically, this final rule recognizes the value of PM monitoring technology sensitive to changes in PM emissions concentrations and use of such a tool to assure continued good operation of PM control equipment. This approach avoids the PM CEMS calibration (i.e., PS–11 correlation). Therefore, the EPA is including provisions that a site-specific parametric operating limit be established during the performance test, that there be continuous monitoring of that parametric limit using a PM CPMS, that an exceedance of that site-specific operating limit be reported as a deviation and trigger immediate corrective action and a Method 5 performance test within 45 days.

In the May 2012 Proposed National Emission Standards for Hazardous Air Pollutants for the Portland Cement Manufacturing Industry and Standards of Performance for Portland Cement Plants The EPA proposed the use of PM CPMS for continuous monitoring of PM emissions as a 30-day rolling average established by identifying the average PM CPMS response corresponding to the highest 1-hour PM compliance test. Failure to meet this 30-day rolling average would result in retesting. Industry commented that this requirement would trigger unnecessary retests for many facilities, especially for cleaner sources. This is a legitimate issue. To avoid a perverse result, the EPA is modifying the way PM CPMS operating limits are established. Sources whose compliance with the PM emission standard are shown to be 75 percent or below the emission limit in the PM method 5 compliance test will set their PM parametric operating limit to be a 30-day rolling average equivalent to that 75 percent level. Sources whose compliance with the PM emission standard are above 75 percent of the emission limit will establish their operating limit as a 30-day rolling average equal to the average PM CPMS values recorded during the PM compliance test. It should be noted that this provision does not affect the actual emission limit that must be met.

F. What other actions are we taking?

In this final action, we are denying requests for reconsideration on all issues contained in the petitioners' requests for reconsideration that we did not include in the December 23, 2011, proposed rule. The issues for which we are denying reconsideration failed to meet the standard for reconsideration under CAA section 307(d)(7)(B) and we determined that reconsideration was not otherwise appropriate. Specifically, on these issues, the petitioner has failed to show the following: That it was impracticable to raise their objections during the comment period; or that the grounds for their objections arose after the close of the comment period; and/or that their concern is of central relevance to the outcome of the rules. We have concluded that no clarifications to the underlying rules are warranted for the 19 remaining petitioners' issues for the reasons set forth in the memorandum titled ''Denied CISWI Petition Issues'' found in the CISWI docket. The following issues are addressed in that memorandum.

- Work practice standards should be used for startup/shutdowns and malfunctions.
- Exempt or revise limits for units combusting de minimis amounts of waste.
- Clarify applicability of CISWI standards to marine vessel units or units located on the outer continental shelf.
- Clarify applicability to temporary or portable units.
- Reduce performance testing requirements to be more consistent with requirements of other rules.
- Reconsider elimination of provisions that allow missing CEMS data.
- Do not include emissions data for combination boiler units.
- CISWI does not satisfy CAA 112(c)(6) requirements for POM and PCB.
- MACT floor statistical approach concerns.
- MACT floor must reflect the average, the UPL is not the same as the average emission level.
- MACT floor pollutant-by-pollutant approach concerns.
- Non-detect methodology is unlawful.
- Beyond-the-floor analysis is unlawful and arbitrary.
- Compliance cost and wildlife concerns for small remote incinerators.
- ''Refinery gas'' definition should be included in the CISWI rule.
- Clarify that construction and demolition wood is not a solid waste.

G. What are the impacts associated with the amendments?

1. 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 final rule using the definition of solid waste under RCRA and the proposed CISWI emission limits are presented in Table 5 of this preamble.

TABLE 5—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	772.2	784.3
CO	20,093	20,058
Pb	2.5	2.71

TABLE 5—EMISSIONS REDUCTIONS FOR MACT COMPLIANCE AND ALTERNATIVE DISPOSAL OPTIONS FOR EXISTING CISWI USING THE EMISSION LIMITS—Continued

Pollutant	Reductions achieved through meeting MACT (ton/yr)	Reductions achieved assuming incinerators and small, remote incinerators use alternative disposal (ton/yr) [a]
Cd	1.807	1.809
Hg	0.341	0.344
PM (filterable)	2,397	2,401
dioxin, furans	0.000062	0.000064
NO_X	5,292	5,399
SO_2	6,211	6,262
Total	34,771	34,909

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

The 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, the 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 27 units. The 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, the 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 following this final rule, 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 current existing unit baseline, based on average emission concentration values and sizes from our current inventory and the new source emission limits. Table 6 of this preamble presents the model plant emissions reductions that are expected for new sources.

TABLE 6—EMISSIONS REDUCTIONS ON A MODEL PLANT BASIS

Pollutant	Emission reduction for CISWI subcategory model units (tpy unless otherwise noted)	
	Incinerator	Small, remote incinerator
HCl	2.62	0.0
CO	0.0	0.25
Pb	0.55	0.11
Cd	0.15	0.019
Hg	0.0026	0.00036
PM (filterable)	103	10.7
D/F (total mass) [a]	0.0011	0.0
NO_X	11.3	0.0
SO_2	5.1	4.5
Total	122	22.0

[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 effective 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, our cost analyses have found that alternative waste disposal is generally available and less expensive.

2. 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 71 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 25,400 tpy from PM capture and 13,700 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 110,600 tpy of waste would be diverted to a landfill.

For new CISWI units, we estimate an annual requirement of 980,000 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 6.8 tpy from PM capture and 4.7 tpy from ACI.

3. 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 217,400 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 94 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.

4. 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 110,600 tpy of waste going to landfills. By using the 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 96,400 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.

5. 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 final 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 $816 million with an associated total annual cost of $271 million ($2008). For comparison, the 2011 final rule, estimated an overall total capital investment of $652 million with an associated total annual cost of $232 million ($2008). The annualized cost of today's final rule are approximately 17% higher than those of the final 2011 CISWI rule. The changes in cost result from revising the inventories of the ERUs, waste-burning kilns, and small remote incinerators as discussed in Section II.C. of this preamble: ''Summary of Significant Changes Since Proposal.''

Under the rule, the 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 0.001 percent).

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

In addition to estimating this rule's social costs and benefits, the EPA has estimated the employment impacts of the final rule. We expect that the rule's direct impact on employment will be small. For the reconsideration final, the estimated employment changes range

between −400 to +900 employees, with a central estimate of +200.

We have not quantified the rule's indirect or induced impacts. For further explanation and discussion of our analysis, see the introductory memo and Section 3 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 that three new small remote incinerators will come online in the next year, followed by one new small remote incinerator per year for subsequent 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 $9.3 million over 5 years with an associated total annual cost (for 2015) of $2.7 million.

6. What are the benefits?

We estimate the monetized benefits of this regulatory action to be $420 million to $1.0 billion (2008$), 3 percent (discount rate) in the implementation year (2015). The monetized benefits of the regulatory action at a 7 percent discount rate are $380 million to $930 million (2008$). 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 two estimates.[10] Since the reconsideration proposal, we have made several updates to the approach we use to estimate mortality and morbidity benefits in the PM NAAQS RIAs (U.S. EPA, 2012a,b) [11] [12], including updated epidemiology studies, health endpoints, and population data. Although we have not re-estimated the benefits for this rule to apply this new approach, these updates generally offset each other, and we anticipate that the rounded benefits estimated for this rule are unlikely to be different than those provided below. More information on these updates can be found in the PM NAAQS RIAs .A summary of the monetized benefits estimates at discount rates of 3 percent and 7 percent is in Table 7 of this preamble.

TABLE 7—SUMMARY OF THE MONETIZED BENEFITS ESTIMATES FOR THE CISWI NSPS AND EG IN 2015

[Millions of 2008$] [a] [b]

Pollutant	Estimated emission reductions (tpy)	Total monetized benefits (3% Discount Rate)	Total monetized benefits (7% Discount Rate)
$PM_{2.5}$	917	$210 to $510	$190 to $460.
$PM_{2.5}$ Precursors			
SO_2	6,262	$180 to $450	$170 to $410.
NO_X	5,399	$26 to $64	$24 to $58.
Total		$420 to $1,000	$380 to $930.

[a] 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 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. To estimate human health benefits of this rule, the EPA used benefit-per-ton factors to quantify the changes in $PM_{2.5}$-related health impacts and monetized benefits based on changes in SO_2 and NO_X emissions. 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).[13]

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 the scientific evidence is not yet sufficient to 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 depending on the location and magnitude of their impact on $PM_{2.5}$ levels, which drive population exposure. For example, SO_2 has a lower benefit-per-ton estimate than direct $PM_{2.5}$ because it does not form as much $PM_{2.5}$, thus, the exposure would be lower and the monetized health benefits would be lower.

It is important to note that the magnitude of the $PM_{2.5}$ benefits is largely driven by the concentration response function for premature mortality. Experts have advised the EPA

[10] 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.

[11] U.S. Environmental Protection Agency (U.S. EPA). 2012a. *Regulatory Impact Analysis for the Proposed Revisions to the National Ambient Air Quality Standards for Particulate Matter.* EPA–452/R–12–003. Office of Air Quality Planning and Standards, Health and Environmental Impacts Division. June. Available at *http://www.epa.gov/ttnecas1/regdata/RIAs/PMRIACombinedFile_Bookmarked.pdf.*

[12] U.S. Environmental Protection Agency (U.S. EPA). 2012b. *Regulatory Impact Analysis for the Final Revisions to the National Ambient Air Quality Standards for Particulate Matter.* EPA–452/R–12–003. Office of Air Quality Planning and Standards, Health and Environmental Impacts Division. December. Available at *http://www.epa.gov/pm/2012/finalria.pdf.*

[13] 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.

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 [14] and the extended Six Cities cohort study.[15] In the RIA for this rule, which is available in the docket, we also include benefits estimates derived from expert judgments and other assumptions.

The 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 a LML assessment provides some insight into the level of uncertainty in the estimated PM mortality benefits, the 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.

Every benefit analysis examining the potential effects of a change in environmental protection requirements is limited, to some extent, by data gaps, model capabilities (such as geographic coverage) and uncertainties in the underlying scientific and economic studies used to configure the benefit and cost models. Despite these uncertainties, we believe the benefit analysis for this rule provides a reasonable indication of the expected health benefits of the rulemaking under a set of reasonable assumptions. 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 [16] 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 20,000 tons of carbon monoxide, 780 tons of HCl, 2.5 tons of lead, 1.8 tons of cadmium, 680 pounds of mercury, and 58 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.

For more information on the benefits analysis, please refer to the RIA for this rulemaking, which is available in the docket.

III. NHSM Final Revisions

A. Statutory Authority

The EPA is promulgating these regulations under the authority of sections 2002(a)(1) and 1004(27) of the RCRA, as amended, 42 U.S.C. 6912(a)(1) and 6903(27). Section 129(a)(1)(D) of the CAA ((42 U.S.C. 7429) directs the EPA to establish standards for CISWIs, which burn solid waste. Section 129(g)(6) of the CAA provides that the term ''solid waste'' is to be established by the EPA under RCRA. Section 2002(a)(1) of RCRA authorizes the agency to promulgate regulations as are necessary to carry out its functions under the Act. The statutory definition of ''solid waste'' is provided in RCRA section 1004(27).

B. NHSM Rule History

The agency first solicited comments on how the RCRA definition of solid waste should apply to NHSMs used as fuels or ingredients in combustion units in an ANPRM, which was published in the **Federal Register** on January 2, 2009 (74 FR 41). We then published a NHSM proposed rule on June 4, 2010 (75 FR 31844), which the EPA issued in final form on March 21, 2011 (76 FR 15456). The March 2011, NHSM final rule codified the standards and procedures for identifying which non-hazardous secondary materials are ''solid waste'' when used as fuels or ingredients in combustion units.

In October 2011, the agency announced it would be initiating new rulemaking proceedings to revise certain aspects of the NHSM rule.[17] On December 23, 2011, we then published a proposed rule, which addressed specific targeted amendments and clarifications to the part 241 regulations (76 FR 80452). These proposed revisions and clarifications were limited to certain issues on which the agency had received new information, as well as targeted revisions that the agency believed were appropriate in order to allow implementation of the rule as the EPA originally intended.[18] As stated throughout the preamble to the proposed rule, the agency was not reopening the entire NHSM rule for reconsideration and would not respond to comments directed toward rule provisions that were not specifically identified in this proposal.[19] Therefore, any comments that were submitted outside the scope of the proposal, or for which the EPA did not solicit comment,

[14] 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.

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

[16] 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.*

[17] See October 14, 2011, Letter from Administrator Lisa P. Jackson to Senator Olympia Snowe. A copy of this letter has been placed in the docket for today's rule (EPA–HQ–RCRA–2008–1873).

[18] For more information regarding the intent of the December 23, 2011, proposed rule, see 76 FR 80469. For more information regarding the scope of the proposed rule, see 76 FR 80470–80474.

[19] For example, see 76 FR 80470: ''The EPA is soliciting comment only on these targeted changes and is not reopening any other issues in the final NHSM rule. Comments that go beyond the scope of this narrow RCRA rulemaking will not be addressed by the Agency when it finalizes today's proposed rule.'' See also 76 FR 80474 ''As noted above, the intent of this proposal is to identify certain specific aspects of the rule which EPA is reconsidering and on which it is soliciting public comment. The Agency is not reopening the entire rule for reconsideration and will not respond to comments directed toward rule provisions that are not specifically identified in this proposal.'' and 76 FR 80482 ''The Agency is not considering any change to the self-implementing, mandatory nature of the § 241.3 standards for individual facilities and will not respond to any comments on this topic.''.

are not addressed in this final rule, or in the Response to Comments document that has been prepared for this final rule.

The Agency also notes that even though the NHSM final rule will become effective on April 8, 2013, existing facilities that currently burn NHSMs will have a substantial amount of time before having to comply with the CISWI standards, as the compliance date for existing CISWI sources subject to CAA 129 standards is 5 years after the date of publication of the CISWI final rule or 3 years after the state plan is approved, whichever happens earlier. In addition, the Boiler MACT rule provides until February 7, 2016, for existing sources to comply with the standards. We recognize that new sources will have to comply with these rules sooner than do existing sources. Thus, we believe that there will be more than adequate time for persons to determine whether or not a NHSM sent to a combustion unit is a solid waste.

C. Introduction—Summary of Regulations Being Finalized

In today's rule, the EPA is finalizing certain amendments and clarifications to the 40 CFR part 241 regulations on which we have received new information, as well as specific targeted revisions that are appropriate in order to allow implementation of the rule as the EPA originally intended. The regulations being issued today are summarized below. The intent of this summary is to give a brief overview of the revised part 241 regulations. More detailed discussions, including the agency's responses to comments received on the proposed rule and its rationale for decisions being made in this final action, are included in section III.D of this preamble. In addition, in an effort to aid the regulated community, the EPA is including in the docket for today's rule an informational redline/strikeout version that identifies the specific changes to the regulatory text, as compared to the March 2011, final rule.[20]

1. Revised Definitions

In today's rule, the EPA is finalizing revisions to the three definitions discussed in the proposed rule: (1) ''clean cellulosic biomass,'' (2) ''contaminants,'' and (3) ''established tire collection programs.'' In addition, based on comments received on the proposed rule, the agency is also finalizing a revised definition of ''resinated wood.'' These revised definitions will be codified in 40 CFR 241.2.

a. Clean Cellulosic Biomass

In today's action, the EPA is issuing a revised definition of ''clean cellulosic biomass'' that: (1) Makes clear that the list of biomass materials are examples within the definition and is not intended to be an exhaustive list; and (2) provides a more comprehensive list of clean cellulosic biomass to guide the regulated community. These revisions do not change the agency's intent under the March 2011 final rule, but identify additional materials that are ''clean cellulosic biomass,'' and, thus, are traditional fuels under these regulations. A discussion of relevant comments regarding the definition of clean cellulosic biomass, as well as our rationale for making these determinations, can be found in section III.D.1.a of this preamble.

b. Contaminants

In today's action, the EPA is issuing a final definition of ''contaminants'' to clarify what constituents will be considered contaminants for the purposes of the contaminant legitimacy criterion. Revisions include: (1) The replacement of a reference to ''any constituent that will result in emissions'' with a specific list of constituents to be considered as contaminants based on their status as a precursor to air emissions; (2) the removal from the definition of specific CAA section 112(b) and 129(a)(4) pollutants that are not expected to be found in any NHSM or are adequately covered elsewhere in the definition; and (3) the removal of the phrase ''including those constituents that could generate products of incomplete combustion'' from the definition. A discussion of relevant comments regarding the contaminants definition, as well as our rationale for making these determinations, can be found in section III.D.1.b of this preamble.

c. Established Tire Collection Programs

In today's action, the EPA is finalizing a revised definition of ''established tire collection program'' in order to account for ''off-specification'' (including factory scrap) tires that are contractually arranged to be collected, managed and transported between a tire manufacturer (including retailers or other parties involved in the distribution and sale of new tires) and a combustor, which is analogous to how scrap tires removed from vehicles are managed. The off-specification tires are not removed from vehicles[21] and are handled under contractual arrangements which ensure they are not discarded. A description of how the changes to the definition accommodate the management of off-specification tires can be found in section III.D.1.c of this preamble. In addition to the proposed changes, we are revising the definition to specifically include tires that were not abandoned and were received from the general public at tire collection program events. A discussion of relevant comments regarding the definition, as well as our rationale for making this determination, can be found in section III.D.1.c of this preamble.

d. Resinated Wood

In today's action, the EPA is issuing a revised definition of ''resinated wood'' that includes additional materials in order to be more representative of the universe of resinated wood residuals that are currently used as fuels throughout the wood product manufacturing process. Revisions include: (1) Replacing the phrase ''containing resin adhesives'' with the phrase, ''containing binders and adhesives,'' and (2) specifically including ''off-specification resinated wood products that do not meet a manufacturing quality or standard'' within this definition. A discussion of relevant comments regarding the resinated wood definition, as well as our rationale for making this determination, can be found in section III.D.3.b of this preamble.

2. Contaminant Legitimacy Criterion for NHSM Used as Fuels

In today's action, the EPA is issuing in final form a revised contaminant legitimacy criterion for NHSMs used as fuels to provide additional details on how contaminant comparisons between NHSMs and traditional fuels may be made. Revisions include: (1) The ability to compare groups of contaminants where technically reasonable; (2) the clarification that ''designed to burn'' means can burn or does burn, and not necessarily permitted to burn; (3) the ability to use traditional fuel data from national surveys and other sources beyond a facility's current fuel supplier; and (4) the ability to use ranges of traditional fuel contaminant levels when making contaminant comparisons, provided the variability of NHSM contaminant levels is also considered. A discussion of relevant comments regarding the contaminant legitimacy criterion for NHSMs used as fuels, as

[20] This document has been titled, ''NHSM 2012 Final Rule Regulation Changes'' and is placed in Docket No: EPA–HQ–RCRA–2008–0329.

[21] ''Removal from vehicles'' had been a component of the definition.

well as our rationale for making these determinations, can be found in section III.D.2 of this preamble.

3. Categorical Non-Waste Determinations for Specific NHSM Used as Fuels

In today's final rule, the agency is codifying determinations that certain NHSMs are non-wastes when used as fuels. Based on all available information, the EPA has determined that the following NHSMs are categorically not a solid waste when burned as a fuel in combustion units: (1) Scrap tires that are not discarded and are managed under the oversight of established tire collection programs, including tires removed from vehicles and off-specification tires; (2) resinated wood; (3) coal refuse that has been recovered from legacy piles and processed in the same manner as currently-generated coal refuse; and (4) dewatered pulp and paper sludges that are not discarded and are generated and burned on-site by pulp and paper mills that burn a significant portion of such materials where such dewatered residuals are managed in a manner that preserves the meaningful heating value of the materials.

a. Scrap Tires

In today's action, the agency is adding scrap tires that are not discarded and are managed under the oversight of established tire collection programs, including tires removed from vehicles and off-specification tires (including factory scraps), to the categorical list of non-waste fuels (see 40 CFR 241.4(a)(1)) as proposed. Based on this categorical non-waste determination, facilities burning the scrap tires that qualify for the provision will not need to demonstrate that this NHSM meets the legitimacy criteria on a site-by-site basis. Further, the addition to the new categorical non-waste provision at 40 CFR 241.4(a)(1) eliminated the need for the previous scrap tire provision at 40 CFR 241.3(b)(2)(i),[22] which has been removed and reserved in today's final rule. A discussion of relevant comments regarding the scrap tire provision, as well as our rationale for making this determination, can be found in section III.D.3.a of this preamble.

b. Resinated Wood

In today's action, the agency is listing resinated wood as a non-waste fuel in 40 CFR 241.4(a)(2), as proposed. The EPA has evaluated resinated wood and, based on all available information, including consideration of the legitimacy criteria, as well as other relevant factors, has determined that resinated wood is not a solid waste when used as a fuel. Based on this categorical non-waste determination, facilities burning resinated wood residuals as a fuel will not need to demonstrate that this NHSM meets the legitimacy criteria on a site-by-site basis.

Further, the addition of this categorical non-waste determination (40 CFR 241.4(a)(2)) eliminated the need for the previous resinated wood provision at 40 CFR 241.3(b)(2)(ii),[23] which has been removed and reserved in today's final rule. A discussion of relevant comments regarding the categorical non-waste determination for resinated wood, as well as our rationale for making this determination, can be found in section III.D.3.b of this preamble.

c. Coal Refuse

In today's action, the agency has determined that coal refuse that has been recovered from legacy piles and processed in the same manner as currently-generated coal refuse, is a non-waste fuel in 40 CFR 241.4(a)(3). This determination is based on the fact that: (1)Legacy coal refuse processed in the same manner as currently-generated coal refuse meets the definition of processing (as codified in 40 CFR 241.2); and (2)the EPA's assessment that such materials meet the legitimacy criteria for fuels (as codified in 40 CFR 241.3(d)(1)) when compared to currently-generated coal refuse, which the agency considers to be within the definition of a traditional fuel (as codified in 40 CFR 241.2). Based on this categorical non-waste determination, facilities burning these materials as a fuel will not need to demonstrate that this NHSM meets the legitimacy criteria on a site-by-site basis. A discussion of relevant comments regarding the categorical non-waste determination for coal refuse that is recovered from legacy piles and processed, as well as our rationale for making this determination, can be found in section III.D.5.b of this preamble.

d. Pulp and Paper Sludge

In today's action, the EPA has determined that dewatered pulp and paper sludges that are not discarded and are generated and burned on-site by pulp and paper mills that burn a significant portion of such materials where such dewatered residuals are managed in a manner that preserves the meaningful heating value of the materials are non-waste fuels in 40 CFR 241.4(a)(4). This determination for pulp and paper sludge as a categorical non-waste represents the agency's finding, after balancing the regulatory legitimacy criteria with other relevant factors, that the burning of this material is an integral part of facility operations, and as described in the categorical listing is for energy recovery and not discard. Based on this categorical non-waste determination, facilities meeting the description of this determination and burning these materials as a fuel will not need to demonstrate that this NHSM meets the legitimacy criteria on a site-by-site basis. A discussion of relevant comments regarding the categorical non-waste determination for pulp and paper sludges, as well as our rationale for making this determination, can be found in section III.D.5.a of this preamble.

4. Rulemaking Petition Process for Other Categorical Non-Waste Determinations (40 CFR 241.4(b))

In today's final rule, the agency is finalizing a rulemaking petition process that provides persons with an opportunity to submit a rulemaking petition to the Administrator, seeking a categorical determination for additional NHSMs to be listed in 40 CFR 241.4(a) as non-waste fuels. The process for submitting a rulemaking petition to the agency, as well as the factors a successful application must include, is listed in 40 CFR 241.4(b). A discussion of relevant comments regarding the petition process for the categorical listings, as well as our rationale for the categorical rulemaking petition process, can be found in section III.D.4 of this preamble.

5. Streamlining of the 40 CFR 241.3(c) Non-Waste Determination Petition Process

In today's final rule, the agency is streamlining the non-waste determination provisions under 40 CFR 241.3(c). The public participation process was streamlined to

[22] The scrap tire provision in the 2011 NHSM final rule is now removed and the section reserved in today's final rule: ''(b) The following non-hazardous secondary materials are not solid wastes when combusted:

(2) The following non-hazardous secondary materials that have not been discarded and meet the legitimacy criteria specified in paragraph (d)(1) of this section when used in a combustion unit (by the generator or outside the control of the generator):

(i) Scrap tires used in a combustion unit that are removed from vehicles and managed under the oversight of established tire collection programs.''

[23] The resinated wood provision in the 2011 NHSM final rule is now removed and the section reserved in today's final rule: ''(b) The following non-hazardous secondary materials are not solid wastes when combusted:

(2) The following non-hazardous secondary materials that have not been discarded and meet the legitimacy criteria specified in paragraph (d)(1) of this section when used in a combustion unit (by the generator or outside the control of the generator):

(ii) Resinated wood used in a combustion unit.''

accommodate petitions that apply to multiple combustors. In particular, the regulations were adjusted to indicate that the appropriate office in the EPA headquarters may handle petitions that cross multiple regions. Furthermore, if a determination is made that the NHSM is a non-waste, the decision will be retroactive and apply on the date the petition was submitted. A discussion of relevant comments regarding the streamlining of the 40 CFR 241.3(c) non-waste determination petition process, as well as our rationale for the streamlining changes made to the non-waste determination process, can be found in section III.D.6 of this preamble.

6. Revised Introductory Text for 40 CFR 241.3(a)

In today's final rule, the agency has decided not to revise the introductory text of 40 CFR 241.3(a). In its December 2011 proposed rule, the EPA considered revising this introductory text to state that NHSMs are ''presumed to be'' solid wastes, rather than ''are'' solid wastes. While the proposed change was not expected to be a substantive change to the rule, but merely a reflection of the record at the time, it did engender some confusion among commenters. Based on the comments received, we have decided not to issue revised introductory text 40 CFR 241.3(a) and, thus, this section will continue to read as codified in the March 2011 NHSM final rule. A discussion of relevant comments regarding the introductory text of 40 CFR 241.3(a), as well as our rationale for this decision, can be found in section III.D.7 of this preamble.

D. Comments on the Proposed Rule and Rationale for Final Decisions

In this section, the EPA addresses major comments the agency received regarding the targeted revisions that were proposed to certain part 241 provisions in the December 23, 2011, proposal. In discussing the comments received on the proposal, we also provide the rationale for making the revisions that are finalized in today's action. As previously discussed, the agency specifically stated that it would not address comments that go beyond the scope of this narrow RCRA rulemaking.

1. Revised Definitions

a. Clean Cellulosic Biomass

The proposed rule suggested revising the March 2011 definition of ''clean cellulosic biomass'' to list additional examples of biomass materials that are appropriately included within this definition. These fuels are not secondary materials or solid wastes unless discarded. Clean biomass is ''biomass that does not contain contaminants at concentrations not normally associated with virgin biomass materials'' (codified in 40 CFR 241.2).

This regulatory revision would not change the agency's intent under the March 2011 final rule, but would identify additional materials that are ''clean cellulosic biomass,'' and, thus, would be a traditional fuel under these regulations. While the list of clean biomass materials is only illustrative and not exhaustive, it is now more comprehensive than the list that appeared in the definition included in the 2011 NHSM final rule.

One of the materials within the definition is clean C&D wood. In light of some confusion in comments regarding C&D wood, the EPA is clarifying the meaning of the term in the definition of ''clean cellulosic biomass.'' Construction & demolition wood actually may be placed into different categories, depending upon its origin. In accordance with the traditional fuels definition in section 241.2, clean C&D wood could be combusted as a traditional fuel if it does not contain contaminants at concentrations not normally associated with virgin wood.

However, the final NHSM rule also addressed C&D wood that may contain contaminated material.[24] There is no need to repeat these discussions here, except to clarify what the final rule means. In general, contaminated C&D wood that has been processed to remove contaminants, such as lead-painted wood, treated wood containing contaminants, such as arsenic and chromium, metals and other non-wood materials, prior to burning, likely meets the processing and legitimacy criteria for contaminants, and thus can be combusted as a non-waste fuel (see further discussion in response to comments below).

Comment: One commenter noted that the EPA's specific inclusion of ''untreated wood pallets'' implicitly accepts that small amounts of non-wood material inherent to the pallets, such as screws or plastic fasteners, do not render those materials solid waste under the rule, and de minimis amounts of non-biomass material would not require these types of materials to be burned in incinerators under the CISWI rule.

Another commenter requested that the EPA reconsider use of the word ''untreated'' when referring to wood pallets. The commenter argues that the EPA does not define the word ''untreated'' and its use could create confusion. Rather, the commenter recommends that ''untreated'' be replaced with the word ''clean,'' which is an adjective used in the definition to distinguish other materials (e.g., *''clean construction and demolition wood''*).

Response: Wood pallets are refurbished or recycled for other uses by pallet recyclers. When the useful life of the pallet is finished, the recyclers typically remove the small amount of non-wood material inherent to pallets that would inhibit combustion, such as screws or plastic fasteners. The pallets are then ready for use as fuel, and the non-wood material would not impact whether the material can be burned in combustion units that meet the CAA section 112 emission standards. The agency is not aware of instances where the pallets are used as fuel directly by the original users and non-wood material is left remaining in the pallet. Such pallets would not be considered clean cellulosic biomass under the rule.

With respect to the other comment, the EPA does not agree, that the term ''untreated'' wood pallet be replaced with the term ''clean'' wood pallet. The term ''clean'' is defined in the traditional fuels definition as described above, and applies to all the materials listed in the definition of clean cellulosic biomass, which includes untreated wood pallets. It would be redundant to define ''clean'' biomass as including ''clean'' wood pallets. The point is that some wood pallets may contain treated wood, such as CCA treated wood, and inclusion of the term ''untreated'' with wood pallet would help emphasize that such treated wood would not be considered ''clean'' under the definition of clean cellulosic biomass.

Comment: Several commenters indicated that the definition of clean cellulosic biomass remains ambiguous because it continues to include the caveat that: ''Clean biomass is biomass that does not contain contaminants at concentrations not normally associated with virgin biomass materials.'' Thus, notwithstanding the EPA's attempt at expanding the definition of clean cellulosic biomass, the commenters believed that this sentence should be removed because it perpetuates uncertainty. It is not clear what comparisons are permissible and what concentration levels are appropriate.

The commenters also indicated that this sentence perpetuates the EPA's erroneous interpretation of its authority under RCRA. A material does not become a waste when burned for energy recovery just because it may contain contaminants—prior to combustion—not normally associated with virgin biomass. It becomes a waste only if it is

[24] See 76 FR 15485.

combusted for the purpose of disposal, rather than for energy recovery.

Response: The agency disagrees with the commenter that defining the term ''clean'' leads to ambiguity in identifying which materials are clean cellulosic biomass. On the contrary, defining the term ''clean'' is meant to ensure that contaminated cellulosic material being burned, such as lead-painted wood or arsenic treated wood, does not introduce contaminants (as defined in 40 CFR 241.2) not normally associated with virgin biomass materials.

The agency wishes to emphasize, however, that determinations that the cellulosic biomass used as a fuel or ingredient is clean, do not presuppose any testing of contaminant levels. Persons can use expert or process knowledge of the material to justify decisions regarding presence of contaminants.

With respect to the comment that burning of contaminated material does not make it a waste, the agency has not reopened this issue for this rule and stands by its responses in the rulemaking record for the March 2011 final rule.[25]

Comment: One commenter provided the example of whether treated seeds that contain additives are considered contaminants in virgin biomass. These additives may not be found in virgin seeds but are not harmful at the concentrations found in the seeds. The commenter questioned whether any concentration above ''natural'' (concentration levels found in virgin material), especially when combusted as fuel, would be prohibited and require additional waste regulation.

Response: Seeds may be treated with pesticides and hormones to aid in germination. Such chemicals do not generally include contaminants as defined in section 241.2; therefore, such treated seeds would be considered clean cellulosic biomass.

Comment: Several commenters indicated that, as part of the EPA's changes in the definition of clean cellulosic biomass, it is proposing to consider treated or painted wood the same as ''virgin'' wood if it has lower than de minimis levels of contamination. While adoption of numerical values in the rule would require additional provisions for measurements and would require additional notice, the commenter believes that such clarity is important for successful implementation of the rule. Such limits would be applied to ''clean'' C&D material, for instance, among other potential fuel types. The term de minimis is not defined numerically in the proposed rule and the commenters argue that without a specific numerical de minimis limit, sources would not have a clear understanding of whether they fall under the CISWI or hazardous waste incinerator rules. The commenter recommended that the EPA define and allow for public comment on the levels associated with the term de minimis and base the de minimis levels on contaminant levels found in typical ''virgin'' wood.

Response: Regarding the addition of a definition for de minimis amounts of contaminants remaining in processed wood, the agency does not believe it appropriate to identify specific concentration levels. Rather, the agency interprets de minimis as that term is commonly understood; i.e., insignificant or negligible amounts of contamination such as small wood sliver containing lead paint).

As indicated above, there also appears to be confusion among commenters regarding two different categories of C&D wood—''clean C&D wood'' that is a traditional fuel, and C&D wood that has been processed to remove contaminants. Under the 2011 NHSM final rule, C&D wood that has been processed to remove contaminants, such as lead-painted wood, treated wood containing contaminants, such as arsenic and chromium, metals and other non-wood materials, prior to burning, likely meets the processing and legitimacy criteria for contaminants, and thus can be combusted as a non-waste fuel but would not be considered ''clean C&D wood.'' Such C&D wood may contain de minimis amounts of contaminants and other materials provided it meets the legitimacy criteria for contaminant levels. To meet the contaminant legitimacy criterion, concentration levels of contaminants in the processed C&D wood must be comparable to or less than the levels in the traditional fuel the unit was designed to burn, whether wood or another traditional fuel (see section III.D.2 for a discussion on contaminant comparisons). In contrast, ''clean C&D wood'' is a traditional fuel that does not require processing and meets the definition of ''clean'' (i.e., C&D wood that does not contain contaminants at concentrations not normally associated with virgin biomass (wood)). Thus, de minimis amounts of contaminants and other material appropriate for processed C&D wood would not be appropriate for clean wood that is a traditional fuel.

Comment: One commenter argued that states should have discretion about how to determine appropriate fuel quality but it should be no less stringent than limits set by the EPA. There should be a distinction between de minimis levels of contamination in C&D wood and a fuel quality standard.

Response: We do not necessarily disagree with the commenter. That is, as discussed in the final rule, part 241 does not preempt a state's statutory or regulatory standards and states are free to establish fuel quality standards for C&D wood. However, we would also note that as solid waste is defined by the EPA under RCRA, such state standards would not necessarily impact the status of the material as it relates to which combustion units are subject to CAA section 129 (56 FR 15546).

b. Contaminants

The December 2011 rule proposed to clarify what constituents will be considered contaminants by making the definition of ''contaminants'' more specific. However, the proposal maintained the fundamental approach—and was intended to cover the same constituents—as the March 2011 final rule.

The March 2011 final rule and the December 2011 proposed rule identified the same three ways a chemical can be labeled a contaminant. First, it may be one of the 187 HAP currently listed in CAA section 112(b); second, it may be one of the nine pollutants listed under CAA section 129(a)(4); and third, it may be one of a handful of chemicals whose combustion will result in the formation of listed CAA section 112(b) and section 129(a)(4) pollutants (e.g., sulfur that will result in SO_2).

The definition proposed in December provided clarification by listing the constituents that belong to the third group.[26] Specifically, the proposed

[25] See, for example, 76 FR 15523–4: ''If a non-hazardous secondary material contains contaminants that are not comparable to those found in traditional fuels, and those contaminants are related to pollutants that are of concern at solid waste combustion units, then it follows that discard is occurring. The contaminants in these cases could not be considered a normal part of a legitimate fuel and are being discarded, either through destruction in the combustion unit or through releases into the air. Units that burn such materials are therefore most appropriately regulated under the CAA section 129 standards for solid waste incinerators.'' See also 76 FR 15485, which states: ''[A]s we have noted previously, the criterion or test for determining whether a material is burned as a waste or a commodity fuel is the level of the contaminant in the secondary material itself—that is destruction of contaminants indicates a waste treatment activity rather than a commodity fuel.''

[26] Eleven metal elements directly identified in CAA section 112(b) were also listed in the proposed definition to provide the regulated community with a complete list of elements that are considered ''contaminants'' under the rule.

revision replaced a potentially ambiguous reference to ''any constituent that will result in emissions'' with the four specific elements the agency intended to be considered as contaminants (chlorine, fluorine, nitrogen, and sulfur) based on their status as a precursor to air emissions. In all four cases, the CAA pollutant itself (e.g., SO_2) is not likely to be present in the NHSM prior to combustion, and the only way to measure constituents prior to combustion ''that will result in emissions'' of that pollutant is to measure a known precursor (e.g., sulfur) instead. For each of the four precursor elements listed as contaminants in the proposal, the expected fate for the precursor during combustion is formation of the aforementioned pollutant and the precursor makes no substantive contribution to the material's value as a fuel. For these reasons, the agency proposed to specifically identify chlorine, fluorine, nitrogen, and sulfur as contaminants in place of HCl, HF, NO_X and SO_2. By limiting the list of precursors considered contaminants to these four elements, the revised definition also made clear that the agency did not intend to include other elements present in contaminants (such as hydrogen and carbon) as contaminants themselves.

The December 2011 proposed rule also removed from the definition of contaminants those pollutants in CAA sections 112(b) and 129(a)(4) that we do not expect to find in any NHSM. Specifically:

- Chlorine gas, HCl, HF, NO_X, and SO_2 were removed from the definition because they are unlikely to be found in NHSMs prior to combustion and had been replaced by the elements chlorine, fluorine, nitrogen and sulfur as discussed above;
- Fine mineral fibers were removed because they are releases from the manufacturing and processing (not combustion) of non-combustible rock, glass or slag into mineral fibers;
- Particulate matter and coke oven emissions were removed because they are products of combustion unlikely to exist in NHSMs prior to combustion;
- Cresol isomers m-cresol, o-cresol, and p-cresol were removed because the listed pollutant cresols/cresylic acid includes these three isomers;
- Xylene isomers m-xylene, o-xylene, and p-xylene were removed because the listed pollutant xylenes includes these three isomers; and
- Diazomethane, white phosphorus, and titanium tetrachloride were removed because their high reactivity makes their presence in NHSMs very unlikely.

In addition, two phrases present in the March 2011 final rule ''contaminants'' definition were not included in the December 2011 proposed rule definition. First, the phrase concerning constituents ''that will result in emissions of the air pollutants'' was removed since the regulated community had expressed confusion that in determining whether or not a NHSM meets the contaminant legitimacy criterion, emissions from the combustion unit were to be evaluated. The EPA disagreed and directed readers to the language in sections 241.3(d)(1)(iii) and 241.3(d)(2)(iv). These sections state that contaminant comparisons are based on the presence of contaminants in the NHSM (or products made from NHSMs in the case of ingredients), not the resulting emissions. The proposed revision also inserted the phrase ''prior to combustion'' into the contaminants definition to further emphasize that the NHSMs, not the emissions that result from NHSMs, are to be evaluated when conducting contaminant comparisons. The rationale for evaluating the NHSM, and not emissions, can be found in the record for the March 2011 final rule.[27] The proposal merely added language to ensure the rule is consistent with the agency's intent.

The second phrase proposed to be removed from the March 2011 final rule definition was a reference to ''those constituents that could generate products of incomplete combustion,'' also referred to as PICs. This reference was removed from the definition because it was duplicative and potentially misleading. Specifically, this phrase was not necessary because all PICs that the agency considers air pollutants—including dioxins, dibenzofurans, PCBs and PAHs—are listed in CAA sections 112(b) or 129(a)(4) and are thus already included in the ''contaminants'' definition. More importantly, the phrase was potentially misleading because PIC formation depends heavily on combustion conditions, such as air/fuel ratio and mixing. These conditions are controlled to limit emissions and neither these conditions nor emissions are the subject of this rule. The NSHM itself is the subject of this rule. Thus, the removal of both phrases clarified, but did not alter, the constituents subject to the contaminant legitimacy criterion.

The EPA believes that comments have not changed the basis for listing specific precursors to air emissions as contaminants, nor have they changed the basis for either excluding specific constituents from the definition or removing the references to ''that will result in emissions of the air pollutants'' and ''constituents that could generate products of incomplete combustion'' from the definition. Thus, the EPA is adopting the reasoning from the proposal and revising the definition of contaminants to incorporate these concepts.

The EPA has decided, however, to make several modifications to the regulatory language of the December 2011 proposed rule based on comments received and information in the rulemaking record. First, in the final definition issued today, precursors will only be considered contaminants for NHSMs used as fuels; precursors will not be considered contaminants for NHSMs used as ingredients. Furthermore, precursors will not be considered contaminants if they do not form their corresponding pollutants. Also, opacity has been removed from the contaminants definition. Finally, the phrase ''prior to combustion'' has not been inserted into the contaminants definition, as had been proposed. Contaminants in NHSMs used as fuel in combustion units must still be evaluated prior to combustion, and persons must still evaluate the NHSM itself (not emissions), but the agency has determined that the topic of when to evaluate contaminants is more appropriate to address in the legitimacy criteria than in the contaminants definition.

Additional reasoning for keeping the rule provisions as proposed, and for any modifications to the proposed language, are described in the following responses to comments.

Comment: Several commenters stated that the definition of contaminants should focus on contaminants released as combusted emissions. One commenter argued that contaminants should be compared between emitted contaminants and emission standards. A second commenter reiterated previous comments that contaminant levels should be related to the air emissions and not the content of the material. For support, commenters cited that the EPA reversed its position in the proposal by using possible air emissions as the basis for establishing what contaminants need to be compared.

Response: The EPA has previously stated that contaminant levels before and after combustion can be important indicators of legitimacy and it maintains the position from the March 2011 final rule that non-waste fuels must be similar in composition to traditional

[27] For example, see 76 FR 15524–15525.

fuels prior to combustion.[28] Because combustion and emission control processes can destroy or remove contaminants, a comparison of emissions profiles alone only tells one how well the combustion unit is operating, not whether the NHSM is being used as a legitimate non-waste commodity fuel.[29]

The EPA disagrees with the comment that the agency reversed its position on the consideration of emissions in the proposal by including precursors to air emissions as contaminants. The agency notes that a difference exists between comparing ''emissions'' and comparing ''contaminants that will result in emissions,'' the exact language used in the March 2011 final rule. The EPA has clarified what it intended by ''contaminants that will result in emissions'' in today's final action. This clarification involves the listing of specific precursors known to result in emissions of air pollutants when combusted; it also involves the removal of specific pollutants known not to be present in NHSMs.

Comment: Two commenters expressed concern that the proposed definition of contaminants conflicted with the contaminant legitimacy criterion for NHSMs used as ingredients in combustion units. Commenters stated that both the definition of contaminants, as proposed, and the existing contaminant legitimacy criterion for ingredients were clear when read separately but were contradictory when taken together. The commenters encouraged the EPA to clarify the regulatory text. Specifically, the commenters noted that for ingredients, contaminants could not be evaluated prior to combustion and then used to compare products produced using NHSMs to products produced using traditional materials.

Response: The EPA has decided not to include language from the December 2011 proposed rule in the definition of contaminants that emphasized when NHSM contaminant levels are to be evaluated (*i.e.,* before or after combustion). While the proposed additional language made clear that NHSMs used as a *fuel* were to be evaluated for contaminants ''prior to combustion,'' the agency agrees with the two commenters who argued that the proposed language conflicts with the contaminant legitimacy criterion for *ingredients.* The contaminant criterion for ingredients requires comparisons to be made between products produced with and without NHSMs, but until the products exist, they cannot be compared.

As such, the agency has decided not to adopt the proposed additional language addressing when contaminants are to be evaluated *in the definition of contaminants.* The agency proposed similar language in the December 2011 rule addressing this topic *in the contaminant legitimacy criterion* and the agency is adopting that language in today's final rule. The agency has determined that the legitimacy criteria themselves (40 CFR 241.3(d)(1)(iii) for fuels and 40 CFR 241.3(d)(2)(iv) for ingredients) are more appropriate places to address this topic.

The EPA has also decided to add language to the definition of contaminants clarifying that the specification of particular precursors to air emissions (i.e., chlorine, fluorine, nitrogen and sulfur) as contaminants does not apply to the contaminant legitimacy criterion for ingredients. As identified by the commenters, the contaminant criterion for ingredients requires comparisons to be made between products produced with and without NHSMs. Products can only be compared after combustion has occurred, at which point there will be no benefit to measuring levels of precursors.

The agency also notes that it does not envision a situation where NHSMs containing chlorine, fluorine, nitrogen or sulfur would be used as ingredients in such a way that would emit higher levels of HCl, HF, NO_X or SO_2 than would be emitted using traditional ingredients without the material being considered a solid waste. In all cases, ingredients must provide a valuable contribution to the product being produced, and that product must itself be valuable, in order to not be considered a solid waste. For an ingredient to provide value, the agency expects the ingredient to remain in a product rather than be destroyed or released via emissions. This is a key reason why the contaminant legitimacy criterion for ingredients focuses on products (i.e., toxics along for the ride) rather than emissions. Furthermore, the legitimacy criteria for ingredients cannot be used to avoid the legitimacy criteria for fuels if the material is being used for both purposes.

Comment: Several commenters questioned the rationale for including precursors to air emissions as ''contaminants'' under the proposed revised definition. Some indicated that the concept is far removed from the true meaning of ''discard,'' with one comment stating that the EPA has no legal, rational or scientific basis for considering the presence of sulfur or nitrogen in NHSMs as evidence of intent to discard SO_2 or NO_X during combustion. To support this argument, the commenter first noted that the EPA has no record basis for assuming that the intent of the combustor is to discard the constituent, rather than to generate energy. Second, the commenter noted that whether or not a boiler has emissions of regulated air pollutants, such as SO_2 or NO_X when it combusts a precursor will depend, not on an intent to discard these pollutants, but on boiler operation and design.

Two commenters also stated that the preamble discussion on precursors demonstrates how far removed the EPA's rationale for this rulemaking is from the concept of discard. They noted that the EPA is requiring combustors to document and keep records regarding the fact that CO is not present in NHSMs, and, under CISWI, would identify the NHSM as waste if this documentation is not maintained. The commenters failed to see how this has anything to do with a determination that a material is a waste under RCRA.

Response: The EPA disagrees with these comments. Precursors to emissions of identified air pollutants are important and appropriate to address as contaminants in NHSMs prior to combustion. It is also necessary to tailor the definition of contaminants to the realities of the combustion process, during which precursors present in NHSMs used a fuel—many of which are solid or liquid—are transformed into air pollutants.

However, the agency agrees with those commenters who argued that the revised definition, as proposed, may be too broad with regard to precursors that may not form air pollutants in all cases. For example, if the combustion of nitrogen does not form NO_X in a particular situation, the agency did not intend in its December 2011 proposed rule to consider nitrogen as a contaminant in that particular situation.[30] The EPA noted in the proposed rule that chlorine, fluorine, nitrogen and sulfur will form pollutants of concern in most circumstances, but the agency does acknowledge that specific technologies and practices may prevent these transformations from happening in the first instance, particularly with regard to nitrogen (one

[28] See 76 FR 15525.

[29] Id.

[30] See March 16, 2012 Response from James R. Berlow, Director, Program Implementation and Information Division, EPA's Office of Resource Conservation and Recovery to Fadi K. Mourad, DTE Energy Services, Inc. A copy of this response letter has been placed in the docket for today's rulemaking and is also available at *http://www.epa.gov/epawaste/nonhaz/define/index.htm.*

example being the use of Low NO_X burners with Over-Fire Air). Thus, the contaminants definition issued in today's final rule does not consider constituents that are normally precursors to CAA section 112(b) or 129(a)(4) pollutants to be contaminants if a specific technology or practice prevents them from forming their corresponding pollutants.

The definition codified in 40 CFR 241.2 only includes chlorine, fluorine, nitrogen and sulfur as contaminants in cases where ''combustion will result in the formation of hydrogen chloride (HCl), hydrogen fluoride (HF), nitrogen oxides (NO_X), or sulfur dioxide (SO_2).'' When compared to the December 2011 proposed rule, the only constituents no longer considered contaminants due to this modification are chlorine that will not form HCl during combustion, fluorine that will not form HF during combustion, nitrogen that will not form NO_X during combustion and sulfur that will not form SO_2 during combustion. This is consistent with the March 2011 NHSM final rule, under which these constituents would not be contaminants when they would not ''result in emissions'' of CAA section 112(b) or section 129(a)(4) pollutants.

Although the EPA is not currently aware of any technologies or practices that prevent chlorine, fluorine or sulfur in NHSMs from forming their associated pollutants during combustion (the EPA is aware of such examples with nitrogen), the agency considers it reasonable and appropriate to adopt the same language for all four precursors to allow for future technological advances preventing the transformation of these elements into pollutants during combustion.

Comment: One commenter stated that the consideration of precursors to air emissions as contaminants could be used to make the most fundamental of all elements, hydrogen, a contaminant because it is present in nearly all regulated pollutants. The presence of hydrogen in a NHSM could then be considered evidence of intent to discard pollutants that contained hydrogen.

Response: Under the proposed contaminants definition, only the specific precursor elements listed (chlorine, fluorine, nitrogen and sulfur) are considered contaminants. The EPA determined in the proposal, and adopts as its final decision today, that these are the only four precursors necessary to evaluate when comparing contaminants between NHSMs and traditional fuels. The agency specifically decided not to include hydrogen on this list. Whereas combustion of chlorine, fluorine, nitrogen and sulfur typically leads to the formation of CAA section 112(b) or 129(a)(4) air pollutants, combustion of hydrogen typically leads to the formation of water vapor.

Comment: Several commenters opposed the inclusion of precursors as contaminants on the ground that the formation of related pollutants depends more on boiler operation and design, process chemistry and feedstock characteristics than on the levels of precursors present in the NHSMs.

Response: The EPA recognizes that unit design and operating conditions can impact the transformation of chlorine, fluorine, nitrogen and sulfur into air pollutants. Rather than viewing this as a reason to ignore the pollutants these elements commonly form, the agency views this as further evidence why precursor levels must be considered when determining which set of CAA standards—which in turn regulate unit operating conditions—should apply.

Comment: Two commenters suggested that the EPA follow a different approach for defining contaminants and use a method similar to what the agency used for the used oil specification in 40 CFR 279.11. In each case, the commenter suggested that for NHSMs, the definition of contaminants should be limited to sulfur, nitrogen, chlorine, Cd, Hg and lead because those are the elements Congress addressed in CAA section 129. This approach, they argued, would be similar to what the EPA did when developing the used oil specifications. The point the commenters wished the agency to draw from the used oil specification approach is that it addressed elemental species, as opposed to individual compounds. Using sulfur as an example, the commenters reasoned that it is the underlying presence of sulfur-bearing materials in the NHSMs, as opposed to individual sulfur-containing compounds on the section 112(b) list, which effects emissions of SO_2.

Response: The EPA disagrees with the approach outlined by the commenters and has issued a final definition of contaminants based on both the CAA section 112(b) and the CAA section 129(a)(4) lists, as was proposed. We do agree with the commenters, however, that identifying precursors that will form certain CAA pollutants in the definition of contaminants is appropriate. The approach outlined by the commenters appears to be based on two premises that the EPA has previously considered and decided not to adopt.

First, the commenters do not think the definition of contaminants should reference both the CAA section 112(b) and CAA section 129(a)(4) lists. The agency previously explained its decision to use both lists in the March 2011 final rule and does not believe comments have offered any new information that would change the basis for this decision. The EPA previously discussed that both lists of constituents are appropriate because both lists are to be considered by the EPA when developing emission standards.[31] Furthermore, the agency has previously explained that CAA section 129 provides that the term ''solid waste'' shall have the meaning promulgated by the EPA under RCRA and that the EPA has the authority to interpret RCRA to decide whether NHSMs are solids wastes or not.[32] The agency notes that it has carefully considered the CAA section 112(b) and 129(a)(4) lists of pollutants and removed those constituents that would not be appropriate to evaluate in NHSMs.

Second, the commenters base their proposed approach to defining contaminants purely on emissions. The agency agrees that emissions may be a means of discard but contaminants that are destroyed by the combustion process or incorporated into products may not have emission standards established under CAA section 129. Combustion may still be a means of discard in these instances. Thus, a definition of contaminants based only on the CAA section 129 emissions standards only tells one how well the combustion unit is operating, not whether the NHSM is being used as a legitimate non-waste commodity.[33]

Comment: Several commenters addressed the specific constituents proposed to be removed from the definition of contaminants. In general, comments were supportive of the concept that constituents unlikely to be found in NHSMs prior to combustion or adequately measured elsewhere in the definition should be removed from the definition.

Multiple commenters asked that CO also be removed from the definition because it is unlikely to be found in NHSMs. The same commenters asked that opacity be removed from the definition because it can only be measured in emissions and is not directly related to any one specific constituent in NHSMs. Particulate matter and coke oven emissions were removed, noted the commenters, because they are products of combustion unlikely to exist in NHSMs

[31] See 76 FR 15524–15525. See also, 75 FR 31883.

[32] See 76 FR 15469–15470. See also, 76 FR 15473.

[33] See 76 FR 15525.

prior to combustion, and the same can be said for CO and opacity.

One commenter expressed concern that asbestos had been removed from the list due to the removal of ''fine mineral fibers'' as a contaminant. The commenter explained that asbestos is commonly found in construction and demolition debris and asbestos particles in smoke are deadly. Excluding fine mineral fibers from regulation explicitly ignores the possibility of such contamination in C&D debris, noted the commenter, and asbestos should be a regulated contaminant.

Response: The EPA has issued a final rule containing the language removing constituents from the definition of contaminants as proposed, with one change. The agency has removed ''opacity'' from the final definition of contaminants as well. Similar to PM and coke oven emissions, there is no practical way to measure opacity in NHSMs prior to combustion or in products made using NHSMs. In fact, the EPA did not intend for opacity to be included in the definition of contaminant under the previous definition. A visual property of an emissions stream, opacity is not even a constituent, let alone a constituent that can be measured in NHSMs prior to combustion or in products made using NHSMs. As such, removing it from the definition will provide clarity without effecting any practical change to the definition.[34]

The agency has not removed CO from the definition of contaminants because, contrary to comments that it is unlikely to be found in any NHSM, it is likely to be present in gaseous NHSMs and is not adequately measured elsewhere in the ''contaminants'' definition. However, as we discuss in the December 2011 proposed rule, CO is unlikely to be found in solid or liquid NHSMs and EPA expects that persons can use process knowledge to justify not testing for CO in these cases.[35]

The agency has removed the fine mineral fibers group from the definition of contaminants, as proposed, because they are not expected to be found in NHSMs. Fine mineral fibers, as regulated under CAA section 112(b) are releases from the manufacturing and processing of non-combustible rock, glass or slag into mineral fibers and are not produced during the combustion process. Asbestos, on the other hand, has been set apart from the fine mineral fibers group in CAA section 112(b), and thus, it is set apart in the NHSM rule. To be clear, asbestos is included in the definition of contaminants in today's final rule and it would be a contaminant regardless of whether the fine mineral fibers group was removed or not. In summary, the following 12 CAA section 112(b) and section 129(a)(4) pollutants have been removed from the definition of contaminants: HCl, Cl_2, HF, NO_X, SO_2, fine mineral fibers, PM, coke oven emissions, opacity, diazomethane, white phosphorus and titanium tetrachloride.

c. Established Tire Collection Programs

The 40 CFR 241.2 definition for ''established tire collection program,'' as established by the March 2011 promulgation in the **Federal Register**, was as follows: ''Established tire collection program means a comprehensive collection system that ensures scrap tires are not discarded and are handled as valuable commodities in accordance with section 241.3(b)(2)(i) from the point of removal from the vehicle through arrival at the combustion facility.''

In the December 2011, NHSM proposed rule, the EPA proposed to revise this definition (and the related criteria for non-waste tires now at 40 CFR 241.4(a)(1)) in order to account for off-specification tires. The term ''off-specification tires'' is intended to also include ''factory scraps.'' The off-specification tires are not removed from vehicles and are handled under contractual arrangements which ensure they are not discarded. The definition was modified to include ''contractual arrangement'' to provide that not only ''collection systems,'' but also contractual arrangements for tire collection would be appropriate. The requirement for the tires to be removed from the vehicle was eliminated[36] since it is not applicable to off-specification tires. The revised definition is sufficient to encompass the agency's intent in describing these programs and continues to ensure that these scrap tires are not discarded and are handled as valuable commodities through arrival at the combustion facility. Further, the addition to the new categorical non-waste provision at 40 CFR 241.4(a)(1) eliminated the need for the previous scrap tire provision at 40 CFR 241.3(b)(2)(i),[37] (which has been removed and reserved in today's final rule) therefore, the reference to that provision was removed in the definition. The agency proposed to revise the definition as follows: ''Established tire collection program means a comprehensive collection system or contractual arrangement that ensures scrap tires are not discarded and are handled as valuable commodities through arrival at the combustion facility.''

The definition in today's final rule includes the revisions to the definition we proposed in December 2011. In addition, the agency is including in the definition ''tires that were not abandoned and were received from the general public at collection program events.'' This revision is being made based on comments received on the proposed rule as discussed below. Under today's revised definition, established tire collection programs could also include a ''contractual arrangement.'' If, for example, the state is sponsoring special events where they take tires back from the general public, those tires would also be included. Thus, the definition in today's final rule is ''Established tire collection program means a comprehensive collection system or contractual arrangement that ensures scrap tires are not discarded and are handled as valuable commodities through arrival at the combustion facility. This can include tires that were not abandoned and were received from the general public at collection program events.''

While the agency did receive comments on the specific proposed changes described above, a number of commenters rephrased or restated previous arguments which conclude that any tires burned for energy recovery are not wastes, even if previously discarded. Conversely, one commenter reiterated its previous arguments which conclude that all used tires are waste, even if burned for energy recovery. Today's rule is responding only to the specific proposed revisions to the regulations and the requests for comment in the proposal. For the response to other issues, refer to the record for the 2011 NHSM final rule (76 FR 15456). Many of the commenters who provided comments on tires intertwined the ''established tire collection program'' definition issues

[34] Neither Table 7 nor Table 8 in the December 2011 proposed rule included opacity. See 76 FR 80478–80480.

[35] See 76 FR 80475.

[36] The related tire provision at 241.4(a)(1) allows for tires that are off-specification or are removed from vehicles.

[37] The scrap tire provision in the 2011 NHSM final rule is now removed and the section reserved in today's final rule: ''(b) The following non-hazardous secondary materials are not solid wastes when combusted:

(2) The following non-hazardous secondary materials that have not been discarded and meet the legitimacy criteria specified in paragraph (d)(1) of this section when used in a combustion unit (by the generator or outside the control of the generator):

(i) Scrap tires used in a combustion unit that are removed from vehicles and managed under the oversight of established tire collection programs.''

with the related topic of the categorical non-waste provision for scrap tires. For a discussion of those comments, refer to the response to comments for the categorical non-waste provision for scrap tires (section III.D.3.a.). The EPA is not reopening its decision that these scrap tires are not wastes. That decision, however, justifies a categorical exclusion where there is not a need to make case-by-case determinations regarding discard in the first instance and the legitimacy criteria.

Comment: Several commenters mentioned that, in some cases, the public individually takes tires to state-run tire collection program events. These are tires that the general public owns and were typically removed from their vehicle. These are not abandoned tires. These collection events, in some cases, are held by the combustor under the state's environmental program oversight. In those cases, the combustors enter into agreements with local communities to hold these events during which local residents are allowed to bring tires to facilities to be recycled, including used as alternative fuels. The scope of tire collection programs also may allow the public to take used tires which they may have stored in their garages, or elsewhere on their property, directly to a combustion facility—in many cases a cement kiln.

Under the EPA's current definition of tire collection programs, the commenters said it is not clear whether these tires would qualify as those collected under an ''established tire collection program.'' Commenters generally agreed that these tires are not abandoned and should be utilized as non-waste fuels without processing.

Response: The EPA agrees with the commenters that tires that have not been discarded and are collected directly from the public at tire collection events are intended to qualify for the 40 CFR 241.4(a)(1) requirement to be ''managed under the oversight of established tire collection programs.'' The agency agrees that these tires are not abandoned and when collected under established tire collection program events, they are considered to be non-waste fuels, just as the other tires handled by established tire collection programs are non-waste. To make this point clear, the EPA has modified the regulatory language. Please refer to the Response to Comment document for more details on these collection events and the responses.

2. Contaminant Legitimacy Criterion for NHSMs Used as Fuels

Under the December 2011 proposed rule, revisions to the contaminant legitimacy criterion for NHSMs used as fuel provided details on how contaminant comparisons could be made in practice. The proposal maintained the fundamental approach of the March 2011 final rule, but the proposed criterion better reflected the EPA's intent to allow certain flexibilities when making contaminant comparisons.

First, the proposal replaced ''contaminants'' with the phrase ''contaminants or groups of contaminants'' to clarify that, when deciding how to compare contaminants between NHSMs and traditional fuels, persons do not have to make comparisons on a contaminant-by-contaminant basis in all cases. When technically reasonable, comparisons may be made on a group of contaminants-by-group of contaminants basis.

The December 2011 rule also proposed to codify language from the preamble to the March 2011 final rule clarifying that when selecting which traditional fuel(s) a unit is designed to burn, persons are not limited to the traditional fuel the unit is currently permitted to burn. Persons may choose any traditional fuel the unit can burn or does burn, whether or not it is permitted to burn such fuel.

In addition, the proposed regulations included text confirming that, when comparing contaminant levels between NHSMs and traditional fuels, persons are not limited to data from the specific traditional fuel being replaced. National surveys of traditional fuel contaminant levels are one example of another acceptable data source. Neither the March 2011 final rule nor the December 2011 proposed rule required persons to compare contaminants in their NHSM to contaminants in the specific traditional fuel source they burn (or would otherwise burn). As an example, the proposal noted that persons who would otherwise burn coal may use any as-burned coal available in coal markets in making a comparison between the contaminants in their NHSM and the contaminants in coal—they are not limited to coal from a specific coal supplier they have used in the past or currently use.

Finally, the proposed regulations included text confirming that, when comparing contaminant levels between NHSMs and traditional fuels, persons are not limited to comparing average concentrations. Traditional fuel contaminant levels can vary considerably and the full range of contaminant values may be used.

Two other issues arose prior to the December 2011 proposed rule that, while not leading to specific regulatory changes in the proposal, still merited a discussion in the proposal. The first issue was that contaminant legitimacy criterion determinations do not require testing contaminant levels, in either the NHSM or an appropriate traditional fuel. Persons can use expert or process knowledge to justify decisions to either rule out certain constituents or determine that the NHSM meets the contaminant legitimacy criterion. The second issue was that persons may use data from a group of similar traditional fuels for contaminant comparisons, provided the unit could burn each traditional fuel. The idea grows from the ''designed to burn'' concept explained in the March 2011 final rule and codified in today's final rule, and it allows a person with a unit that can or does burn similar traditional fuels (e.g., anthracite, lignite, bituminous and sub-bituminous coal) to group those traditional fuels when making contaminant comparisons.

The EPA believes that comments have not changed the basis for making the decisions to expressly allow grouping of contaminants, to interpret ''designed to burn'' to mean can burn or does burn regardless of permit status, and to affirm that persons can use ranges and national surveys of traditional fuel data when making contaminant comparisons between NHSMs and traditional fuels. Comments have also not changed the agency's basis for making the decisions that testing is not required and that persons can group similar traditional fuels for the purposes of contaminant comparisons. Thus, the EPA is adopting the reasoning from the proposal and revising the contaminant legitimacy criterion for NHSMs used as a fuel to incorporate these concepts.

The EPA has decided, however, to make one modification to the proposed contaminant legitimacy criterion based on comments received and information in the rulemaking record. The final criterion issued today includes additional language clarifying the appropriate use of ranges when making contaminant comparisons between NHSMs and traditional fuels. To use the full range of contaminant values in traditional fuels, persons should also account for the variability in NHSM contaminant levels.

Additional details and rationale for the proposed revisions concerning the grouping of contaminants, the meaning of designed to burn, and the use of ranges and traditional fuel data in making contaminant comparisons are discussed in section III.D.2.b, section III.D.2.c, and section III.D.2.d below. Additional reasoning for keeping the rule provisions as proposed and for any modifications to the proposed language

are described in the responses to comments included in these sections.

a. General Comments on the Revised Contaminant Legitimacy Criterion

The EPA is not responding to issues that the agency decided in the March 2011 rule and has not reopened for comment. Specifically, the agency has previously discussed and did not solicit comments in this rule on why the concept of legitimacy is important in determining whether a secondary material is genuinely recycled or is, in fact, discarded.[38] The agency has also previously discussed and did not solicit comments in this rule on why contaminant comparisons to traditional fuels are an appropriate and mandatory factor in determining legitimacy for NHSMs used as fuels in combustion units.[39] The agency has also previously discussed and did not solicit comments in this rule on why the ''comparable to or lower than'' standard is more appropriate than the ''not significantly higher than'' standard.[40] The agency has also previously discussed that the NHSM Rule differs from the DSW Rule in that it is tailored specifically for application to NHSMs used in combustion units.[41]

Comment: Industry commenters overwhelmingly supported the proposed revisions to the contaminant legitimacy criterion, stating that the revisions would help provide regulatory certainty and give the regulated community more confidence in their self-determinations.

Environmental groups, on the other hand, expressed concern that the combination of flexibilities present in the proposed revisions to the contaminant legitimacy criterion will allow facilities to compare contaminant levels in C&D debris and other wood waste to the highest contaminant levels found in coal, even if the facility is not permitted to burn coal. They believed that this should not be permitted and argued that C&D wood should not contain contaminant levels higher than found on average in virgin biomass.

State comments were mixed, with one commenter supporting the proposed revisions and another commenter expressing concern that the revisions would weaken the states' permitting authorities and create an incentive for combustors to burn dirtier traditional fuels.

Response: The EPA has decided to retain the concepts proposed to the contaminant legitimacy criterion because these changes more accurately reflect the EPA's intent under the March 2011 final rule. The agency maintains that these concepts are reasonable and provide a necessary degree of certainty for persons seeking to comply with the rule. This is explained in more detail in sections III.D.2.b (groups of contaminants), III.D.2.c (meaning of designed to burn), and III.D.2.d (allowable contaminant comparisons) of this preamble.

At the same time, comments from both industry and environmental groups have highlighted, in the agency's opinion, a need for additional clarity in the regulatory text on the appropriate use of ranges when making contaminant comparisons between NHSMs and traditional fuels. Accordingly, the EPA has made a minor adjustment to the criterion to ensure that ranges are not used inappropriately in contaminant comparisons (i.e., the highest traditional fuel contaminant values should not be compared to average NHSM contaminant values). See section III.D.2.d of this preamble for a more detailed description of this specific change to the contaminant legitimacy criterion.

The agency disagrees with state concerns that the NHSM rule will weaken the states' permitting authorities. State permitting authorities must still approve permit changes and this final rule does not affect discretion of the permitting authorities in acting on requests for permit modifications. The agency also disagrees with state concerns that the NHSM rule will create an incentive for combustors to burn dirtier traditional fuels. The EPA understands how restricting contaminant comparisons to traditional fuels the unit currently burns could provide an incentive for the facility to burn traditional fuel with high contaminant levels. When facilities do not actually have to burn that traditional fuel to make comparisons, however, that incentive is effectively removed.

Comment: One commenter requested that the proposed revisions to the contaminant legitimacy criterion be added to each option for demonstrating that NHSMs are non-wastes when used in combustion units, whether it is the on-site documentation, the EPA petition process or the categorical non-waste determination process proposed in 40 CFR 241.4.

Response: Revisions to the contaminant legitimacy criterion codified today in 40 CFR 241.3(d)(1) apply to all options for demonstrating that a NHSM is not a solid waste when used as a fuel in a combustion unit. The revised legitimacy criterion is embedded in the self-implementing options outlined in 40 CFR 241.3(b)(1) for use within the control of the generator and 40 CFR 241.3(b)(4) for NHSMs that are processed and then used in a combustion unit. The revised legitimacy criterion is also embedded in the optional EPA petition process outlined in 40 CFR 241.3(c). The revised legitimacy criterion is also referenced as a factor to be considered in the categorical non-waste determination process outlined in 40 CFR 241.4.

Comment: Several commenters expressed concern that the proposed revisions to the contaminant legitimacy criterion, although an improvement over the 2011 Final NHSM Rule, may not provide the regulated community with enough information to be confident in their compliance status. Two commenters noted that the EPA has overlooked the analytical complexities inherent in the contaminant legitimacy criterion and the many opportunities it creates for disagreement between facility operators and regional and state regulators. One of these commenters asked the EPA to both define the term 'comparable' and clarify sampling and analytical methodologies to be used when measuring contaminant levels. Other commenters advised the EPA to increase predictability as much as possible by developing a disciplined process for making contaminant comparisons and providing real time transparency for such decisions.

Similarly, two commenters expressed concern that even after a source makes a fuel determination, the EPA could take a different view of the NHSMs and conclude that they were solid wastes. The risk sources face is noncompliance with the CAA and these commenters contended that the issue is too critical for the EPA to leave the contaminant legitimacy criterion so vague. Over time, as the EPA develops a record for decisions (particularly comparable contaminant determinations), one of these commenters urged the EPA to establish a database and immediately post determinations for other sources to review.

Other commenters supported the proposed revisions to the contaminant legitimacy criterion and indicated that they provided sufficient clarification. One commenter noted that changes to the language of the criterion and the additional clarification provided in the preamble to the December 2011 proposed rule provide key additional detail on making contaminant comparisons and allow additional flexibility where appropriate. The same commenter urged the EPA to maintain

[38] See 75 FR 31870.

[39] See 75 FR 31871–31872. See also, 76 FR 15524–15525.

[40] See 75 FR 31872. See also, 76 FR 15523.

[41] See 75 FR 31870.

that flexibility if the agency develops additional guidance on making contaminant comparisons in the future.

Response: The EPA has retained the approach included in the proposed rule that provides information on how contaminant comparisons can be made and the agency will continue to make its traditional fuel data and legitimacy determinations transparent through the EPA Web site.[42]

The agency recognizes the need for regulatory certainty, a need that has been addressed by revisions to the definition of contaminants and the contaminant legitimacy criterion in today's final rule. Contaminants have been specifically listed, additional clarity on NHSMs/traditional fuel comparisons has been provided and several comparison methodologies have been provided in the preamble as examples that could be used by the regulated community. Comments from the regulated community have been supportive both of these changes and of the agency's efforts to update traditional fuel data that can be used for contaminant comparisons.[43] In addition, a number of interpretative letters have been written that address specific fact situations as presented by a specific facility and these letters have been posted on the EPA's Web site.[44] These letters serve as examples of acceptable ways to demonstrate legitimacy.

The EPA must balance the need for regulatory certainty, however, with the need for flexibility, which many commenters also believe is important. As the agency has previously discussed, the legitimacy criteria must be flexible enough to account for future changes in commodities, technologies, markets and fuel prices.[45] Previous comments have stressed the preference for a qualitative approach, and the agency has agreed, noting that numerical specifications may be impractical due to the multiplicity of fuels and ingredients.[46] The agency has also previously discussed that a numerical definition of 'comparable' would be impractical given differences in the typical concentration levels of various contaminants, choosing instead to offer several examples.[47] While the agency will consider future guidance on contaminant comparisons, it has determined that no one approach is appropriate for every legitimacy determination given the variety of traditional fuels, NHSMs and combustion units that currently exist and will likely increase in the future.

Comment: One commenter noted that both the March 2011 NHSM final rule and the proposal implicitly place the burden on the combustion facility to determine if a fuel derived from NHSMs meets the legitimacy criteria. In the utility industry, the commenter explained, it is common practice for utilities to rely on fuel marketers to establish and verify fuel quality, and the regulatory burden on utilities combusting such secondary materials as fuels could be reduced if the EPA clarified the circumstances under which a facility would be entitled to rely on the fuel quality representations of its suppliers. The commenter suggested that the EPA clarify that a utility may rely in good faith on the representations of its suppliers that NHSMs meet the codified legitimacy criteria, or, alternatively, that utilities be required only to periodically test the quality of NHSM-derived fuels obtained from third parties to rely on their suppliers' representations.

Response: The EPA notes that while fuel suppliers may provide their customers with documentation supporting a legitimacy determination, persons who burn NHSMs are ultimately responsible for the materials burned at their units. As stated in the proposed rule, however, the agency adopts as its decision for this final rule that initial assessments would not need to be repeated as long as the facility continues to operate in the same manner and use the same type of NHSM as when the original assessment was made.[48]

b. Grouping of Contaminants

The December 2011 proposed revision to the contaminant legitimacy criterion for NHSMs used as a fuel began with the following sentence: ''The non-hazardous secondary material must contain contaminants or groups of contaminants at levels comparable in concentration to or lower than those in traditional fuel(s) which the combustion unit is designed to burn.'' The phrase 'or groups of contaminants' was not present in the language from the March 2011 NHSM Final Rule but was included in the December 2011 NHSM Proposed Rule to clarify that groups of contaminants could be evaluated in determining whether a NHSM meets the contaminant legitimacy criterion.

In particular, the proposed rule noted that groups of contaminants in NHSMs could be compared to similar groups in traditional fuels where the grouped contaminants shared physical and chemical properties that influence their behavior in the combustion unit prior to the point where emissions occur. Volatility, the presence of specific elements and compound structure were three such properties identified in the proposal and one approach to grouping contaminants was shown that included groups for TOX, nitrogenated HAP, VOCs, SVOCs, dioxins and furans, PCBs, PAHs and radionuclides. The agency also noted that persons may consider other groupings that they can show are technically reasonable.

Grouping of contaminants is a standard practice often employed by the agency as it develops regulations. In fact, the monitoring standards included in the CAA sections 112 and 129 regulations also utilize the grouping concept and they apply to the same combustion units impacted by the NHSM rule (i.e., industrial, commercial and institutional boilers and process heaters and CISWI units). For example,

- Volatile hydrocarbons and semi-volatile hydrocarbons can both be expected to result from incomplete combustion; therefore, the emission standards promulgated under the CAA regulations are grouped into one category: CO.[49]
- Halogenated organics are expected to contribute to emissions of dioxin and acid gases (HCl and HF); therefore, the emission standards promulgated under the CAA are grouped into two categories: D/F and HCl.[50]
- Nitrogenated compounds are expected to contribute to emissions of NO_X; therefore, the emission standards promulgated under the CAA are grouped into one category: NO_X.[51]

In addition, a number of the seemingly ''individual'' pollutants listed in sections 112 and 129 of the CAA are actually classes of structurally-related compounds (*e.g,* PCBs, POM, D/F, cyanide compounds, cresols, glycol ethers, radionuclides, xylenes, antimony compounds, arsenic compounds, beryllium compounds and cadmium compounds).

[42] The EPA maintains a NHSM Web page with current information on contaminant levels in traditional fuels, examples of legitimacy determinations and other information at *http://www.epa.gov/epawaste/nonhaz/define/index.*

[43] *Contaminant Concentrations in Traditional Fuels: Tables for Comparison, November 29, 2011,* can be found at *http://www.epa.gov/epawaste/nonhaz/define/index.*

[44] See NHSM rule Web site *http://www.epa.gov/epawaste/nonhaz/define/index.htm.*

[45] See 75 FR 31870.

[46] See 75 FR 31871.

[47] See 76 FR 15524 and 15542.

[48] See 76 FR 80481.

[49] Area Source Boilers NESHAP, Major Source Boilers NESHAP, and Commercial and Industrial Solid Waste Incinerators NESHAP.

[50] Major Source Boilers NESHAP and Commercial and Industrial Solid Waste Incinerators NESHAP.

[51] Commercial and Industrial Solid Waste Incinerators: NESHAP.

All comments discussing the agency's proposal to expressly allow the grouping of contaminants supported the agency's position. Thus, the EPA is adopting the language from the proposal and revising the contaminant legitimacy criterion for NHSM used as a fuel to allow contaminants to be compared on a contaminant-by-contaminant basis or, where reasonable, on a group of contaminants-by-group of contaminants basis. Any additional reasoning for keeping the revision as proposed, without modification, is described in the responses to comments below.

Comment: In general, comments overwhelmingly supported the ability to group contaminants when making contaminant comparisons in accordance with the legitimacy criteria. *Comment*ers stated that codification of this concept would provide regulatory certainty and allow for more meaningful comparisons, similar to the manner in which the EPA measures emissions at combustion units. Commenters noted that the ability to group contaminants will facilitate compliance because most existing test methods, including the EPA methods, call for the grouping of analytes. Commenters believed that the grouping concept is an appropriate mechanism to recognize the variability in contaminant levels inherent in fuels. Commenters also appreciated the examples of appropriate contaminant groups provided in the proposed rule along with the ability to compare other technically reasonable groups (76 FR 80477–80480).

Two commenters stated that each mention of the word ''contaminants'' should be changed to ''contaminants or groups of contaminants'' in the regulatory text to further clarify that a comparison to groups of contaminants is intended.

Response: The EPA has retained the language specifically allowing grouping in the contaminant legitimacy criterion for NHSMs used as a fuel. The EPA adopts the reasoning in the December 2011 rule as its final reasoning, as further supported with reasoning discussed in the comment responses below. While the EPA has retained the language allowing the grouping of contaminants, the agency does not consider it necessary to change every instance of ''contaminant levels'' and ''contaminants'' to ''contaminants or groups of contaminants'' in order to make it sufficiently clear that contaminant grouping is allowed. The agency also notes that not all contaminants are necessarily intended to be grouped, including individual elemental contaminants, asbestos, CO and phosphine.[52]

Comment: The ability to group metal contaminants was suggested by several commenters. One commenter held that all 11 metals should be specifically included as one group. Another commenter noted that with the exception of Hg, all metals should be grouped. Yet another commenter suggested that metals could be grouped into a volatile metals group and a non-volatile metals group.

Response: First, we would note that the agency is not limiting groups to the specific approach suggested in the proposed rule. The tables in the proposed rule suggest, but do not limit persons to, an approach, including groups for TOX, nitrogenated HAPs, VOCs, SVOCs, dioxins/furans, PCBs, PAHs and radionuclides, with other contaminants left to be evaluated on an individual contaminant-by-contaminant basis. Flexibility exists for persons to consider other appropriate groups that they can show are technically reasonable, with additional text in the proposal stating that other groups should share physical and chemical properties that influence behavior in the combustion unit prior to the point where emissions occur. Volatility, the presence of specific elements and compound structure are three such properties.[53]

However, we do not consider the grouping of total metals to be appropriate. Specifically, metals vary across all three parameters—volatility, the presence of specific elements and compound structure—that were discussed as appropriate to consider when constructing contaminant groups. First, many factors influence metal volatility in combustion units, and to the extent that trends in metal volatility have been recognized, a wide disparity exists between metals. Mercury, as one commenter noted, is highly volatile, more so than any other metals listed in the contaminants definition. Metals can be grouped into volatile, semi-volatile and low-volatile categories, but it is important to note that these distinctions can vary based on design differences in combustion units, operating temperatures, the physical form and species of the metal and the presence of chlorine.[54] [55] Second, each metal clearly contains different elements. Finally, each metal is already a group of any compound containing the particular element, encompassing a wide array of compound structures. In the absence of other suggested grouping criteria or information, the EPA does not consider total metals to be an appropriate group.

Comment: One commenter provided a numerical example of VOC contaminant levels in fuel oils to illustrate the importance of grouping. The commenter cited the traditional fuel tables provided on the EPA Web site, stating that toluene and xylenes are present in fuel oils at concentrations up to 380 ppm and 3,100 ppm, respectively. If a NHSM had the concentrations reversed, explained the commenter (380 ppm xylene and 3,100 ppm toluene), the ability to group VOCs would then allow the NHSM to meet the contaminant legitimacy criterion. The commenter reasoned that this is appropriate because both toluene and xylenes are beneficial components of fuel.

Response: The EPA disagrees with this interpretation of the grouping concept. Unless concentration data for a group of contaminants (e.g., VOCs) come from the same fuel source, adding together the concentrations of individual constituents (e.g., toluene and xylene) within that group may yield a total concentration beyond what would be considered a normal part of a legitimate fuel. Using the example cited by the commenters, some fuel oils have been found to have up to 380 ppm toluene and other fuel oils have been found to have up to 3,100 ppm xylene. Because the toluene and xylene concentrations were taken from different fuel oils, however, this does not prove that a single fuel oil in existence actually has VOC levels as high as 3,480 ppm (380 + 3,100).

The agency notes that VOC levels higher than 3,480 ppm, have been found in fuel oil—concentrations of one VOC alone (hexane) have been found as high as 10,000 ppm—and the point of this discussion is to clarify a methodology rather than a number for acceptable VOC levels in NHSMs.[56]

We would also note that while the agency considers VOCs to be an appropriate contaminant group to use when making contaminant comparisons, it does not base that decision on

[52] See 76 FR 80478, Tables 7 and 8.

[53] See 76 FR 80477.

[54] EPA. 2001. ''Risk Burn Guidance for Hazardous Waste Combustion Facilities.'' EPA530–R–01–001. July.

[55] Clarke, L.B. and L.L. Sloss, 1992. ''Trace Elements—Emissions from Coal Combustion and Gasification.'' IEACR/49. IEA Coal Research, London. July.

[56] *Contaminant Concentrations in Traditional Fuels: Tables for Comparison, November 29, 2011* can be found at *http://www.epa.gov/epawaste/nonhaz/define/index*. EPA intends to update this document as additional data becomes available, and if persons have data measuring traditional fuels for groups of VOCs, or for other contaminant groups, they are encouraged to provide the agency with such data.

whether or not toluene, xylenes and other VOCs are ''beneficial components of fuel.'' The decision that toluene, xylene and other VOCs, which the agency notes are pollutants listed in CAA section 112(b), are an appropriate group is based on the fact that they share similar physical and chemical properties that influence their behavior in the combustion unit prior to the point where emissions occur.

c. Meaning of Designed to Burn

The December 2011 proposed revision to the contaminant legitimacy criterion for NHSMs used as a fuel included the following statement: ''In determining which traditional fuel(s) a unit is designed to burn, persons can choose a traditional fuel that can be or is burned in the particular type of boiler, whether or not the combustion unit is permitted to burn that traditional fuel.'' The idea that ''designed to burn'' means ''can burn or does burn'' was included in preamble text to the March 2011 final rule. The December 2011 rule proposed to include this concept, which is only applied under the NHSM rule to aid in the selection of appropriate traditional fuel(s) for contaminant comparisons, in regulatory language.

The March 2011 final rule explained that in determining which traditional fuel(s) the owner or operator of the boiler unit would make a comparison to with respect to contaminant levels, the agency would allow any traditional fuel(s) that can be or is burned in the particular type of boiler. The agency reasoned that this approach was the most appropriate since the NHSM would be replacing the use of particular type(s) of fuel that could otherwise be burned.[57]

The December 2011 proposal further explained that contaminants are compared between NHSMs and traditional fuels to assist in making a determination whether or not the NHSM is being discarded when combusted, not to regulate which traditional fuel a combustor should choose to burn. For the purposes of making a discard determination, the proposal reasoned that differentiating between ''can burn'' and ''does burn'' was not relevant.

The agency did note in the proposed rule, however, that for a unit to be able to burn a traditional fuel, it would need an appropriate feed mechanism (e.g., a way to load solid fuel of a particular size into the unit) and the ability to adjust physical parameters to ensure spatial mixing and flame stability per unit specifications.

Because most combustion units can burn different—but related—traditional fuels, the agency discussed in the proposal that broad groups of similar traditional fuels may be used when comparing contaminants. The most common traditional fuel categories burned at major source boilers are coal, wood, oil and natural gas, as evidenced by data submitted to the EPA's OAQPS.[58] [59]

To further clarify the impact of the proposed ''designed to burn'' language on contaminant comparisons, potential categories for coal, wood and oil were further described in the proposal. A coal group was proposed that could include data on anthracite, lignite, bituminous and sub-bituminous coal. A wood or biomass group was proposed that could include data on unadulterated lumber, timber, bark, biomass and hogged fuel. An oil group was proposed that could include data on fuel oils 1–6, diesel fuel, kerosene and other petroleum based oils.[60] In cases where a unit can burn traditional fuels from several categories, such as a boiler that can burn coal or biomass, the proposal noted that contaminant comparisons could be made using data from either fuel category.

The ability to compare contaminants in a NHSM, under the NHSM rule, to contaminants in any traditional fuel that *could* be burned does not change the fact that once burning occurs, emissions standards are determined under the Boiler MACT or CISWI rule by the particular fuel (or fuel blend) that *is* burned. Whether each rule focuses on what 'could be burned' or on what 'is burned' is determined by the rule's purpose and the order in which decisions must be made. Together, these factors explain why the NHSM, Boiler MACT, and CISWI rules take different approaches to account for individual combustion units that burn multiple fuels.

Specifically, the NHSM rule must first determine which NHSMs can be burned in CAA section 112 units (*i.e.,* boilers) and which can only be burned in CAA section 129 units (*i.e.,* incinerators). When making such a waste or non-waste determination, the NHSM rule cannot always predict what fuel would otherwise be burned (multiple options may exist). Accordingly, the rule allows contaminant comparisons to be made to any traditional fuel the unit could burn. The Boiler MACT or CISWI rule must then determine how to regulate emissions from the unit, by which point it is clear what fuel is actually being burned. Accordingly, these rules can and do establish subcategories of units, each with different emissions standards.

The EPA has considered the comments received, as explained below, but has not changed the basis for its interpretation of the ''designed to burn'' concept. Thus, the EPA is adopting the language from the proposal and revising the contaminant legitimacy criterion for NHSMs used as a fuel to allow persons making contaminant comparisons to choose a traditional fuel that can be or is burned in the particular type of boiler, whether or not the combustion unit is permitted to burn that traditional fuel. Any additional reasoning for keeping the revision as proposed, without modification, is described in the responses to comments below.

Comment: Industry commenters generally supported the agency's proposal to codify the previously stated meaning of ''designed to burn'' within the contaminant legitimacy criterion for NSHMs used as fuels. These commenters welcomed the regulatory certainty provided by the revision and described it as a practical and appropriate recognition that some units can burn multiple traditional fuels.

Environmental groups, on the other hand, expressed concern that the proposed definition of designed to burn would allow contaminants in C&D wood to be compared to those in coal instead of virgin wood.

One state commenter also expressed concern that allowing comparisons to any fuel the unit could burn, including fuels they are not permitted to burn, would weaken the states' permitting authorities and create an incentive for combustors to burn dirtier traditional fuels so that they could compare NHSMs to fuels with higher contaminant levels. An industry commenter also mentioned that such an approach would reward facilities that burn dirtier fuel and suggested that the agency remove the entire ''designed to burn'' concept from the rule.

Response: Based on a review of the comments, the EPA has retained the proposed revision to the contaminant legitimacy criterion for NHSMs used as fuels clarifying that, for the purpose of determining traditional fuel(s) to which

[57] See 76 FR 15542.

[58] EPA, Office of Air Quality Planning and Standards (OAQPS), Emissions Database for Boilers and Process Heaters Containing Stack Test, CEM & Fuel Analysis Data Reported Under ICR No. 2286.01 and ICR No. 2286.03 (Version 7). December 2011. *http://www.epa.gov/ttn/atw/boiler/boilerpg.html#TECH.*

[59] The fuel analysis information in this OAQPS database is one example of a ''national survey'' of traditional fuel information, as referenced in the final contaminant legitimacy criterion issued today at § 241.3(d)(1)(iii).

[60] EPA has determined that an oil group should not include unrefined crude oil or gasoline, as neither is typically burned in combustion units subject to the CAA sections 112 or 129 standards.

a NHSM may be compared, the meaning of ''designed to burn'' may be broadly interpreted to include any traditional fuel that could be burned, regardless of facility permit status. The agency disagrees that this interpretation of ''designed to burn'' would incentivize the burning of dirtier fuels or weaken the states' permitting authorities.

The EPA finds that allowing combustors to compare NHSMs to any traditional fuel a unit can or does burn is both practical and appropriate under the statutory definition of solid waste. Although not all combustion units can burn multiple traditional fuels, some units can and, indeed, do rely on different fuel types at different times based on availability of fuel supplies, market conditions, power demands and other factors. Under these circumstances, it would be arbitrary to restrict the combustion for energy recovery of NHSMs with contaminant levels comparable to or lower than that of one traditional fuel the unit could choose to burn solely because contaminant levels are higher than that of a second traditional fuel the unit could also choose to burn if fuel supplies, market conditions, power demands, or other factors change. Such an approach would be impracticable and not consistent with the agency's intent. It would also be inconsistent with the concept of discard, since a facility burning a NHSM with the same contaminants as another fuel it could also be burning should not be considered to discard that NHSM based on its contaminant levels.

The agency has also determined that restricting comparisons to traditional fuels the unit is permitted to burn is unnecessary. The fact that a facility is not currently permitted to burn a particular traditional fuel does not mean it could not be permitted to burn that traditional fuel in the future. For this reason, we do not believe it is reasonable to limit the comparison to permitted traditional fuels. Furthermore, such a restriction could have the unintended consequence of combustion facilities across the country seeking permit modifications solely to facilitate contaminant comparisons for this rule. State permitting authorities must still approve permit changes and this final rule does not affect the discretion of the permitting authorities in acting on requests for permit modifications.

In addition, the EPA has determined that restricting contaminant comparisons to traditional fuels the unit currently burns could provide an incentive for the facility to burn traditional fuel with high contaminant levels. When facilities do not actually have to burn that traditional fuel to make comparisons, that incentive is effectively removed.

Comment: One commenter asked the agency to specifically acknowledge that certain categories of boilers are designed to burn a variety of fuels, noting that stoker boilers, fluidized bed combustors and boilers with suspension burners, in particular, should be on such a list.

Response: The agency has decided not to specifically list which combustion units are designed to burn which fuels for two reasons. First, the owner or operator of a combustion unit has a better understanding than the agency does of what that particular unit is designed to burn. Second, the agency is concerned that creating such a list will limit the flexibility of combustors with other types of units.

Comment: One commenter noted that if the EPA considers it inappropriate to compare liquid fuels to solid fuels, the agency offers no justification for its position. The commenter argued that liquid to solid comparisons should be allowed because most cement kilns and many other industrial furnaces have the capacity to burn either solid or liquid fuels. The commenter described the December 2011 proposed rule as ambiguous with regard to this issue and recommended that if a combustion unit is designed to burn both a liquid fuel and a solid fuel, then the liquid to solid comparison should be ''appropriate.''

Response: EPA agrees with the commenter that if a unit can burn both a liquid traditional fuel and a solid traditional fuel, then comparison of an NHSM to either fuel would be appropriate. The revised contaminant legitimacy criterion clarifies how the ''designed to burn'' concept may be interpreted for the purposes of determining traditional fuel(s) to which a NHSM may be compared, and the Agency has determined that this revision is sufficient to allow appropriate comparisons to be made between solid NHSMs and liquid traditional fuels, and vice versa. The agency does not expect these circumstances to hold true for all combustion units, however, and reiterates that this would only be appropriate when the unit can in fact burn multiple traditional fuels used to make such comparisons.

Comment: Several industry commenters addressed the topic of what it means to be able to burn a traditional fuel in a combustion unit. The preamble to the recent proposed rule noted that combustion units would need an appropriate feed mechanism, as well as the ability to ensure the fuel is well mixed and keep flame temperatures within unit specifications, to be able to burn a traditional fuel.[61] Two commenters opposed the agency's interpretation of what it means to be able to burn a traditional fuel in a combustion unit, stating that the agency provides no explanation of why feed mechanisms are relevant to whether or not a unit can burn a particular fuel. Both commenters also noted that when NHSMs are used as a fuel in combustion units, the focus on what a unit is ''designed to burn'' in the first place is irrelevant to whether discard is occurring. Another commenter explained that the same exact material could then be a solid waste in one case and a fuel in another case, depending on who is using the material.

A third commenter supported the agency's interpretation of what 'can burn' means, stating that the fate and emissions of a contaminant, whether it is contained in a traditional fuel or a material being considered for legitimacy, are as dependent on the design of the combustion unit as they are on the fuel matrix. The commenter explained further that units should be considered able to burn several types of fuels as long as each type is within the design criteria of the feed system, the combustion chamber and any downstream pollution control device.

Response: The EPA disagrees with those commenters questioning the relevance of what fuels combustion units are designed to burn in the context of the legitimacy criteria. If a NHSM does not contain contaminants at levels that are comparable to or lower than those found in any traditional fuel that a combustion unit could burn, then it follows that discard could be occurring if the NHSM were combusted. Whether contaminants in these cases would be destroyed or discarded through releases to the air, they could not be considered a normal part of a legitimate fuel and the NHSM would be considered a solid waste when used as a fuel in that combustion unit.[62]

The reason we analyze what a unit is designed to burn is to decide the traditional fuel(s) to which contaminants should be compared. This comparison is then used as an aid to decide whether the NHSM is being legitimately used as a fuel or whether excess contaminants show that the burning is waste treatment. If a facility compared contaminants to a traditional fuel it cannot burn and that fuel is highly contaminated, a facility would then be able to burn excessive levels of

[61] See 76 FR 80481.

[62] See 76 FR 15523.

waste components in NHSMs as a means of discard. Regardless of any fuel value in the material, it would be a waste.

Once this concept is established, certain factors are relevant to how we decide what a facility is designed to burn. The ability to burn a fuel in a combustion unit does have a basic set of requirements, the most basic of which is being able to get the material into the combustion unit. The agency reaffirms in today's final rule its interpretation from the proposal that to be able to burn NHSMs, a combustion unit should also be able to ensure the material is well mixed and maintain temperatures within unit specifications. Without these basic limits, there would be no point in distinguishing between fuels a unit is or is not ''designed to burn,'' and every combustion unit would be considered ''designed to burn'' any combustible material. Clearly, that is not the agency's intent. As illustrated by one of the commenters, when a unit cannot burn a fuel according to its own design specifications, excess air pollutants form and are likely to be discarded as emissions. Thus, the agency acknowledges that whether or not a NHSM is a waste may depend on the unit burning the material.

Comment: One commenter asked for clarification on the issue of unit modifications. If a boiler hypothetically could be modified in any way to combust a different traditional fuel, the commenter noted, then a comparison to that fuel should be permissible to demonstrate that the NHSM is not a waste.

Response: The EPA disagrees with this comment. As long as the modification remains hypothetical in nature, it stands to reason that the unit cannot yet burn the additional traditional fuel and the only reason it is comparing a NHSM to the dirtier fuel is to allow more waste input into the combustion unit. However, if the unit is actually modified to accept additional types of traditional fuels, then the owner or operator of the combustion unit can consider those traditional fuels in evaluating the NHSM for the contaminant legitimacy criterion. In this situation, such behavior shows that the combustor is serious about burning the other fuel and is willing to make the investment so that it can be burned properly instead of simply trying to gain comparison to a dirtier material.

Comment: In the proposed rule, EPA specifically addressed used oil stating: ''Used oil is a special case and does not need to undergo the contaminant comparison. If it meets the specifications in 40 CFR 279.11, it is a traditional fuel. If it does not meet the specifications (i.e., it is ''off-spec'' oil), it is a solid waste under the 2011 NHSM final rule.'' 76 FR 80481, fn. 44. Some commenters argued that off-spec used oil fuel, however, could satisfy all of EPA's legitimacy criteria, including a contaminant comparison with coal, a traditional fuel. Thus, if a combustion unit is ''designed to burn'' both coal and oil, the facility should be able to use coal as the traditional fuel for the purposes of determining whether the contaminants are comparable—even when the NHSM at issue is off-spec used oil, as defined in 40 CFR 279.11.

Response: The Agency agrees with the commenter that contaminants in off-spec used oil burned for energy recovery in facilities that are designed to burn coal may be compared to coal for purposes of determining whether the off-spec used oil is a waste or non-waste product fuel. Accordingly, for purposes of waste/non-waste determinations, coal or oil, including on-spec used oil can be used as the traditional fuel identified for comparison of contaminants to meet the legitimacy criterion for units designed to burn both fuels. Some combustion units are designed to burn multiple fuels, such as both coal and oil, including on-spec used oil. Under these circumstances, the Agency agrees that the rules allow the comparison of contaminant levels to either traditional fuel. That is, to be designated as a non-waste, the off-spec used oil contaminant levels must be comparable to or lower than coal when coal is the traditional fuel used for comparison.

EPA no longer finds, as stated in Footnote 44 of the proposed rule, that off-spec used oil is always a waste for facilities that are designed to burn coal. Off-spec used oil continues to be a waste, however, for facilities that are not designed to burn coal because off-spec used oil contains contaminant levels that are not comparable to on-spec used oil. EPA also notes that in the preamble to the March 2011 rule (p. 15506), the Agency specifically rejected the comparison of off-specification used oil contaminants to coal. That discussion, however, was in the context of a general contaminant comparison for units that burn only fuel oil. Coal may not be the comparison material for all off-specification used oil, but only for those facilities that are designed to burn coal as provided in the definition of this rule. Finally, we want to make clear that EPA has not modified the part 279 regulations for management of used oil, and thus, burning of off-spec used oil for energy recovery is still subject to those rules, including the requirement that off-spec used oil can only be burned in certain units (see 40 CFR 279.61(a)).[63]

Comment: Commenters argue that the EPA has not adequately addressed how units designed to burn only NHSMs are to comply with the contaminant legitimacy criterion. The commenters explained that, under the rule structure as proposed, a NHSM may be classified as a waste simply due to a lack of a traditional fuel for comparison purposes. Comments acknowledge that the agency discussed the issue in the preamble to the proposed rule but the commenters disagree that the discussion provided any solution. Finally, commenters specifically requested that the EPA acknowledge the fact that a combustor designed for a particular NHSM fuel is dispositive that the NHSM is being legitimately burned for energy recovery.

Response: The EPA disagrees with the assertion that the agency has failed to provide a solution for units designed only to burn NHSMs. The EPA also disagrees with the assertion made by commenters that the fact that a combustor has designed a combustion unit for a particular NHSM fuel is dispositive that the NHSM is being legitimately burned for energy recovery.

The EPA acknowledges and is aware of units built specifically to burn NHSMs. One example is facilities built to burn resinated wood. The EPA notes that units built to burn such NHSMs are likely to be able to burn similar traditional fuels. Using the example of units built to burn resinated wood, the EPA considers it reasonable to assume that these units could also burn clean wood and, therefore, could make comparisons to that traditional fuel. The agency also notes that it is not aware of any units—and commenters have not identified any such units—that can burn only NHSMs.

The EPA has nonetheless provided what it considers to be a reasonable solution. As explained in the preamble to the proposed rule, the EPA advises combustors faced with such a situation to compare solid NHSMs to solid traditional fuels, such as coal or biomass, liquid NHSMs to liquid

[63] Off-specification used oil can only be burned in the following types of units: (1) Industrial furnaces, as defined in 40 CFR 260.10; (2) the following boilers, as defined in 40 CFR 260.10—industrial boilers located on the site of a facility engaged in a manufacturing process where substances are transformed into new products, including the component parts of products, by mechanical or chemical processes, utility boilers used to produce electric power, steam, heated or cooled air, or other gases or fluids for sale, and used oil fired space heaters provided that the burner meets the provisions of 40 CFR 279.23; and (3) hazardous waste incinerators subject to regulation under subpart O of 40 CFR parts 264 or 265.

traditional fuels, such as oil, and gaseous NHSMs to gaseous traditional fuels, such as natural gas.[64] In light of the explanation of ''designed to burn'' codified in the final contaminant legitimacy criterion, as well as industry comments that many combustion units can burn multiple types of fuel, the agency believes that its suggested approach adequately addresses the issue.

Finally, the EPA acknowledges that combustion units can and have been designed specifically to burn NHSMs and that such units can recover energy. The agency notes, however, that persons can and have also designed incinerators to dispose of certain waste materials and that such units can also recover energy. The agency, therefore, does not consider it dispositive that if combustion units are designed to burn a specific material, that material must be a legitimate non-waste fuel.

d. Contaminant Comparisons Allowed

The proposed revision to the contaminant legitimacy criterion for NHSMs used as a fuel included the following statement: ''In comparing contaminants between traditional fuel(s) and a non-hazardous secondary material, persons can use ranges of traditional fuel contaminant levels compiled from national surveys, as well as contaminant level data from the specific traditional fuel being replaced.'' The March 2011 final rule did not discuss the use of ranges when evaluating contaminant data, nor did it discuss the use of traditional fuel data from national surveys.

The December 2011 proposed rule included these concepts to clarify that persons are not required to adhere to a single comparison methodology, nor are they required to compare contaminants in their NHSMs to contaminants in the specific traditional fuel source they burn (or would otherwise burn). In both instances, the additional language clarifies, but does not change the intent, of the March 2011 final rule.

Regardless of the specific methodology chosen, a comparison will have to be made for each contaminant or group of contaminants between the NHSM and a traditional fuel or traditional fuel group. Generators or combustors can use either traditional fuel data collected by the EPA or their own data for traditional fuel comparison values.[65] Generators or combustors are responsible, however, for providing NHSM comparison values in cases where testing is conducted. Examples of acceptable NHSM data could include both laboratory test results from a specific generator or combustor and industry-recognized values provided by a national trade organization.

Given data for a particular traditional fuel, the EPA noted in the proposal that many combustors would choose to base the traditional fuel comparison value on the upper end of its statistical range and that this approach was reasonable. Anything less could result in ''traditional fuel'' samples being considered solid waste if burned in the very combustion units designed to burn them. This was not the agency's intent in the March 2011 final rule.[66] Given that selection (i.e., the range for traditional fuel contaminant values), the agency noted that acceptable NHSM comparison values would include the upper end of a statistical range, a calculation involving the mean and standard deviation or perhaps a single data point in situations where data are limited. The proposal reasoned that it would not be appropriate to compare an average NHSM contaminant value to the high end of a traditional fuel range, as the existence of an average implies multiple data points from which a more suitable statistic (e.g., range or standard deviation) could have been calculated.

If each NHSM comparison value is comparable to or lower than its corresponding traditional fuel value, the material would be considered to meet the contaminant legitimacy criterion. An initial assessment would not need to be repeated, explained the proposal, provided the facility continues to operate in the same manner and use the same type of NHSMs as when the original assessment was made.

Despite presenting several approaches for calculating NHSM comparison values, such as the upper end of a statistical range or a calculation involving the mean and standard deviation, the proposal did not preclude other reasonable methodologies. In the context of an inspection or enforcement action, the agency will evaluate the appropriateness of alternative methodologies and data sources on a case-by-case basis when determining whether the contaminant legitimacy criterion has been met.

The EPA noted in the proposal that contaminant testing is not required and that process knowledge may be sufficient for particular contaminants in particular NHSMs. Even when analytical testing is not necessary, the EPA's regulations governing recordkeeping for units subject to emissions standards for boilers and process heaters issued pursuant to CAA section 112 require keeping a record to document the basis of non-waste determinations under the part 241 criteria (including the contaminant legitimacy criteria). See 40 CFR 40 CFR 63.11225(c)(2)(ii) for area source boilers and 40 CFR 40 CFR 63.7555(d)(2) for major source boilers.

The EPA believes that the comments have not changed the basis for its decision to allow the use of ranges and surveys of traditional fuel contaminant levels. Nor have comments changed the agency's position that similar traditional fuels may be grouped for comparison purposes and that testing is not required in all cases. Thus, the EPA is adopting the reasoning from the proposal and adjusting the contaminant legitimacy criterion accordingly for NHSM used as a fuel.

The EPA has decided, however, to make a modification to the regulatory language of the December 2011 proposed rule based on comments received. The final criterion issued today includes additional language clarifying the appropriate use of ranges when making contaminant comparisons between NHSMs and traditional fuels. Consistent with the rationale provided in the preamble to the proposed rule, additional language now states that in order to use the full range of contaminant values in traditional fuels, persons should also account for the variability in NHSM contaminant levels. Any additional reasoning for finalizing the revision with or without suggested modifications is described in the responses to comments below.

Comment: Industry comments supported the proposed changes expressly allowing the use of ranges and national surveys of traditional fuel data, as did one state comment. One commenter stated that these changes provide a more practical approach to meeting the contaminant legitimacy criterion that recognizes the inherent variation of contaminants in NHSMs and traditional fuels. Several commenters supported the use of ranges by repeating the EPA's rationale from the proposal that using anything lower would logically result in a determination that some traditional fuels should not be burned in combustion units designed to burn those fuels. Another commenter stated that these clarifications describe appropriate methods of handling data

[64] See 76 FR 80481.

[65] The EPA maintains an NHSM Web page with current information on contaminant levels in traditional fuels, examples of legitimacy determinations, and other information at *http://www.epa.gov/epawaste/nonhaz/define/index.*

[66] Traditional fuels, as defined in § 241.2, are not required to meet the legitimacy criteria, and this scenario is only used to explain the logic behind basing a traditional fuel comparison value on the upper end of a statistical range.

that are naturally variable and will result in fewer non-waste materials being arbitrarily identified as wastes.

Environmental groups opposed the use of ranges to evaluate contaminants, expressing concern that C&D wood contaminant levels would be compared to the highest contaminant levels for coal. These commenters suggested that averages or medians be used instead.

Response: Based on our review of the comments received, the EPA is retaining the approach outlined in the proposed rule to expressly allow the use of ranges and traditional fuel data from national surveys. As discussed in the proposed rule, the EPA considers it reasonable to allow combustors to use the range of contaminant levels present in traditional fuels because anything less could result in ''traditional fuel'' samples being considered solid waste if burned in the very combustion units designed to burn them. For this reason, the agency disagrees with comments stating that combustors should be limited to use of the average or median concentrations.

The EPA acknowledges that the revisions adopted as final in today's rule would allow C&D wood contaminant levels to be compared to the highest contaminant levels for coal. The commenters do not specify, however, what C&D wood contaminant levels (averages or ranges) they are concerned would be compared to the highest levels in coal. The agency points out that the proposed revisions were not intended to allow average C&D wood contaminant levels to be compared to the highest levels in coal. In light of the concerns expressed by these commenters, the EPA has modified the proposed language to provide additional assurance that such average-to-maximum comparisons, which the agency has already determined are inappropriate, will not be allowed under today's final rule. The EPA has decided that such comparisons are inappropriate because, following the logic stated in the March 2011 final rule, average-to-maximum comparisons do not demonstrate that contaminants in these cases could be considered a normal part of a legitimate fuel and are not being discarded.[67]

Today's final criterion makes clear that the full range of traditional fuel contaminant values can only be used if persons also consider some measure of variability in the NHSM contaminant data. This will help to ensure that average to maximum comparisons will not be used to justify the combustion of NHSMs as non-waste fuels.

Comment: Industry comments supported the concept discussed in the proposed rule that the contaminant legitimacy criterion does not require the testing of contaminant levels in NHSMs in all cases. The proposal noted that persons can instead use expert or process knowledge to justify decisions to rule out certain constituents. The proposal also noted that initial assessments would not need to be repeated, provided the facility continues to operate in the same manner and use the same type of NHSMs as when the original assessment was made. One commenter asked the EPA to confirm these statements, explaining that this policy will result in fewer NHSMs being arbitrarily identified as wastes. Another commenter stated that the flexibility provided by this policy will help ensure that regulated entities with varying levels of sophistication can better document that their NHSMs are non-waste fuels.

Environmental groups, on the other hand, commented that the EPA must require testing for contaminants, citing the extremely variable nature of C&D wood as a problem. Commenters expressed concern that a large amount of material is going to be generated as abandoned and foreclosed housing is torn down, and the potential for liberating vast amounts of lead and other urban toxics, to say nothing of arsenic and chromium from pressure-treated wood, has never been higher.

Response: Based on a review of the comments received, the EPA is maintaining its position that contaminant testing is not required in all situations. Requiring testing in some situations is unnecessary. Where a NHSM generator, processor or combustor knows a contaminant will either not be present or be present at a level below that in the appropriate traditional fuel or traditional product, the agency believes it is a reasonable and practical policy to allow persons to rely on either process knowledge or previous testing of the same material.

The agency notes that there will be instances where testing is conducted and comparisons will have to account for the variability of contaminant levels in NHSMs, including lead concentrations in C&D wood. The agency also notes that today's final rule does not change its previously stated position that chromated copper arsenate-treated wood (CCA wood) would likely have contaminant levels not comparable to traditional fuels.[68]

Comment: One commenter requested that the EPA clarify what it means by the upper end of the statistical range. Citing the EPA's statement in the proposal that ''it makes sense to base the traditional fuel comparison on the upper end of the statistical range,''[69] the commenter asked for confirmation that the maximum values in the traditional fuel data set can be used for comparison with a NHSM since all data corresponding to the traditional fuel are valid for comparison, not just values that are below some arbitrarily determined statistical parameter.

Response: The word 'ranges' in the proposed contaminant legitimacy criterion has been changed to 'the full range' in the final criterion issued today. This term more clearly indicates the agency's intent to include all true values in between the minimum and the maximum.

The agency has also separated the concepts of ranges and traditional fuel survey data in the regulatory language in order to make the criterion more transparent. The pertinent regulatory text in today's final rule reads as follows: ''In comparing contaminants between traditional fuel(s) and a non-hazardous secondary material, persons can use data for traditional fuel contaminant levels compiled from national surveys, as well as contaminant level data from the specific traditional fuel being replaced. To account for natural variability in contaminant levels, persons can use the full range of traditional fuel contaminant levels, provided such comparisons also consider variability in non-hazardous secondary material contaminant levels.''

Comment: Several commenters noted that the agency proposed to allow the use of ''national'' surveys of traditional fuel data in the proposed contaminant legitimacy criterion and included several international data sources in its ''Contaminant Concentrations in Traditional Fuels: Tables for Comparison'' document.[70] Several commenters asked that the word 'national' be removed from the contaminant legitimacy criterion. Other commenters asked that the EPA either remove the word 'national' or clarify that international data and surveys from other nations are also acceptable data sources.

Response: The EPA has retained the proposed language, including the word ''national,'' which expressly allows national surveys of traditional fuel data to be used in contaminant comparisons

[67] See 76 FR 15523.

[68] See 75 FR 31872.

[69] See 76 FR 80481.

[70] The EPA maintains a NHSM Web page with current information on contaminant levels in traditional fuels, examples of legitimacy determinations, and other information at *http://www.epa.gov/epawaste/nonhaz/define/index.*

for NHSMs used as a fuel in combustion units. A statement that national surveys can be used does not preclude the use of appropriate international data. In fact, as the commenters recognize, the EPA included several international sources in its analysis of traditional fuels. These international sources were limited, however, to situations where no data or minimal data could be found from national sources or the agency had no reason to believe that data from national sources would be significantly different. At issue is whether the data are representative of traditional fuels that are purchased and burned at operating boilers in the United States. The agency has decided that it is reasonable to assume that national surveys of traditional fuels contain information about fuels purchased and burned at operating boilers in the United States.

Comment: One commenter argued that the traditional fuel database compiled by the EPA should include the USGS coal data from not only the United States but also from around the world because those fuels are currently in use.

Response: The EPA has maintained its decision not to reference the USGS COALQUAL database in its traditional fuel contaminant tables. It is the agency's understanding that the COALQUAL database contains trace metal analyses for coal and associated rocks taken directly from coal beds throughout the United States and that not all of these coal beds are currently being mined. It is also the agency's understanding that as-mined coal typically undergoes a series of processing steps, including crushing, screening, washing and physical separation techniques to remove rock and other impurities prior to being blended into clean, graded and uniform coal products suitable for use in commercial boilers.[71]

In comparison, the EPA contaminant tables referenced by commenters are based largely on a comprehensive dataset that contains approximately 32,000 records of pre-combustion contaminant analyses performed on coal, wood, biomass and fuel oil samples that were actually used as fuel at boilers across the country. Thus, the agency has decided that the EPA dataset is more representative of contaminant levels in coal actually burned at operating boilers than the COALQUAL database. As a result, the EPA has decided not to use the COALQUAL database in developing the tables posted on the agency's Web site.

We would also note that the decision not to use USGS data is consistent with the agency's position that product fuel oils, as opposed to virgin crude oil, should be measured for purposes of contaminant comparisons. As stated in the proposed rule, neither unrefined crude oil nor gasoline is typically burned in combustion units regulated by CAA sections 112 and 129. Similarly, as-mined coal is not typically burned in combustion units regulated by CAA sections 112 and 129.

Comment: One commenter suggested that for each contaminant or group of contaminants, either the UCL of the mean at a 90 percent confidence level or the UPL at a 90 percent confidence level for NHSMs could be compared to the maximum value for the appropriate traditional fuel.

Response: First, we would note that in the preamble to the recent proposed rule, the EPA indicated that when compared to the full range of contaminants in traditional fuels, suitable measures of NHSM contaminants would include the upper end of a statistical range, a calculation involving the mean and standard deviation or perhaps a single data point in situations where data are limited. The agency also noted that the discussion in the preamble did not preclude ''other reasonable methodologies.'' [72]

With respect to the specific approaches suggested by the commenters, the EPA agrees with the approach of comparing the UPL at a 90 percent confidence level for each contaminant or group of contaminants in NHSMs to the maximum value for each contaminant or group of contaminants in the appropriate traditional fuel. Specifically, the UPL is an indicator of what a future measurement would be. In the context of NHSM contaminant levels, the UPL taken at a 90 percent confidence level would yield a number, and a combustor could be confident that 90 percent of the time, the next measured contaminant level would be at or below that number. The UPL considers both the variability of the contaminant distribution and the uncertainty surrounding what the true mean is. The comment suggested taking a maximum value for traditional fuel contaminant levels and comparing it to the UPL at a 90 percent confidence level. Because both metrics account for the variability present in contaminant distributions, the EPA would consider this approach to be a reasonable methodology.

The EPA does not agree, however, with an approach of using the UCL of the mean. That is, the UCL of the mean, regardless of the confidence level, is a measure of the mean and does not adequately factor in the variability present in both NHSMs and traditional fuel contaminant levels. The metric would be appropriate for a mean to mean comparison, but that is not what the commenter suggested. The comment suggested taking a maximum (which takes full advantage of the variability present in traditional fuel contaminant levels) and comparing it to a mean (which ignores the variability present in NHSM contaminant levels). The EPA does not consider this approach to be a reasonable methodology.

To be clear, the EPA does not object to the use of confidence limits, or to the use of the UCL of the mean, on their own grounds. However, the agency believes it is inappropriate to make a comparison of mean contaminant levels in NHSMs to maximum contaminant levels in traditional fuels.

Comment: One commenter suggested that the EPA allow entities to compare contaminants between NHSMs and traditional fuels on a pound of contaminants per Btu (lb/MMBtu) basis, as the agency said it would consider in the preamble discussion to the 2011 NHSM Final Rule.[73]

Response: The EPA maintains its position that a direct comparison of contaminant levels, as opposed to the lb/MMBtu approach, is the most appropriate means of comparing contaminant levels. As was noted in the 2011 NHSM Final Rule, however, the agency may still consider the lb/MMBtu approach as guidance is developed for implementation.

3. Categorical Non-Waste Determinations for Specific NHSM Used as Fuels

The new provisions at 40 CFR 241.4 were proposed to allow the EPA to list categorically certain NHSMs as non wastes—when used as a fuel in a combustion unit. Based on these categorical non-waste determinations, facilities burning NHSMs that qualify for the provision will not need to demonstrate that the NHSM meets the legitimacy criteria on a site-by-site basis. The EPA has determined that these NHSMs are categorical non-wastes as described and are not discarded when used as a fuel in a combustion unit.

Categorical non-waste determinations only apply, however, to NHSMs that are burned as a fuel in combustion units for the purpose of recovery energy. Burning

[71] Speight, J.G. Synthetic Fuels Handbook: Properties, Process, and Performance. McGraw-Hill, 2008. pg 141.

[72] See 76 FR 80481.

[73] See 76 FR 15525.

a NHSM fuel in a combustion unit for energy recovery assumes a set of basic design requirements that ensures excess air pollutants are not formed and emission requirements under the CAA are met. As discussed in section III.D.2.c of this preamble, such basic design requirements include abilities to load the material into the unit, ensure the material is well mixed and maintain temperatures within unit specifications. For example, burning a whole tire in a boiler that is only designed to burn tires that are chipped and/or dewired would not be considered a fuel burned in a combustion unit for the purpose of recovering energy. The agency is not including specific regulatory text regarding this point since we believe it is understood that to be burned for energy recovery, the combustion unit must be able to burn the NHSM as a fuel.

a. Scrap Tires

In the December 23, 2011, NHSM proposed rule, the EPA proposed the following regulatory language under 40 CFR 241.4 Non-Waste Determinations for Specific Non-Hazardous Secondary Materials When Used as a Fuel: ''Scrap tires that are not discarded and are managed under the oversight of established tire collection programs, including tires removed from vehicles and off-specification tires.'' Further, the addition of this provision (40 CFR 241.4(a)(1)) eliminated the need for the previous scrap tire provision at 40 CFR 241.3(b)(2)(i),[74] which has been removed and reserved in today's final rule. Today's rule finalizes the proposed provision without changes.

Comment: One commenter stated that, ''in its latest proposal, EPA eliminates the need for scrap tires to meet its legitimacy criteria and simply declares that scrap tires collected under an established tire collection program are not waste regardless of whether they meet the agency's legitimacy criteria.''

Response: The EPA disagrees with this comment. The EPA has not eliminated the legitimacy criteria for scrap tires. The categorical determination for scrap tires (as with all the categorical determinations in this rule) simply applies the agency's non-discard determination, made in the March 2011 rule and not reopened in this amendment, to the general category so that case-by-case determinations as to legitimacy would not need to be made by each facility. For the scrap tire category, scrap tires managed under established tire collection programs and used as a fuel need not make case-by-case legitimacy determinations. Moreover, the commenter has given us no information that the criteria are not met. In fact, the commenter simply repeats the argument made in previous rulemakings that the material is always a waste regardless of legitimacy criteria.

Comment: Several commenters suggested that scrap tires should not have more restrictions under 40 CFR 241.4(a) for the categorical non-waste status than does resinated wood. The non-waste determination for scrap tires, as proposed in 40 CFR 241.4(a)(1), read ''Scrap tires that are not discarded and are managed under the oversight of established tire collection programs, including tires removed from vehicles and off-specification tires.'' In comparison, the resinated wood description, as listed in 40 CFR 241.4(a)(2), is ''Resinated wood.'' The commenters reasoned that if all resinated wood can be non-waste, then all scrap tires should also qualify (regardless of the origin).

Response: Please see the EPA's response in the resinated wood section below (section III.D.3.b of this preamble) relating to the 241.4(a) criteria for resinated wood and the comparison to scrap tires. That response goes into detail explaining why the extra criteria are not needed for resinated wood and related discard issues. In addition, as noted previously in the NHSM rulemaking record (see docket EPA–HQ–RCRA–2008–0329), numerous tire piles have been created in the past whereas this is not the case for resinated wood used as fuel. The existence of these historic tire dumps demonstrates that some tires have not been treated as a valuable commodity therefore necessitating the additional discard qualification in regulatory text. The specific tires described in the categorical determination are handled as a valuable commodity and do not include discarded tires.

Comment: A commenter suggested that the EPA should add ''off-specification tire components'' to the regulatory language. This revision would be in addition to the proposed text at 40 CFR 241.4(a)(1) that adds ''off-specification tires.''

Response: Off-specification tire components are covered in the 40 CFR 241.4 categorical non-waste determinations for scrap tires. The term 'scrap tire' is a general term for tires and can include, for example, whole tires, chipped tires, off-specification tires or off-specification tire components (i.e., tread, sidewall or base) that are removed from vehicles or are generated by tire manufacturers, including retailers or other parties involved in the distribution and sale of new tires. This formulation was also stated in the December 2011 NHSM proposal[75] and is adopted for today's final rule. The EPA sees no difference between tires and their various components. Thus, the EPA does not believe it necessary to modify the rule to include ''off-specification tire components'' in the codified definition. They are understood to be included in the categorical non-waste provision.

Comment: Many commenters mentioned the difficulty in complying with the regulations since it is very difficult to distinguish between tires removed from vehicles (and off-specification tires) versus tires from other origins. In regard to this issue, one commenter stated, ''a combustor cannot know the origin of the tire-derived fuel it is buying. In its response to requests for reconsideration of the CISWI rule, the EPA responded to this issue by recognizing that it is not possible for a combustor to know the source of all NHSM fuel and declined to impose this requirement stating:

> ''Rather, it is sufficient that the ultimate user verify that it is obtaining tires from an established tire collection program, which program can provide the user with reasonable assurance that it manages tires carefully from point of collection to point of burning and which does not receive tires which have been abandoned in landfills or otherwise. 76 Fed. Reg. 28318, 28322 (May 17, 2011).''

Therefore, the commenter requests that the EPA codify this statement in the NHSM rule and expressly allow combustors to rely upon certifications of fuel suppliers that the fuel sold is not a solid waste.

Another commenter said that for the EPA to require a tire storage facility to maintain separate classifications of tires (i.e., separating discarded tires from tire dumps from other tires) is not reasonable, because inspectors and operators would not be able to tell the piles apart. The EPA's current definition of scrap tires would place undue financial hardship on contractors and storage facilities.

Response: The EPA has decided that a regulatory statement on this matter is

[74] The scrap tire provision in the 2011 NHSM final rule is now removed and the section reserved in today's final rule: ''(b) The following non-hazardous secondary materials are not solid wastes when combusted:

(2) The following non-hazardous secondary materials that have not been discarded and meet the legitimacy criteria specified in paragraph (d)(1) of this section when used in a combustion unit (by the generator or outside the control of the generator):

(i) Scrap tires used in a combustion unit that are removed from vehicles and managed under the oversight of established tire collection programs.''

[75] See 76 FR 80483.

not necessary since the actual requirement for the combustor to determine where its tires come from when they are coming from an established tire collection program (or a contractual agreement) is provided for under the CAA and interpretations provided for that regulation. For example, major source boilers have a recordkeeping requirement for a non-waste determination at 40 CFR 63.7555 ''What records must I keep?'' Within those regulations for major source boilers, it requires the combustor to demonstrate that NHSMs are a non-waste. To the extent that a combustor believes it appropriate, they may request haulers to verify that the tires would qualify as non-waste under 40 CFR 241.4 when combusted.

If there is question about the origin of the tires, the EPA inspectors will not assume that tires are from discarded sources. As we note in the **Federal Register** notice (76 FR 28318, 28322), ''It is EPA's position that ultimate users are not responsible for knowing the source of all tires obtained from an established tire collection program* * * EPA does not interpret this language as requiring knowledge of each individual tire as this is a practical impossibility* * * users also should not assume that tires from established programs which participate in occasional cleanup days are discarded—both because there is no information that the tires from the cleanup efforts were discarded (and these programs are designed to prevent discarding) and whether the kiln received tires from the sporadic cleanup days in any case.''

The **Federal Register** notice that the commenter cited (76 FR 28322) and a related letter to the docket (''Memorandum. Combustion in a Cement Kiln and Cement Kilns' Use of Tires as Fuel.'' April 25, 2011, Document ID: EPA–HQ–OAR–2002–0051–3582) provide sufficient guidance. The agency believes this issue does not merit additional regulation for the hauler.

b. Resinated Wood

In the December 23, 2011, proposed rule, the EPA proposed to designate in regulatory text that resinated wood is not a solid waste when used as a fuel. In making this determination, the agency analyzed these materials using the legitimacy criteria, concluding that resinated wood clearly is managed as a valuable commodity and has meaningful heating value and is used as fuel.[76] While stating that these materials may not always meet the regulatory contaminant legitimacy criterion in every situation, we proposed to list categorically resinated wood as a non-waste fuel because, after balancing the regulatory legitimacy criteria and other relevant factors, the EPA determined that resinated wood that is used as fuel represents an integral component of the wood manufacturing process and, as such, is not being discarded when burned as fuel.

Specifically, we noted the extent to which resinated wood is used as fuels throughout the wood manufacturing industry and that the use of resinated wood as fuel is essential to the wood manufacturing process. We also noted the prevalence of wood product plants that have been designed specifically to utilize these residuals for their fuel value; in fact many (if not most) wood products plants would not be able to operate as designed without the use of these materials. This determination was previously codified under 40 CFR 241.3 (b)(2)(ii) of the NHSM final rule, provided the resinated wood met the legitimacy criteria in 40 CFR 241.3(d)(1). However, based on the available information, as well as how this material is handled and used in the process, resinated wood is not being discarded when used as a fuel, and thus, should not be considered a solid waste when burned as a fuel. The EPA proposed to codify this determination by categorically listing resinated wood as a non-waste fuel in 40 CFR 241.4(a)(2).[77] By specifically listing it as a non-waste fuel, combustors of this material would not need to demonstrate that they meet the legitimacy criteria on a site-by-site basis.

The EPA finds that this reasoning is supported by the entire rulemaking record, as explained in the December 2011 proposal, which rationale is adopted for the final rule as further supported by responses to comments below. Thus, the agency has determined to list categorically resinated wood as a non-waste fuel. In addition, after considering comments received on the proposal, the agency is revising the definition of ''resinated wood,'' as codified in 40 CFR 241.2.

Comment: Most comments on this issue were supportive of a categorical determination that resinated wood is a non-waste fuel. One commenter maintained that the record for this rulemaking clearly establishes that resinated wood is highly valued within the wood products industry for its high fuel value, stating that ''Many facilities rely on mixing of these low moisture content wood materials with higher moisture content wood materials to manage and optimize combustion.'' This same commenter also stated that ''there exists within the wood products industry a developed market for purchase and sale of resinated wood between independent companies.'' In fact, many wood-fired boilers at wood products plants that do not generate sander dust have been retrofitted with sander dust injection burners so that sander dust can be properly combusted in those units, taking full advantage of the heat energy of sander dust.

Another commenter stated that ''resinated fuels have been an integral part of the composite wood product industry's production process since the industry was established decades ago. As such, facilities' combustion and energy systems were designed and constructed to utilize most if not all of their own wood and wood by-products, including resinated trim and sander dust. Excluding resinated wood fuels from our manufacturing processes would require significant re-engineering of our facilities and add insurmountable operating costs in order to substitute fossil fuels, as well as to transport and dispose of resinated wood fuels. Any other result would effectively make it nearly impossible for these manufacturing facilities to continue operations.'' This same commenter also noted that ''many of our facilities rely exclusively on resinated wood for its fuel and have limited access to substitutes.''

Another commenter provided two examples of mills that utilize nearly 100 percent of sander dust, either to create new product as part of the manufacturing process or as fuel. In addition, two state commenters supported the proposed categorical non-waste determination for resinated wood.

Response: Nearly all of the comments received regarding the proposed categorical non-waste determination were supportive of categorically listing resinated wood as a non-waste fuel when burned in combustion units for energy recovery. As noted above, the agency did receive a few additional examples of how the use of resinated wood as a fuel is an integral part of the wood manufacturing industry's production process (e.g., the facilities that would have to be significantly re-engineered if they could not use resinated wood for its fuel value and the mills that use 100 percent of the sander dust it generates, either by recycling it back into the process or burning it for fuel).

Although we received one comment critical of the EPA's proposed listing of resinated wood as a non-waste fuel (addressed below), we did not receive

[76] See 76 FR 80483.

[77] See 76 FR 80483–80484.

any comments that argued or suggested that the use of resinated wood as a fuel is not an integral component of the wood manufacturing process. Thus, we agree with commenters who encouraged the EPA to finalize resinated wood as a categorical non-waste fuel and will finalize this determination in today's rulemaking.

Information in the record for this rulemaking clearly establishes that resinated wood is managed as a valuable commodity (40 CFR 241.3(d)(1)(i)) and has meaningful heating value and is used as a fuel in combustion units that recover energy (40 CFR 241.3(d)(1)(ii)).[78] In addition, we generally have determined that most resinated wood meets the contaminant legitimacy criterion as well ((40 CFR 241.3(d)(1)(iii)), although we acknowledge that in some instances these materials may have levels of formaldehyde that are not comparable to traditional fuels.[79]

The EPA confirms the position discussed in the proposal and adopts it as its final rationale that there are instances where it is appropriate for the EPA to balance the regulatory legitimacy criteria with other relevant factors in order to determine whether a material is a legitimate fuel or is merely being discarded by being combusted. We have determined that resinated wood is one such example. Although resinated wood may not meet the regulatory contaminant legitimacy criteria in every situation, it is clear that resinated wood is still a ''legitimate'' product fuel after one considers how integrally tied the use of resinated wood as a fuel is within the wood manufacturing process and industry. Nearly all comments received on this point concurred with this assessment. Thus, in today's final rule, we are codifying the determination that resinated wood, based on all information and the totality of the circumstances, is a non-waste when used as a fuel.

Comment: One commenter, however, stated that the EPA's proposed categorical determination that resinated wood is a non-waste fuel is unlawful and arbitrary. The commenter stated that the EPA is now proposing to simply ''exempt'' resinated wood altogether, regardless of who burns it and whether it meets the legitimacy criteria. According to the comment, the EPA acknowledges that the formaldehyde levels in resinated wood would not always meet its contaminant legitimacy criterion—i.e., would not be comparable to the levels in any fuel that companies would otherwise burn. The commenter states that the EPA also acknowledges that burning resinated wood increases the emissions of formaldehyde, but nonetheless finds that, ''In general the motivation to use resinated wood as a fuel, even with the slightly higher formaldehyde levels, predominates over the motivation to dispose of the formaldehyde.'' The EPA's decision to remove the limits on the exemption for resinated wood and to ''categorically'' declare resinated wood to be a non-waste—regardless of who burns it, regardless of how contaminated it is, and regardless of the reality that some companies may be burning resinated wood as a cheap means of disposing of their toxic formaldehyde wastes—underscores this point.

The comment continues that the EPA nowhere claims that companies burning resinated wood that they have not generated pay for these materials. Indeed, the EPA does not deny that these companies are paid to take the resinated wood they burn. Thus, the EPA provides no reason to believe that the resinated wood that is burned by a company other than the one that generated it has not been discarded by the company that generated it. Even under the EPA's own view of the meaning of discard, resinated wood burned by companies other than the generator of the resinated wood would be waste but for the agency's declaration that it is not waste.

The commenter also states that the EPA admits that some companies may burn resinated wood because they want to dispose of the formaldehyde it contains (i.e., to dispose of the contaminated wood rather than to recover energy). Moreover, the levels of formaldehyde contamination in some resinated wood would exceed the EPA's legitimacy criteria, but for the EPA's declaration that these criteria do not apply. For these reasons as well, resinated wood is discarded even under the EPA's own view of what that term means.

Further, the comment states that sources' alleged ''motivation'' for burning a material is to recover energy rather than to destroy the wood and the contaminants it contains—assuming arguendo that a source's motivation can even be determined—does not show that material is not a waste. Rather, resinated wood is a waste because it is discarded within the meaning of RCRA. Notably, the EPA does not suggest that there is any use for resinated wood that has been discarded other than—assuming it is a ''use'' at all—burning it. Moreover, establishing a ''motivation''-based test for whether resinated wood is or is not a waste conflicts with and defeats the CAA. Thus, the agency's categorical declaration that resinated wood is not a waste is unlawful.

Response: The EPA strongly disagrees with the commenter's characterization of its categorical determinations. In making categorical determinations, the agency is not ''exempting'' these materials from regulation as a solid waste (i.e., if not for this ''exemption,'' these materials would otherwise be regulated as solid waste). Rather, the EPA has determined that the specified NHSMs are not solid waste when used as fuels. Further, in making categorical determinations, the EPA is not saying that the legitimacy criteria are not relevant. In proposing the categorical non-waste determination for resinated wood, the agency stated we were ''balancing the legitimacy criteria and other relevant factors based on the fact that resinated wood residuals that are used as fuels represents an integral component to the wood manufacturing process and, as such, resinated wood residuals are not being discarded when burned as fuels.''[80] This remains the agency's final finding in this rule.

Regarding the level of contaminants in resinated wood, the agency is not saying that resinated wood is a non-waste fuel ''regardless of how contaminated it is,'' as the commenter suggests. Based on all available information, the agency has concluded that resinated wood meets the legitimacy criteria for all contaminants with the possible exception in some situations of formaldehyde. In focusing specifically on formaldehyde, we also have stated that we have limited information regarding formaldehyde levels—that is, resins and adhesives containing formaldehyde react within the resin curing process leaving ''free formaldehyde at levels less than 0.02 percent (or 200 ppm), but noted that levels will be reduced further due to new national rules being developed by the CARB Composite Wood ATCM, per new Public Law 111–199. Thus, we have not said that contaminants do not matter. Rather, we have carefully analyzed contaminant levels in resinated wood and have determined, based both on contaminant levels, as well as how the use of these materials represents an integral part of the wood product manufacturing process, that resinated wood materials are a legitimate non-waste fuel.

[78] See, e.g., 76 FR 80483. See also background document developed in support of the December 23, 2011, proposed rulemaking titled, ''Resinated Wood, Scrap Tire, and Pulp/Paper Sludge Support Document'' (EPA–HQ–RCRA–2008–0329–1880).

[79] Id.

[80] See 76 FR 80483.

Further, we do not concede, as the commenter contends, that some companies burn resinated wood to destroy contaminants—in fact, we have determined just the opposite. We have determined that companies burning resinated wood do so because such an activity is integrally tied to their production process, not to dispose of the formaldehyde. This determination is based on that extent to which resinated wood is used as fuels throughout the wood manufacturing industry, as well as the fact that the use of resinated wood as fuel is essential to that industry (i.e., plants have been designed to use these materials as fuels and would be unable to operate if resinated wood was not available as a fuel source).

Regarding the comments that the EPA acknowledges that burning resinated wood increases emissions of formaldehyde, the agency needs to correct this characterization. First, in the 2011 NHSM final rule, we stated that the criterion or test in determining the contaminant legitimacy criterion is based on the level of contaminants in the secondary material itself and not by comparing the differences in emissions.[81] However, responding to comments we received regarding emission levels associated with burning resinated wood as a fuel, the agency determined that the amount of formaldehyde that is emitted from burning resinated wood residuals is in fact likely to decrease, given that Public Law 111–199 will reduce formaldehyde levels in these materials.[82]

Regarding the commenter's statement that companies that burn resinated wood that they have received from offsite do not pay for it, the EPA disagrees with the argument put forth by the commenter as the facts in this instance do not support such a premise.

As noted in the March 2011 final rule, inter-company transfers of resinated wood residuals are typically managed through buy-sell contracts and 6 percent of resinated wood residuals are sold into the fuel market and are used as either ''furnish'' (i.e., raw materials) or fuel at the receiving facilities.[83] In addition, the EPA received additional comments on the proposed rule stating, ''* * *there exists within the wood products industry a developed market for purchase and sale of resinated wood between independent companies.''

Moreover, while contractual arrangements can be used as evidence that the material is managed as a valuable commodity and that discard is not occurring when a material is transferred beyond the control of the generator, the price of an NHSM is not, by itself, dispositive of whether the material is or is not a waste. The main indication that resinated wood residuals are not solid waste is the fact that they are used as fuels in a way that represents an integral component to the wood products industry. As the EPA noted in the March 2011 final rule, ''resinated wood residuals transferred off-site are utilized in the same manner as self-generated resinated wood residuals (i.e., contained in the same bins as furnish materials used in the product, transferred via conveyors or ducts), which the plants are specifically designed to burn as a fuel, [and therefore] we agree that this does not constitute discard.''[84]

The comment that the agency has simply declared that resinated wood is a non-waste ''regardless of who burns it'' is a mischaracterization of this categorical non-waste determination. Based on all information provided to the agency, we have determined the use of resinated wood as a fuel is an integral part of the industry's production processes and that these materials are managed as valuable commodities (i.e., fuels), have meaningful heating value and are used in combustion units that recover energy regardless of whether these materials remain within the control of the generator or are transferred offsite to another facility. On the other hand, we have no information that facilities are burning these materials merely to get rid of them (i.e., discard).

The EPA finds irrelevant the commenter's statement that the EPA is looking to a source's motivation for using a material as a fuel conflicts with and defeats the CAA. The issue, rather, is whether motivation is relevant to a waste determination under RCRA. The D.C. Circuit confirmed the relevance of motivation in determining whether a recycled material is a waste. See, *API* v. *EPA,* 216 F.3d at 58 (court criticizes the EPA for not saying why it has concluded whether recycling motivation predominates over a disposal motivation). In this case, it is clear that the motivation for burning the resinated wood is to utilize its inherent value as a fuel and not for disposal. Commenters have provided the agency with information that facilities generating and managing resinated wood residuals consider these materials to be an integral part of their production process—both in the value these materials provide as being a critical source of energy as well as being recycled back into the manufacturing process to create more wood products. Thus, we are not convinced that a facility that considers the use of resinated wood as a fuel to be an integral part of its production processes, as has been established in the record, is motivated to discard these materials by burning to get rid of them.

Comment: A few commenters stated that the EPA is not consistent in how discarded materials are designated as solid waste. In particular, the commenter stated that the EPA was proposing to list as a categorical non-waste fuel in 40 CFR part 241.4 resinated wood regardless of whether it is previously discarded, while the agency would require processing for scrap tires that have been discarded in landfills.

Response: The agency disagrees that its treatment of resinated wood is inconsistent with its treatment of scrap tires. Nowhere does the agency state that resinated wood would be considered a non-waste fuel ''regardless of whether it is previously discarded.'' The EPA, based on all information available, has determined that resinated wood is not being discarded when used as fuel, given the fact that resinated wood residuals that are used as fuels represent an integral component of the wood manufacturing process. If a shipment of resinated wood residuals was disposed of in a landfill, it would be a waste. In addition, if a shipment of resinated wood residuals were disposed of and later recovered to be used as a fuel, as is the case with scrap tires that are extracted from landfills, this would be a different scenario and would not be included within the categorical listing in 241.4(a)(2).

As the record clearly shows, resinated wood is routinely handled and managed as a valuable fuel product within the wood products manufacturing industry. As noted in the rulemaking record (see docket EPA–HQ–RCRA–2008–0329), numerous scrap tire piles have been created in the past and it is a common practice to recover abandoned tires from tire piles and use them for fuel. This is not the case for resinated wood.

Comment: While supportive of the agency's proposed listing of resinated wood as a non-waste fuel in 40 CFR part 241.4, two commenters suggested that the agency revise the definition of ''resinated wood'' as codified in 241.2. Currently, ''resinated wood'' is defined as, ''wood products (containing resin adhesives) derived from primary and secondary wood products manufacturing and comprised of such items as board trim, sander dust, and

[81] See, e.g., 76 FR 15502.

[82] Id.

[83] See 76 FR 15500.

[84] Id.

panel trim.'' However, these commenters request the EPA to revise this definition in order to clarify that the ''spectrum of resinated materials currently used as fuels throughout the wood product manufacturing process are included in the definition.'' Thus, commenters urge the EPA to revise the definition of resinated wood as follows: ''Resinated wood means wood products (containing binders and adhesives) produced by primary and secondary wood products manufacturing. Resinated wood includes residues from the manufacture and use of resinated wood, including materials such as board trim, sander dust, panel trim, and off-specification resinated wood products.''

The suggested revised definition proposes two changes. First, the suggested definition replaces the phrase ''containing resin adhesives'' with the phrase, ''containing binders and adhesives.'' The second suggested revision to the definition is the specific inclusion of ''off-specification resinated wood products.'' Commenters have indicated that these materials include materials that do not meet manufacturing specifications or are otherwise physically marred or damaged and thus, are not sold in the marketplace. This class of materials would not be expected to be chemically different than the resinated wood products that meet the manufacturing ''on-spec'' requirements. For example, off-specification resinated wood products would not be expected to have higher amount of resins (and therefore contaminants) than their on-specification counterparts. Commenters have indicated that off-specification resinated wood products are identical to their on-specification counterparts chemically and only differ in that they are do not meet a manufacturing quality or standard.

Response: The agency recognizes that in order for a categorical non-waste determination to be meaningful and effective, it must be clear about the universe of materials that such a categorical non-waste determination encompasses. Thus, we agree with commenters who suggested specific revisions to the definition of ''resinated wood'' contained in part 241.2. Specifically, the EPA agrees that these revisions create a definition that more accurately captures the scope of resinated wood and is more representative of the resinated materials currently used as fuels throughout the wood product manufacturing process. First, by including the terms ''binders'' and ''adhesives,'' the universe of materials that we consider to be within this definition should be more clear, as these terms are widely used and accepted within the wood products manufacturing industry.

With respect to the inclusion of off-specification resinated wood products, the EPA finds it appropriate to include this class within the definition of resinated wood. We note, however, that to the extent that a facility has reason to expect that the off-specification wood products are off-spec for chemical reasons, such that the levels of contaminants are expected to be greater than their on-spec counterparts, the EPA would not consider such materials to be within the scope of this definition. The agency will make this point more clear by specifying in the definition that the term ''off-specification resinated wood products'' are off-spec due to the fact that they do not meet a manufacturing quality or standard. Thus, in today's final rule, we are codifying the definition of resinated wood as follows: ''Resinated wood means wood products (containing binders and adhesives) produced by primary and secondary wood products manufacturing. Resinated wood includes residues from the manufacture and use of resinated wood, including materials such as board trim, sander dust, panel trim and off-specification resinated wood products *that do not meet a manufacturing quality or standard''* (*emphasis* added).

Comment: One commenter noted that there are additional secondary materials produced by the wood manufacturing industry that are similar to resinated wood and, thus, should also be considered a non-waste fuel. The production of flooring and furniture creates final finishing trim, sander dust and process breakage that are both solid and resinated wood materials. In some cases, these materials are coated with finish materials used to color and protect the finished product. The commenter (a utility) indicated that their facilities receive these materials from furniture and flooring manufacturers and utilize them to offset the fuel load from fossil fuels due to their high heat capacity. Thus, the commenter requests that the EPA expand its definition of resinated wood materials to include these additional wood manufacturing secondary materials as non-waste fuels or otherwise describe the circumstances under which these additional materials would be considered a non-waste fuel.

Response: It is possible that these materials (or some of these materials) could be within the definition of ''resinated wood,'' as codified in 40 CFR part 241.2; however, commenters have not provided the agency with information regarding the factors involved in determining whether these additional types of coated materials are legitimately used as product fuels. That is, commenters have not provided information regarding whether these ''finishing materials'' could have contaminant concerns and whether they are routinely used as fuels. Subsequent to this rulemaking, the agency would welcome information regarding these materials in order to make an informed decision regarding whether these materials fit within the definition of ''resinated wood.'' Alternatively, the commenter may petition the agency to receive a non-waste determination per the petition process established in 40 CFR 241.3(c) if the commenter believes that this material may not be within the definition of ''resinated wood.''

4. Rulemaking Petition Process for Other Categorical Non-Waste Determinations (40 CFR 241.4(b))

The EPA recognizes that there may be other NHSMs that can also be considered non-wastes when used as fuels in combustion units when balancing the legitimacy criteria and other relevant factors. Thus, under today's rule, we are finalizing the process outlined in the proposed rule whereby persons can submit a rulemaking petition to the Administrator where they can identify and request that additional NHSMs be listed in section 241.4. The petition process is similar to 40 CFR 260.20, where any person may petition the Administrator to modify or revoke any provisions of the hazardous waste rules and where procedures governing the EPA's action on those petitions are established. The 40 CFR 260.20 standards reflect normal, informal rulemaking procedures under the APA and thus, serve as an appropriate model for the NHSM rulemaking petitions under this section.

In the context of a rulemaking petition under section 241.4(b), any person can petition the Administrator for a regulatory amendment to identify and request that additional NHSMs be included on the list of materials in section 241.4(a) that are not solid wastes when used as a fuel in a combustion unit. To be successful, the petitioner needs to demonstrate to the satisfaction of the Administrator that the proposed regulatory amendment involves a NHSM that has not been previously discarded (i.e., was not initially abandoned or thrown away), or if discarded, has been sufficiently processed into a legitimate fuel. The petitioner must also demonstrate that the material is used as a non-waste fuel in a combustion unit because it either

meets the legitimacy criteria, or, after balancing the legitimacy criteria with other relevant factors, such NHSM(s) is not a solid waste when used as a fuel in a combustion unit.

If the applicant believes that the NHSM is a legitimate product and not discarded despite not meeting the legitimacy criteria, additional information must be submitted to explain or describe why such NHSM should be considered a non-waste fuel. Possible factors to address include, but are not limited to:

- The extent that use of the NHSM has been integrally tied to the industrial production process. Information can include combustor design specifications, the extent that use of the material is integrated across the industry and the extent that use of the NHSM is essential to the industrial process,
- The extent that the NHSM is functionally the same as the comparable traditional fuel, and
- Other relevant factors.

The application is required to include: (1) The petitioner's name and address; (2) a statement of the petitioner's interest in the proposed action; (3) a description of the proposed action, including the specific NHSM, the industry (i.e., NAICS code) and functional use (i.e., industrial functional code listed in 40 CFR 710.52(c)(4)(i)(C)); and (4) a statement of the need and justification for the proposed action, including any supporting tests, studies or other information. Where such NHSM(s) do not meet the legitimacy criteria, the applicant must explain why such NHSM(s) should be considered a non-waste fuel, balancing the legitimacy criteria with other relevant factors.

Under this petition process, the Administrator makes a tentative decision to grant or deny a petition and then publish notice of such tentative decision, either in the form of an ANPRM, a proposed rule or a tentative determination to deny the petition, in the **Federal Register** for written public comment. The Administrator could, at its discretion, hold an informal public hearing to consider oral comments on the tentative decision. After evaluating all public comments, the Administrator makes a final decision by publishing in the **Federal Register** a regulatory amendment or a denial of the petition.

Comment: One commenter does not support use of the legitimacy criteria, as provided in the proposed section 241.4(b)(3) to make a determination. A material which has not been discarded is, by definition, not a solid waste. However, if the EPA believes that other factors still should be considered, then the only other factor which should be considered is whether the material is being used legitimately as a fuel. The remaining legitimacy criteria are (and should be) irrelevant.

Response: As discussed in the 2011 NHSM final rule, ''legitimacy'' is shorthand for referring to NHSM that are not abandoned or thrown away, are saved and are reused by being burned for their value as a fuel.[85] The legitimacy criteria are the factors needed to be examined to make this determination. For example, it is relevant how the NHSM is managed and its heating value since burning materials that have minimal or limited heating value shows the material is being burned for discard and not energy recovery. In addition, the extent to which contaminants are present in NHSMs may also indicate that the real reason for burning the secondary material is simply to destroy or discard them—referred to as ''sham'' recycling. Thus, the agency is not simply ''punting'' to its legitimacy criteria but believes they provide a valid basis for showing that a NHSM is more commodity-like than waste-like.

Comment: The current petition process is limited to NHSMs when used as fuels. Absent from this petition process are NHSMs used as ingredients and previously discarded materials that meet the fuel legitimacy criteria. We do not understand this distinction and urge the EPA to expand both the current and proposed petition processes to allow for non-waste determinations for a wider range of NHSMs.

Response: In general, the 40 CFR part 241 regulations establishes a self-implementing approach for NHSM that can consider site-specific information, if necessary (i.e., facilities will make a self-determination of whether the non-hazardous secondary fuel or ingredient in question meets the regulatory criteria). We note it is the EPA's intention to indicate in these rules, as clearly as possible, which non-hazardous materials used as fuels or ingredients in combustion units are or are not considered solid waste based on the criteria laid out in regulatory text. The agency expects this self-implementing approach will govern the majority of situations, including NHSMs used as ingredients and NHSMs processed from previously discarded materials.

We would also note that the regulated community prior to proposing the December 2011 proposed rule and commenters to that proposed rule did not provide any instances where ingredients are combusted or are processed from previously discarded material that would be a candidate for listing categorically. Therefore, we do not believe it necessary to modify the proposed rule to address this situation. However, to the extent that there are instances where such materials do exist, persons can always petition the EPA to modify the rules, including allowing ingredients that are combusted to be categorically listed to account for such materials.

Comment: In the NHSM Proposal, the EPA recognizes that a material can have levels of contaminants higher than traditional fuels, but still be combusted for a legitimate, energy-producing purpose (see 76 FR 80483 discussing resinated wood). The EPA also has proposed that this is true for hazardous secondary materials as well (see 76 FR 44094, 44122; July 22, 2011). Notwithstanding this admission, the EPA is not proposing to amend its legitimacy criterion for contaminants to make it a consideration, rather than a mandatory criterion. Thus, the EPA's NHSM Proposal is internally inconsistent. Under 40 CFR 241.3(d)(iii), any material that has contaminants in concentrations higher than those found in traditional fuels is automatically considered a waste, no matter how integral the use of the material is to the manufacturing process or how legitimate the combustion is to the purpose of energy recovery. In contrast, under proposed 40 CFR 241.4, EPA recognizes that materials can have high levels of contaminants and still be non-waste material being legitimately combusted for energy recovery. To justify this inconsistency, the EPA argues that it needs to make a case-by-case determination that a material with higher levels of contaminants is a non-waste to ''prevent sham recycling'' (see 76 FR 80482).

Response: The EPA disagrees with the comment that the mandatory nature of the self-implementing § 241.3 standards (including the contaminant legitimacy criterion) for individual facilities is inconsistent with the non-waste determinations outlined in § 241.4. In particular, the legitimacy criteria (including the contaminant legitimacy criterion) must be met under the self-implementing standards for individual facilities outlined in § 241.3, but the same criteria may be balanced by the EPA with other relevant factors under the categorical non-waste determinations outlined in § 241.4.

These differences are necessary and appropriate. Where a particular NHSM may not meet all the legitimacy criteria outlined in § 241.3(d)(1), but the

[85] See 76 FR 15471.

material is being used as a legitimate fuel, the agency has decided it is necessary to require a formal determination (*i.e.,* not a self-implementing decision) to prevent materials from being burned for discard under the guise of recycling. Furthermore, the agency has decided that such a determination should be subject to public notice and comment. In cases where the difference between recycling and waste treatment is difficult to distinguish, as is the case when elevated levels of contaminants are present, the potential for abuse is likely, and thus, regulatory oversight is appropriate when making a waste/non-waste determination. This approach is also consistent with what the EPA proposed for the hazardous secondary material rule cited by the comment—that is, the balancing test would be used by the EPA in a petition process, not as a self-implementing determination.

Comment: One commenter requested that the EPA should specifically recognize in the categorical petition that the existence of a supply contract between a generator of NSHMs and a combustor, with specifications that the NHSM must meet, should be considered dispositive evidence that the NHSM is not a waste and is combusted for energy recovery, not disposal.

Response: We disagree with the commenter that the mere existence of a contract between the generator and combustor is dispositive evidence of the material being a non-waste. However, existence of a contract is a factor to be considered in a categorical non-waste determination. For example, under 40 CFR 241.4(a)(1), scrap tires managed under established tire collection programs are a categorical non-waste and the definition of ''established tire collection program'' (40 CFR 241.2) explicitly recognizes contracts as evidence that the material has not been discarded. Specifically, ''Established tire collection program'' means ''a comprehensive collection system or *contractual arrangement* [emphasis added] that ensures scrap tires are not discarded and are handled as a valuable commodity through arrival at the combustion facility* * *''

Comment: The timeframe for which the EPA must grant or deny the request should be included as well as defining the length of time of 30 days that these notices will be open to public comment. What is the legal implication of an ''informal public hearing?'' How does this differ from a public information meeting? If it is ''informal,'' what is the purpose? What administrative procedures apply to comments made during the ''informal public hearing?''

Response: The agency is not imposing a deadline on its decision to grant or deny a petition, or a specific time period for public comment, due to the potentially wide range of issues involved in considering a categorical non-waste petition and because of the many factors beyond its control. Informal public hearings, similar to formal public hearings, provide an opportunity for the public to provide comments and oral testimony on proposed agency actions . All testimony received becomes part of the public record. Public meetings, on the other hand, are less formal; anyone can attend, there are no formal time limits on statement, and the agency and/or the facility usually answer questions. The purpose of the meeting is to share information and discuss issues, not to make decisions.

Comment: The final rule should make clear that the denial of a petition would not bar the filer of the denied petition from filing a subsequent petition for the same location and same materials.

Response: Where the information submitted to make a categorical non-waste determination has fundamentally changed, the EPA agrees that a petition to categorically list a NHSM can be resubmitted for review.

5. Materials for Which Additional Information Was Requested

a. Pulp and Paper Sludge

In the March 2011 NHSM final rule, the EPA concluded that pulp and paper sludges meet the legitimacy criteria and, thus, can be burned as a non-waste fuel provided such combustion units are within the control of the generator in accordance with section 241.3(b)(1).[86] The December 2011 proposed rule discussed the information we currently have on pulp and paper sludges, and the additional information that the agency would need in order to categorically list these materials in 40 CFR 241.4(a) as a non-waste fuel.[87] If such information were provided to the EPA, the agency would then consider the legitimacy criteria and other factors relevant to a determination that these sludges are not solid wastes when combusted.

This categorical listing would put pulp and paper sludges in the same general grouping as resinated wood residuals. For resinated wood residuals, the EPA considered that use of that material as a fuel has been integrally tied to the industrial production process and is consistent with that of a fuel product. The proposal discussed similar information that was needed by the agency to support adding pulp and paper sludges to 40 CFR 241.4(a) as a categorical non-waste.

Based on the comments received and information submitted, the EPA is listing as a categorical non-waste fuel under section 241.4 those dewatered pulp and paper sludges that are not discarded and are generated and burned on-site by pulp and paper mills that burn a significant portion of those residuals. Such residual must be dewatered and managed in a manner to preserve the meaningful heating value of those materials.

This determination for pulp and paper sludge as a categorical non-waste represents the agency's finding that, after balancing the regulatory[88] legitimacy criteria with other relevant factors, the burning of this material as described in the categorical listing is a commodity fuel for legitimate energy recovery and not discard. That is, the agency has concluded that, for pulp and paper mills that burn a significant portion, pulp and paper sludges are integral to the mills' operations and provide a critical source of energy. Such mills are not burning these dewatered pulp and paper sludges to discard them but are burning them as a legitimate commodity fuel. These facilities take the steps necessary to dewater the pulp and paper sludges and to manage the dewatered sludge to maintain its meaningful heating value and not to dispose of the sludge. In addition, the agency finds for facilities burning a significant portion of the dewatered sludge that:

(1) The sludges are managed in a manner that preserves meaningful heating value and, therefore, meets the managed as a valuable commodity (241.3(d)(1)(i)).

(2) Dewatered sludge (i.e., dewatered through appropriate water removal practices, including dewatering presses, rotary driers, etc.) meets the meaningful heating value and used in combustion

[86] Pulp and paper sludges almost entirely remain on-site and within the control of the generator when burned as fuels. To the extent that pulp and paper sludges do not remain within the control of the generator and are used as fuels, the petition process established in 40 CFR 241.3(c) could apply to these materials, as appropriate.

[87] Additional information needed to categorically list pulp and paper sludges is discussed at 76 FR 80485.

[88] As the EPA has previously stated (76 FR 15460), the Agency has established regulatory legitimacy criteria which may be used by companies on a case-by-case basis to show that they are not discarding material when used in a combustor. However, for the categorical determination, the Agency has determined that it is appropriate for the Agency, itself, to make the discard determination for material that does not meet the more strict regulatory criteria. Thus, the EPA has developed the categorical determination.

units that recovery energy criterion (241.3(d)(1)(ii)).

(3) The sludge meets the comparable contaminant criterion (241.3(d)(1)(iii)).

The fact that these sludges meet the contaminant legitimacy criterion, in the EPA's view, show that these sludges when burned on-site are not being discarded. While the agency is not defining a specific percentage of dewatered pulp and paper sludges that would need to be burned to qualify for the categorical listing in section 241.4, the agency would consider that the 42 mills that responded to an AFPA survey [89] and that use dewatered pulp and paper sludge as fuels at a significant rate (between 70–100 percent of these materials that are generated and burned) meet the listing description. We also find that other mills that burn a significant portion of their dewatered pulp and paper sludges on-site as fuel would qualify for the listing description.[90] For the pulp and paper mills that burn a relatively small percentage of their dewatered pulp and paper sludges on-site as a fuel (e.g., the five mills that responded to the AFPA survey that burn less than 20 percent), the agency has determined that those sludges are not viewed the same by the mill operator in that they do not need to rely on them for their energy value and are not included in the non-waste categorical listing in section 241.4.

However, there is likely little difference as to how pulp and paper sludge may be defined under NHSM rules, whether a categorical or a facility-specific non-waste determination. That is, such dewatered pulp and paper sludges may still be considered non-waste fuels when burned as a fuel for energy recovery at mills that burn a relatively small percentage of these materials, although the rules require those facilities to document on a facility-specific basis that such sludges are non-waste fuels. As discussed in the final NHSM rule (76 FR 15488), dewatered pulp and paper sludges that are burned within the control of the generator and meet the legitimacy criteria, likely are non-waste fuels and thus can be burned in units subject to CAA section 112 requirements.

The agency has restricted the categorical listing to those dewatered pulp and paper sludges that are burned on-site because the agency has minimal information on how these NHSMs are managed when shipped offsite.[91]

Outlined below are commenters' responses to the agency information requests regarding pulp and paper sludges and a categorical non-waste determination.

Comment: The EPA requested information on how pulp and paper mill sludge is used as a legitimate fuel and not discarded at pulp and paper mills and how the material is integrated into the industrial production process.

In responding to the agency's request, commenters first provided a summary of energy needs by the pulp and paper industry. The commenters indicated that the industry is somewhat unique in its energy profile and in how individual mills select appropriate fuels to support their energy needs. Most pulp and paper mill boilers are specifically designed to handle a variety of fuels; few boilers are designed to burn just traditional fuel. Even mills with boilers specifically permitted as pulp and paper sludge boilers also burn other fuels. Over the years, the industry has recognized the benefits of burning secondary materials, particularly those generated on-site. These secondary materials are derived from and have characteristics similar to traditional fuel, particularly the biomass used to produce pulp and paper products.

Mills do not usually burn just one type of fuel at any one time. Some mills rely heavily on coal, others on natural gas or biomass. According to the commenter, the choice of fuel depends on availability, cost and need. Hogged fuel or coal may be the underlying fuel but it is supplemented by other traditional and non-traditional fuels. This is done in order to meet the energy needs of the mill but also to address best management practices for the boiler and meet air quality requirements. If the hogged fuel is wet, coal or resinated wood may be added to boost heat value. If the boiler is burning too hot, the addition of pulp and paper sludge enables the mill to regulate temperature. Pulp and paper sludge also may be burned because it has the best fuel value for the price. All of these decisions are based on the boiler conditions, fuel availability, energy needs, air quality requirements, as well as costs, and all are considered when the energy manager determines the right mix of fuel in any given day.

As a result, the quantities of different types of fuels burned over the course of a year differ and the mill may not burn 100 percent of the available fuel generated during that year. Not all pulp and paper sludges are burned at a given mill over the course of a year nor are all recycled process residuals (old corrugated cardboard rejects) or all hogged fuel. The commenter emphasized that if only a percentage of a secondary material generated by the industry is used as a fuel, that it does not negate its value as a fuel. Rather, it reflects the realities of running a boiler for which the economic and operating conditions are interconnected and dynamic.

For example in one mill, the commenter indicated that combination boilers are designed to burn a wide variety of fuels efficiently and cleanly. Two mills' boilers currently burn tire-derived fuel,[92] while one burns waste paper generated at the mill. They all are capable of burning one or more fossil fuels: oil (including used oil), coal and gas. The four combination boilers burn large amounts of biomass, either generated on-site or purchased commercially. A portion of three of the mills' biomass consists of sludge generated on-site from their wastewater treatment processes.

One state commenter also indicated that most mills operate boilers that are specifically designed to handle a variety of fuels—few boilers are designed to burn just traditional fuel and mills do not usually burn just one type of fuel at any one time. Bark and biomass fuel may be the primary fuel but it is supplemented by other traditional or alternative fuels.

Secondary materials have been an important alternative fuel used safely by the mills in the commenter's state for many years. Most of that state's mills' have multi-fuel boilers. Their fuel handling equipment, mill wastewater treatment systems and other ancillary equipment were designed to combust alternative fuels, including pulp and paper sludge. Use of these fuels reduces reliance on purchased biomass and/or fossil fuels and provides a vehicle for beneficial reuse of the materials. In light of the greater stringency of the CISWI

[89] See April 2, 2012, letter from Timothy G. Hunt to James Berlow. A copy of this letter has been placed in the docket for today's rulemaking.

[90] While the Agency is not including a specific requirement for pulp and paper mills to document the amount of dewatered wastewater treatment residuals they burn on-site as a fuel, we would recommend that such pulp and paper mills include such documentation in case there are any questions as to whether the pulp and paper mills dewatered wastewater treatment residuals qualifies for the categorical listing in 241.4. As an alternative, the pulp and paper mill can request the Agency to confirm (via letter) that the facility generates and burns on-site a significant portion of pulp and paper sludges such that the facilities pulp and paper sludges are included within the categorical listing.

[91] We note that in the situation where pulp and paper sludges are transferred beyond the control of the generator, a facility can petition the Agency to receive a non-waste determination, as appropriate.

[92] Tire-derived fuel used in the paper industry must be dewired since the wires often clog the feed system. Thus, the industry does not utilize whole tires.

regulations, the state indicated that the mills are likely to landfill these materials instead of recovering their fuel value if these materials are considered solid waste under the CISWI standards.

Another industry commenter stated that four of their five U.S. pulp mills produce wastewater treatment residuals that are burned in biomass-fired combination fuel boilers. At one mill, the residual solids are harvested and sold under a purchase agreement to an Electric Utility Generating plant burning various sources of biomass because that mill does not have a biomass boiler designed to burn the residuals. The residuals are primary clarifier solids (mostly wood fibers too short for product use) which are harvested by dewatering through a screw press. The residuals are stockpiled in a specific managed area before being trucked to the power company. At that site, the materials are processed and conveyed with other forms of biomass for fuel in their biomass boiler. Use of the wastewater treatment residuals from the mill as a fuel at the purchasing site is permitted in their air permit.

One commenter indicates that the energy manager at a mill will determine the approximate amount of different types of fuels needed to obtain the most energy under the best operating conditions. As pulp and paper sludge is generated, it is directed toward the hogged fuel pile or towards other non-fuel uses. This decision is based on whether the mill's boiler is designed and permitted to burn pulp and paper sludge and the amount is determined by the energy demands on that particular day.

Another commenter believes that the fact that not all pulp and paper sludge is combusted at pulp and paper mills is evidence that the wood products industry only combusts pulp and paper sludge for legitimate energy recovery and not for disposal. According to the commenter, when the pulp and paper sludge is not needed as a fuel, it is used for non-fuel purposes or is discarded. When it is combusted, it is combusted for its energy value as a legitimate fuel.

One mill described by a commenter has elected to divert its own-make bark to beneficial use as mulch, rather than burning it, because it is of poorer quality than commercially available biomass. That same mill has recently invested in a new belt press which provides high quality sludge as fuel for its combination boiler. Since the press was installed in 2011, the percentage of mill sludge burned has increased to 80 percent from under 50 percent. Currently, the mill is burning more of the sludge from its process than the bark it also generates.

At another plant, the commenter indicates that sludge is a by-product of the AST process. Their mills employ primary clarifiers to separate out solids from wastewater, of which 50 percent is wood fiber, the primary component.[93] These solids are staged in holding or blend tanks prior to drying. In addition to primary clarifiers and aeration basins, AST systems employ secondary clarifiers (large, open, circular concrete tanks) in which biological solids exiting the aeration basin(s) are separated by gravity from wastewater. The process is carefully regulated to accomplish two objectives: making the water as clean and free of solids as possible while retaining activated sludge (active microbes) to re-inject into the biological treatment stage of the process. As part of this continuous loop, some activated sludge must be removed from the system to maintain the optimal population of active microbes for effective treatment.

After excess secondary sludge is removed from the treatment loop at three of the mills, it is mixed with primary sludge in blend tanks prior to being dried on belt presses to a suitable moisture level for burning or other uses. Sludge is introduced into the mills' solid fuel feed systems by means of conveyers where it becomes thoroughly mixed with other fuels in the conveyer systems before being introduced into the mills' combination boilers. At one mill, primary sludge is dried separately by means of screw presses while secondary sludge is dried using a belt press. The two fuels are fed separately by conveyers onto the mill's main solid fuel conveyer which transports the bark/sludge mixture to a surge bin. The fuel is passed through a ''waste heat dryer,'' where it is briefly exposed to boiler flue gas before being fed into the combination boiler. The process at all four mills is continuous. Operators monitor and manage the sludge on a 24 hour basis. Sludge drying takes place entirely within buildings where the tanks, pipes, mixers, pumps, polymer feed systems, conveyers, presses, diversion gates and valves, monitoring devices and other equipment necessary to produce suitable sludge are housed.

Sludge burned in the boilers is transported to the boilers on feed systems designed to ensure sludge, biomass and other solid fuels are homogeneous, thoroughly mixed and not exposed to the elements while being conveyed to the boilers. After its removal from wastewater treatment, no sludge touches the ground until it is burned, beneficially used (e.g., recycled feedstock to make newsprint) or landfilled.

The commenters indicate that the moisture content of biomass is highly variable. Operators control fuel use based on the mill's need for steam and electricity, fuel costs, fuel quality and fuel availability. All factors can change at a moment's notice since the production process is constantly changing. Pulp and paper production swings or curtailments are common. Energy demand, fuel cost or fuel quality may make it necessary or desirable to reduce biomass and sludge combustion, even to switch entirely to fossil fuels. Environmental emissions occasionally can be a factor in fuel use, particularly during boiler startup or shutdown, or when the mill is experiencing rapid fluctuations in steam demand.

Response: Based on the information submitted, and as discussed further in our responses below, the EPA is listing as a categorical non-waste fuel under section 241.4 dewatered pulp and paper sludges that are not discarded and are generated and burned on-site by pulp and paper mills that burn a significant portion of such materials where such dewatered residuals are managed in a manner that preserves the meaningful heating value of the materials.

This determination for pulp and paper sludge as a categorical non-waste fuel represents the agency's finding, after balancing the legitimacy criteria with other relevant factors, that those mills that burn a significant portion of these pulp and paper sludges are burning them as a commodity fuel for energy recovery and not discard. The discussion above indicates that these mills have been designed to utilize pulp and paper sludges and use of that material as a fuel is an integral part of facility operations. Decisions regarding use and the right mix of fuel in any given day are based on the boiler conditions, fuel availability, energy needs, air quality requirements and cost.

Comment: The EPA requested information on the amount of pulp and paper sludge burned as fuel.

In 2010, members of AF&PA burned 772,034 dry tons of pulp and paper sludge, which represents approximately 25 percent of the pulp and paper sludge generated by members of AFPA during the year.[94] However, approximately 90 percent of the AF&PA member facilities that responded to their survey (42 out of

[93] Washington State Department of Ecology Industrial Footprint Project *Waste Stream Reduction and Re-Use in the Pulp and Paper Sector,* June 2008.

[94] Docket EPA–HQ–OAR–2003–0119–2619.

47) that use dewatered pulp and paper sludge as fuels do so at a significant rate (between 70–100 percent of these materials that are generated are burned). In fact, one third of the AF&PA facilities that responded to their survey (16) that burn pulp and paper sludges, burn 100 percent of the materials generated.[95]

Response: As the commenter indicates, while 25 percent of pulp and paper sludges that are generated are used as fuels on an industry-wide basis, the vast majority of facilities that responded to the survey that use dewatered pulp and paper sludges as fuels do so at a significant rate. In light of the information on use of pulp and paper sludges, the agency finds that for those pulp and paper mills that burn a significant portion, that their use as a legitimate fuel is integral to the operation of the pulp and paper mill. The fact that these sludges meet the contaminant legitimacy criterion also, in the EPA's view, shows that these sludges when burned on-site are not being discarded.

As discussed above, while the agency is not defining a specific percentage of dewatered pulp and paper sludges that would need to be burned to qualify for the categorical listing in section 241.4, the agency would consider the 42 mills that responded to the AF&PA survey as meeting the listing description. Where a facility has burned or burns in the future a significant portion of the dewatered pulp and paper sludges that are generated, the facility is clearly dependent upon the use of these materials as fuels in much the same way that wood manufacturing facilities are dependent upon the stream of resinated wood residuals to meet their energy demands. Specifically, we note that the percentage of overall use of pulp and paper sludges as a fuel at facilities burning a significant portion of the material (70 percent in the AF&PA comment above) is similar to the use of resinated wood within the wood products industry—approximately 73 percent of resinated wood generated is either used as a fuel or is recycled back into the wood manufacturing process.[96] As noted above, mills that burn a significant portion of their dewatered pulp and paper sludges on-site as fuel in the future would also qualify for the listing description.[97]

On the other hand, when a pulp and paper mill burns a relatively small percentage of their dewatered pulp and paper sludges on-site as a fuel (e.g., the five mills that responded to the AF&PA survey that burn less than 20 percent), the agency has determined that such sludges are not viewed the same by the mill operator in that they do not rely on the sludges for their energy value. As noted by one commenter, some mills may not produce pulp and paper sludge with sufficient fiber, such that the sludge is a viable fuel. Therefore, the agency finds that such pulp and paper sludge should not be included in the categorical listing in section 241.4.[98] Those companies would need to make case-by-case determinations regarding legitimacy to support use as a fuel.

Comment: The EPA requested more data on contaminant levels—particularly chlorine and metals.

The NCASI undertook a thorough evaluation of data related to contaminant levels in pulp and paper sludge.[99] NCASI looked at the most robust information about pulp and paper sludge which is found in the EPA's Boiler MACT database. That database has pulp and paper sludge data comprised of nearly 5,280 records of individual data points corresponding to 46 AF&PA member pulp mills.

Table 8 of this preamble includes data from the EPA traditional fuels table as well as the EPA Boiler MACT database for pulp and paper sludge.

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[95] See April 4, 2012, letter from Timothy G. Hunt to James Berlow. A copy of this letter has been placed in the docket for today's rulemaking.

[96] See Materials Characterization Paper In Support of the Final Rulemaking: Identification of Nonhazardous Secondary Materials That Are Solid Waste—Resinated Wood Products. Docket EPA–HQ–RCRA–2008–0329–1820.

[97] While the Agency is not including a specific requirement for pulp and paper mills to document the amount of dewatered wastewater treatment residuals they burn on-site as a fuel, we would recommend that such pulp and paper mills include such documentation in case there are any questions as to whether the pulp and paper mills' dewatered wastewater treatment residuals qualifies for the categorical listing in 241.4.

[98] The Agency acknowledges that some portion of these pulp and paper sludges are land applied. While the Agency considers such uses as beneficial, such recycling is not integral to pulp and paper operations, and therefore, the Agency would not consider this form of recycling in determining whether a facility is recycling a significant portion of their pulp and paper sludges.

[99] Docket EPA–HQ–OAR–2003–0119–2619.

Table 8. Comparison of Traditional Fuel Contaminant Concentrations With Pulp Mill Sludge Data From the EPA's Boiler MACT Database

Lit. Source Range[1]	Compound	Units	Data from EPA OAQPS Databases									Data from Boiler MACT Database, v. 7[2] Industrial Sludge NAICS 322					
			Coal			Biomass			Fuel Oils								
			Min	Max	Avg.	Min	Max	Avg.	Min	Max	Avg.	No.	NDs	Min	Max	90% UPL[3]	K-M[4] Mean
ND - 26	Antimony (Sb)	ppm	ND	6.9	1.7	ND	6	0.9	ND	3.8	3.5	116	37	ND	3.14	2.0	0.45
ND - 80	Arsenic (As)	ppm	ND	174	8.2	ND	298	6.3	ND	13	1.3	376	94	ND	105.0	70.6	7.94
0.1 - 15	Beryllium (Be)	ppm	ND	206	1.9	ND	10	0.3	ND	19	2.3	358	102	ND	2.6	1.97	0.35
ND - 3	Cadmium (Cd)	ppm	ND	19	0.6	ND	17	0.6	ND	1.4	0.4	385	53	ND	19.0	8.2	1.55
ND - 130	Chromium (Cr)	ppm	ND	168	13.4	ND	340	5.9	ND	37	3.7	388	5	ND	170.0	77.3	17.14
ND - 30	Cobalt (Co)	ppm	ND	25.2	6.9	ND	213	6.5	ND	8.5	1.1	127	22	ND	14.4	16.7	3.78
ND - 340	Lead (Pb)	ppm	ND	148	8.7	ND	229	4.5	ND	52	4.3	347	19	ND	201.0	64.2	11.53
5 - 840	Manganese (Mn)	ppm	ND	512	26.2	ND	15,800	302	ND	3200	118	369	3	ND	3,310	2,650	559.8
ND - 1	Mercury (Hg)	ppm	ND	3.1	0.09	ND	1.1	0.03	ND	0.2	0.02	397	40	ND	1.40	0.72	0.114
ND - 540	Nickel (Ni)	ppm	ND	730	21.5	ND	175	2.8	ND	270	24.1	381	9	ND	180.0	67.7	14.990
ND -	Seleni	pp	ND	74	3.	ND	9	1	ND	4	0.	3	1	ND	6.	4.	0.9

10	um (Se)	m		.3	4			.1			8	16	97		0	5	0
	TSM			2,067	92.6		17,098	330.9		3,609	159.5					2,964	618.5
	TSM w/o Mn			1,555	66.4		1,298	28.9		409	41.5					314	58.7
	Chlorine (Cl)	ppm	ND	9,080	992	ND	5,400	259	ND	1,260	133	374	11	ND	4800	2,064	378
	Total Halogens	ppm		9,258	1,056		5,528	291		1,274	142					2,394	445
1	Nitrogen (N)	g/kg	13.6	54.0	15.1	2.2	4.6	3.46	2.0	3.0	2.25	26	0	0.8	17.7	26.4	7.7
2	Sulfur (S)	g/kg	0.74	61.3	13.6	ND	6.1	0.70	ND	57.0	8.28	118	0	ND	6.3	8.8	3.0

The grey shaded cells indicate an outlier test was performed and the outlier(s) identified was confirmed based on further graphical observation (see further explanation below).

[1]Total range determined from literature sources - coal - Clarke and Sloss (1992); biomass - Energy Research Centre for the Netherlands, Phyllis Biomass database. http://www.ecn.nl/phyllis; oil - U.S. EPA (1999), Appendix B;
[2]Boiler MACT Database sludge analysis data;
[3]Chebyshev UPL for non-normal data sets;
[4] Kaplan-Meier; Selenium (Se) - with the Rosner's test (n > 25), for 1% significance level, one potential outlier was 560 ppm, which was rejected after graphical observation of the data. The next highest detect was 6 ppm.

Footnotes on Other Literature Data

[1] Literature contains a value of 39.5 g/kg for nitrogen in biomass and 8.95 g/kg for nitrogen in fuel oils;

[2] Literature contains a value of 8.7 g/kg for sulfur in biomass.

The commenter indicates, as shown in the table, that contaminant levels in pulp and paper sludge are well within the ranges of metals found in traditional fuels. For all 11 HAP metals, except Mn, the 90 percent UPL value for sludges is less than the corresponding maximum for coal. For Mn, which is principally derived from biomass, the 90 percent UPL value for sludges is well below the maximum for biomass. This is also reflected in the TSM comparisons with and without Mn between coal, biomass and pulp and paper mill sludges. Chlorine and total halogens (Cl + Fl) in sludge compare favorably with both biomass and coal. Nitrogen and sulfur in sludge also compare favorably with coal, although the commenter also points out that the nitrogen and sulfur contents are generally not indicative of HAP formation potential for any fuel, and in the case of pulp and paper mill sludges in particular, the sulfur content of these sludges is typically in the inorganic sulfate form that predominantly ends up in the combustion ashes.

NCASI found a paucity of data on organics in pulp and paper sludge. Except for Ds/Fs, which had been evaluated extensively in the 1990s, organics are not expected to be found in pulp and paper sludges. Due to the changes in bleaching techniques which demonstrated significant reductions in

the existence of Ds/Fs in sludge, testing for even dioxins has not been undertaken recently. NCASI notes that of the data that do exist, organics are rarely found and those that are identified are frequently below the detection limit.

Overall, the commenter states that contaminant levels in pulp and paper wastewater treatment residuals compare well to those found in traditional fuels.

Response: Based on the information provided, the agency finds that pulp and paper sludges, meet the comparable contaminant criterion (241.3(d)(1)(iii)). The data confirms the conclusions in the NHSM final rule regarding chlorine and metals are comparable to the levels found in coal, which is a traditional fuel that may be burned in these facilities.

Comment: The EPA requested information on what steps the industry has taken to ensure the quality of pulp and paper mill sludge when used as a fuel at pulp and paper mills is consistent with that of a fuel product.

*Comment*ers state that pulp and paper mills that generate pulp and paper sludge do so as part of their compliance with the CWA requirements, as well as part of an effort to return as much wood fiber to use as possible, either as an input to the manufacturing process or as a fuel. The strategies that each mill uses to meet those requirements differ depending upon the type of product, the location of the mill and the specific standards established by the EPA and the respective states. However, mills clean wastewaters prior to discharge, thus creating primary and a variety of secondary pulp and paper sludges, all of which capture wood fibers. Furthermore, the question of whether the quality of the pulp and paper sludge is appropriate for a particular mill is based on the boiler design. As such, there are some boilers well suited to burn it; others cannot burn the material.

At one commenter's mill, for example, the company has invested over $7 million upgrading sludge drying and management equipment. The object of these large investments was not to remove all of the moisture in the sludge. Rather, it was to make sludge quality consistent with that of the wet biomass burned in its combination boilers. Either too much or too little moisture can have a deleterious effect on the boilers' combustion. One mill recently installed a belt press to improve the reliability of its sludge management system and increase the average solids content of its sludge. Since then, the sludge has occasionally caused combustion problems in the boiler because it was too dry, necessitating additional quality control to optimize the sludge's moisture content.

Another commenter stated they invested over $3 million to prevent unwanted materials from reaching the treatment process and being discharged in mill effluent or being incorporated into the pulp and paper sludge. Their mills make coated paper products, the coatings consisting largely of clay and other minerals. Improved equipment and operating procedures have significantly lowered sewer losses of these materials, improving the quality of wastewater and reducing the ash content of these pulp and paper sludges. To further pollution prevention, their mills set stringent specifications for raw materials, such as sulfuric acid and caustic soda, which minimizes the introduction of trace amounts of heavy metals into the process.

From the standpoint of process control, the commenter stated that sludge management processes are continuous, enclosed and carefully controlled. In contrast, bark and wood chips may be exposed to the elements for extended periods before being burned. Depending on the season, hardwood bark can get ''stringy'' and become very difficult to process as fuel. Frozen bark or chips can jam or disable equipment. Purchased fuel can have excessive rocks or grit. It is difficult to control the quality of biomass burned in the commenter's boilers. Sludge frequently exhibits less variability in quality than other types of biomass.

Response: Based on the information provided, the agency finds that, for facilities burning a significant portion of the dewatered sludge, use of the material is integral to the facility's operations, particularly in the value these materials provide as a critical source of energy. At such facilities, sludge management processes are carefully controlled and the industry has taken the necessary steps to ensure the quality of pulp and paper mill sludge when used as a fuel at pulp and paper mills. On the other hand, for those pulp and paper mills that do not burn a significant portion of their dewatered wastewater treatment sludges, the agency does not believe that the same steps have been taken to ensure the quality of the pulp and paper mill sludge that is used as a fuel and thus, is not an integral part of the pulp and paper mill operations.

Comment: The EPA requested information on what are the standard practices used to ensure pulp and paper sludge has meaningful heating value.

As noted in the October 2011 pulp and paper sludge paper the AF&PA submitted prior to the December 2011 proposal, the overwhelming majority of pulp and paper mills remove water from pulp and paper sludge prior to managing it in any way. Belt and screw presses are most commonly used in the industry. Some mills use steam heated filter presses. Some pulp and paper sludge is also further dried in steam heated rotary driers. As indicated previously, sludge drying takes place entirely within buildings where equipment necessary to produce suitable sludge is housed. Sludge burned in the boilers is transported to the boilers on feed systems designed to ensure sludge, biomass and other solid fuels are homogeneous, thoroughly mixed and not exposed to the elements while being conveyed to the boilers. In all instances, the goal is to raise the solids content—and thus, Btu value.

Response: Based on these comments and other information in the record, the agency finds that facilities that burn a significant portion of these materials take the steps necessary to dewater the pulp and paper sludge and to manage such dewatered sludge to maintain its meaningful heating value and burn the sludge for energy recovery.

Comment: The EPA requested information on how pulp and paper mill sludge is managed when shipped offsite.

There are several mills within the industry that have agreements with other facilities, primarily electric utilities that purchase pulp and paper sludges for use as biomass-based fuel. For the most part, these arrangements occur when there is a utility close to the pulp and paper mill because the cost of shipping such sludges long distances may be prohibitive. Pulp and paper sludges may be sent offsite when it is being used by other entities to produce another product, (including fuel pellets [100]), used for other purposes (land application, use as landfill cover), or for final disposal. Pulp and paper sludges are shipped by containers, truck or rail.

Response: The agency recognizes that, as described above, some pulp and paper sludges are sent offsite for use as a fuel. However, the agency has restricted the categorical listing to those pulp and paper sludges that are burned on-site because the agency has minimal information on offsite use of these materials. In fact, the pulp and paper industry indicates that the great majority of these sludges, when burned as a fuel, are burned on-site. Also, in the few instances that the pulp and paper

[100] When pulp and paper sludges are sufficiently processed, and such processed material meets the legitimacy criteria, the processed materials are non-waste fuels whether burned within or outside the control of the generator.

industry discussed in their comments that these materials were shipped offsite, they seem to be sent to other industries. The fact that these sludges are sent to other industries would not necessarily disqualify those dewatered pulp and paper sludges from being considered for listing categorically. However, the agency does not have sufficient information to make any determination.[101]

Comment: For reasons stated previously in comments on the June 2010 proposed rule, one commenter argues that pulp and paper sludges are waste when burned regardless of whether it is burned by the company that generated it and regardless of whether it meets the EPA's legitimacy criteria. Paper mill sludge is a waste because it is discarded within the meaning of RCRA.

The EPA's description of pulp and paper sludge shows that it remains a waste even under the agency's own definition of discard. First, the EPA acknowledges that pulp and paper mills have no use for pulp and paper sludge; the fibers it contains are ''too short to be suitable for papermaking and it contains microorganisms that feed on organic material in the wastewater stream.'' [102] Second, the fact that paper mill sludge comes from ''the wastewater stream,'' [103] in itself confirms that it is a waste.

Third, the EPA's discussion of the contaminant levels in paper mill sludge shows substantial variation in chlorine levels. Where the EPA encounters such variability in the course of setting floors for CISWI units in the very same **Federal Register** notice, the agency uses a 99th percent UPL to assure that the level it chooses will not be exceeded. Yet, where the EPA encounters variability in the chlorine levels in pulp and paper sludge—variability that could lead to significantly higher emissions of chlorinated pollutants, such as HCl and dioxins—the agency simply dismisses it without further ado. The EPA's disparate treatment of the variability of emissions for floor setting and of the chlorine levels in pulp and paper sludge for the purposes of considering a categorical declaration that such sludge is not a waste is unexplained and arbitrary.

If the agency believes that such variability exists, it should be concerned about the possibility that some sludges may have far higher chlorine levels than it assumes—as, indeed, the record shows some sludge does—and should take steps to ensure that this is not the case before it even considers an exemption. Indeed, the agency's failure to examine this possibility renders the existing rule, which allows generators to burn their own sludge, arbitrary and capricious.

Fourth, the EPA admits that sludge contains extremely low heating values, so low in some instances as to flunk the agency's legitimacy criteria. That sources typically dewater their sludges does not make these sludges any less a waste, even under the agency's own definition of discard. The EPA does not say what the heating value of the sludges is after dewatering, nor does it make any difference what the ''dry weight'' heating value of sludges might be, as they are not at ''dry weight'' when burned. The reality is that paper mills find it cheaper to burn their sludges than to dispose of them safely and that because these sludges are largely ''wastewater'' and contain high levels of chlorine and other contaminants, burning them requires large quantities of other fuel and generates high levels of pollution.

Response: The agency disagrees with the commenter that all pulp and paper sludges are waste fuels when combusted. To the extent comments were submitted in response to the March 2011 final rule, the agency need not respond. Below, the EPA responds to the new points raised in the comments.

With respect to the particular arguments on the categorical listing, the agency disagrees that the sludge remains a waste even under the agency's own definition of discard. The comment is incorrect when it states that the EPA has acknowledged pulp and paper mills have no use for pulp and paper sludge because the fibers it contains are ''too short to be suitable for papermaking and it contains microorganisms that feed on organic material in the wastewater stream.'' [104] In the proposed rule, we stated that fibers that end up being too short can be detrimental to paper quality. Although this would not be suitable for papermaking, these sludges are a valuable resource as energy-containing secondary materials as discussed in detail in the comments above. As much as 50 percent of the sludge is composed of wood fibers which are similar in content to other types of biomass fuel combusted.

Further, the agency disagrees that pulp and paper mill sludges are wastes because they are contained in a ''wastewater'' stream. The D.C. Circuit in, *API* v. *EPA,* 216 F.3d at 58, rejected the proposition that the mere presence in a wastewater stream makes a material a waste. In API, the D.C. Circuit criticized the EPA for not saying why it concluded that the disposal motivation, compliance with water quality standards, predominated over the recycling motivation, recovery of oil from primary wastewater treatment. Plainly, the mere presence of oily material in wastewater did not make the oil a waste. In this case, the EPA has found in its categorical listing that the motivation for burning the pulp and paper sludge is to use its inherent value as a fuel and not for disposal. Comments have provided the agency with information that facilities that burn a significant portion of these sludges consider them to be an integral part of their production process, particularly in the value these materials provide as a critical source of energy. We disagree that the disposal motivation predominates over the true value of these sludges as an important fuel, integral to the production processes.

The EPA also disagrees that the treatment of the variability of emissions for floor setting and of the chlorine levels in pulp and paper sludge for the purposes of considering a categorical declaration that such sludge is not a waste, is unexplained and arbitrary. The agency notes that, rather than dismissing the variability of chlorine levels in pulp and paper sludges, it has considered all available data—including data on variability—and reached the conclusion that contaminant levels in pulp and paper sludges are comparable to or lower than those in the appropriate traditional fuel(s). The EPA acknowledges that, based on data submitted to the agency since promulgation of the March 2011 final rule and presented in the December 2011 proposed rule, chlorine levels in paper mill sludge show substantial variation. This is an important factor to consider when making a categorical non-waste determination and the agency has considered mean concentrations, the range of concentrations, and variability when analyzing pulp and paper sludges.

As stated in the proposed rule and information in the rulemaking record, data for pulp and paper sludges show mean chlorine concentrations of 361 ppm, well below the mean of 992 ppm observed in coal. Data for pulp and paper sludges also show maximum chlorine concentrations of 4,800 ppm, well below the maximum of 9,080 ppm observed in coal and below the maximum of 5,400 ppm observed in

[101] We note that in the situation where pulp and paper sludges are transferred beyond the control of the generator, a facility may also petition the Agency to receive a non-waste determination, as appropriate.

[102] See 76 FR 80485.

[103] Id.

[104] See 76 FR 80485.

untreated wood and biomass materials. The variability of chlorine levels in pulp and paper sludge is demonstrated by a standard deviation of the mean of 661 ppm.[105] [106] This variation in chlorine levels, although high, does not discount the fact that both average and maximum chlorine concentrations in pulp and paper sludge are lower than those in coal which is defined as a traditional fuel.

The comment also implied that the EPA should use the 99 percent UPL, as is used to set the CISWI floors, to ensure that these pulp and paper sludges do not contain excessive contaminant levels. The agency disagrees that any one statistical tool or comparison methodology will fit every situation given the variety of NHSMs, traditional fuels, contaminants and combustion units that exist. Nevertheless, the agency has calculated the 99 percent UPL for chlorine levels in pulp and paper sludge in response to the comment and come to the same conclusion. The 99 percent UPL for the same dataset of 93 samples analyzed in the proposed rule would be 6,970 ppm, a value below chlorine concentrations observed in coal.[107]

Finally, we disagree that pulp and paper sludge contains extremely low heating values that would fail the agency's legitimacy criteria. In terms of meeting the legitimacy criteria for a meaningful heating value, the agency indicated in the NHSM final rule that pulp and paper sludges have a heating value of between 3,300–9,500 Btu/lb, on a dry basis—no specific information having been submitted on the ''as fired'' heating value of these materials. The final rule concluded that pulp and paper sludges meet the legitimacy criterion for being managed as a valuable commodity as they are dewatered to increase their energy value, collected on a continual or frequent basis (as produced), and further processed and consolidated, including the removal of biosolids. Further, as discussed in detail above, where a facility is burning a significant portion of the dewatered pulp and paper sludges that are generated as fuel rather than other purchased biomass or fossil fuels, pulp and paper sludges are integral to the facility's operations and the facility is clearly dependent upon the heating value of these materials.[108] Thus, we find, as discussed in the final rule, that pulp and paper sludges are not discarded and generally meet the meaningful heating value legitimacy criterion (46 FR 15488).

b. Coal Refuse [109]

In the 2011 NHSM final rule, the EPA included currently generated coal refuse within the definition of traditional fuel codified in 40 CFR 241.2. In discussing its determination that currently generated coal refuse is a traditional fuel, the agency said, ''the fact that coal refuse has been used and managed as a fuel for thirty years when coupled with the fact that coal refuse is unique from other non-hazardous secondary materials in that it is a byproduct of fuel production processes and is itself a raw material that can be used as a fuel leads us to determine that coal refuse that is currently generated and used as a fuel should be considered a traditional 'alternative fuel.' '' [110]

The 2011 NHSM final rule also determined that coal refuse that has been placed in legacy piles would not meet the definition of traditional fuels, as they clearly have been discarded in the first instance.[111] Since coal refuse recovered from legacy piles is subjected to the same operations that are used to process virgin coal, which serve to both increase energy values, as well as reduce contaminants, the EPA determined that such processes were sufficient to meet the definition of ''processing,'' as codified in 40 CFR 241.2, and such recovered coal refuse would not be considered a solid waste when used as a fuel in a combustion unit provided those materials satisfy the legitimacy criteria.[112]

The 2011 NHSM final rule also stated our belief that coal refuse recovered from legacy piles contains contaminants at levels that are comparable to or lower than coal refuse that is currently generated, as the recovered coal refuse is subject to the same processes as currently-generated coal refuse in order to meet the same fuel specifications. Since promulgation of the 2011 NHSM final rule, the agency has further clarified that it believes that coal refuse recovered from legacy piles that is processed and managed in the same manner as currently generated coal refuse satisfies the legitimacy criteria.[113]

Having determined that coal refuse recovered from legacy piles that is processed and managed in the same manner as currently generated coal refuse satisfies the legitimacy criteria, the 2011 proposed rule solicited comment on whether to categorically list post-processed coal refuse from legacy piles as a non-waste fuel in 40 CFR 241.4(a). However, the EPA made it clear that it was not reopening any other issues regarding coal refuse. Other comments regarding coal refuse are responded to in the record for the final rule. In this part of the preamble, we are only responding to the issue of whether coal refuse processed from legacy piles should be considered a non-waste fuel on a categorical basis. Accordingly, the EPA is not responding in this preamble or the Response to Comment document on issues regarding whether coal in legacy piles are traditional fuels.

Comment: One commenter states that not every material that is discarded is treated as solid waste under the rule. For example, the EPA includes numerous materials within its definition of ''traditional fuels'' and ''clean cellulosic biomass'' that are commonly understood as used, discarded, and abandoned, listing, for example, corn stover, peanut shells and certain types of demolition materials. The commenter argues that each of these materials is either discarded or has filled its original purpose and may be collected by a different party for a different purpose (i.e., use as a fuel).

The commenter continues that although the agency has ample authority to exempt certain articles from classification as solid wastes, it did not consistently apply the term ''discarded'' in the context of legacy coal refuse. For example, the EPA recognized that on-specification used oil and clean C&D materials should be treated as traditional fuels when combusted for energy generation. Thus, the commenter urges the agency to revisit its application of the ''discard'' principle and treat all coal refuse, regardless of when they were generated and regardless of processing to be fuels and not wastes.

Response: The EPA disagrees with the comment, which seems to misunderstand the purpose of this

[105] See 76 FR 80485.

[106] *Contaminant Concentrations in Traditional Fuels: Tables for Comparison, November 29, 2011,* can be found at *http://www.epa.gov/epawaste/nonhaz/define/index.*

[107] The 99 percent Chebyshev UPL for non-normal datasets was calculated using EPA's ProUCL 4.0 Software available at *http://www.epa.gov/nerlesd1/tsc/software.htm.*

[108] The final rule notes that meaningful heating value is derived from an NHSM with energy content lower than 5000Btu/lb if the ERU can cost-effectively recover meaningful energy from the NHSM used as fuel (76 FR 15541).

[109] Coal refuse refers to any by-product of coal mining or coal cleaning operations, consisting primarily of non-combustible rock with attached coal. Due to advances in technology over the past century, the processing of coal has evolved, such that materials that are now generated in the coal mining process, which would have been considered coal mining rejects in the past and discarded in waste piles, are now handled and processed as coal.

[110] See 76 FR 15507.

[111] Id.

[112] See 76 FR 15509.

[113] See August 15, 2011, letter to Jeff A. McNelly, ARIPPA (cited in the proposed rule: 76 FR 80486).

rulemaking action. If the agency determines in this rulemaking that a material is a solid waste when combusted, the unit combusting that material would be subject to emissions standards issued under CAA section 129 even if burned as a fuel. A material is not discarded simply because it is no longer used for its original purpose. It may be used as a fuel product by another party, providing the conditions the EPA has explained in the rule apply. In such a case, the reused material is not a waste. Further, the agency is not exempting any materials from the definition of solid waste. The EPA is only describing the kinds of materials that are wastes when burned in combustion units, even if they are burned for energy recovery. The EPA consistently applies the concept of ''discard.''

Materials listed as examples of clean cellulosic biomass cited by the commenter have not been discarded in the first instance, as is clearly the case for coal refuse abandoned in legacy piles. While some materials have filled their original purpose, that fact, in and of itself, does not equate to discard. Clean cellulosic biomass is considered to be a type of ''alternative fuel'' within the definition of ''traditional fuel.'' Such alternative fuels are developed from virgin materials that can now be used as fuel products.[114] This applies to the examples mentioned by the commenter, including corn stover, peanut shells and clean construction and demolition wood. Further, coal refuse mined today that would have previously been abandoned in piles are also alternative fuels that are now grouped in the traditional fuel category because of new technology. This is separate from coal in legacy piles that have been traditionally wastes.

Further, there is a clear difference between the management of the listed examples of clean cellulosic biomass and coal refuse abandoned in legacy piles. For example, the commenter characterizes corn stover as ''typically left in the field to decay'' and thus discarded. The EPA assumes this statement is based on the historic use of leaving corn stover in the field as a cover to reduce erosion and for nutrient content.[115] As noted by the agency previously, over the course of this rulemaking, an emerging market for corn stover and other primary and secondary agricultural residues is for use as a heat and power source for the production of corn and cellulosic ethanol.''[116] When the determination is made to use corn stover for its fuel value, the materials are managed differently than merely ''left in the field to decay.'' If there were legacy piles of such materials, they too would have to be treated as wastes while in the legacy piles. We would also note that it is not unreasonable to expect that agricultural materials, such as corn stover, may be left on the field until there are sufficient amounts of those materials to be collected, baled and transported. This is clearly a different scenario from coal refuse left in place in piles with no purpose other than abandonment and clearly managed as a waste for decades.

With respect to used oil, the agency has already explained in the final March 2011 rule the difference between on-specification and off-specification used oil as applied to the definition of solid waste. The on-specification used oil is considered an alternative fuel that has not been abandoned and, by regulation, may be burned with no more restrictions than refined product oil. Off-specification used oil is specifically described in the EPA's regulations as a material that may only be burned in certain combustors because it exceeds contaminant levels established under part 279, rendering it off-specification and, accordingly, evaluated under part 241 to determine its waste/non-waste status.[117]

Comment: One commenter argues that off-specification tires are analogous to legacy coal refuse to the extent they are set aside and not used immediately by the factory. Since the agency proposes to include off-specification tires within the definition of ''established tire collection program'' and not consider these materials to be a solid waste when used a fuel, the agency should treat legacy coal refuse similarly.

Response: We disagree with the commenter that coal refuse abandoned in legacy piles is analogous to the handling and management of off-specification used tires. Coal refuse that has been placed in legacy piles decades ago has clearly been abandoned, thrown away and thus, discarded and historically managed as a waste. On the other hand, the agency has information that tire manufacturers that have produced off-specification tires (including factory scrap) have contractual agreements in place to ensure these materials are collected, managed and transported to the combustor. In fact, it is the requirement that scrap tires (including off-specification tires) be managed pursuant to established tire collection programs that ensures these materials are managed as a valuable commodity in order to meet the categorical non-waste determination codified in 40 CFR part 241.4(a).

Further, as we have noted elsewhere in today's preamble, to the extent that these off-specification tires are discarded, such as in tire piles, they would be considered solid waste in that they have been discarded, and would not be included within the categorical listing of ''scrap tires that are not discarded and are managed under the oversight of established tire collection programs, including tires removed from vehicles and off-specification tires.''

Comment: One commenter states that the EPA, consistent with the intent of RCRA, should be encouraging the use of legacy coal refuse, not hampering them. The commenter argues that characterizing coal refuse in legacy piles as a solid waste could subject legacy coal refuse piles to additional federal and state requirements and potentially result in the piles being classified as open dumps or solid waste management units. Further, combustors of legacy coal refuse and their suppliers would also be more likely to be subject to citizen suits under RCRA 40 CFR 7002. This commenter argues that the determination that unprocessed legacy piles are different—and should be regulated differently—than coal refuse generated from current mining operations is illogical because the characteristics of the materials are the same. Thus, although the EPA takes the position that subjecting legacy coal to the types of operations that are used to process virgin coal is sufficient to convert the legacy coal refuse from solid waste into a non-waste fuel, the initial designation as solid waste risks regulatory confusion regarding the status of the numerous piles of legacy coal refuse.

Response: This comment is clearly beyond the scope of this rulemaking proceeding. In the first place, legacy coal piles are, indeed, wastes. How they may be treated when they are in the piles is clearly beyond the scope of this rule. This rule deals with how the

[114] See definition of traditional fuels, as codified in 40 CFR 241.2. We note that the December 2011 proposal did not solicit comment on the definition of traditional fuels.

[115] See Petrolia, Dr. Daniel R., ''Economics of Crop Residues: Corn Stover.'' June 2009. A copy of this document has been placed in the docket to today's rulemaking.

[116] See Materials Characterization Paper in Support of the Final Rulemaking: Identification of Nonhazardous Secondary Materials That are Solid Waste, Biomass—Agricultural Residues and Food Scraps.'' February 3, 2011. A copy of this document can be found in the docket for today's rulemaking.

[117] Note that Section III.D.2.c of today's preamble discusses circumstances under which off-specification used oil may use coal data when making contaminant comparisons.

legacy coal is to be treated when it is taken from the piles and burned for fuel.

Comment: While supporting the concept of a categorical listing for legacy coal refuse, a few commenters argued that the agency should not require that legacy coal refuse be ''processed'' in order to be considered a non-waste fuel. One commenter noted that the EPA does not require traditional fuels or resinated wood to undergo processing to be treated as a fuel, even though many of those materials would be understood to be discarded.

Another commenter noted that the term ''post-processing,'' which was used in the proposal as a shorthand description of legacy coal refuse that has undergone processing, is too vague and should be eliminated so the use of extracted coal refuse undergoing further processing at the generating facility is not discouraged. If applied too literally, the commenter continued, any ''post-processing'' provision being imposed on treating legacy coal piles as fuel would not benefit the CFB community and could hinder the usage of these piles as fuels. The commenter argues that the term ''post-processing'' could be interpreted as requiring processing at the coal refuse excavation site which would not be determinative of any relevant characterization of the coal refuse or its intended use as fuel.

Response: In the 2011 NHSM final rule, the EPA discussed how a NHSM, once discarded, can be processed into a non-waste fuel.[118] The proposed rule did not solicit comment on either the concept of processing a discarded NHSM into a non-waste fuel or the definition of ''processing'' itself, as codified in section 241.2. Therefore, the agency does not address the concept or definition of processing in this final rulemaking.

Again, however, the comment suggests a need to clarify the nature of the rulemaking exercise that the EPA is currently engaged in. First, we disagree with the commenter's characterization that many of the traditional fuels and resinated wood should be understood to be discarded. Traditional fuels, by definition, are not discarded.[119] If clearly discarded (e.g., a barrel of fuel oil dumped), even a traditional fuel would have to be processed per the part 241 regulations in order to be a non-waste fuel. However, it is precisely because of their fuel value that makes it unlikely that traditional fuels will be discarded. We also disagree that resinated wood is discarded prior to being or when used as a fuel in a combustion unit. For a discussion of why we believe resinated wood is a non-waste fuel, please see section III.E.3.b of this preamble.[120]

As noted above, coal refuse abandoned in legacy piles has clearly been discarded in the first instance because the coal preparation technology did not yet exist that could utilize these materials for their fuel value. Thus, legacy coal refuse would have to be processed into a non-waste fuel. However, the agency has previously recognized the uniqueness of coal refuse in that it is a byproduct of fuel production processes and is itself a raw material that can be used as a fuel.[121] In the 2011 NHSM final rule, the agency determined that coal refuse that is recovered from legacy piles and used as fuel that is subjected to the types of operations that are used to process virgin coal or currently generated coal refuse would meet our definition of processing as codified in 40 CFR 241.2.[122]

As the processing that is required is no different than what currently-generated coal refuse is subject to, we do not believe the processing requirement would hinder the usage of coal refuse piles. The agency believes the only additional ''processing'' step is the actual extraction or recovery of the coal refuse from the legacy piles. To the extent that the term ''post-processing'' could be misconstrued as requiring an additional processing step at the extraction site or otherwise as compared to currently generated coal refuse, this was not the agency's intent. Rather, we have included the concept of ''processing'' in the categorical non-waste determination for legacy coal refuse, as legacy coal refuse was clearly discarded and, prior to processing, is a solid waste. That said, we clarify again today that coal refuse recovered/removed from legacy piles that is processed in the same manner as currently generated coal refuse would meet the definition of processing as codified in section 241.2. No additional processing is required given the uniqueness of coal refuse. For commenters suggestions regarding the explicit wording of the categorical listing for legacy coal refuse, see additional response to comments below.

Comment: In support of the agency's soliciting comment on whether to add legacy coal refuse to the list of categorical non-waste fuels proposed in 40 CFR part 241.4, one commenter states that once removed from the physical mining location, legacy coal refuse and currently-generated coal refuse are indistinguishable. Thus, coal refuse from legacy piles will be managed in the same manner as coal refuse, will have similar heating value as coal refuse and be used as a fuel in a combustion unit that recovers energy and can be expected to have similar contaminant levels as coal refuse because it is ostensibly the same material.

Response: We agree that coal refuse recovered/removed from legacy piles and processed in the same manner as currently generated coal refuse would meet both the definition of processing and the legitimacy criteria. Thus, we have determined to list ''coal refuse that has been recovered from legacy piles and processed in the same manner as currently-generated coal refuse'' to the list of categorical non-waste fuels codified in part 241.4(a) of today's rulemaking. The rationale for adding this NHSM to the list of non-waste fuels follows the reasoning finalized in part 241.4(b) in today's rulemaking. We agree with the reasoning of the comment and have, in fact, arrived at the very same reasoning in support of the categorical listing.

Comment: One commenter argued that the EPA should treat legacy coal refuse as fuels, since they are chemically identical, if not superior fuels, to currently generated coal refuse that the agency considers to be a traditional fuel, per the definition codified in 40 CFR 241.2.

Response: Again, the EPA must explain a misunderstanding expressed by the commenter. The comment seems to consider that material is either a ''fuel'' or a ''waste'' and misses the point that the distinction in this rulemaking is between a ''product'' and a ''waste'' fuel. Fuels may be wastes. The point is that the coal that has been abandoned in piles is a waste. However, the EPA has

[118] See 76 FR 15474–15477.

[119] See last sentence of ''traditional fuels'' definition, as codified in 241.2: ''[Traditional] fuels are not secondary materials or solid wastes *unless discarded''* (emphasis added).

[120] See also discussion included in the 2011 NHSM final rule (76 FR 15499–15502).

[121] See 76 FR 15507, which states, ''Coal refuse is unique, however, from other non-hazardous secondary materials addressed in this rulemaking, as it is generated in the process of producing fuels (i.e., the mining of coal for use as fuel) and its subsequent use and value as a secondary material is also as a fuel. Since the primary product of a coal mining operation is itself a fuel, we consider coal refuse to be more akin to a raw material that is subsequently processed and utilized to produce a fuel. In other words, coal refuse is different from other non-hazardous secondary materials, such as used tires or resinated wood residuals, in that it is generated in the production of fuel and can be used itself as a fuel (and in fact has never been used for anything else).''

[122] See 76 FR 15509. In addition, subsequent to the 2011 NHSM final rule, the EPA has reiterated this determination. See August 15, 2011, letter to Jeff A. McNelly, ARIPPA (cited in the proposed rule: 76 FR 80486).

determined that once processed that coal is either identical (or maybe even superior) to currently mined materials that would have become refuse in the past.

The EPA agrees with, and has adopted, the same reasoning expressed by the commenter that the processed material is a product fuel. The disagreement between the EPA and the comment is the status of the legacy piles and the nomenclature of the coal finally burned. The coal is a processed fuel product, not a traditional fuel.

Comment: One commenter stated that there are ''other relevant factors'' that the EPA should consider when determining whether coal refuse from legacy piles should be categorically listed as a non-waste fuel. Specifically, the commenter believes that the EPA should consider the ''overwhelming resultant environmental improvements'' associated with the cleanup of abandoned coal refuse piles, including the reduction of fire hazards and contaminant, siltation, and solids releases into the environment, as an ''other relevant factor'' as it considers listing legacy coal refuse as a non-waste fuel in § 241.4.

Response: The EPA's decision to include processed legacy coal refuse to the list of non-waste fuels in § 241.4(a) was based on the fact that such materials meet the definition of processing and the legitimacy criteria. We do not need to balance ''other relevant factors'' in making this determination, as would be appropriate under an analysis conducted under § 241.4(b)(5)(ii).

Comment: The EPA received a few comments regarding the specific wording of how coal refuse recovered from legacy piles should be identified and described in § 241.4(a) should the agency determine to categorically list this NHSM pursuant to § 241.4(a). One commenter suggested inserting the following text as a subsection within § 241.4(a): ''Coal refuse that does not constitute currently-generated coal refuse, but that is processed in the same manner as currently-generated coal refuse.'' As previously discussed, another commenter stated that the term ''post-processed'' was vague and could be interpreted to require additional processing that would hinder the usage of legacy coal refuse piles. Still another commenter suggested referencing the SMCRA in a categorical non-waste determination for coal refuse, which would ensure that the coal refuse is a fuel and minimize overlapping regulatory jurisdiction that could evolve.

Response: As discussed above, we have determined to list ''coal refuse that has been recovered from legacy piles and processed in the same manner as currently-generated coal refuse'' to the list of categorical non-waste fuels, as codified in § 241.4(a) of today's rulemaking. We believe this language accurately captures the scope of materials at issue and what must occur for the material to be categorically characterized as a non-waste fuel. That is, this categorical listing only applies to coal refuse that has been discarded in the first instance in legacy piles, subsequently recovered or removed from the discard environment and subjected to the same processes and operations as currently generated coal refuse.[123] Further, this language should alleviate any concerns that the term ''post-processed'' is vague since that term is not being used within this provision as finalized today.

We do not agree with the comments that a categorical listing for legacy refuse should specifically reference SMCRA. As we noted in the preamble to the 2011 NHSM final rule, while the EPA recognizes that SMCRA is concerned with the management and removal of coal refuse piles at mining sites, SMCRA does not address the issue of ''discard,'' which is critical to the definition of solid waste under RCRA.[124] Thus, a specific reference to SMCRA would be inappropriate as well as confusing. Further, we believe that a specific reference to SMCRA would be in fact more burdensome than the language of the categorical listing being codified today, which simply states that legacy coal refuse must be processed in the same manner as currently-generated coal refuse, regardless of whether such processing is done pursuant to SMCRA.

c. Manure

In the 2011 NHSM final rule, the EPA stated that based on the information provided, we could not make a blanket determination that all manure is a traditional fuel or that it is a solid waste. However, upon reviewing the few comments and data received, we concluded that animal manure that is used as a fuel ''as generated'' does not satisfy the legitimacy criteria, and thus, if combusted ''as generated,'' would be a solid waste.[125] However, the agency also noted that there were circumstances where manure would not be considered a solid waste when burned as a fuel for energy recovery, specifically: (1) When the manure remained within the control of the generator and met the legitimacy criteria; (2) when the manure was sufficiently processed (e.g., via anaerobic digestion or gasification processes) and the resulting material met the legitimacy criteria; and (3) when a facility received a determination from the agency pursuant to 241.3(c) stating that its manure was a non-waste when used as a fuel. For further discussion regarding our characterization of manure, see the preamble to the 2011 NHSM final rule (76 FR 15479–15482).

In the December 2011 proposed rule, the agency noted that some parties have identified the potential of manure to not be considered a solid waste. We, therefore, invited parties to present information, including data demonstrating that manure is not discarded either through the existing non-waste petition process or the proposed categorical determination process.[126] The agency received no information or data that would allow it to consider proposing to list manure categorically as a non-waste fuel.[127] Therefore, we are not taking any action in the rulemaking with respect to manure. However, the agency did receive several comments from one commenter which we will respond to below.

Comment: The commenter states that dried animal manure should be included as a non-waste with the other fuels in 40 CFR 241.4(a). The commenter contends that there is no evidence that any animal manure is discarded, let alone sent to landfills. Manure is generally used as fertilizer on fields, although an important secondary purpose is for energy recovery/generation. In addition, the commenter states there are several known instances of additional plans for animal manure energy projects that are designed specifically to recover energy, including government funded projects.

The commenter notes that after drying, animal manure has a meaningful Btu value equal to or above that of other

[123] We note that it would not be appropriate to include currently generated coal refuse within this categorical non-waste determination, as we have previously determined and continue to believe that currently generated coal refuse is a traditional fuel.

[124] See 76 FR 15510.

[125] See 76 FR 15480.

[126] See 76 FR 80472.

[127] In the preamble to the proposed rule, the agency indicated the type of information and data that should be submitted to categorically list manure as a non-waste fuel. Specifically: (1) The extent that use of the NHSM has been integrally tied to the industrial production process—information can include combustor design specifications, the extent that the use of the material is integrated across the industry and the extent that use of the NHSM is essential to the industrial process and/or (2) the extent that the NHSM is functionally the same as the comparable traditional fuel and (3) other relevant factors.

biomass that the EPA has determined to be a non-waste fuel (e.g., bagasse). The commenter also notes that there are contracts in place for livestock and poultry producers to supply manure to the combustor.

Regarding contaminants in manure, the commenter states that the amount of contaminants is limited because the vast majority of applicable contaminants are directly related to the contaminants contained in the biomass consumed by the animals. The EPA has not presented any evidence that facilities are combusting manure in order to discard chlorine or nitrogen, the two contaminants identified by the EPA. These concentrated contaminants are no different than what occurs in the production of ''byproducts of ethanol natural fermentation processes,'' which the EPA is now proposing to include in the definition of ''clean cellulosic biomass.'' Based on a ''balancing of the legitimacy criteria and other such relevant factors,'' the EPA's new standard, animal manure should be included in the 40 CFR 241.4(a) fuels list, along with resinated woods and scrap tires.

Response: We disagree with the commenter on several points and do not believe that the case has been made to include animal manure as a categorical non-waste fuel in 40 CFR 241.4(a). First, in the 2011 NHSM final rule, we previously determined that animal manure that is used as fuel, ''as generated,'' would not satisfy the legitimacy criteria. This conclusion was based on the fact that such material likely would not satisfy the meaningful heating value and contaminant legitimacy criterion.[128] Thus, we believe that the burning of such materials (as generated) would not be legitimate and would be seen as burning for discard. Further, the agency has never stated that a NHSM, including animal manure, has to be landfilled in order to be discarded, as the commenter implies. Regarding the use of manure as fertilizer, we have been clear that this rulemaking does not address that secondary use. The 2011 NHSM final rule states, ''We recognize that manure may also be beneficially used in other end uses, such as a fertilizer * * * EPA is not making any determination whether non-hazardous secondary materials are or are not solid wastes for other possible beneficial end uses. Such beneficial use determinations are generally made by the states for these other beneficial uses, and EPA will continue to look to the states to make such determinations.'' [129]

The commenter notes additional plans for animal manure energy projects; however the fact that there are plans for future projects does not support a categorical non-waste determination today. As the EPA has acknowledged, facilities may be able to demonstrate that they satisfy the legitimacy criteria, either through a self-determination if the manure remains within the control of the generator or through the § 241.3(c) non-waste determination petition process. Thus, any future energy project using animal manure as fuel could utilize either of these options for determining that the manure is a non-waste fuel, as appropriate.

Regarding the commenter's points related to meaningful heating value of dried manure, the fact that dried manure may have a greater Btu value than bagasse is not directly on point. To demonstrate that a NHSM has meaningful heating value when used as a fuel, a facility does not compare relative Btu/lb of the NHSM against other traditional fuels, which themselves have a wide range of heating values. Rather, consistent with other EPA rulemakings, we have established 5,000 Btu/lb as a benchmark for demonstrating that a NHSM has meaningful heating value. Thus, to meet the meaningful heating value legitimacy criterion, the material would need to meet an ''as fired'' heating value of 5,000 Btu/lb, or if lower than 5,000 Btu/lb, as fired, a person would need to demonstrate that the ERU can cost-effectively recover meaningful energy from the NHSM used as a fuel.[130] We also note that the EPA did not reopen the meaningful heating value for fuels, as codified in 40 CFR 241.3(d)(1)(ii), in the December 23, 2011, proposed rule. Thus, in order to meet this criterion, the dried manure would need to meet an ''as fired'' heating value of 5,000 Btu/lb, or if lower than 5,000 Btu/lb, the facility would need to demonstrate that the ERU can cost-effectively recover meaningful energy from use of manure as a fuel.

Regarding the commenter's statement regarding contracts between livestock and poultry producers and combustors, first we would note that no information has been provided to indicate who has entered such contracts or how many such contracts there are to consider this factor. However, as we have stated elsewhere in this preamble, contractual arrangements can be used as evidence that the material is managed as a valuable commodity and that discard is not occurring when a material is transferred beyond the control of the generator. However, the fact that there is a contractual relationship by itself is not dispositive that a material is not a waste, as there are contracts between parties to remove and dispose of wastes.

We also believe that the commenter's statements that the concentrated levels of contaminants are no different than what occurs in the production of ''byproducts of ethanol natural fermentation processes'' is not supported by any information or data. That is, other than the general statement, the commenter has not provided contaminant data, for either animal manure or byproducts of ethanol natural fermentation processes, for the agency to analyze and compare.

Thus, we have determined based on the lack of any information or data that animal manure should not be listed as a categorical non-waste fuel in § 241.4(a).

Comment: In the event that the agency does not list animal manure as a categorical non-waste fuel, the EPA could alternatively decide that processing of animal manure by drying, constitutes ''sufficient processing,'' such that previously discarded manure could be considered recovered for energy recovery, just like scrap tires could be processed and burned as a non-waste.

Response: In the December 23, 2011 proposal, the agency did not solicit comment on the definition of ''processing,'' as codified in 40 CFR 241.2. Thus, this comment is beyond the scope of the rulemaking and will not be addressed in today's final action.

d. Other Materials for Which Additional Information Was Not Requested

In the December 2011 proposal, the agency solicited comment on a focused list of NHSMs and, in particular, whether these NHSMs would be appropriately included in the categorical list of non-waste fuels that the agency was proposing in 40 CFR 241.4(a). Specifically, the agency proposed and/or invited comment and additional information regarding potential categorical non-waste determinations for resinated wood, scrap tires managed pursuant to established tire collection programs, pulp and paper sludges, and coal refuse recovered from legacy piles.

Although comment was requested only for these specific materials, the agency received comments that many other NHSMs be listed as categorical non-wastes for which it did not request additional information as a part of this rulemaking. As we have discussed elsewhere in today's preamble, we will not be responding to such comments and issues that are beyond the scope of

[128] See 76 FR 15480–15481.

[129] 76 FR 15482.

[130] See 76 FR 15541.

today's narrow rulemaking. We would also note that since the agency did not specifically solicit comments on these additional materials or propose that these NHSMs should be categorically listed in 40 CFR 241.4(a), the Agency will be going through notice and comment rulemaking before making a final decision. However, we would like to note two additional NHSMs—paper recycling residuals and construction and demolition wood processed pursuant to best practices that, based on information provided to the agency,[131] we now believe are good candidates and expect to propose categorical listings in 40 CFR 241.4(a) in the near future for these two materials. With respect to a third NHSM—creosote-treated railroad ties, the Agency has recently received a draft petition from The American Forest & Paper Association and the American Wood Council seeking a categorical listing for these materials. As noted below, the Agency has requested additional information from the petitioners with regard to their request. If the additional information supports the representations made in the petitioners' draft December 6, 2012 petition, the EPA expects to propose a categorical listing for this material as well.[132]

Paper Recycling Residuals

The first of these is paper recycling residuals (including old corrugated cardboard (OCC) rejects). In the 2011 NHSM final rule, EPA determined that paper recycling residuals, referred to as OCC rejects, are not discarded when used under the control of the generator, such as at pulp and paper mills, since these non-hazardous secondary materials are part of the industrial process.[133] Regarding the legitimacy criteria, the Agency found that these materials meet the criteria with respect to management as a valuable commodity and used as a fuel when burned on-site. In addition, the Agency found that the contaminant levels in these materials are comparable to those in traditional fuels. With respect to the meaningful heating value criterion, the Agency determined that OCC rejects meet this criterion if it can be demonstrated that the combustion unit can cost-effectively recover energy from these materials.[134]

Since publication of the March 2011 rule, the Agency has received additional information regarding the cost effectiveness of paper recycling residuals use as a fuel, including amounts of paper recycling residuals replacing traditional fuels at paper mills and percentages of residuals generated that are combusted as fuel. In general, this information also indicates that this material is primarily combusted as a fuel on-site or within the control of the generator.[135] We have asked the industry for information to confirm this.

EPA believes the information received to date would tend to support a categorical determination of these residuals as non-waste fuels. For residuals that are transferred offsite, the Agency would like additional information about residuals that are also burned as a fuel at facilities that are not under the control of the generator, including information as to how and where they are burned and whether they are managed as a valuable commodity. If the Agency receives information confirming treatment of these materials offsite, the Agency would expect to include these residuals in a subsequent rulemaking.

Construction and Demolition Wood Processed Pursuant to Best Practices

The second of these NHSMs is construction and demolition (C&D) wood processed pursuant to best practices and produced and managed under the oversight of a comprehensive collection system or contractual arrangement. In the March 2011 final rule, we determined that C&D wood that is sufficiently processed can be a non-waste fuel.[136] The Agency has received additional information since the issuance of that rule on specific best management practices used by suppliers/processors of C&D wood. Such practices include processing to remove contaminants. EPA believes the information received to date would tend to support a listing of these materials as a categorical non-waste fuel and expects to propose that listing in a subsequent rulemaking.

Other Materials Under Consideration

The American Forest & Paper Association and the American Wood Council submitted a draft petition to EPA on December 6, 2012 seeking a categorical listing for creosote-treated railroad ties.[137] This draft petition lists their bases for the determination, with supporting information.

The information included amounts of railroad ties combusted each year and value of the ties as fuel. Overall, the petitioners believe the information demonstrates that these materials are non-waste fuels and would allow EPA to categorically list this material, balancing the legitimacy criteria with other relevant factors. The draft petition provides information representing a determination that the material has high Btu value, and that the material satisfies the legitimacy criteria. The Agency is still in the process of reviewing the petition. However, in order to inform the scope of the non-waste category, we have also asked the petitioners to provide additional information, including:

1. A list of industry sectors, in addition to forest product mills, that burn railroad ties for energy recovery
2. The types of boilers (e.g., kilns, stoker boilers, circulating fluidized bed, etc.) that burn railroad ties for energy recovery
3. The traditional fuels and relative amounts (e.g., startup, 30%, 100%) of these traditional fuels that could otherwise generally be burned in these types of boilers
4. The extent to which non-industrial boilers (e.g., commercial or residential boilers) burn railroad ties for energy recovery
5. Laboratory analyses for contaminants known to be present in creosote-treated railroad ties or known to be significant components of creosote, specifically polycyclic aromatic hydrocarbons (i.e., PAH–16), dioxins, dibenzofurans, hexachlorobenzene, biphenyl, quinoline, cresols, and 2,4-dinitrotoluene.

[131] Comments on December 23, 2011 proposed rule supporting a categorical non-waste for paper recycling residuals: American Forest & Paper Association, et al. EPA–HQ–RCRA–2008–0329–1946–A1; Georgia-Pacific LLC (GP) EPA–HQ–RCRA–2008–0329–1902–A1; National Alliance of Forest Owners (NAFO) EPA–HQ–RCRA–2008–0329–1950–A2; Packaging Corporation of America (PCA) EPA–HQ–RCRA–2008–0329–1966–A1; and United Steelworkers (USW) EPA–HQ–RCRA–2008–0329–1910–A1. Comments supporting a categorical non-waste for paper recycling residuals and C&D wood: American Forest & Paper Association, et al. EPA–HQ–RCRA–2008–0329–1946–A1; Construction Materials Recycling Association (CMRA) EPA–HQ–RCRA–2008–0329–1928–A1; Covanta Energy Corporation (Covanta) EPA–HQ–RCRA–2008–0329–1893–A; Energy Recovery Council (ERC) EPA–HQ–RCRA–2008–0329–1927–A1; Georgia-Pacific LLC (GP) EPA–HQ–RCRA–2008–0329–1902–A1; Michigan Biomass EPA–HQ–RCRA–2008–0329–1905–A1; National Alliance of Forest Owners (NAFO) EPA–HQ–RCRA–2008–0329–1950–A2; United Steelworkers (USW) EPA–HQ–RCRA–2008–0329–1910–A1; Waste Management (WM) EPA–HQ–RCRA–2008–0329–1957–A2; and Weyerhaeuser EPA–HQ–RCRA–2008–0329–1930–A1.

[132] See draft letter from Paul Noe to Adminstrator Lisa Jackson, December 6, 2012, (item to be placed in the docket for today's rule).

[133] [76 FR 15487]

[134] For a discussion of OCC rejects, see 76 FR 15486–7.

[135] See ''Generation, Management, and Processing of Paper Processing Residuals'' (Industrial Economics, October 26, 2012) (these items will be placed in the docket.)

[136] See 76FR 15485

[137] Letter from American Forest & Paper Association and American Wood Council to Lisa Jackson, dated December 6, 2012 (a copy of this letter can be found in the docket for today's rule)

Assuming that the additional information supports and supplements the representations made in the petitioner's December 6, 2012 draft petition, the EPA also expects to propose a categorical listing for this material. To the extent that petitioners would like to provide additional information, the Agency will consider such information as well.

EPA has also received a related letter from the Treated Wood Council asking that nonhazardous treated wood be determined as a categorical non-waste, a broader category that would include creosote-treated ties.[138] EPA is in the process of reviewing this letter, and may also propose a categorical listing for this broader set of treated wood material. Finally, we would note that if any person provides sufficient information to EPA regarding any other NHSM, EPA would also consider listing such material(s) categorically, pursuant to 40 CFR 241.4(b).

6. Streamlining of the 40 CFR 241.3(c) Non-Waste Determination Petition Process

In the proposed rule, the EPA asked for comments on streamlining or other improvements to the existing provision for non-waste determinations codified at 40 CFR 241.3(c).

The agency requested comment on whether the EPA's grant of the petition should apply as of the date that the petition was submitted to the agency.[139] The agency also requested additional comment on whether any other changes could be made to the non-waste determination petition in order to streamline the process, while at the same time provide the EPA with the opportunity to ensure that such NHSMs are not being discarded. For example, the EPA requested comment on whether public comment should be sought on each individual petition.[140]

Comment: Concerning the request for comment regarding when a petition determination would apply, the agency received several comments. Specifically, the agency requested comment on whether the EPA's grant of the petition should apply as of the date that the petition was submitted to the agency. Commenters agreed that a non-waste determination under 40 CFR 241.3(c) should be retroactively applied to the date the petition was submitted.

Commenters were concerned about the timeliness of the EPA's decision on these determinations and on the uncertainty surrounding the usage of the NHSMs while a non-waste determination petition is pending. The commenters argue that if a NHSM is determined to be non-waste, the combusted NHSM in question was also non-waste prior to the determination.

Response: The agency understands the interests of petitioners awaiting an agency decision on the status of materials, while a 40 CFR 241.3(c) petition is being considered. In order to lessen the uncertainty surrounding the regulatory status of a particular material, the agency will utilize the date the petition was submitted as the date that the combusted materials will be considered a non-waste if the agency grants the petition.

Comment: Many commenters indicated concern that the petition process could take excessive time for the agency to reach a decision. They requested self-imposed timeframes for the EPA's granting/denying requests and a shorter length of time for the notices to be open for public comment (or omit it altogether). The combustors stated they need quick decisions in order to comply with the CAA regulations and to make efficient business decisions.

Response: The agency considered the commenters' suggestion, but decided not to impose a deadline on its decision because there are many factors beyond its control, including how long it takes for the petitioner to submit a complete petition to EPA for evaluation. We would note, however, that even though the NHSM rule will become effective on April 8, 2013, for all practical purposes, existing facilities that currently burn NHSMs from off-site sources will have a substantial amount of time to submit and have the EPA process a non-waste determination petition before having to comply with the CAA emission standards, as the compliance date for existing CISWI sources subject to CAA 129 standards is 5 years after the date of publication of the CISWI final rule or 3 years after the state plan is approved, whichever happens earlier and February 7, 2016, to comply with the Boiler MACT rule.[141] [142] Thus, we believe that there will be more than adequate time for persons to determine whether or not a NHSM sent to a combustion unit not under the control of the generator has not been discarded and meets the legitimacy criteria, prepare and submit a non-waste determination petition to the EPA, have the EPA process the petition, including soliciting comment on the EPA's proposed determination, and make a final decision.

In regard to the comment on reducing the time the petition application is open for public comment, the agency decided that the comment period shall remain at 30 days but the regulatory text is changed from ''at least 30 days'' to ''30 days'' in order to promote clarity, while affording an opportunity for public comment.

Comment: One commenter strongly encouraged the agency to develop and deploy an on-line form to identify materials for non-waste determinations. Commenters also noted that the EPA should provide more detailed information about how the determinations are made (particularly for the comparable contaminant determinations).

Response: The agency will consider the development of a form to identify the specific information needed to determine whether a NHSM meets the legitimacy criteria and other provisions. If the agency develops such a form, it would be made available on the NHSM Web site. Please note that traditional fuel data (including tables for traditional contaminants) are available to the public, which they may find useful in assessing the contaminant legitimacy criteria. Refer to those tables in ''Contaminant Concentrations in Traditional Fuels: Tables for Comparison'' currently posted on the NHSM web site at *http://www.epa.gov/osw/nonhaz/define/index.htm*. That document will aid in comparing the concentration of contaminants in their NHSMs to concentration of contaminants in traditional fuels. In addition, rule clarification letters and petition findings are also posted on the Web site when finalized.

Comment: A commenter suggested that the non-waste petition process should allow for ''balancing'' of legitimacy criteria similar to that included for categorical determinations in 40 CFR 241.4.

Response: Under 40 CFR 241.4 of the proposed regulation, the EPA can balance the legitimacy criteria with other relevant factors in making categorical non-waste determinations. As the commenter points out, we have not discussed the applicability for similar balancing under 40 CFR 241.3 non-waste determination petitions. The EPA distinguished between 40 CFR 241.3 and 40 CFR 241.4 because in the

[138] Letter from Jeffrey Miller, Treated Wood Council to Lisa Feldt, December 17, 2012. (a copy of this letter can be found in the docket to today's rule) Additional supporting information is found in the Comments of Treated Wood Council, dated Feb. 20, 2012)(EPA–HQ–RCRA–2008–0329–1897.

[139] See 76 FR 80473.

[140] See 76 FR 80474.

[141] We recognize that new sources that are coming online that will have to comply with these rules much sooner than do existing sources. As such, the Agency will consider prioritizing the processing of non-waste petitions it has received from new sources as appropriate.

[142] Note that the compliance date for the Area Source Boiler Rule is March 21, 2014.

latter, the EPA makes the determination based on its review and analysis of industry-wide data and other factors, as opposed to a specific site. However, the EPA recognizes the points the commenter raises and will consider whether such modifications may be appropriate.

Comment: Several commenters were interested in features that streamline and add flexibility to the administrative petition process, particularly in the situation where a petition can apply to multiple combustors.

One commenter noted that any interested person—including forest owners—should be able to initiate the petition process, not just combustors. The petitions should be allowed for entire classes of a NHSM rather than requiring a case-by-case analysis. These clarifications will encourage all members in the biomass supply chain to promote their products and co-products as clean, renewable fuels and promote the development of new markets for biomass materials. Other commenters also stressed the need for the EPA to clarify that the petition can apply to more than one combustor so that redundant petitions do not need to be filed in every region.

A commenter also stated that the benefits from petitions could be achieved more efficiently if the regulatory language was changed to allow for nation-wide petitions under 40 CFR 241.3(c) for classes of combustion units rather than requiring separate petitions for each EPA region.

Response: The agency agrees with the commenters that the process should accommodate for petition applications from third party producers of a NHSM that can be used as a non-waste NHSM fuel at many combustion units instead of just accepting petitions from individual combustors or combustors within the control of one EPA region. This can make for a more streamlined and efficient process. Therefore, the regulatory provision at 40 CFR 241.3(c) has been modified to allow for the petition to be sent to the Assistant Administrator for the OSWER instead of each Regional Administrator if the petition covers more than one EPA Region. This is at the option of the petitioner. The Assistant Administrator for the OSWER would be responsible for the EPA's administrative process in order to finalize the petition decision under 40 CFR 241.3(c) and the regulatory language has been modified accordingly.

Finally, as noted in the 2011 NHSM final rulemaking, states, or private entities, can submit non-waste determination petitions to the EPA on behalf of petitioners. They can petition for a single combustor or a class of combustors (e.g., a specific usage of a non-hazardous secondary material in a particular state). Therefore, in regard to the comment on nationwide petitions for classes of combustion units, the petition process accommodates for these classes of combustion units. This assumes that the petition identifies all of the specific NHSMs that the classes of combustion units use as fuel (that are applicable to a 40 CFR 241.3(c) petition) and gives the information necessary to meet the legitimacy criteria and other requirements.

Note that if a petition covers multiple facilities in a single region, the petition should be sent to the Regional Administrator for that Region, not to the Assistant Administrator for the OSWER.

Comment: Several commenters argued that the 40 CFR 241.3(c) petitions should not require public comment for each individual petition.

One commenter stated that ''the administrative petition process could be further streamlined by not seeking public comment on every individual petition. By filing an administrative petition, a petitioner is not seeking to change the EPA's regulatory program or create new legal rights or obligations. Instead, the administrative petition process provides an opportunity for a petitioner to obtain in advance [A]gency concurrence, based on sound science, with respect to the classification of a particular feedstock under existing regulations. In this respect, the administrative petition process differs from the categorical non-waste determination * * * where EPA makes changes to the regulatory status of certain non-hazardous secondary materials that are reflected in the Code of Federal Regulations. Because the public—through this rulemaking process—has an opportunity to provide input on EPA's regulations, there is no need to provide a second opportunity for public comment when those regulations are applied by the EPA in specific contexts through the administrative petition process.''

In addition, other commenters indicated that public notice and comment is not necessary, since the NHSM rulemaking process has already taken comment on the methodology, in addition to other rationale. In particular, one commenter stated, ''Streamlining could be further facilitated by recognizing that solicitation of public comment on each individual application would be redundant and unnecessary given the public's ample opportunity during this rulemaking to comment on the evaluation criteria that will govern non-waste determination petitions.'' Another commenter stated, ''The reason for public participation in the hazardous waste petition process is that the materials subject to the petition are to be removed from the hazardous waste regulatory program. In the NHSM world, the secondary materials subject to the petition are merely obtaining clarity about regulatory status—they are not seeking a change in regulatory status. Therefore, the need for the full public participation process is not necessary or warranted.''

Response: Although industry commenters argued that public participation is unnecessary, the EPA still believes that public participation is an important part of a transparent decision making process and values how it increases transparency. In the final rule, we will retain the public participation requirement in order to promote public awareness.

7. Revised Introductory Text for 40 CFR 241.3(a)

As part of its discussion clarifying the non-waste determination petition processes, the EPA noted that it had examined a number of specific NHSMs and decided which were to be considered solid wastes based on the record available at the time the March 2011 final rule was issued.[143] The rule itself had stated at 40 CFR 241.3(a) that secondary materials were solid wastes except for those described in section 241.3(b). Essentially, section 241.3(b) is the operative section that states what materials are not wastes. The purpose of the non-waste determination petition process in section 241.3(c) and the new proposed petition process in section 241.4 is to allow various parties the opportunity to provide information and data so that the EPA could decide what other NHSMs are not solid wastes. The preamble stated that the agency proposed to amend section 241.3(a) to state that such secondary materials are ''presumed to be'' solid wastes except for those described in section 241.3(b) in order to better reflect the rulemaking record.

Comment: No commenters supported inclusion of the ''presumed to be'' language in the rule.

Most of the commenters on the language argue that it means that the EPA continues to improperly determine that certain NHSMs are presumptively wastes. Commenters generally argue that the ''presumed to be'' language shows that the EPA, in spite of statements to the contrary, is continuing to make an inappropriate determination

[143] See 76 FR 80473.

that NHSMs transferred to other parties are presumptively wastes until a combustor proves otherwise. According to comments, the use of the ''presumed to be'' language is a clear statement that the EPA is making the presumption. The addition of these words does not change the fact that, under the EPA's regulatory framework, NHSMs are wastes until proven otherwise.

Several commenters, in fact, argued that to address the legal flaws in the proposal, the EPA should reverse the presumption and presume that NHSMs burned for energy recovery or used as an ingredient is not for the purpose of disposal and, therefore, is not a waste.

Response: The EPA is not addressing in this rulemaking the comment that the agency has inappropriately made presumptions about whether materials are wastes. This issue has not been reopened. Instead, the agency has only opened very specific issues on particular wastes.

In the December 2011, proposal at 76 FR 80473, the EPA referred to the March 2011 preamble in which the agency stated that it has not ''arbitrarily determined that secondary materials transferred between companies are wastes. Instead, the EPA has evaluated whether certain categories of materials are discarded or not. The Agency has not adopted the extremes of saying that all burning of secondary material, regardless of ultimate use, is waste treatment or that any secondary material that is recycled for legitimate fuel value is a commodity and not a waste. Wastes may have value, but are still wastes.'' 76 FR 15471. Further, the agency stated that it ''has examined a number of specific materials, recycled within the control of the generator and transferred to a third party for recycling, and determined whether they would be appropriately placed within the waste or non-waste categories.'' Id. The EPA went on to examine a number of different categories of NHSMs used as fuels and ingredients that was summarized in the **Federal Register** (76 FR 15477–15520). The EPA cannot ''reverse'' a presumption that it never made to declare that materials burned for energy recovery are presumptively non-wastes. Further, it would be entirely improper for the agency to do so. The EPA has evaluated specific groups of materials as to their waste status, while the comments regarding reversal of a purported presumption have only presented arguments ''in broad abstraction, providing little detail about the many processes throughout the industry that generate residual material'' that could be subject to this rule. *Association of Battery Recyclers* v. *EPA,* 208 F.3d 1047, 1056.[144] Accordingly, the agency stands on its March 2011 rulemaking record for the issues discussed in these comments.

Comment: Comments objected that the change in word choice that materials are ''presumed to be'' solid wastes from the statement that that materials ''are'' solid wastes (except as otherwise provided in the regulation) still puts the burden to prove material is not a waste on persons who use NHSMs in combustion units. One comment, in particular, noted that there would be no practical effect of the new language even though it is viewed by the EPA as an ''optically less drastic stance.'' That is, there would be no real leeway for a party in an enforcement proceeding to counter the EPA's prosecution based on the fact that the secondary material in question is only ''presumed to be'' a waste, rather than the material ''is'' a waste.

Response: The EPA has decided not to retain the ''presumed to be'' language, since it is unnecessary and does not actually reflect the rulemaking record. No comment argued in favor of it. In addition, there is no need to temper the existing language stating that a material is a solid waste if it does not fall within the § 241.3(b) categories or the non-waste determination processes. As noted in the previous response to comments regarding the agency's ''presumption'' of the waste status of materials, the agency stands on its March 2011 rulemaking record.

E. Cost and Benefits of the Final Rule

The RCRA aspects of this rule do not directly invoke any costs (excluding minor administrative burden/cost), or benefits. Any RCRA related costs to the regulated community, and corresponding benefits to human health and the environment, have been considered as part of the CISWI action, and the corresponding CISWI and Boiler MACT (area source and major source) final rules. As such, the agency has not prepared a separate cost-benefit assessment in support of this part of the final rule. Consequently, any potential costs or benefits, including impacts to small entities, indirectly associated with the RCRA aspects of this rule are addressed in the corresponding impact assessment prepared in support of the CISWI part of this action.

IV. Statutory and Executive Order Reviews

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

Under Executive Order 12866 (58 FR 51735, October 4, 1993), this action is a ''significant regulatory action'' because it may raise novel legal or policy issues. Accordingly, the EPA submitted this action to OMB for review under Executive Order 12866 and 13563 (76 FR 3821, January 21, 2011). Any changes made in response to OMB recommendations have been documented in the docket for this action.

In addition, the EPA prepared an update to the RIA of the potential costs and benefits associated with this action. The RIA available in the docket describes in detail the empirical basis for the EPA's assumptions and characterizes the various sources of uncertainties affecting the estimates below and a memo documents the updates since the RIA was prepared. Table 9 of this preamble shows the results of the cost and benefits analysis for these final rules.

TABLE 9—SUMMARY OF THE MONETIZED BENEFITS, SOCIAL COSTS AND NET BENEFITS FOR THE FINAL CISWI NSPS AND EG IN 2015

[Millions of 2008$] [1]

	3 Percent discount rate	7 Percent discount rate
Total Monetized Benefits [2]	$420 to $1,000	$380 to $930
Total Social Costs [3]	$258	$258
Net Benefits	$160 to $770	$120 to $670
	Health effects from exposure to HAP 780 tons of HCl, 2.5 tons of lead, 1.8 tons of Cd, 680 pounds of Hg, and 58 grams of dioxins/furans).	

[144] Note how the April 4, 2012, letter from Timothy G. Hunt to James Berlow (a copy of which is in the docket for today's rule), provided specific information on pulp and paper sludge where the EPA added a categorical determination based on specific information provided by industry.

TABLE 9—SUMMARY OF THE MONETIZED BENEFITS, SOCIAL COSTS AND NET BENEFITS FOR THE FINAL CISWI NSPS AND EG IN 2015—Continued

[Millions of 2008$] [1]

	3 Percent discount rate	7 Percent discount rate
Non-monetized Benefits	Health effects from exposure to criteria pollutants (20,000 tons of CO, 6,300 tons of SO_2, 5,400 tons of NO_2, and secondary formation of ozone). Ecosystem effects. Visibility impairment.	

[1] All estimates are for the implementation year (2015) and are rounded to two significant figures. These results reflect the lowest cost disposal assumption.

[2] The total monetized benefits reflect the human health benefits associated with reducing exposure to $PM_{2.5}$ through reductions of $PM_{2.5}$ precursors such as directly emitted particles, SO_2, and NO_X. It is important to note that the monetized benefits include many but not all health effects associated with $PM_{2.5}$ exposure. Monetized 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 the scientific evidence is not yet sufficient to allow differentiation of effect estimates by particle type.

[3] 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.

B. Paperwork Reduction Act

This action does not require any new information collection. This action is believed to result in no additional impact on the aggregate information collection estimate of project cost and hour burden made and approved by OMB. Due to changes in the CISWI inventory and monitoring requirements of the CISWI rule, the information collection estimate of project cost and hour burden have been revised. Therefore, only the CISWI ICR has been revised. The OMB control numbers for the EPA's regulations in 40 CFR are listed in 40 CFR part 9.

However, OMB has previously approved the information collection requirements contained in the existing CISWI and NHSM [145] regulations (40 CFR part 60, subparts CCCC and DDDD, and 40 CFR part 241) under the provisions of the *Paperwork Reduction Act,* 44 U.S.C. 3501, *et seq.,* and has been assigned EPA ICR number 2384.05 for subpart CCCC, 40 CFR part 60, EPA ICR number 2385.05 for subpart DDDD, 40 CFR part 60, and EPA ICR number 2382.03 for 40 CFR part 241.

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 APA or any other statute unless the agency certifies that the rule will not have a SISNOSE. Small entities include small businesses, small organizations and small governmental jurisdictions.

For purposes of assessing the impacts of today's rule on small entities, small entity is defined as: (1) A small business as defined by the SBA's 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 today's final rule on small entities, I certify that this action will not have a SISNOSE. This final rule will not impose any new requirements on any entities because it does not impose any additional regulatory requirements relative to those specified in the March 2011 final CISWI and NHSM rules. The March 2011 final CISWI and NHSM rules were both certified as not having a SISNOSE. In this final action, there are four fewer small entities in the CISWI than in the March 2011 final CISWI rule, as discussed in the ''Regulatory Impact Results for the Reconsideration Final for Standards of Performance for New Stationary Sources and Emission Guidelines for Existing Sources: Commercial and Industrial Solid Waste Incineration Units'' memorandum in the CISWI docket.

D. Unfunded Mandates Reform Act

This action does not contain a federal mandate that may result in expenditures of $100 million or more for state, local and tribal governments, in the aggregate or the private sector in any one year. This rule finalizes amendments to the final CISWI rule provisions and technical clarifications to the final NHSM rule. Thus, this rule is not subject to the requirements of sections 202 or 205 of UMRA. However, the March 2011 final CISWI 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, we have prepared under section 202 of the UMRA a written statement, which is summarized in the preamble to the final CISWI rule (76 FR 15747).

This rule is also not subject to the requirements of section 203 of UMRA because it contains no regulatory requirements that might significantly or uniquely affect small governments.

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. This final rule will not impose direct compliance costs on state or local governments and will not preempt state law. Thus, Executive Order 13132 does not apply to this action.

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). The EPA is not aware of any CISWI in Indian country or owned or operated by Indian tribal governments. The CISWI aspects of this rule may, however, invoke minor indirect tribal implications to the extent that entities generating solid wastes on tribal lands could be affected. However, any indirect NHSM impacts that may occur as a result of the CISWI action are expected to be negligible due to the very limited focus of the CISWI part or this rule.

[145] Identification of Non-Hazardous Secondary Materials That Are Solid Waste, Final Rule. March 11, 2011.

Thus, Executive Order 13175 does not apply to this action.

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

The 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 and technical corrections.

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

This action is not subject to 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.

I. National Technology Transfer and Advancement Act

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

This action does not involve any revisions to the technical standards or test methods required in the final CISWI rule. Therefore, the EPA did not reconsider the use of any VCS.

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 and low-income populations in the United States.

The EPA has determined that this final rule will not have disproportionately high and adverse human health or environmental effects on minority or low-income populations because it increases the level of environmental protection for all affected populations without having any disproportionately high and adverse human health or environmental effects on any population, including any minority or low-income population. The amendments do not relax the control measures on sources regulated by the CISWI rule, and, therefore, will not cause emissions increases from these sources. The March 2011 final CISWI rule will reduce emissions of all the listed HAP emitted from this source. Furthermore, the targeted revisions finalized in the NHSM section of this rule are designed to improve the management of these materials, thereby helping to further ensure against any disproportionately high and adverse human health or environmental effects on minority or low-income populations.

K. Congressional Review Act

The Congressional Review Act, 5 U.S.C. 801 et seq., as added by the SBREFA 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. The 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 not a ''major rule'' as defined by 5 U.S.C. 804(2). This rule will be effective February 7, 2013.

List of Subjects

40 CFR Part 60

Environmental protection, Administrative practice and procedure, Air pollution control, Hazardous substances, Incorporation by reference.

40 CFR Part 241

Environmental protection, air pollution control, waste treatment and disposal.

Dated: December 20, 2012.

Lisa P. Jackson,

Administrator.

For the reasons cited in the preamble, Title 40, chapter I, parts 60 and 241 of the Code of Federal Regulations are amended as follows:

PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

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

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

■ 2. Effective February 7, 2013, the May 18, 2011 (76 FR 28662), delay of the effective date amending subparts CCCC and DDDD, at 76 FR 15703 (March 21, 2011), is lifted.

Subpart CCCC—[Amended]

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

§ 60.2005 When does this subpart become effective?

This subpart takes effect on August 7, 2013. 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.

■ 4. Section 60.2015 is amended by revising paragraphs (a)(1) and (2) and (b) to read as follows:

§ 60.2015 What is a new incineration unit?

(a) * * *

(1) A CISWI unit that commenced construction after June 4, 2010.

(2) A CISWI unit that commenced reconstruction or modification after August 7, 2013.

(b) This subpart does not affect your CISWI unit if you make physical or operational changes to your incineration unit primarily to comply with 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.

■ 5. Section 60.2020 is amended by:
■ a. Revising paragraph (c).
■ b. Revising paragraph (e)(3).
■ c. Adding paragraph (e)(4).
■ d. Revising paragraph (f)(3).
■ e. Adding paragraph (f)(4).
■ f. Revising paragraph (n).
■ g. Adding paragraph (o).

The revisions and additions read as follows:

§ 60.2020 What combustion units are exempt from this subpart?

* * * * *

(c) *Municipal waste combustion units.* Incineration units that are subject to

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 documentation to the Administrator notifying the EPA that the qualifying small power production facility is combusting homogenous waste.

(4) You maintain the records specified in § 60.2175(w).

(f) * * *

(3) You submit documentation to the Administrator notifying the Agency that the qualifying cogeneration facility is combusting homogenous waste.

(4) You maintain the records specified in § 60.2175(x).

* * * * *

(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).

(o) *Other solid waste incineration units.* Incineration units that are subject to subpart EEEE of this part (Standards of Performance for Other Solid Waste Incineration Units) or subpart FFFF of this part (Emission Guidelines and Compliance Times for Other Solid Waste Incineration Units).

■ 6. Section 60.2030 is amended by revising paragraph (c)(10) to read as follows:

§ 60.2030 Who implements and enforces this subpart?

* * * * *

(c) * * *

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

■ 7. Section 60.2045 is amended by revising paragraph (b) to read as follows:

§ 60.2045 Who must prepare a siting analysis?

* * * * *

(b) You must prepare a siting analysis for CISWI units that commenced construction after June 4, 2010, or that commenced reconstruction or modification after August 7, 2013.

* * * * *

■ 8. Section 60.2105 is amended by revising paragraph (b) to read as follows:

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

* * * * *

(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 August 7, 2013, must meet the more stringent emission limit for the respective pollutant in table 1 of this subpart or table 6 of subpart DDDD.

■ 9. Section 60.2110 is amended by:

■ a. Revising paragraphs (a)(2), (e), and (f).

■ b. Redesignating paragraph (g) as paragraph (h) and revising newly designated paragraph (h).

■ c. Adding paragraphs (g) and (i).

The revisions and additions read as follows:

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

(a) * * *

(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 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.

* * * * *

(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. For energy recovery units, when your unit operates at lower loads, multiply your sorbent injection rate by the load fraction, as defined in this subpart, to determine the required injection rate (e.g., for 50 percent load, multiply the injection rate operating limit by 0.5).

(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 highest 1-hour average charge rate, lower secondary chamber temperature, and lowest reagent flow rate measured during the most recent performance test demonstrating compliance with the nitrogen oxides emission limitations.

(g) If you use a dry scrubber to comply with the emission limitations, you must measure the injection rate of each sorbent during the performance testing. The operating limit for the injection rate of each sorbent is calculated as the lowest 1-hour average injection rate or each sorbent measured during the most recent performance test demonstrating compliance with the hydrogen chloride emission limitations. For energy recovery units, when your unit operates at lower loads, multiply your sorbent injection rate by the load fraction, as defined in this subpart, to determine the required injection rate (e.g., for 50 percent load, multiply the injection rate operating limit by 0.5).

(h) 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 CEMS, you must maintain opacity to less than or equal to 10 percent opacity (1-hour block average).

(i) If you use a PM CPMS to demonstrate compliance, you must establish your PM CPMS operating limit and determine compliance with it according to paragraphs (i)(1) through (5) of this section.

(1) Determine your operating limit as the average PM CPMS output value recorded during the performance test or at a PM CPMS output value corresponding to 75% of the emission limit if your PM performance test demonstrates compliance below 75% of the emission limit. You must verify an existing or establish a new operating limit after each repeated performance test. You must repeat the performance test annually and reassess and adjust the site-specific operating limit in accordance with the results of the performance test.

(A) Your PM CPMS must provide a 4–20 milliamp output and the establishment of its relationship to manual reference method measurements must be determined in units of milliamps.

(B) Your PM CPMS operating range must be capable of reading PM concentrations from zero to a level equivalent to at least two times your allowable emission limit. If your PM CPMS is an auto-ranging instrument capable of multiple scales, the primary range of the instrument must be capable of reading PM concentration from zero to a level equivalent to two times your allowable emission limit.

(C) During the initial performance test or any such subsequent performance test that demonstrates compliance with the PM limit, record and average all milliamp output values from the PM CPMS for the periods corresponding to the compliance test runs (e.g., average all your PM CPMS output values for three corresponding 2-hour Method 5I test runs).

(2) If the average of your three PM performance test runs are below 75% of your PM emission limit, you must calculate an operating limit by establishing a relationship of PM CPMS signal to PM concentration using the PM CPMS instrument zero, the average PM CPMS values corresponding to the three compliance test runs, and the average PM concentration from the Method 5 or performance test with the procedures in (i)(1)through (5) of this section.

(i) Determine your instrument zero output with one of the following procedures:

(A) Zero point data for *in-situ* instruments should be obtained by removing the instrument from the stack and monitoring ambient air on a test bench.

(B) Zero point data for extractive instruments should be obtained by removing the extractive probe from the stack and drawing in clean ambient air.

(C) The zero point can also can be established obtained by performing manual reference method measurements when the flue gas is free of PM emissions or contains very low PM concentrations (*e.g.,* when your process is not operating, but the fans are operating or your source is combusting only natural gas) and plotting these with the compliance data to find the zero intercept.

(D) If none of the steps in paragraphs (i)(2)(i) through (iv) of this section are possible, you must use a zero output value provided by the manufacturer.

(ii) Determine your PM CPMS instrument average in milliamps, and the average of your corresponding three PM compliance test runs, using equation 1.

$$\bar{x} = \frac{1}{n}\sum_{i=1}^{n} X_1 , \bar{y} = \frac{1}{n}\sum_{i=1}^{n} Y_1 \qquad \text{(Eq. 1)}$$

Where:

X_1 = the PM CPMS data points for the three runs constituting the performance test,

Y_1 = the PM concentration value for the three runs constituting the performance test, and

n = the number of data points.

(iii) With your instrument zero expressed in milliamps, your three run average PM CPMS milliamp value, and your three run average PM concentration from your three compliance tests, determine a relationship of lb/Mmbtu per milliamp with equation 2.

$$\mathbf{R} = \frac{Y_1}{(X_1 - z)} \qquad \text{(Eq. 2)}$$

Where:

R = the relative mg/dscm per milliamp for your PM CPMS,

Y_1 = the three run average mg/dscm PM concentration,

X_1 = the three run average milliamp output from you PM CPMS, and

z = the milliamp equivalent of your instrument zero determined from (2)(i).

(iv) Determine your source specific 30-day rolling average operating limit using the mg/dscm per milliamp value from Equation 2 in equation 3, below. This sets your operating limit at the PM CPMS output value corresponding to 75% of your emission limit.

$$O_l = z + \frac{0.75(L)}{R} \qquad \text{(Eq. 3)}$$

Where:

O_l = the operating limit for your PM CPMS on a 30-day rolling average, in milliamps.

L = your source emission limit expressed in lb/Mmbtu,

z = your instrument zero in milliamps, determined from (2)(a), and

R = the relative mg/dscm per milliamp for your PM CPMS, from Equation 3.

(3) If the average of your three PM compliance test runs is at or above 75% of your PM emission limit you must determine your operating limit by averaging the PM CPMS milliamp output corresponding to your three PM performance test runs that demonstrate compliance with the emission limit using equation 4 and you must submit all compliance test and PM CPMS data according to the reporting requirements in paragraph (i)(5) of this section.

$$O_h = \frac{1}{n}\sum_{i=1}^{n} X_1 \qquad \text{(Eq. 4)}$$

Where:

X_1 = the PM CPMS data points for all runs i,

n = the number of data points, and

O_h = your site specific operating limit, in milliamps.

(4) To determine continuous compliance, you must record the PM CPMS output data for all periods when the process is operating and the PM CPMS is not out-of-control. You must demonstrate continuous compliance by using all quality-assured hourly average data collected by the PM CPMS for all operating hours to calculate the arithmetic average operating parameter in units of the operating limit (e.g., milliamps, PM concentration, raw data signal) on a 30-day rolling average basis.

(5) For PM performance test reports used to set a PM CPMS operating limit, the electronic submission of the test report must also include the make and model of the PM CPMS instrument, serial number of the instrument, analytical principle of the instrument (e.g., beta attenuation), span of the instruments primary analytical range, milliamp value equivalent to the instrument zero output, technique by which this zero value was determined, and the average milliamp signals corresponding to each PM compliance test run.

■ 10. Section 60.2115 is amended by revising the section heading and the introductory text to read as follows:

§ 60.2115 What if I do not use a wet scrubber, fabric filter, activated carbon injection, selective noncatalytic reduction, an electrostatic precipitator, or a dry scrubber 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, an electrostatic precipitator, or a dry scrubber 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 submit the petition at least sixty days before the performance test is scheduled to begin. Your petition must include the five items listed in paragraphs (a) through (e) of this section.

* * * * *

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

§ 60.2120 Affirmative defense for violation of emission standards 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 violations of such standards that are caused by malfunction, as defined at 40 CFR 60.2. Appropriate penalties may be assessed 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) *Assertion of affirmative defense.* To establish the affirmative defense in any action to enforce such a standard, you must timely meet the reporting requirements in paragraph (b) of this section, and must prove by a preponderance of evidence that:

(1) The violation:

(i) Was caused by a sudden, infrequent, and unavoidable failure of air pollution control 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) Was not part of a recurring pattern indicative of inadequate design, operation, or maintenance; and

(2) Repairs were made as expeditiously as possible when a violation occurred; and

(3) The frequency, amount, and duration of the violation (including any bypass) were minimized to the maximum extent practicable; and

(4) If the violation 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 violation on ambient air quality, the environment, and human health; and

(6) All emissions monitoring and 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 violation were documented by properly signed, contemporaneous operating logs; and

(8) At all times, the affected source 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 violation resulting from the malfunction event at issue. The analysis shall also specify, using best monitoring methods and engineering judgment, the amount of any emissions that were the result of the malfunction.

(b) *Report.* The owner or operator seeking to assert an affirmative defense shall submit a written report to the Administrator with all necessary supporting documentation, that it has met the requirements set forth in paragraph (a) of this section. This affirmative defense report shall be included in the first periodic compliance, deviation report or excess emission report otherwise required after the initial occurrence of the violation of the relevant standard (which may be the end of any applicable averaging period). If such compliance, deviation report or excess emission report is due less than 45 days after the initial occurrence of the violation, the affirmative defense report may be included in the second compliance, deviation report or excess emission report due after the initial occurrence of the violation of the relevant standard.

■ 12. Section 60.2125 is amended by:

■ a. Revising paragraph (g) introductory text.

■ b. Redesignating paragraphs (g)(2) and (3) as paragraphs (g)(3) and (4), respectively.

■ c. Revising newly designated paragraphs (g)(3) and (4).

■ d. Adding new paragraph (g)(2).

■ e. Revising paragraph (i).

■ f. Adding paragraph (j).

The revisions and additions read as follows:

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

* * * * *

(g) You must determine dioxins/furans toxic equivalency by following the procedures in paragraphs (g)(1) through (4) of this section.

* * * * *

(2) Quantify isomers meeting identification criteria 2, 3, 4, and 5 in Section 5.3.2.5 of Method 23, regardless of whether the isomers meet identification criteria 1 and 7. You must quantify the isomers per Section 9.0 of Method 23. (Note: You may reanalyze the sample aliquot or split to reduce the number of isomers not meeting identification criteria 1 or 7 of Section 5.3.2.5.)

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

(4) Sum the products calculated in accordance with paragraph (g)(3) of this section to obtain the total concentration of dioxins/furans emitted in terms of toxic equivalency.

* * * * *

(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.

(j) You must determine dioxins/furans total mass basis by following the procedures in paragraphs (j)(1) through (3) of this section.

(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) Quantify isomers meeting identification criteria 2, 3, 4, and 5 in Section 5.3.2.5 of Method 23, regardless of whether the isomers meet identification criteria 1 and 7. You must quantify the isomers per Section 9.0 of Method 23. (Note: You may reanalyze the sample aliquot or split to reduce the number of isomers not meeting identification criteria 1 or 7 of Section 5.3.2.5.)

(3) Sum the quantities measured in accordance with paragraphs (j)(1) and (2) of this section to obtain the total concentration of dioxins/furans emitted in terms of total mass basis.

■ 13. Section 60.2140 is amended by revising paragraph (c) to read as follows:

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

* * * * *

(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 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.

■ 14. Section 60.2145 is amended by:
■ a. Revising paragraph (a)(6).
■ b. Revising paragraphs (b) through (d).
■ c. Revising paragraphs (f) through (j).
■ d. Revising paragraph (m)(2).
■ e. Revising paragraph (n)(4).
■ f. Revising paragraphs (s) introductory text, (s)(1) introductory text, and (s)(2).
■ g. Revising paragraph (t) introductory text and (t)(1) introductory text.
■ h. Revising paragraph (u).
■ i. Adding paragraphs (w) and (x).

The revisions and additions read as follows:

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

(a) * * *

(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 (if PM CEMS are elected to demonstrate continuous compliance with the particulate matter emission limits). 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 CEMS 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 3-hour block average values to determine compliance (except for baghouse leak detection system alarms) unless a different averaging period is established under § 60.2115 or, for energy recovery units, where the averaging time for each operating parameter is a 30-day rolling, calculated each hour as the average of the previous 720 operating hours. Operation above the established maximum, below the established minimum, or outside the allowable range of 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 and fuels used to establish subcategory applicability (for energy recovery units) and operating limits during the performance test.

* * * * *

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

(g) You may elect to demonstrate continuous compliance with the carbon monoxide emission limit using a carbon monoxide CEMS 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. CEMS data during startup and shutdown, as defined in this subpart, are not corrected to 7 percent oxygen, and are measured at stack oxygen content. 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, including CEMS data during startup and shutdown as defined in this subpart, 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 CEMS 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) Coal and liquid/gas energy recovery units with average annual heat input rates greater than or equal to 250 MMBtu/hr may elect to demonstrate continuous compliance with the particulate matter emissions limit using a particulate matter CEMS according to the procedures in § 60.2165(n) instead of the particulate matter continuous parameter monitoring system (CPMS) specified in § 60.2145. Coal and liquid/gas energy recovery units with annual average heat input rates less than 250 MMBtu/hr, incinerators, and small remote incinerators may also elect to demonstrate compliance using a particulate matter CEMS according to the procedures in § 60.2165(n) instead of particulate matter testing with EPA Method 5 at 40 CFR part 60, appendix A–3 and, if applicable, the continuous opacity monitoring requirements in paragraph (i) of this section.

(i) For energy recovery units with annual average heat input rates greater than or equal to 10 MMBtu/hour and less than 250 MMBtu/hr, 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 CEMS if you do not use an acid gas wet scrubber or dry scrubber. You must determine compliance with nitrogen oxides, sulfur dioxide, and carbon monoxide using CEMS. You must determine compliance with particulate matter using CPMS. You must determine compliance with the mercury emissions limit using a mercury CEMS according to the following requirements:

(1) Operate a CEMS 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. You must demonstrate compliance with the mercury emissions limit using a 30-day rolling average of these 1-hour mercury concentrations, including CEMS data during startup and shutdown as defined in this subpart, 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. CEMS data during startup and shutdown, as defined in this subpart, are not corrected to 7 percent oxygen, and are measured at stack oxygen content.

(2) Owners or operators using a mercury CEMS 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 CEMS while the raw mill of the in-line kiln/raw mill is operating under normal conditions and including at least one period when the raw mill is off.

* * * * *

(m) * * *

(2) Use a flow sensor with a measurement sensitivity at full scale of no greater than 2 percent.

* * * * *

(n) * * *

(4) Perform checks at the frequency outlined in your site-specific monitoring plan to ensure pressure measurements are not obstructed (e.g., check for pressure tap pluggage daily).

* * * * *

(s) For facilities using a CEMS to demonstrate compliance with the sulfur dioxide emission limit, compliance with the sulfur dioxide emission limit may be demonstrated by using the CEMS specified in § 60.2165 to measure sulfur dioxide. CEMS data during startup and shutdown, as defined in this subpart, are not corrected to 7 percent oxygen, and are measured at stack oxygen content. You must calculate a 30-day rolling average of the 1-hour arithmetic average emission concentrations, including CEMS data during startup and shutdown as defined in this subpart, 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. The sulfur dioxide CEMS 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 CEMS 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 CEMS, whichever is greater.

(1) During each relative accuracy test run of the CEMS 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 CEMS and the test methods specified in paragraphs (s)(1)(i) and (ii) of this section.

* * * * *

(2) The span value of the CEMS 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 CEMS 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.

* * * * *

(t) For facilities using a CEMS to demonstrate continuous compliance with the nitrogen oxides emission limit, compliance with the nitrogen oxides emission limit may be demonstrated by using the CEMS specified in § 60.2165 to measure nitrogen oxides. CEMS data during startup and shutdown, as defined in this subpart, are not corrected to 7 percent oxygen, and are measured at stack oxygen content. You must calculate a 30-day rolling average of the 1-hour arithmetic average emission concentrations, including CEMS data during startup and shutdown as defined in this subpart, 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 CEMS 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 (5) of this section.

(1) During each relative accuracy test run of the CEMS 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 CEMS and the test methods specified in paragraphs (t)(1)(i) and (ii) of this section.

* * * * *

(u) For facilities using a CEMS 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 of 1-hour arithmetic average emission concentrations, including CEMS data during startup and shutdown as defined in this subpart, 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. CEMS data during startup and shutdown, as defined in the subpart, are not corrected to 7 percent oxygen, and are measured at stack oxygen content.

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

* * * * *

(w) For energy recovery units with a design heat input capacity of 100 MMBtu per hour or greater that do not use a carbon monoxide CEMS, you must install, operate, and maintain a oxygen analyzer system as defined in § 60.2265 according to the procedures in paragraphs (w)(1) through (4) of this section.

(1) The oxygen analyzer system must be installed by the initial performance test date specified in § 60.2675.

(2) You must operate the oxygen trim system within compliance with paragraph (w)(3) of this section at all times.

(3) You must maintain the oxygen level such that the 30-day rolling average that is established as the operating limit for oxygen is not below the lowest hourly average oxygen concentration measured during the most recent CO performance test.

(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.

(x) For energy recovery units with annual average heat input rates greater than or equal to 250 MMBtu/hour and waste-burning kilns, you must install, calibrate, maintain, and operate a PM CPMS and record the output of the system as specified in paragraphs (x)(1) through (8) of this section. For other energy recovery units, you may elect to use PM CPMS operated in accordance with this section. PM CPMS are suitable in lieu of using other CMS for monitoring PM compliance (e.g., bag leak detectors, ESP secondary power, PM scrubber pressure).

(1) Install, calibrate, operate, and maintain your PM CPMS according to the procedures in your approved site-specific monitoring plan developed in accordance with § 60.2145(l) and (x)(1)(i) through (iii) of this section.

(i) The operating principle of the PM CPMS must be based on in-stack or extractive light scatter, light scintillation, beta attenuation, or mass accumulation detection of the exhaust gas or representative sample. The reportable measurement output from the PM CPMS must be expressed as milliamps.

(ii) The PM CPMS must have a cycle time (i.e., period required to complete sampling, measurement, and reporting

for each measurement) no longer than 60 minutes.

(iii) The PM CPMS must be capable of detecting and responding to particulate matter concentrations of no greater than 0.5 mg/actual cubic meter.

(2) During the initial performance test or any such subsequent performance test that demonstrates compliance with the PM limit, you must adjust the site-specific operating limit in accordance with the results of the performance test according to the procedures specified in § 60.2110.

(3) Collect PM CPMS hourly average output data for all energy recovery unit or waste-burning kiln operating hours. Express the PM CPMS output as milliamps.

(4) Calculate the arithmetic 30-day rolling average of all of the hourly average PM CPMS output collected during all energy recovery unit or waste-burning kiln operating hours data (milliamps).

(5) You must collect data using the PM CPMS at all times the energy recovery unit or waste-burning kiln is operating and at the intervals specified in paragraph (x)(1)(ii) of this section, except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, required monitoring system quality assurance or quality control activities (including, as applicable, calibration checks and required zero and span adjustments), and any scheduled maintenance as defined in your site-specific monitoring plan.

(6) You must use all the data collected during all energy recovery unit or waste-burning kiln operating hours in assessing the compliance with your operating limit except:

(i) Any data collected during monitoring system malfunctions, repairs associated with monitoring system malfunctions, or required monitoring system quality assurance or quality control activities conducted during monitoring system malfunctions are not used in calculations (report any such periods in your annual deviation report);

(ii) Any data collected during periods when the monitoring system is out of control as specified in your site-specific monitoring plan, repairs associated with periods when the monitoring system is out of control, or required monitoring system quality assurance or quality control activities conducted during out-of-control periods are not used in calculations (report emissions or operating levels and report any such periods in your annual deviation report);

(iii) Any PM CPMS data recorded during periods of CEMS data during startup and shutdown, as defined in this subpart.

(7) You must record and make available upon request results of PM CPMS system performance audits, as well as the dates and duration of periods from when the PM CPMS is out of control until completion of the corrective actions necessary to return the PM CPMS to operation consistent with your site-specific monitoring plan.

(8) For any deviation of the 30-day rolling average PM CPMS average value from the established operating parameter limit, you must:

(i) Within 48 hours of the deviation, visually inspect the air pollution control device;

(ii) If inspection of the air pollution control device identifies the cause of the deviation, take corrective action as soon as possible and return the PM CPMS measurement to within the established value; and

(iii) Within 30 days of the deviation or at the time of the annual compliance test, whichever comes first, conduct a PM emissions compliance test to determine compliance with the PM emissions limit and to verify. Within 45 days of the deviation, you must re-establish the CPMS operating limit. You are not required to conduct additional testing for any deviations that occur between the time of the original deviation and the PM emissions compliance test required under this paragraph.

(iv) PM CPMS deviations leading to more than four required performance tests in a 12-month process operating period (rolling monthly) constitute a violation of this subpart.

■ 15. Section 60.2165 is amended by:
■ a. Revising paragraph (c).
■ b. Revising paragraphs (g) through (k).
■ c. Revising paragraphs (l)(1) and (2).
■ d. Revising paragraph (m) introductory text.
■ e. Revising paragraph (n) introductory text.
■ f. Removing paragraph (n)(14).
■ g. Revising paragraphs (n)(6), (n)(7), (n)(9) through (n)(11), (n)(12) introductory text, and (n)(12)(ii).
■ h. Revising paragraphs (o)(1) and (2).
■ i. Adding paragraphs (q), (r), and (s).

The revisions and additions read as follows:

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

* * * * *

(c) If you are using something other than a wet scrubber, activated carbon, selective non-catalytic reduction, an electrostatic precipitator, or a dry scrubber 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.

* * * * *

(g) For waste-burning kilns not equipped with a wet scrubber or dry 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 CEMS 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 or dry scrubber, a facility may substitute use of a hydrogen chloride CEMS for conducting the hydrogen chloride annual performance test, monitoring the minimum hydrogen chloride sorbent flow rate, monitoring the minimum scrubber liquor pH, and monitoring minimum injection rate.

(h) To demonstrate continuous compliance with the particulate matter emissions limit, a facility may substitute use of a particulate matter CEMS for conducting the PM annual performance test and using other CMS for monitoring PM compliance (e.g., bag leak detectors, ESP secondary power, PM scrubber pressure).

(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. This option to use a continuous automated sampling system takes effect on the date a final performance specification applicable to dioxin/furan from continuous monitors is published in the **Federal Register**. 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). A facility may substitute continuous dioxin/furan monitoring for the minimum sorbent flow rate, if activated carbon sorbent

injection is used solely for compliance with the dioxin/furan emission limit.

(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). A facility may substitute continuous mercury monitoring for the minimum sorbent flow rate, if activated carbon sorbent injection is used solely for compliance with the mercury emission limit.

(k) To demonstrate continuous compliance with the nitrogen oxides emissions limit, a facility may substitute use of a CEMS for the nitrogen oxides annual performance test to demonstrate compliance with the nitrogen oxides emissions limits and monitoring the charge rate, secondary chamber temperature, and reagent flow for selective noncatalytic reduction, if applicable.

(1) Install, calibrate, maintain, and operate a CEMS 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 CEMS.

(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 CEMS outlet data. The 1-hour arithmetic averages must be expressed in parts per million by volume corrected to 7 percent oxygen (dry basis) and used to calculate the 30-day rolling average concentrations. CEMS data during startup and shutdown, as defined in this subpart, are not corrected to 7 percent oxygen, and are measured at stack oxygen content. The 1-hour arithmetic averages must be calculated using the data points required under § 60.13(e)(2).

(l) * * *

(1) Install, calibrate, maintain, and operate a CEMS 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 CEMS.

(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 CEMS 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. CEMS data during startup and shutdown, as defined in this subpart, are not corrected to 7 percent oxygen, and are measured at stack oxygen content. 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 but less than 250 MMBtu/hr annual average heat input rates that do not use a wet scrubber, fabric filter with bag leak detection system, or particulate matter CEMS, 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 CEMS 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).

* * * * *

(n) For coal and liquid/gas energy recovery units, incinerators, and small remote incinerators, an owner or operator may elect to install, calibrate, maintain, and operate a CEMS 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 or, as applicable, monitor with a particulate matter CPMS according to paragraph (r) of this section, must install, calibrate, maintain, and operate a CEMS and must comply with the requirements specified in paragraphs (n)(1) through (13) of this section.

* * * * *

(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, if PM CEMS are elected for demonstrating compliance, must be determined by using the CEMS specified in this paragraph (n) to measure particulate matter. You must calculate a 30-day rolling average of 1-hour arithmetic average emission concentrations, including CEMS data during startup and shutdown, as defined in this subpart, 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 CEMS outlet data.

* * * * *

(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. CEMS data during startup and shutdown, as defined in this subpart, are not corrected to 7 percent oxygen, and are measured at stack oxygen content. The 1-hour arithmetic averages must be calculated using the data points required under § 60.13(e)(2).

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

(11) The CEMS must be operated according to performance specification 11 in appendix B of this part.

(12) During each relative accuracy test run of the CEMS 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 CEMS and the following test methods.

* * * * *

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

* * * * *

(o) * * *

(1) Install, calibrate, maintain, and operate a CEMS 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 CEMS.

(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 may be determined based on the 30-day rolling average of the hourly arithmetic average emission concentrations, including CEMS data during startup and shutdown as defined in this subpart, using CEMS outlet data. Except for CEMS data during startup and shutdown, as defined in this subpart, 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. CEMS data during startup and shutdown, as defined in this subpart, are not corrected to 7 percent oxygen, and are measured at stack oxygen content. The 1-hour arithmetic averages must be calculated using the data points required under § 60.13(e)(2).

* * * * *

(q) For energy recovery units with a design heat input capacity of 100 MMBtu per hour or greater that do not use a carbon monoxide CEMS, you must install, operate, and maintain a oxygen analyzer system as defined in § 60.2265 according to the procedures in paragraphs (q)(1) through (4) of this section.

(1) The oxygen analyzer system must be installed by the initial performance test date specified in § 60.2675.

(2) You must operate the oxygen trim system within compliance with paragraph (q)(3) of this section at all times.

(3) You must maintain the oxygen level such that the 30-day rolling average that is established as the operating limit for oxygen according to paragraph (q)(4) or this section is not below the lowest hourly average oxygen concentration measured during the most recent CO performance test.

(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.

(r) For energy recovery units with annual average heat input rates greater than or equal to 250 MMBtu/hour and waste-burning kilns, you must install, calibrate, maintain, and operate a PM CPMS and record the output of the system as specified in paragraphs (r)(1) through (8) of this section. If you elect to use a particulate matter CEMS as specified in paragraph (n) of this section, you are not required to use a PM CPMS to monitor particulate matter emissions. For other energy recovery units, you may elect to use PM CPMS operated in accordance with this section. PM CPMS are suitable in lieu of using other CMS for monitoring PM compliance (e.g., bag leak detectors, ESP secondary power, PM scrubber pressure).

(1) Install, calibrate, operate, and maintain your PM CPMS according to the procedures in your approved site-specific monitoring plan developed in accordance with § 60.2145(l) and (r)(1)(i) through (iii) of this section.

(i) The operating principle of the PM CPMS must be based on in-stack or extractive light scatter, light scintillation, beta attenuation, or mass accumulation detection of PM in the exhaust gas or representative sample. The reportable measurement output from the PM CPMS must be expressed as milliamps.

(ii) The PM CPMS must have a cycle time (i.e., period required to complete sampling, measurement, and reporting for each measurement) no longer than 60 minutes.

(iii) The PM CPMS must be capable of detecting and responding to particulate matter concentrations of no greater than 0.5 mg/actual cubic meter.

(2) During the initial performance test or any such subsequent performance test that demonstrates compliance with the PM limit, you must adjust the site-specific operating limit in accordance with the results of the performance test according to the procedures specified in § 60.2110.

(3) Collect PM CPMS hourly average output data for all energy recovery unit or waste-burning kiln operating hours. Express the PM CPMS output as milliamps.

(4) Calculate the arithmetic 30-day rolling average of all of the hourly average PM CPMS output collected during all energy recovery unit or waste-burning kiln operating hours data (milliamps).

(5) You must collect data using the PM CPMS at all times the energy recovery unit or waste-burning kiln is operating and at the intervals specified in paragraph (r)(1)(ii) of this section, except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, required monitoring system quality assurance or quality control activities (including, as applicable, calibration checks and required zero and span adjustments), and any scheduled maintenance as defined in your site-specific monitoring plan.

(6) You must use all the data collected during all energy recovery unit or waste-burning kiln operating hours in assessing the compliance with your operating limit except:

(i) Any data collected during monitoring system malfunctions, repairs associated with monitoring system malfunctions, or required monitoring system quality assurance or quality control activities conducted during monitoring system malfunctions are not used in calculations (report any such periods in your annual deviation report);

(ii) Any data collected during periods when the monitoring system is out of control as specified in your site-specific monitoring plan, repairs associated with periods when the monitoring system is out of control, or required monitoring system quality assurance or quality control activities conducted during out-of-control periods are not used in calculations (report emissions or operating levels and report any such periods in your annual deviation report);

(iii) Any PM CPMS data recorded during periods of CEMS data during startup and shutdown, as defined in this subpart.

(7) You must record and make available upon request results of PM CPMS system performance audits, as well as the dates and duration of periods from when the PM CPMS is out of control until completion of the corrective actions necessary to return the PM CPMS to operation consistent with your site-specific monitoring plan.

(8) For any deviation of the 30-day rolling average PM CPMS average value from the established operating parameter limit, you must:

(i) Within 48 hours of the deviation, visually inspect the air pollution control device;

(ii) If inspection of the air pollution control device identifies the cause of the deviation, take corrective action as soon as possible and return the PM CPMS

measurement to within the established value; and

(iii) Within 30 days of the deviation or at the time of the annual compliance test, whichever comes first, conduct a PM emissions compliance test to determine compliance with the PM emissions limit and to verify. Within 45 days of the deviation, you must re-establish the CPMS operating limit. You are not required to conduct additional testing for any deviations that occur between the time of the original deviation and the PM emissions compliance test required under this paragraph.

(iv) PM CPMS deviations leading to more than four required performance tests in a 12-month process operating period (rolling monthly) constitute a violation of this subpart.

(s) If you use a dry scrubber to comply with the emission limits of this subpart, you must monitor the injection rate of each sorbent and maintain the 3-hour block averages at or above the operating limits established during the hydrogen chloride performance test.

■ 16. Section 60.2170 is amended by revising paragraph (b) to read as follows:

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

* * * * *

(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.

* * * * *

■ 17. Section 60.2175 is amended by:

■ a. Revising the introductory text.

■ b. Revising paragraph (b)(5).

■ c. Revising paragraph (e).

■ d. Revising paragraph (p)(4).

■ e. Adding paragraphs (p)(8) and (p)(9).

■ f. Revising paragraphs (v) and (w).

■ g. Adding paragraph (x).

The revisions and additions read as follows:

§ 60.2175 What records must I keep?

You must maintain the items (as applicable) as specified in paragraphs (a), (b), and (e) through (x) 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 (g) or § 60.2115, you must maintain data collected for all operating parameters used to determine compliance with the operating limits. For energy recovery units using activated carbon injection or a dry scrubber, you must also maintain records of the load fraction and corresponding sorbent injection rate records.

* * * * *

(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 (g) or § 60.2115 with a description of the deviations, reasons for such deviations, and a description of corrective actions taken.

* * * * *

(p) * * *

(4) All 1-hour average concentrations of carbon monoxide emissions. You must indicate which data are CEMS data during startup and shutdown.

* * * * *

(8) All 1-hour average percent oxygen concentrations.

(9) All 1-hour average PM CPMS readings or particulate matter CEMS outputs.

* * * * *

(v) For operating units that combust non-hazardous secondary materials that have been determined not to be solid waste pursuant to § 241.3(b)(1) of this chapter, you must keep a record which documents how the secondary material meets each of the legitimacy criteria under § 241.3(d)(1). If you combust a fuel that has been processed from a discarded non-hazardous secondary material pursuant to § 241.3(b)(4) of this chapter, you must keep records as to how the operations that produced the fuel satisfies the definition of processing in § 241.2 and each of the legitimacy criteria of § 241.3(d)(1) of this chapter. If the fuel received a non-waste determination pursuant to the petition process submitted under § 241.3(c) of this chapter, you must keep a record that documents how the fuel satisfies the requirements of the petition process. For operating units that combust non-hazardous secondary materials as fuel per § 241.4, you must keep records documenting that the material is a listed non-waste under § 241.4(a).

(w) Records of the criteria used to establish that the unit qualifies as a small power production facility under section 3(17)(C) of the Federal Power Act (16 U.S.C. 796(17)(C)) and that the waste material the unit is proposed to burn is homogeneous.

(x) Records of the criteria used to establish that the unit qualifies as a cogeneration facility under section 3(18)(B) of the Federal Power Act (16 U.S.C. 796(18)(B)) and that the waste material the unit is proposed to burn is homogeneous.

■ 18. Section 60.2210 is amended by revising paragraph (m) introductory text and paragraph (n) to read as follows:

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

* * * * *

(m) If there were periods during which the continuous monitoring system, including the CEMS, 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.

* * * * *

(n) If there were periods during which the continuous monitoring system, including the CEMS, 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.

* * * * *

■ 19. 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) Submit results of performance tests and CEMS performance evaluation tests as follows.

(1) Within 60 days after the date of completing each performance test as required by this subpart, you must submit the results of the performance tests required by this subpart to EPA's WebFIRE database by using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX)(*www.epa.gov/cdx*). Performance test data must be submitted in the file format generated through use of EPA's Electronic Reporting Tool (ERT) (see *http://www.epa.gov/ttn/chief/ert/index.html*). Only data collected using test methods on the ERT Web site are subject to this requirement for submitting reports electronically to WebFIRE. Owners or operators who claim that some of the information being

submitted for performance tests is confidential business information (CBI) must submit a complete ERT file including information claimed to be CBI on a compact disk, flash drive, or other commonly used electronic storage media to EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAPQS/CORE CBI Office, Attention: WebFIRE Administrator, MD C404–02, 4930 Old Page Rd., Durham, NC 27703. The same ERT file with the CBI omitted must be submitted to EPA via CDX as described earlier in this paragraph. At the discretion of the delegated authority, you must also submit these reports, including the confidential business information, to the delegated authority in the format specified by the delegated authority. For any performance test conducted using test methods that are not listed on the ERT Web site, the owner or operator shall submit the results of the performance test in paper submissions to the Administrator.

(2) Within 60 days after the date of completing each CEMS performance evaluation test, as defined in this subpart and required by this subpart, you must submit the relative accuracy test audit (RATA) data electronically into EPA's Central Data Exchange by using CEDRI as mentioned in paragraph (b)(1) of this section. Only RATA pollutants that can be documented with the ERT (as listed on the ERT Web site) are subject to this requirement. For any performance evaluations with no corresponding RATA pollutants listed on the ERT Web site, the owner or operator shall submit the results of the performance evaluation in paper submissions to the Administrator.

■ 20. Section 60.2265 is amended by:

■ a. Adding in alphabetical order definitions for ''30-day rolling average,'' ''Annual heat input,'' ''Average annual heat input rate,'' ''CEMS data during startup and shutdown,'' ''Contained gaseous material,'' ''Continuous emission monitoring system,'' ''Dry scrubber,'' ''Foundry sand thermal reclamation unit,'' ''Load fraction,'' ''Municipal solid waste or municipal type solid waste,'' ''Oxygen analyzer system,'' ''Oxygen trim system,'' ''Responsible official,'' and ''Solid waste.''

■ b. Revising definitions for ''Chemical recovery unit,'' ''Commercial and industrial solid waste incineration (CISWI) unit,'' ''Continuous monitoring system (CMS),'' ''Cyclonic burn barrel,'' ''Energy recovery unit,'' ''Energy recovery unit designed to burn biomass (Biomass),'' ''Incinerator,'' ''Modification or modified CISWI unit,'' ''Process change,'' ''Raw mill,'' ''Small, remote incinerator,'' ''Soil treatment unit,'' ''Solid waste incineration unit,'' ''Space heater,'' and ''Waste-burning kiln.''

■ c. Removing the definition for ''Homogeneous wastes'' and ''Cyclonic barrel burner.''

The revisions and additions read as follows:

§ 60.2265 What definitions must I know?

* * * * *

30-day rolling average means the arithmetic mean of the previous 720 hours of valid operating data. Valid data excludes periods when this unit is not operating. The 720 hours should be consecutive, but not necessarily continuous if operations are intermittent.

* * * * *

Annual heat input means the heat input for the 12 months preceding the compliance demonstration.

* * * * *

Average annual heat input rate means annual heat input divided by the hours of operation for the 12 months preceding the compliance demonstration.

* * * * *

CEMS data during startup and shutdown means the following:

(1) For incinerators, small remote incinerators, and energy recovery units: CEMS data collected during the first hours of a CISWI unit startup from a cold start until waste is fed to the unit and the hours of operation following the cessation of waste material being fed to the CISWI unit during a unit shutdown. For each startup event, the length of time that CEMS data may be claimed as being CEMS data during startup must be 48 operating hours or less. For each shutdown event, the length of time that CEMS data may be claimed as being CEMS data during shutdown must be 24 operating hours or less.

(2) For waste-burning kilns: CEMS data collected during the periods of kiln operation that do not include normal operations. Startup begins when the kiln's induced fan is turned on and continues until continuous feed is introduced into the kiln, at which time the kiln is in normal operating mode. Shutdown begins when feed to the kiln is halted.

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 § 60.2175(v), 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.

Contained gaseous material means gases that are in a container when that container is combusted.

Continuous emission monitoring system (CEMS) means the total equipment that may be required to meet

the data acquisition and availability requirements of this subpart, used to sample, condition (if applicable), analyze, and provide a record of emissions.

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. A particulate matter continuous parameter monitoring system (PM CPMS) is a type of CMS.

Cyclonic burn barrel means a combustion device for waste materials that is attached to a 55 gallon, open-head 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, a waste-burning kiln, an energy recovery unit or a small, remote incinerator under this subpart.

* * * * *

Dry scrubber means an add-on air pollution control system that injects dry alkaline sorbent (dry injection) or sprays an alkaline sorbent (spray dryer) to react with and neutralize acid gas in the exhaust stream forming a dry powder material. Sorbent injection systems in fluidized bed boilers and process heaters are included in this definition. A dry scrubber is a dry control system.

* * * * *

Energy recovery unit means a combustion unit combusting solid waste (as that term is defined by the Administrator in 40 CFR part 241) 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, biomass, and non-coal solid materials 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.

* * * * *

Foundry sand thermal reclamation unit means a type of part reclamation unit that removes coatings that are on foundry sand. A foundry sand thermal reclamation unit is not an incinerator, a waste-burning kiln, an energy recovery unit or a small, remote incinerator under this subpart.

Incinerator means any furnace used in the process of combusting solid waste (as that term is defined by the Administrator in 40 CFR part 241) for the purpose of reducing the volume of the waste by removing combustible matter. Incinerator designs include single chamber and two-chamber.

* * * * *

Load fraction means the actual heat input of an energy recovery unit divided by heat input during the performance test that established the minimum sorbent injection rate or minimum activated carbon injection rate, expressed as a fraction (e.g., for 50 percent load the load fraction is 0.5).

* * * * *

Modification or *modified CISWI unit* means a CISWI unit that has been changed later than August 7, 2013 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.

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

* * * * *

Oxygen analyzer system means all equipment required to determine the oxygen content of a gas stream and used to monitor oxygen in the boiler or process heater flue gas, boiler or process heater, firebox, or other appropriate location. This definition includes oxygen trim systems and certified oxygen CEMS. The source owner or operator is responsible to install, calibrate, maintain, and operate the oxygen analyzer system in accordance with the manufacturer's recommendations.

Oxygen trim system means a system of monitors that is used to maintain excess air at the desired level in a combustion device. A typical system consists of a flue gas oxygen and/or carbon monoxide monitor that automatically provides a feedback signal to the combustion air controller.

* * * * *

Process change means any of the following physical or operational changes:

(1) A physical change (maintenance activities excluded) to the CISWI unit which may increase the emission rate of any air pollutant to which a standard applies;

(2) An operational change to the CISWI unit where a new type of non-hazardous secondary material is being combusted;

(3) A physical change (maintenance activities excluded) to the air pollution control devices used to comply with the emission limits for the CISWI unit (e.g., replacing an electrostatic precipitator with a fabric filter);

(4) An operational change to the air pollution control devices used to comply with the emission limits for the affected CISWI unit (e.g., change in the sorbent injection rate used for activated carbon injection).

* * * * *

Raw mill means a ball or 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.

* * * * *

Responsible official means one of the following:

(1) For a corporation: A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized

representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either:

(i) The facilities employ more than 250 persons or have gross annual sales or expenditures exceeding $25 million (in second quarter 1980 dollars); or

(ii) The delegation of authority to such representatives is approved in advance by the permitting authority;

(2) For a partnership or sole proprietorship: A general partner or the proprietor, respectively;

(3) For a municipality, State, Federal, or other public agency: Either a principal executive officer or ranking elected official. For the purposes of this part, a principal executive officer of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., a Regional Administrator of EPA); or

(4) For affected facilities:

(i) The designated representative in so far as actions, standards, requirements, or prohibitions under Title IV of the Clean Air Act or the regulations promulgated thereunder are concerned; or

(ii) The designated representative for any other purposes under part 60.

* * * * *

Small, remote incinerator means an incinerator that combusts solid waste (as that term is defined by the Administrator in 40 CFR part 241) 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, a waste-burning kiln, an energy recovery unit or a small, remote incinerator under this subpart.

Solid waste means the term solid waste as defined in 40 CFR 241.2.

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 in 40 CFR part 241) 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:

(1) Materials recovery facilities (including primary or secondary smelters) which combust waste for the primary purpose of recovering metals;

(2) 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

(3) 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 unit that meets the requirements of 40 CFR 279.23. A space heater is not an incinerator, a waste-burning kiln, an energy recovery unit or a small, remote incinerator under this subpart.

* * * * *

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 in 40 CFR part 241). Secondary materials used in Portland cement kilns shall not be deemed to be combusted unless they are introduced into the flame zone in the hot end of the kiln or mixed with the precalciner fuel.

* * * * *

■ 21. Table 1 to subpart CCCC of part 60 is amended by:

■ a. Revising the table heading.

■ b. Revising the entry for ''Carbon monoxide''.

■ c. Revising the entry for ''Dioxin/Furan (toxic equivalency basis)''.

■ d. Revising the entry for ''Hydrogen Chloride''.

■ e. Revising the entry for ''Nitrogen Oxides''.

■ f. Revising the entry for ''Sulfur Dioxide''.

The revisions 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 AUGUST 7, 2013

For the air pollutant	You must meet this emission limitation [a]	Using this averaging time	And determining compliance using this method
*	*	*	*
Carbon monoxide	157 parts per million by dry volume.	3-run average (1 hour minimum sample time per run)	Performance test (Method 10 at 40 CFR part 60, appendix A–4).
Dioxin/Furan (toxic equivalency basis).	0.41 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).
Hydrogen chloride ...	62 parts per million by dry volume.	3-run average (For Method 26, collect a minimum volume of 120 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).
*	*	*	*
Nitrogen Oxides	388 parts per million by dry volume.	3-run average (for Method 7E, 1 hour minimum sample time per run).	Performance test (Method 7 or 7E at 40 CFR part 60, appendix A–4).

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 AUGUST 7, 2013—Continued

For the air pollutant	You must meet this emission limitation [a]	Using this averaging time	And determining compliance using this method
*	* *	* * *	*
Sulfur Dioxide	20 parts per million by dry volume.	3-run average (For Method 6, collect a minimum volume of 20 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).

[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.

* * * * *

■ 22. Table 2 to subpart CCCC of part 60 is amended by revising footnote a to read as follows:

Table 2 to Subpart CCCC of Part 60—Operating Limits for Wet Scrubbers

* * * * *

[a] Calculated each hour as the average of the previous 3 operating hours.

■ 23. Table 5 to subpart CCCC of part 60 is amended by:

■ a. Revising the table heading.

■ b. Revising the entry for ''Carbon Monoxide''.

■ c. Revising the entry for ''Dioxin/furan (Total Mass Basis)''.

■ d. Revising the entry for ''Hydrogen chloride''.

■ e. Revising the entry for ''Lead''.

■ f. Revising the entry for ''Mercury''.

■ g. Revising the entry for ''Nitrogen Oxides''.

■ h. Revising the entry for ''Sulfur dioxide''.

■ i. Adding footnote c.

The revisions and addition 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 AUGUST 7, 2013

For the air pollutant	You must meet this emission limitation [a]	Using this averaging time	And determining compliance using this method
*	* *	* * *	*
Carbon monoxide	17 parts per million by dry volume.	3-run average (1 hour minimum sample time per run)	Performance test (Method 10 at 40 CFR part 60, appendix A–4).
Dioxin/furan (Total Mass Basis).	0.58 nanograms per dry standard cubic meter [c].	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).
*	* *	* * *	*
Hydrogen chloride ...	0.091 parts per million by dry volume.	3-run average (For Method 26, collect a minimum volume of 360 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	0.015 milligrams per dry standard cubic meter [c].	3-run average (collect a minimum volume of 4 dry standard cubic meters per run).	Performance test (Method 29 of appendix A–8 at 40 CFR part 60). Use ICPMS for the analytical finish.
Mercury	0.00084 milligrams per dry standard cubic meter [c].	3-run average (collect enough volume to meet a detection limit data quality objective of 0.03 ug/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 (for Method 7E, 1 hour minimum sample time per run).	Performance test (Method 7 or 7E at 40 CFR part 60, appendix A–4).
*	* *	* * *	*
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).
*	* *	* * *	*

[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.
[c] If you are conducting stack tests to demonstrate compliance and your performance tests for this pollutant for at least 2 consecutive years show that your emissions are at or below this limit, you can skip testing according to § 60.2155 if all of the other provisions of § 60.2155 are met. For all other pollutants that do not contain a footnote "c", your performance tests for this pollutant for at least 2 consecutive years must show that your emissions are at or below 75 percent of this limit in order to qualify for skip testing.

■ 24. Table 6 to subpart CCCC of part 60 is amended by:

■ a. Revising the table heading.

■ b. Revising the entry for ''Cadmium''.

■ c. Revising the entry for ''Carbon monoxide''.

■ d. Revising the entry for ''Dioxins/furans (Total Mass Basis)''.

■ e. Revising the entry for ''Dioxins/furans (toxic equivalency basis)''.

■ f. Revising the entry for ''Hydrogen chloride''.

■ g. Revising the entry for ''Lead''.

■ h. Revising the entry for ''Mercury''.

■ i. Revising the entry for ''Oxides of nitrogen''.

■ j. Revising the entry for ''Particulate matter (filterable)''.

■ k. Revising the entry for ''Sulfur dioxide''.

■ l. Adding footnote c.

The revisions and addition 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 AUGUST 7, 2013

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.	Biomass—0.0014 milligrams per dry standard cubic meter. [c] Coal—0.0095 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	35 parts per million dry volume.	Biomass—240 parts per million dry volume. Coal—95 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).
Dioxin/furans (Total Mass Basis)	No Total Mass Basis limit, must meet the toxic equivalency basis limit below.	Biomass—0.52 nanograms per dry standard cubic meter. [c] Coal—5.1 nanograms per dry standard cubic meter. [c]	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).	0.093 nanograms per dry standard cubic meter. [c]	Biomass—0.076 nanograms per dry standard cubic meter. [c] Coal—0.075 nanograms per dry standard cubic meter. [c]	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).
Hydrogen chloride	14 parts per million dry volume.	Biomass—0.20 parts per million dry volume. Coal—13 parts per million dry volume.	3-run average (For Method 26, collect a minimum volume of 360 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.	Biomass—0.014 milligrams per dry standard cubic meter. [c] Coal—0.14 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	0.00056 milligrams per dry standard cubic meter. [c]	Biomass—0.0022 milligrams per dry standard cubic meter. Coal—0.016 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 (for Method 7E, 1 hour minimum sample time per run).	Performance test (Method 7 or 7E at 40 CFR part 60, appendix A–4).

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 AUGUST 7, 2013—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.	Biomass—5.1 milligrams per dry standard cubic meter. Coal—160 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 an annual average heat input rate less than 250 MMBtu/hr; or PM CPMS (as specified in § 60.2145(x)) if the unit has an annual average heat input rate equal to or greater than 250 MMBtu/hr.
Sulfur dioxide	720 parts per million dry volume.	Biomass—7.3 parts per million dry volume. Coal—650 parts per million dry volume.	3-run average (for Method 6, collect a minimum of 60 liters, for Method 6C,1 hour minimum sample time per run).	Performance test (Method 6 or 6C at 40 CFR part 60, appendix A–4).

[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.
[c] If you are conducting stack tests to demonstrate compliance and your performance tests for this pollutant for at least 2 consecutive years show that your emissions are at or below this limit, you can skip testing according to § 60.2155 if all of the other provisions of § 60.2155 are met. For all other pollutants that do not contain a footnote "c", your performance tests for this pollutant for at least 2 consecutive years must show that your emissions are at or below 75 percent of this limit in order to qualify for skip testing.

■ 25. Table 7 to Subpart CCCC of part 60 is revised 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 AUGUST 7, 2013

For the air pollutant	You must meet this emission limitation [a]	Using this averaging time	And determining compliance using this method
Cadmium	0.0014 milligrams per dry standard cubic meter. [b]	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	90 (long kilns)/190 (preheater/precalciner) 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).
Dioxins/furans (total mass basis)	0.51 nanograms per dry standard cubic meter. [b]	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).	0.075 nanograms per dry standard cubic meter. [b]	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. [b]	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 or dry scrubber is not used.
Lead	0.014 milligrams per dry standard cubic meter. [b]	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.

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 AUGUST 7, 2013—Continued

For the air pollutant	You must meet this emission limitation [a]	Using this averaging time	And determining compliance using this method
Mercury	0.0037 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 parts per million dry volume	30-day rolling average	NOx CEMS (performance specification 2 of appendix B and procedure 1 of appendix F of this part).
Particulate matter (filterable)	2.2 milligrams per dry standard cubic meter.	30-day rolling average	PM CPMS (as specified in § 60.2145(x)).
Sulfur dioxide	28 parts per million dry volume	30-day rolling average	Sulfur dioxide CEMS (performance specification 2 of appendix B and procedure 1 of appendix F of this part).

[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] If you are conducting stack tests to demonstrate compliance and your performance tests for this pollutant for at least 2 consecutive years show that your emissions are at or below this limit, you can skip testing according to § 60.2155 if all of the other provisions of § 60.2155 are met. For all other pollutants that do not contain a footnote "b", your performance tests for this pollutant for at least 2 consecutive years must show that your emissions are at or below 75 percent of this limit in order to qualify for skip testing.

■ 26. Table 8 to Subpart CCCC of part 60 is revised 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 AUGUST 7, 2013

For the air pollutant	You must meet this emission limitation [a]	Using this averaging time	And determining compliance using this method
Cadmium	0.67 milligrams per dry standard cubic meter.	3-run average (collect a minimum volume of 1 dry standard cubic meters per run).	Performance test (Method 29 at 40 CFR part 60, appendix A–8).
Carbon monoxide	13 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).
Dioxins/furans (total mass basis)	1,800 nanograms per dry standard cubic meter. [b]	3-run average (collect a minimum volume of 1 dry standard cubic meters 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. [b]	3-run average (collect a minimum volume of 1 dry standard cubic meters).	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 emissions 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	2.0 milligrams per dry standard cubic meter.	3-run average (collect a minimum volume of 1 dry standard cubic meters).	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]

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 AUGUST 7, 2013—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	170 parts per million dry volume	3-run average (for Method 7E, 1 hour minimum sample time per run).	Performance test (Method 7 or 7E at 40 CFR part 60, appendix A–4).
Particulate matter (filterable)	270 milligrams per dry standard cubic meter.	3-run average (collect a minimum volume of 1 dry standard cubic meters).	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).
*	*	*	*	*	*	*

[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.

Subpart DDDD—[Amended]

■ 27. Section 60.2505 is amended by:
■ a. Revising paragraph (a).
■ b. Revising paragraph (c).
■ c. Revising paragraph (d).
The revisions 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 meet the criteria in paragraphs (b) through (d) of this section, you must submit a state plan to U.S. Environmental Protection Agency (EPA) that implements the emission guidelines contained in this subpart.

* * * * *

(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 February 7, 2014 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 August 7, 2013.

(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 February 7, 2014, for CISWI units other than incinerator units that commenced construction on or before June 4, 2010, or commenced modification or reconstruction after June 4, 2010 but no later than August 7, 2013.

■ 28. Section 60.2525 is amended by revising paragraph (b) to read as follows:

§ 60.2525 What if my state plan is not approvable?

* * * * *

(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 on or before 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.

* * * * *

■ 29. Section 60.2535 is amended by:
■ a. Revising paragraph (a) introductory text.
■ b. Revising paragraph (b) introductory text.
■ c. Revising paragraph (b)(1).
The revisions read as follows:

§ 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 small remote incinerator, energy recovery unit, and waste-burning kiln 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 (2) of this section.

(1) February 7, 2018.

* * * * *

■ 30. Section 60.2545 is amended by revising paragraph (c) to read as follows:

§ 60.2545 Does this subpart directly affect CISWI unit owners and operators in my state?

* * * * *

(c) If you do not submit an approvable plan to implement and enforce the guidelines contained in this subpart by February 7, 2014, for CISWI units that commenced construction 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 on or before June 4, 2010, reaches compliance with all the provisions of this subpart by February 7, 2018.

■ 31. 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) CISWI units in your state that commenced construction on or before June 4, 2010, or commenced modification or reconstruction after

June 4, 2010 but no later than August 7, 2013.

* * * * *

■ 32. Section 60.2555 is amended by:
■ a. Revising paragraph (c).
■ b. Revising paragraph (e)(3).
■ c. Adding paragraph (e)(4).
■ d. Revising paragraph (f)(3).
■ e. Adding paragraph (f)(4).
■ f. Revising paragraph (n).
■ g. Adding paragraph (o).

The revisions and additions read as follows:

§ 60.2555 What combustion units are exempt from my state plan?

* * * * *

(c) *Municipal waste combustion units.* Incineration units that are subject to 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 documentation to the Administrator notifying the Agency that the qualifying small power production facility is combusting homogenous waste.

(4) You maintain the records specified in § 60.2740(v).

(f) * * *

(3) You submit documentation to the Administrator notifying the Agency that the qualifying cogeneration facility is combusting homogenous waste.

(4) You maintain the records specified in § 60.2740(w).

* * * * *

(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).

(o) *Other solid waste incineration units.* Incineration units that are subject to subpart EEEE of this part (Standards of Performance for Other Solid Waste Incineration Units) or subpart FFFF of this part (Emission Guidelines and Compliance Times for Other Solid Waste Incineration Units).

■ 33. Section 60.2675 is amended by:
■ a. Revising paragraph (a)(2).
■ b. Revising paragraph (e).
■ c. Revising paragraph (f).
■ d. Redesignating paragraph (g) as paragraph (h).
■ e. Adding new paragraph (g).
■ f. Adding paragraph (i).

The revisions and addition read as follows:

§ 60.2675 What operating limits must I meet and by when?

(a) * * *

(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 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.

* * * * *

(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. For energy recovery units, when your unit operates at lower loads, multiply your sorbent injection rate by the load fraction, as defined in this subpart, to determine the required injection rate (e.g., for 50 percent load, multiply the injection rate operating limit by 0.5).

(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 highest 1-hour average charge rate, lowest secondary chamber temperature, and lowest reagent flow rate measured during the most recent performance test demonstrating compliance with the nitrogen oxides emission limitations.

(g) If you use a dry scrubber to comply with the emission limitations, you must measure the injection rate of each sorbent during the performance testing. The operating limit for the injection rate of each sorbent is calculated as the lowest 1-hour average injection rate of each sorbent measured during the most recent performance test demonstrating compliance with the hydrogen chloride emission limitations. For energy recovery units, when your unit operates at lower loads, multiply your sorbent injection rate by the load fraction, as defined in this subpart, to determine the required injection rate (e.g., for 50 percent load, multiply the injection rate operating limit by 0.5).

(h) 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 CEMS, you must maintain opacity to less than or equal to ten percent opacity (1-hour block average).

(i) If you use a PM CPMS to demonstrate compliance, you must establish your PM CPMS operating limit and determine compliance with it according to paragraphs (i)(1) through (5) of this section.

(1) During the initial performance test or any such subsequent performance test that demonstrates compliance with the PM limit, record all hourly average output values (milliamps) from the PM CPMS for the periods corresponding to the test runs (e.g., three 1-hour average PM CPMS output values for three 1-hour test runs).

(i) Your PM CPMS must provide a 4–20 milliamp output and the establishment of its relationship to manual reference method measurements must be determined in units of milliamps.

(ii) Your PM CPMS operating range must be capable of reading PM concentrations from zero to a level equivalent to at least two times your allowable emission limit. If your PM CPMS is an auto-ranging instrument capable of multiple scales, the primary range of the instrument must be capable of reading PM concentration from zero to a level equivalent to two times your allowable emission limit.

(iii) During the initial performance test or any such subsequent performance test that demonstrates compliance with the PM limit, record and average all milliamp output values from the PM CPMS for the periods corresponding to the compliance test runs (e.g., average all your PM CPMS output values for three corresponding 2-hour Method 5I test runs).

(2) If the average of your three PM performance test runs are below 75% of your PM emission limit, you must calculate an operating limit by establishing a relationship of PM CPMS signal to PM concentration using the PM CPMS instrument zero, the average PM

CPMS values corresponding to the three compliance test runs, and the average PM concentration from the Method 5 or performance test with the procedures in (i)(1)through (5) of this section.

(i) Determine your instrument zero output with one of the following procedures:

(A) Zero point data for *in-situ* instruments should be obtained by removing the instrument from the stack and monitoring ambient air on a test bench.

(B) Zero point data for extractive instruments should be obtained by removing the extractive probe from the stack and drawing in clean ambient air.

(C) The zero point can also can be established obtained by performing manual reference method measurements when the flue gas is free of PM emissions or contains very low PM concentrations (*e.g.,* when your process is not operating, but the fans are operating or your source is combusting only natural gas) and plotting these with the compliance data to find the zero intercept.

(D) If none of the steps in paragraphs (i)(2)(i) through (iv) of this section are possible, you must use a zero output value provided by the manufacturer.

(ii) Determine your PM CPMS instrument average in milliamps, and the average of your corresponding three PM compliance test runs, using equation 5.

$$\bar{x} = \frac{1}{n}\sum_{i=1}^{n} X_1 \,, \bar{y} = \frac{1}{n}\sum_{i=1}^{n} Y_1 \qquad \text{(Eq. 5)}$$

Where:

X_1 = the PM CPMS data points for the three runs constituting the performance test,

Y_1 = the PM concentration value for the three runs constituting the performance test, and

n = the number of data points.

(iii) With your instrument zero expressed in milliamps, your three run average PM CPMS milliamp value, and your three run average PM concentration from your three compliance tests, determine a relationship of lb/Mmbtu per milliamp with equation 6.

$$R = \frac{Y_1}{(X_1 - z)} \qquad \text{(Eq. 6)}$$

Where:

R = the relative mg/dscm per milliamp for your PM CPMS,

Y_1 = the three run average mg/dscm PM concentration,

X_1 = the three run average milliamp output from you PM CPMS, and

z = the milliamp equivalent of your instrument zero determined from (2)(i).

(iv) Determine your source specific 30-day rolling average operating limit using the mg/dscm per milliamp value from Equation 6 in equation 7, below. This sets your operating limit at the PM CPMS output value corresponding to 75% of your emission limit.

$$O_l = z + \frac{0.75(L)}{R} \qquad \text{(Eq. 7)}$$

Where:

O_l = the operating limit for your PM CPMS on a 30-day rolling average, in milliamps.

L = your source emission limit expressed in lb/Mmbtu,

z = your instrument zero in milliamps, determined from (2)(a), and

R = the relative mg/dscm per milliamp for your PM CPMS, from Equation 3.

(3) If the average of your three PM compliance test runs is at or above 75% of your PM emission limit you must determine your operating limit by averaging the PM CPMS milliamp output corresponding to your three PM performance test runs that demonstrate compliance with the emission limit using equation 8 and you must submit all compliance test and PM CPMS data according to the reporting requirements in paragraph (i)(5) of this section.

$$O_h = \frac{1}{n}\sum_{i=1}^{n} X_1 \qquad \text{(Eq. 8)}$$

Where:

X_1 = the PM CPMS data points for all runs i,

n = the number of data points, and

O_h = your site specific operating limit, in milliamps.

(4) To determine continuous compliance, you must record the PM CPMS output data for all periods when the process is operating and the PM CPMS is not out-of-control. You must demonstrate continuous compliance by using all quality-assured hourly average data collected by the PM CPMS for all operating hours to calculate the arithmetic average operating parameter in units of the operating limit (e.g., milliamps, PM concentration, raw data signal) on a 30-day rolling average basis.

(5) For PM performance test reports used to set a PM CPMS operating limit, the electronic submission of the test report must also include the make and model of the PM CPMS instrument, serial number of the instrument, analytical principle of the instrument (e.g., beta attenuation), span of the instruments primary analytical range, milliamp value equivalent to the instrument zero output, technique by which this zero value was determined, and the average milliamp signals corresponding to each PM compliance test run.

■ 34. Section 60.2680 is amended by revising the section heading and paragraph (a) introductory text to read as follows:

§ 60.2680 What if I do not use a wet scrubber, fabric filter, activated carbon injection, selective noncatalytic reduction, an electrostatic precipitator, or a dry scrubber 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, an electrostatic precipitator, or a dry scrubber 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 submit the petition at least sixty days before the performance test is scheduled to begin. Your petition must include the five items listed in paragraphs (a)(1) through (5) of this section.

* * * * *

■ 35. Section 60.2685 is revised to read as follows:

§ 60.2685 Affirmative Defense for Violation of Emission Standards 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 violations of such standards that are

caused by malfunction, as defined at 40 CFR 60.2. Appropriate penalties may be assessed 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) *Assertion of affirmative defense.* To establish the affirmative defense in any action to enforce such a standard, you must timely meet the reporting requirements in paragraph (b) of this section, and must prove by a preponderance of evidence that:

(1) The violation:

(i) Was caused by a sudden, infrequent, and unavoidable failure of air pollution control 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) Was not part of a recurring pattern indicative of inadequate design, operation, or maintenance; and

(2) Repairs were made as expeditiously as possible when a violation occurred. Off-shift and overtime labor were used, to the extent practicable to make these repairs; and

(3) The frequency, amount and duration of the violation (including any bypass) were minimized to the maximum extent practicable; and

(4) If the violation 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 violation on ambient air quality, the environment, and human health; and

(6) All emissions monitoring and 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 violation were documented by properly signed, contemporaneous operating logs; and

(8) At all times, the affected CISWI unit 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 violation resulting from the malfunction event at issue. The analysis shall also specify, using best monitoring methods and engineering judgment, the amount of any emissions that were the result of the malfunction.

(b) *Report.* The owner or operator seeking to assert an affirmative defense shall submit a written report to the Administrator with all necessary supporting documentation, that it has met the requirements set forth in paragraph (a) of this section. This affirmative defense report shall be included in the first periodic compliance, deviation report or excess emission report otherwise required after the initial occurrence of the violation of the relevant standard (which may be the end of any applicable averaging period). If such compliance, deviation report or excess emission report is due less than 45 days after the initial occurrence of the violation, the affirmative defense report may be included in the second compliance, deviation report or excess emission report due after the initial occurrence of the violation of the relevant standard.

■ 36. Section 60.2690 is amended by:

■ a. Revising paragraph (g) introductory text.

■ b. Redesignating paragraphs (g)(2) and (3) as paragraphs (g)(3) and (4), respectively.

■ c. Revising newly designated paragraphs (g)(3) and (4).

■ d. Adding new paragraph (g)(2).

■ e. Adding paragraph (j).

The revisions and additions read as follows:

§ 60.2690 How do I conduct the initial and annual performance test?

* * * * *

(g) You must determine dioxins/furans toxic equivalency by following the procedures in paragraphs (g)(1) through (4) of this section.

* * * * *

(2) Quantify isomers meeting identification criteria 2, 3, 4, and 5 in Section 5.3.2.5 of Method 23, regardless of whether the isomers meet identification criteria 1 and 7. You must quantify the isomers per Section 9.0 of Method 23. (Note: You may reanalyze the sample aliquot or split to reduce the number of isomers not meeting identification criteria 1 or 7 of Section 5.3.2.5.)

(3) For each dioxin/furan (tetra- through octa-chlorinated) isomer measured in accordance with paragraph (g)(1) and (2) of this section, multiply the isomer concentration by its corresponding toxic equivalency factor specified in table 4 of this subpart.

(4) Sum the products calculated in accordance with paragraph (g)(3) of this section to obtain the total concentration of dioxins/furans emitted in terms of toxic equivalency.

* * * * *

(j) You must determine dioxins/furans total mass basis by following the procedures in paragraphs (j)(1) through (3) of this section.

(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) Quantify isomers meeting identification criteria 2, 3, 4, and 5 in Section 5.3.2.5 of Method 23, regardless of whether the isomers meet identification criteria 1 and 7. You must quantify the isomers per Section 9.0 of Method 23. (Note: You may reanalyze the sample aliquot or split to reduce the number of isomers not meeting identification criteria 1 or 7 of Section 5.3.2.5.)

(3) Sum the quantities measured in accordance with paragraphs (j)(1) and (2) of this section to obtain the total concentration of dioxins/furans emitted in terms of total mass basis.

■ 37.Section 60.2710 is revised to read as follows:

■ a. Revising paragraph (a)(6).

■ b. Revising paragraphs (b) through (d).

■ c. Revising paragraph (f).

■ d. Revising paragraphs (g) introductory text and (g)(1).

■ e. Revising paragraphs (h) and (i).

■ f. Revising paragraphs (j) introductory text, (j)(1), and (j)(3).

■ j. Revising paragraph (l) introductory text.

■ k. Revising paragraph (m)(2).

■ l. Revising paragraph (n)(4).

■ m. Revising paragraph (o).

■ n. Revising paragraph (r)(1).

■ o. Revising paragraphs (s) introductory text, (s)(1) introductory text, and (s)(2).

■ p. Revising paragraph (t) introductory text, (t)(1) introductory text, and (t)(2).

■ q. Revising paragraphs (u)(1) and (u)(2).

■ r. Revising paragraphs (w) introductory paragraph, (w)(1), (w)(2), and (w)(3).

■ s. Adding paragraph (x).

The revisions and addition read as follows:

§ 60.2710 How do I demonstrate continuous compliance with the emission limitations and the operating limits?

(a) * * *

(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 (if PM CEMS are elected to demonstrate continuous compliance with the particulate matter emission limits). 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. Opacity must be measured using EPA Reference Method 9 at 40 CFR part 60. Annual performance tests are not required if you use CEMS 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 or, for energy recovery units, where the averaging time for each operating parameter is a 30-day rolling, calculated each hour as the average of the previous 720 operating hours. 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 and fuels used to establish subcategory applicability (for ERUs) and operating limits during the performance test.

* * * * *

(f) For energy recovery units, you must conduct an annual performance test for opacity using EPA Reference Method 9 at 40 CFR part 60 (except where particulate matter continuous monitoring system or continuous parameter monitoring systems are used) and the pollutants listed in table 7 of this subpart.

(g) For facilities using a CEMS to demonstrate compliance with the carbon monoxide emission limit, compliance with the carbon monoxide emission limit may be demonstrated by using the CEMS 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. CEMS data during startup and shutdown, as defined in this subpart, are not corrected to 7 percent oxygen, and are measured at stack oxygen content. 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, including CEMS data during startup and shutdown as defined in this subpart, calculated using Equation 19–19 in section 12.4.1 of EPA Reference Method 19 at 40 CFR part 60, appendix A–7.

* * * * *

(h) Coal and liquid/gas energy recovery units with annual average heat input rates greater than 250 MMBtu/hr may elect to demonstrate continuous compliance with the particulate matter emissions limit using a particulate matter CEMS according to the procedures in § 60.2730(n) instead of the continuous parameter monitoring system specified in § 60.2710(i). Coal and liquid/gas energy recovery units with annual average heat input rates less than 250 MMBtu/hr, incinerators, and small remote incinerators may also elect to demonstrate compliance using a particulate matter CEMS according to the procedures in § 60.2730(n) instead of particulate matter testing with EPA Method 5 at 40 CFR part 60, appendix A–3 and, if applicable, the continuous opacity monitoring requirements in paragraph (i) of this section.

(i) For energy recovery units with annual average heat input rates greater than or equal to 10 MMBTU/hour but less than 250 MMBtu/hr 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 or dry scrubber, you must determine compliance with the hydrogen chloride emission limit using a CEMS as specified in § 60.2730. You must determine compliance with particulate matter using CPMS. You must determine compliance with the mercury emissions limit using a mercury CEMS according to the following requirements:

(1) Operate a CEMS 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. You must demonstrate compliance with the mercury emissions limit using a 30-day rolling average of these 1-hour mercury concentrations, including CEMS data during startup and shutdown as defined in this subpart, 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. CEMS data during startup and shutdown, as defined in this subpart, are not corrected to 7 percent oxygen, and are measured at stack oxygen content.

* * * * *

(3) The owner or operator of a waste-burning kiln must demonstrate initial compliance by operating a mercury CEMS while the raw mill of the in-line kiln/raw mill is operating under normal conditions and including at least one period when the raw mill is off.

* * * * *

(l) For each CMS 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.

* * * * *

(m) * * *

(2) Use a flow sensor with a measurement sensitivity at full scale of no greater than 2 percent.

* * * * *

(n) * * *

(4) Perform checks at the frequency outlined in your site-specific monitoring

plan to ensure pressure measurements are not obstructed (e.g., check for pressure tap pluggage daily).

* * * * *

(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.

* * * * *

(r) * * *

(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.

* * * * *

(s) For facilities using a CEMS to demonstrate compliance with the sulfur dioxide emission limit, compliance with the sulfur dioxide emission limit may be demonstrated by using the CEMS specified in § 60.2730 to measure sulfur dioxide. CEMS data during startup and shutdown, as defined in this subpart, are not corrected to 7 percent oxygen, and are measured at stack oxygen content. You must calculate a 30-day rolling average of the 1-hour arithmetic average emission concentrations, including CEMS data during startup and shutdown as defined in this subpart, 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 CEMS 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 CEMS 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 CEMS, whichever is greater.

(1) During each relative accuracy test run of the CEMS 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 CEMS and the test methods specified in paragraphs (s)(1)(i) and (ii) of this section.

* * * * *

(2) The span value of the CEMS 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 CEMS 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.

* * * * *

(t) For facilities using a CEMS to demonstrate continuous compliance with the nitrogen oxides emission limit, compliance with the nitrogen oxides emission limit may be demonstrated by using the CEMS specified in § 60.2730 to measure nitrogen oxides. CEMS data during startup and shutdown, as defined in this subpart, are not corrected to 7 percent oxygen, and are measured at stack oxygen content. You must calculate a 30-day rolling average of the 1-hour arithmetic 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 CEMS 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 CEMS 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 CEMS and the test methods specified in paragraphs (t)(1)(i) and (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 CEMS must be 125 percent of the maximum estimated hourly potential nitrogen oxide emissions of unit.

* * * * *

(u) * * *

(1) Demonstrate compliance with the appropriate emission limit(s) using a 30-day rolling average of 1-hour arithmetic average emission concentrations, including CEMS data during startup and shutdown, as defined in this subpart, calculated using Equation 19–19 in section 12.4.1 of EPA Reference Method 19 at 40 CFR part 60, appendix A–7. CEMS data during startup and shutdown, as defined in this subpart, are not corrected to 7 percent oxygen, and are measured at stack oxygen content.

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

* * * * *

(w) For energy recovery units with a design heat input capacity of 100 MMBtu per hour or greater that do not use a carbon monoxide CEMS, you must install, operate, and maintain an oxygen analyzer system as defined in § 60.2875 according to the procedures in paragraphs (w)(1) through (4) of this section.

(1) The oxygen analyzer system must be installed by the initial performance test date specified in § 60.2675.

(2) You must operate the oxygen trim system within compliance with paragraph (w)(3) of this section at all times.

(3) You must maintain the oxygen level such that the 30-day rolling average that is established as the operating limit for oxygen is not below the lowest hourly average oxygen concentration measured during the most recent CO performance test.

* * * * *

(x) For energy recovery units with annual average heat input rates greater than or equal to 250 MMBtu/hour and waste-burning kilns, you must install, calibrate, maintain, and operate a PM CPMS and record the output of the system as specified in paragraphs (x)(1) through (8) of this section. For other energy recovery units, you may elect to use PM CPMS operated in accordance with this section. PM CPMS are suitable in lieu of using other CMS for monitoring PM compliance (e.g., bag leak detectors, ESP secondary power, PM scrubber pressure).

(1) Install, calibrate, operate, and maintain your PM CPMS according to the procedures in your approved site-specific monitoring plan developed in accordance with § 60.2710(l) and (x)(1)(i) through (iii) of this section.

(i) The operating principle of the PM CPMS must be based on in-stack or

extractive light scatter, light scintillation, beta attenuation, or mass accumulation of the exhaust gas or representative sample. The reportable measurement output from the PM CPMS must be expressed as milliamps.

(ii) The PM CPMS must have a cycle time (i.e., period required to complete sampling, measurement, and reporting for each measurement) no longer than 60 minutes.

(iii) The PM CPMS must be capable of detecting and responding to particulate matter concentrations of no greater than 0.5 mg/actual cubic meter.

(2) During the initial performance test or any such subsequent performance test that demonstrates compliance with the PM limit, you must adjust the site-specific operating limit in accordance with the results of the performance test according to the procedures specified in § 60.2675.

(3) Collect PM CPMS hourly average output data for all energy recovery unit or waste-burning kiln operating hours. Express the PM CPMS output as milliamps.

(4) Calculate the arithmetic 30-day rolling average of all of the hourly average PM CPMS output collected during all energy recovery unit or waste-burning kiln operating hours data (milliamps).

(5) You must collect data using the PM CPMS at all times the energy recovery unit or waste-burning kiln is operating and at the intervals specified in paragraph (x)(1)(ii) of this section, except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, required monitoring system quality assurance or quality control activities (including, as applicable, calibration checks and required zero and span adjustments), and any scheduled maintenance as defined in your site-specific monitoring plan.

(6) You must use all the data collected during all energy recovery unit or waste-burning kiln operating hours in assessing the compliance with your operating limit except:

(i) Any data collected during monitoring system malfunctions, repairs associated with monitoring system malfunctions, or required monitoring system quality assurance or quality control activities conducted during monitoring system malfunctions are not used in calculations (report any such periods in your annual deviation report);

(ii) Any data collected during periods when the monitoring system is out of control as specified in your site-specific monitoring plan, repairs associated with periods when the monitoring system is out of control, or required monitoring system quality assurance or quality control activities conducted during out-of-control periods are not used in calculations (report emissions or operating levels and report any such periods in your annual deviation report);

(iii) Any PM CPMS data recorded during periods of CEMS data during startup and shutdown, as defined in this subpart.

(7) You must record and make available upon request results of PM CPMS system performance audits, as well as the dates and duration of periods from when the PM CPMS is out of control until completion of the corrective actions necessary to return the PM CPMS to operation consistent with your site-specific monitoring plan.

(8) For any deviation of the 30-day rolling average PM CPMS average value from the established operating parameter limit, you must:

(i) Within 48 hours of the deviation, visually inspect the air pollution control device;

(ii) If inspection of the air pollution control device identifies the cause of the deviation, take corrective action as soon as possible and return the PM CPMS measurement to within the established value; and

(iii) Within 30 days of the deviation or at the time of the annual compliance test, whichever comes first, conduct a PM emissions compliance test to determine compliance with the PM emissions limit and to verify. Within 45 days of the deviation, you must re-establish the CPMS operating limit. You are not required to conduct additional testing for any deviations that occur between the time of the original deviation and the PM emissions compliance test required under this paragraph.

(iv) PM CPMS deviations leading to more than four required performance tests in a 12-month process operating period (rolling monthly) constitute a violation of this subpart.

■ 38. Section 60.2720 is amended by revising paragraph (a)(3)(ii) to read as follows:

§ 60.2720 May I conduct performance testing less often?

(a) * * *

(3) * * *

(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 observation periods.

* * * * *

■ 39. Section 60.2730 is amended by:

■ a. Revising paragraph (c).

■ b. Revising paragraph (e) introductory text.

■ c. Revising paragraphs (f) through (j).

■ d. Revising paragraph (l)(1) and (2).

■ e. Revising paragraph (m) introductory text.

■ f. Revising paragraphs (n) introductory text, (n)(6), (n)(7), (n)(9), (n)(10), (n)(11), and paragraph (n)(12) introductory text.

■ g. Removing paragraph (n)(14).

■ h. Revising paragraphs (o)(1), (o)(2), and (o)(9).

■ i. Adding paragraphs (r) and (s).

The revisions and additions read as follows:

§ 60.2730 What monitoring equipment must I install and what parameters must I monitor?

* * * * *

(c) If you are using something other than a wet scrubber, activated carbon, selective non-catalytic reduction, an electrostatic precipitator, or a dry scrubber 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.

* * * * *

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

* * * * *

(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 or dry 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 CEMS 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 or dry scrubber, a facility may substitute use of a hydrogen chloride CEMS for conducting the hydrogen chloride annual performance test, monitoring the minimum hydrogen chloride sorbent flow rate, 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 CEMS for conducting the particulate matter annual performance test and other CMS monitoring for PM compliance (e.g., bag leak detectors, ESP secondary power, PM scrubber pressure).

(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. This option to use a continuous automated sampling system takes effect on the date a final performance specification applicable to dioxin/furan from continuous monitors is published in the **Federal Register**. 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). A facility may substitute continuous dioxin/furan monitoring for the minimum sorbent flow rate, if activated carbon sorbent injection is used solely for compliance with the dioxin/furan emission limit.

(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). A facility may substitute continuous mercury monitoring for the minimum sorbent flow rate, if activated carbon sorbent injection is used solely for compliance with the mercury emission limit.

(k) To demonstrate continuous compliance with the nitrogen oxides emissions limit, a facility may substitute use of a CEMS for the nitrogen oxides annual performance test to demonstrate compliance with the nitrogen oxides emissions limits and monitoring the charge rate, secondary chamber temperature and reagent flow for selective noncatalytic reduction, if applicable.

(1) Install, calibrate, maintain and operate a CEMS 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 CEMS.

(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 CEMS outlet data. The 1-hour arithmetic averages must be expressed in parts per million by volume corrected to 7 percent oxygen (dry basis) and used to calculate the 30-day rolling average concentrations. CEMS data during startup and shutdown, as defined in this subpart, are not corrected to 7 percent oxygen, and are measured at stack oxygen content. The 1-hour arithmetic averages must be calculated using the data points required under § 60.13(e)(2).

(l) * * *

(1) Install, calibrate, maintain and operate a CEMS 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 CEMS.

(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 CEMS 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. CEMS data during startup and shutdown, as defined in this subpart, are not corrected to 7 percent oxygen, and are measured at stack oxygen content. 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 CEMS, 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 CEMS 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).

* * * * *

(n) For coal and liquid/gas energy recovery units, incinerators, and small remote incinerators, an owner or operator may elect to install, calibrate, maintain and operate a CEMS 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 or, as applicable, monitor with a particulate matter CPMS according to paragraph (r) of this section, must install, calibrate, maintain and operate a CEMS and must comply with the requirements specified in paragraphs (n)(1) through (13) of this section.

* * * * *

(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, if PM CEMS are elected for demonstrating compliance, must be determined by using the CEMS specified in paragraph (n) of this section to measure particulate matter. You must calculate a 30-day rolling average of 1-hour arithmetic average emission concentrations, including CEMS data during startup and shutdown, as defined in this subpart, 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 CEMS outlet data.

* * * * *

(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. CEMS data during startup and shutdown, as defined in this subpart, are not corrected to 7 percent oxygen, and are measured at stack oxygen content. The 1-hour arithmetic averages must be calculated using the data points required under § 60.13(e)(2).

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

(11) The CEMS must be operated according to performance specification 11 in appendix B of this part.

(12) During each relative accuracy test run of the CEMS 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 CEMS and the following test methods.

* * * * *

(o) * * *

(1) Install, calibrate, maintain, and operate a CEMS 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 CEMS.

(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, including CEMS data during startup and shutdown as defined in this subpart, using CEMS outlet data. Except for CEMS data during startup and shutdown, as defined in this subpart, 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. CEMS data collected during startup or shutdown, as defined in this subpart, are not corrected to 7 percent oxygen, and are measured at stack oxygen content. The 1-hour arithmetic averages must be calculated using the data points required under § 60.13(e)(2).

* * * * *

(q) For energy recovery units with a design heat input capacity of 100 MMBtu per hour or greater that do not use a carbon monoxide CEMS, you must install, operate, and maintain a oxygen analyzer system as defined in § 60.2875 according to the procedures in paragraphs (q)(1) through (4) of this section.

(1) The oxygen analyzer system must be installed by the initial performance test date specified in § 60.2675.

(2) You must operate the oxygen trim system within compliance with paragraph (q)(3) of this section at all times.

(3) You must maintain the oxygen level such that the 30-day rolling average that is established as the operating limit for oxygen according to paragraph (q)(4) of this section is not below the lowest hourly average oxygen concentration measured during the most recent CO performance test.

(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.

(r) For energy recovery units with annual average heat input rates greater than or equal to 250 MMBtu/hour and waste-burning kilns, you must install, calibrate, maintain, and operate a PM CPMS and record the output of the system as specified in paragraphs (r)(1) through (8) of this section. For other energy recovery units, you may elect to use PM CPMS operated in accordance with this section. PM CPMS are suitable in lieu of using other CMS for monitoring PM compliance (e.g., bag leak detectors, ESP secondary power, PM scrubber pressure).

(1) Install, calibrate, operate, and maintain your PM CPMS according to the procedures in your approved site-specific monitoring plan developed in accordance with § 60.2710(l) and (r)(1)(i) through (iii) of this section.

(i) The operating principle of the PM CPMS must be based on in-stack or extractive light scatter, light scintillation, beta attenuation, or mass accumulation of the exhaust gas or representative sample. The reportable measurement output from the PM CPMS must be expressed as milliamps.

(ii) The PM CPMS must have a cycle time (i.e., period required to complete sampling, measurement, and reporting for each measurement) no longer than 60 minutes.

(iii) The PM CPMS must be capable of detecting and responding to particulate matter concentrations of no greater than 0.5 mg/actual cubic meter.

(2) During the initial performance test or any such subsequent performance test that demonstrates compliance with the PM limit, you must adjust the site-specific operating limit in accordance with the results of the performance test according to the procedures specified in § 60.2675.

(3) Collect PM CPMS hourly average output data for all energy recovery unit or waste-burning kiln operating hours. Express the PM CPMS output as milliamps..

(4) Calculate the arithmetic 30-day rolling average of all of the hourly average PM CPMS output collected during all energy recovery unit or waste-burning kiln operating hours data (milliamps).

(5) You must collect data using the PM CPMS at all times the energy recovery unit or waste-burning kiln is operating and at the intervals specified in paragraph (r)(1)(ii) of this section, except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, required monitoring system quality assurance or quality control activities (including, as applicable, calibration checks and required zero and span adjustments), and any scheduled maintenance as defined in your site-specific monitoring plan.

(6) You must use all the data collected during all energy recovery unit or waste-burning kiln operating hours in assessing the compliance with your operating limit except:

(i) Any data collected during monitoring system malfunctions, repairs associated with monitoring system malfunctions, or required monitoring system quality assurance or quality control activities conducted during monitoring system malfunctions are not used in calculations (report any such periods in your annual deviation report);

(ii) Any data collected during periods when the monitoring system is out of control as specified in your site-specific monitoring plan, repairs associated with periods when the monitoring system is out of control, or required monitoring system quality assurance or quality

control activities conducted during out-of-control periods are not used in calculations (report emissions or operating levels and report any such periods in your annual deviation report);

(iii) Any PM CPMS data recorded during periods of CEMS data during startup and shutdown, as defined in this subpart.

(7) You must record and make available upon request results of PM CPMS system performance audits, as well as the dates and duration of periods from when the PM CPMS is out of control until completion of the corrective actions necessary to return the PM CPMS to operation consistent with your site-specific monitoring plan.

(8) For any deviation of the 30-day rolling average PM CPMS average value from the established operating parameter limit, you must:

(i) Within 48 hours of the deviation, visually inspect the air pollution control device;

(ii) If inspection of the air pollution control device identifies the cause of the deviation, take corrective action as soon as possible and return the PM CPMS measurement to within the established value; and

(iii) Within 30 days of the deviation or at the time of the annual compliance test, whichever comes first, conduct a PM emissions compliance test to determine compliance with the PM emissions limit and to verify. Within 45 days of the deviation, you must re-establish the CPMS operating limit. You are not required to conduct additional testing for any deviations that occur between the time of the original deviation and the PM emissions compliance test required under this paragraph.

(iv) PM CPMS deviations leading to more than four required performance tests in a 12-month process operating period (rolling monthly) constitute a violation of this subpart.

(s) If you use a dry scrubber to comply with the emission limits of this subpart, you must monitor the injection rate of each sorbent and maintain the 3-hour block averages at or above the operating limits established during the hydrogen chloride performance test.

■ 40. Section 60.2740 is amended by:
■ a. Revising introductory text.
■ b. Revising paragraph (b)(5).
■ c. Revising paragraph (e).
■ d. Revising paragraphs (o)(2) through (7).
■ e. Adding paragraphs (o)(8) and (9).
■ f. Revising paragraph (u) and (v).
■ g. Adding paragraph (w).

The revisions read as follows:

§ 60.2740 What records must I keep?

You must maintain the items (as applicable) as specified in paragraphs (a), (b), and (e) through (w) 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 (g) or § 60.2680, you must maintain data collected for all operating parameters used to determine compliance with the operating limits. For energy recovery units using activated carbon injection or a dry scrubber, you must also maintain records of the load fraction and corresponding sorbent injection rate records.

* * * * *

(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 (g) or § 60.2680 with a description of the deviations, reasons for such deviations, and a description of corrective actions taken.

* * * * *

(o) * * *

(2) All 1-hour average concentrations of sulfur dioxide emissions. You must indicate which data are CEMS data during startup and shutdown.

(3) All 1-hour average concentrations of nitrogen oxides emissions. You must indicate which data are CEMS data during startup and shutdown.

(4) All 1-hour average concentrations of carbon monoxide emissions. You must indicate which data are CEMS data during startup and shutdown.

(5) All 1-hour average concentrations of particulate matter emissions. You must indicate which data are CEMS data during startup and shutdown.

(6) All 1-hour average concentrations of mercury emissions. You must indicate which data are CEMS data during startup and shutdown.

(7) All 1-hour average concentrations of hydrogen chloride emissions. You must indicate which data are CEMS data during startup and shutdown.

(8) All 1-hour average percent oxygen concentrations.

(9) All 1-hour average PM CPMS readings or particulate matter CEMS outputs.

* * * * *

(u) For operating units that combust non-hazardous secondary materials that have been determined not to be solid waste pursuant to § 241.3(b)(1), you must keep a record which documents how the secondary material meets each of the legitimacy criteria under § 241.3(d)(1). If you combust a fuel 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 fuel satisfies the definition of processing in § 241.2 and each of the legitimacy criteria in § 241.3(d)(1) of this chapter. If the fuel received a non-waste determination pursuant to the petition process submitted under § 241.3(c), you must keep a record that documents how the fuel satisfies the requirements of the petition process. For operating units that combust non-hazardous secondary materials as fuel per § 241.4, you must keep records documenting that the material is a listed non-waste under § 241.4(a).

(v) Records of the criteria used to establish that the unit qualifies as a small power production facility under section 3(17)(C) of the Federal Power Act (16 U.S.C. 796(17)(C)) and that the waste material the unit is proposed to burn is homogeneous.

(w) Records of the criteria used to establish that the unit qualifies as a cogeneration facility under section 3(18)(B) of the Federal Power Act (16 U.S.C. 796(18)(B)) and that the waste material the unit is proposed to burn is homogeneous.

■ 41. Section 60.2770 is amended by:
■ a. Revising paragraph (m) introductory text.
■ b. Revising paragraph (n).
■ c. Adding paragraph (p).

The revisions and addition read as follows:

§ 60.2770 What information must I include in my annual report?

* * * * *

(m) If there were periods during which the continuous monitoring system, including the CEMS, 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.

* * * * *

(n) If there were periods during which the continuous monitoring system, including the CEMS, 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.

* * * * *

(p) For energy recovery units, include the annual heat input and average annual heat input rate of all fuels being burned in the unit to verify which subcategory of energy recovery unit applies.

■ 42. 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) Submit results of performance tests and CEMS performance evaluation tests as follows.

(1) Within 60 days after the date of completing each performance test as required by this subpart, you must submit the results of the performance tests required by this subpart to EPA's WebFIRE database by using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX)(*www.epa.gov/cdx*). Performance test data must be submitted in the file format generated through use of EPA's Electronic Reporting Tool (ERT) (see *http://www.epa.gov/ttn/chief/ert/index.html*). Only data collected using test methods on the ERT Web site are subject to this requirement for submitting reports electronically to WebFIRE. Owners or operators who claim that some of the information being submitted for performance tests is confidential business information (CBI) must submit a complete ERT file including information claimed to be CBI on a compact disk, flash drive, or other commonly used electronic storage media to EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAPQS/CORE CBI Office, Attention: WebFIRE Administrator, MD C404–02, 4930 Old Page Rd., Durham, NC 27703. The same ERT file with the CBI omitted must be submitted to EPA via CDX as described earlier in this paragraph. At the discretion of the delegated authority, you must also submit these reports, including the confidential business information, to the delegated authority in the format specified by the delegated authority. For any performance test conducted using test methods that are not listed on the ERT Web site, the owner or operator shall submit the results of the performance test in paper submissions to the Administrator.

(2) Within 60 days after the date of completing each CEMS performance evaluation test, as defined in this subpart and required by this subpart, you must submit the relative accuracy test audit (RATA) data electronically into EPA's Central Data Exchange by using CEDRI as mentioned in paragraph (b)(1) of this section. Only RATA pollutants that can be documented with the ERT (as listed on the ERT Web site) are subject to this requirement. For any performance evaluations with no corresponding RATA pollutants listed on the ERT Web site, the owner or operator shall submit the results of the performance evaluation in paper submissions to the Administrator.

■ 43. Section 60.2875 is amended by:

■ a. Adding definitions for ''30-day rolling average,'' ''Annual heat input,'' ''Average annual heat input rate,'' ''Contained gaseous material,'' ''Continuous emission monitoring system,'' ''Dry scrubber,'' ''Foundry sand thermal reclamation unit,'' ''Load fraction,'' ''Municipal solid waste or municipal type solid waste,'' ''Oxygen analyzer system,'' ''Oxygen trim system,'' ''Responsible official,'' and ''Solid waste.''

■ b. Revising definitions for ''Calendar year,'' ''Chemical recovery unit,'' ''Commercial and industrial solid waste incinerator (CISWI),'' ''Continuous monitoring system (CMS),'' ''Cyclonic burn barrel,'' ''Energy recovery unit,'' ''Energy recovery unit designed to burn biomass (Biomass),'' ''Energy recovery unit designed to burn liquid waste materials and gas (Liquid/gas),'' ''Incinerator,'' ''Modification or modified CISWI unit,'' ''Process change'', ''Raw mill'', ''Small, remote incinerator'', ''Soil treatment unit,'' ''Solid waste incineration unit,'' ''Space heater,'' ''Waste burning kiln,'' and ''Wet scrubber.''

■ c. Removing the definitions for ''Cyclonic barrel burner'' and ''Homogeneous waste.''

The revisions and additions read as follows:

§ 60.2875 What definitions must I know?

* * * * *

30-day rolling average means the arithmetic mean of the previous 720 hours of valid operating data. Valid data excludes periods when this unit is not operating. The 720 hours should be consecutive, but not necessarily continuous if operations are intermittent.

* * * * *

Annual heat input means the heat input for the 12 months preceding the compliance demonstration.

* * * * *

Average annual heat input rate means annual heat input divided by the hours of operation for the 12 months preceding the compliance demonstration.

* * * * *

Calendar year means 365 consecutive days starting on January 1 and ending on December 31.

CEMS data during startup and shutdown means the following:

(1) For incinerators, small remote incinerators, and energy recovery units: CEMS data collected during the first hours of operation of a CISWI unit startup from a cold start until waste is fed into the unit and the hours of operation following the cessation of waste material being fed to the CISWI unit during a unit shutdown. For each startup event, the length of time that CEMS data may be claimed as being CEMS data during startup must be 48 operating hours or less. For each shutdown event, the length of time that CEMS data may be claimed as being CEMS data during shutdown must be 24 operating hours or less.

(2) For waste-burning kilns: CEMS data collected during the periods of kiln operation that do not include normal operations. Startup begins when the kiln's induced fan is turned on and continues until continuous feed is introduced into the kiln, at which time the kiln is in normal operating mode. Shutdown begins when feed to the kiln is halted.

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. A chemical recovery unit is not an incinerator, a waste-burning kiln, an energy recovery unit or a small, remote incinerator under this subpart. 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 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.

Contained gaseous material means gases that are in a container when that container is combusted.

Continuous emission monitoring system (CEMS) means the total equipment that may be required to meet the data acquisition and availability requirements of this subpart, used to sample, condition (if applicable), analyze, and provide a record of emissions.

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. A particulate matter continuous parameter monitoring system (PM CPMS) is a type of CMS.

Cyclonic burn barrel means a combustion device for waste materials that is attached to a 55 gallon, open-head 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, a waste-burning kiln, an energy recovery unit or a small, remote incinerator under this subpart.

* * * * *

Dry scrubber means an add-on air pollution control system that injects dry alkaline sorbent (dry injection) or sprays an alkaline sorbent (spray dryer) to react with and neutralize acid gas in the exhaust stream forming a dry powder material. Sorbent injection systems in fluidized bed boilers and process heaters are included in this definition. A dry scrubber is a dry control system.

* * * * *

Energy recovery unit means a combustion unit combusting solid waste (as that term is defined by the Administrator in 40 CFR part 241) 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, biomass, and non-coal solid materials 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 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.

* * * * *

Foundry sand thermal reclamation unit means a type of part reclamation unit that removes coatings that are on foundry sand. A foundry sand thermal reclamation unit is not an incinerator, a waste-burning kiln, an energy recovery unit or a small, remote incinerator under this subpart.

Incinerator means any furnace used in the process of combusting solid waste (as that term is defined by the Administrator in 40 CFR part 241) for the purpose of reducing the volume of the waste by removing combustible matter. Incinerator designs include single chamber and two-chamber.

* * * * *

Load fraction means the actual heat input of an energy recovery unit divided by heat input during the performance test that established the minimum sorbent injection rate or minimum activated carbon injection rate, expressed as a fraction (e.g., for 50 percent load the load fraction is 0.5).

* * * * *

Modification or *modified CISWI unit* means a CISWI unit that has been changed later than August 7, 2013, and that meets one of two criteria:

(i) 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.

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

* * * * *

Oxygen analyzer system means all equipment required to determine the oxygen content of a gas stream and used to monitor oxygen in the boiler or process heater flue gas, boiler/process heater, firebox, or other appropriate location. This definition includes oxygen trim systems and certified oxygen CEMS. The source owner or operator is responsible to install, calibrate, maintain, and operate the oxygen analyzer system in accordance with the manufacturer's recommendations.

Oxygen trim system means a system of monitors that is used to maintain excess

air at the desired level in a combustion device. A typical system consists of a flue gas oxygen and/or carbon monoxide monitor that automatically provides a feedback signal to the combustion air controller.

* * * * *

Process change means any of the following physical or operational changes:

(1) A physical change (maintenance activities excluded) to the CISWI unit which may increase the emission rate of any air pollutant to which a standard applies;

(2) An operational change to the CISWI unit where a new type of non-hazardous secondary material is being combusted;

(3) A physical change (maintenance activities excluded) to the air pollution control devices used to comply with the emission limits for the CISWI unit (e.g., replacing an electrostatic precipitator with a fabric filter);

(4) An operational change to the air pollution control devices used to comply with the emission limits for the affected CISWI unit (e.g., change in the sorbent injection rate used for activated carbon injection).

* * * * *

Raw mill means a ball or 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.

* * * * *

Responsible official means one of the following:

(1) For a corporation: A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either:

(i) The facilities employ more than 250 persons or have gross annual sales or expenditures exceeding $25 million (in second quarter 1980 dollars); or

(ii) The delegation of authority to such representatives is approved in advance by the permitting authority;

(2) For a partnership or sole proprietorship: a general partner or the proprietor, respectively;

(3) For a municipality, State, Federal, or other public agency: Either a principal executive officer or ranking elected official. For the purposes of this part, a principal executive officer of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., a Regional Administrator of EPA); or

(4) For affected facilities:

(i) The designated representative in so far as actions, standards, requirements, or prohibitions under Title IV of the Clean Air Act or the regulations promulgated thereunder are concerned; or

(ii) The designated representative for any other purposes under part 60.

* * * * *

Small, remote incinerator means an incinerator that combusts solid waste (as that term is defined by the Administrator in 40 CFR part 241) 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, a waste-burning kiln, an energy recovery unit or a small, remote incinerator under this subpart.

Solid waste means the term solid waste as defined in 40 CFR 241.2.

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 in 40 CFR part 241) 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:

(1) Materials recovery facilities (including primary or secondary smelters) which combust waste for the primary purpose of recovering metals;

(2) 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

(3) 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 unit that meets the requirements of 40 CFR 279.23. A space heater is not an incinerator, a waste-burning kiln, an energy recovery unit or a small, remote incinerator under this subpart.

* * * * *

Waste-burning kiln means a kiln that is heated, in whole or in part, by combusting solid waste (as the term is defined by the Administrator in 40 CFR part 241). Secondary materials used in Portland cement kilns shall not be deemed to be combusted unless they are introduced into the flame zone in the hot end of the kiln or mixed with the precalciner fuel.

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.

* * * * *

■ 44. Table 1 to subpart DDDD is amended by revising footnotes a and b to read as follows:

Table 1 to Subpart DDDD of Part 60—Model Rule—Increments of Progress and Compliance Schedules

* * * * *

[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 February 7, 2018, for CISWI units that commenced construction on or before June 4, 2010.

■ 45. Table 2 to subpart DDDD of part 60 is amended by:

■ a. Revising the table heading.

■ b. Revising the entry for ''Hydrogen Chloride''.

■ c. Revising the entry for ''Opacity''.

■ d. Revising the entry for ''Oxides of nitrogen''.

■ e. Revising footnotes a and b. The revisions read as follows:

TABLE 2 TO SUBPART DDDD OF PART 60—MODEL RULE—EMISSION LIMITATIONS THAT APPLY TO INCINERATORS 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 120 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).
*	*	*	*
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 7or 7E at 40 CFR part 60, appendix A–4).
*	*	*	*

[a] All emission limitations (except for opacity) are measured at 7 percent oxygen, dry basis at standard conditions.

[b] Applies only to incinerators subject to the CISWI standards through a state plan or the Federal plan prior to June 4, 2010. 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 February 7, 2018.

* * * * *

■ 46. Table 6 to subpart DDDD of part 60 is amended by:

■ a. Revising the entry for ''Carbon monoxide''.

■ b. Revising the entry for ''Lead''.

■ c. Revising the entry for ''Mercury''.

■ d. Revising the entry for ''Oxides of nitrogen''.

■ e. Revising the entry for ''Sulfur dioxide''.

■ f. Revising footnote a.

■ g. Redesignating footnote c as footnote d.

■ h. Adding footnote c.

The revisions read 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
*	*	*	*
Carbon monoxide.	17 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).
*	*	*	*
Lead	0.015 milligrams per dry standard cubic meter. [c]	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	0.0048 milligrams per dry standard cubic meter.	3-run average (For Method 29 an ASTM D6784–02 (Reapproved 2008) [d], 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). [d]
Oxides of nitrogen.	53 parts per million dry volume.	3-run average (for Method 7E, 1 hour minimum sample time per run).	Performance test (Method 7 or 7E at 40 CFR part 60, appendix A–4).
*	*	*	*
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).
*	*	*	*

[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 February 7, 2018.

[c] If you are conducting stack tests to demonstrate compliance and your performance tests for this pollutant for at least 2 consecutive years show that your emissions are at or below this limit, you can skip testing according to § 60.2720 if all of the other provisions of § 60.2720 are met. For all other pollutants that do not contain a footnote ''c'', your performance tests for this pollutant for at least 2 consecutive years must show that your emissions are at or below 75 percent of this limit in order to qualify for skip testing.

[d] Incorporated by reference, see § 60.17.

■ 47. Table 7 to subpart DDDD of part 60 is revised to read as follows:

TABLE 7 TO SUBPART DDDD OF PART 60—MODEL RULE—EMISSION LIMITATIONS THAT APPLY TO ENERGY RECOVERY UNITS AFTER MAY 20, 2011

[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
	Liquid/Gas	Solids		
Cadmium	0.023 milligrams per dry standard cubic meter.	Biomass—0.0014 milligrams per dry standard cubic meter. [c] Coal—0.0095 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.	35 parts per million dry volume.	Biomass—260 parts per million dry volume. Coal—95 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).
Dioxins/furans (total mass basis).	2.9 nanograms per dry standard cubic meter.	Biomass—0.52 nanograms per dry standard cubic meter. [c] Coal—5.1 nanograms per dry standard cubic meter. [c].	3-run average (collect a minimum volume of 4 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.	Biomass—0.12 nanograms per dry standard cubic meter. Coal—0.075 nanograms per dry standard cubic meter. [c].	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.	14 parts per million dry volume.	Biomass—0.20 parts per million dry volume. Coal—13 parts per million dry volume.	3-run average (for Method 26, collect a minimum of 120 liters; for Method 26A, collect a minimum volume of 1 dry standard cubic meter).	Performance test (Method 26 or 26A at 40 CFR part 60, appendix A–8).
Lead	0.096 milligrams per dry standard cubic meter.	Biomass—0.014 milligrams per dry standard cubic meter. [c]. Coal—0.14 milligrams per dry standard cubic meter. [c].	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	0.0024 milligrams per dry standard cubic meter.	Biomass—0.0022 milligrams per dry standard cubic meter. Coal—0.016 milligrams per dry standard cubic meter.	3-run average (For Method 29 and ASTM D6784–02 (Reapproved 2008) [d], 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) [d].
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 (for Method 7E, 1 hour minimum sample time per run).	Performance test (Method 7 or 7E at 40 CFR part 60, appendix A–4).
Particulate matter filterable.	110 milligrams per dry standard cubic meter.	Biomass—11 milligrams per dry standard cubic meter. Coal—160 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) if the unit has an annual average heat input rate less than or equal to 250 MMBtu/hr; or PM CPMS (as specified in § 60.2710(x)) if the unit has an annual average heat input rate greater than 250 MMBtu/hr.
Sulfur dioxide	720 parts per million dry volume.	Biomass—7.3 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).

TABLE 7 TO SUBPART DDDD OF PART 60—MODEL RULE—EMISSION LIMITATIONS THAT APPLY TO ENERGY RECOVERY UNITS AFTER MAY 20, 2011—Continued

[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
	Liquid/Gas	Solids		
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] 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 February 7, 2018.

[b] 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.

[c] If you are conducting stack tests to demonstrate compliance and your performance tests for this pollutant for at least 2 consecutive years show that your emissions are at or below this limit, you can skip testing according to § 60.2720 if all of the other provisions of § 60.2720 are met. For all other pollutants that do not contain a footnote "c", your performance tests for this pollutant for at least 2 consecutive years must show that your emissions are at or below 75 percent of this limit in order to qualify for skip testing, with the exception of annual performance tests to certify a CEMS or PM CPMS.

[d] Incorporated by reference, see § 60.17.

■ 48. Table 8 to subpart DDDD of part 60 is revised to read as follows:

TABLE 8 TO SUBPART DDDD OF PART 60—MODEL RULE—EMISSION LIMITATIONS THAT APPLY TO WASTE-BURNING KILNS 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	0.0014 milligrams per dry standard cubic meter. [c].	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 (long kilns)/790 (preheater/precalciner) 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).
Dioxins/furans (total mass basis).	1.3 nanograms per dry standard cubic meter. [c].	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).	0.075 nanograms per dry standard cubic meter. [c].	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. [c]	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 of this part) or HCl CEMS if a wet scrubber is not used.
Lead	0.014 milligrams per dry standard cubic meter. [c].	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	0.011 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	630 parts per million dry volume	3-run average (for Method 7E, 1 hour minimum sample time per run).	Performance test (Method 7 or 7E at 40 CFR part 60, appendix A–4).
Particulate matter filterable.	4.6 milligrams per dry standard cubic meter.	30-day rolling average	PM CPMS (as specified in § 60.2710(x))
Sulfur dioxide	600 parts per million dry volume	3-run average (for Method 6, collect a minimum of 20 liters; for Method 6C, 1 hour minimum sample time per run).	Performance test (Method 6 or 6c at 40 CFR part 60, appendix A–4).

[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 February 7, 2018.

[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] If you are conducting stack tests to demonstrate compliance and your performance tests for this pollutant for at least 2 consecutive years show that your emissions are at or below this limit, you can skip testing according to § 60.2720 if all of the other provisions of § 60.2720 are met. For all other pollutants that do not contain a footnote "c", your performance tests for this pollutant for at least 2 consecutive years must show that your emissions are at or below 75 percent of this limit in order to qualify for skip testing, with the exception of annual performance tests to certify a CEMS or PM CPMS.

■ 49. Table 9 to subpart DDDD of part 60 is revised to read as follows:

TABLE 9 TO SUBPART DDDD OF PART 60—MODEL RULE—EMISSION LIMITATIONS THAT APPLY TO SMALL, REMOTE INCINERATORS 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	0.95 milligrams per dry standard cubic meter.	3-run average (collect a minimum volume of 1 dry standard cubic meters per run).	Performance test (Method 29 at 40 CFR part 60, appendix A–8).
Carbon monoxide	64 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).
Dioxins/furans (total mass basis).	4,400 nanograms per dry standard cubic meter [b].	3-run average (collect a minimum volume of 1 dry standard cubic meters per run).	Performance test (Method 23 at 40 CFR part 60, appendix A–7).
Dioxins/furans (toxic equivalency basis).	180 nanograms per dry standard cubic meter [b].	3-run average (collect a minimum volume of 1 dry standard cubic meters).	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 emissions test (Method 22 at 40 CFR part 60, appendix A–7).
Hydrogen chloride	300 parts per million dry volume	3-run average (For Method 26, collect a minimum volume of 120 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	2.1 milligrams per dry standard cubic meter.	3-run average (collect a minimum volume of 1 dry standard cubic meters).	Performance test (Method 29 at 40 CFR part 60, appendix A–8). Use ICPMS for the analytical finish.
Mercury	0.0053 milligrams per dry standard cubic meter.	3-run average (For Method 29 and ASTM D6784–02 (Reapproved 2008),[c] 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	190 parts per million dry volume	3-run average (for Method 7E, 1 hour minimum sample time per run).	Performance test (Method 7 or 7E at 40 CFR part 60, appendix A–4).
Particulate matter (filterable)	270 milligrams per dry standard cubic meter.	3-run average (collect a minimum volume of 1 dry standard cubic meters).	Performance test (Method 5 or 29 at 40 CFR part 60, appendix A–3 or appendix A–8).
Sulfur dioxide	150 parts per million dry volume	3-run average (for Method 6, collect a minimum of 20 liters per run; for Method 6C, 1 hour minimum sample time per run).	Performance test (Method 6 or 6c at 40 CFR part 60, appendix A–4).

[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 February 7, 2018.

[b] 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.

[c] Incorporated by reference, see § 60.17.

PART 241—SOLID WASTES USED AS FUELS OR INGREDIENTS IN COMBUSTION UNITS

■ 50. The authority citation for part 241 continues to read as follows:

Authority: 42 U.S.C. 6903, 6912, 7429.

Subpart A—General

■ 51. Section 241.2 is amended by:

■ a. Revising the definition of ''Clean cellulosic biomass'';

■ b. Revising the definition of ''Contaminants'';

■ c. Revising the definition of ''Established tire collection programs''; and

■ d. Revising the definition of ''Resinated wood''.

The revisions read as follows:

§ 241.2 Definitions.

* * * * *

Clean cellulosic biomass means those residuals that are akin to traditional cellulosic biomass, including, but not limited to: Agricultural and forest-derived biomass (e.g., green wood, forest thinnings, clean and unadulterated bark, sawdust, trim, tree harvesting residuals from logging and sawmill materials, hogged fuel, wood pellets, untreated wood pallets); urban wood (e.g., tree trimmings, stumps, and related forest-derived biomass from urban settings); corn stover and other biomass crops used specifically for the production of cellulosic biofuels (e.g., energy cane, other fast growing grasses, byproducts of ethanol natural fermentation processes); bagasse and other crop residues (e.g., peanut shells, vines, orchard trees, hulls, seeds, spent grains, cotton byproducts, corn and peanut production residues, rice milling and grain elevator operation residues); wood collected from forest fire clearance activities, trees and clean wood found in disaster debris, clean biomass from land clearing operations, and clean construction and demolition wood. These fuels are not secondary materials or solid wastes unless discarded. Clean biomass is biomass that does not contain contaminants at concentrations not

normally associated with virgin biomass materials.

* * * * *

Contaminants means all pollutants listed in Clean Air Act sections 112(b) or 129(a)(4), with the following three modifications:

(1) The definition includes the elements chlorine, fluorine, nitrogen, and sulfur in cases where non-hazardous secondary materials are burned as a fuel and combustion will result in the formation of hydrogen chloride (HCl), hydrogen fluoride (HF), nitrogen oxides (NO_X), or sulfur dioxide (SO_2). Chlorine, fluorine, nitrogen, and sulfur are not included in the definition in cases where non-hazardous secondary materials are used as an ingredient and not as a fuel.

(2) The definition does not include the following pollutants that are either unlikely to be found in non-hazardous secondary materials and products made from such materials or are adequately measured by other parts of this definition: hydrogen chloride (HCl), chlorine gas (Cl_2), hydrogen fluoride (HF), nitrogen oxides (NO_X), sulfur dioxide (SO_2), fine mineral fibers, particulate matter, coke oven emissions, opacity, diazomethane, white phosphorus, and titanium tetrachloride.

(3) The definition does not include m-cresol, o-cresol, p-cresol, m-xylene, o-xylene, and p-xylene as individual contaminants distinct from the grouped pollutants total cresols and total xylenes.

* * * * *

Established tire collection program means a comprehensive collection system or contractual arrangement that ensures scrap tires are not discarded and are handled as valuable commodities through arrival at the combustion facility. This can include tires that were not abandoned and were received from the general public at collection program events.

* * * * *

Resinated wood means wood products (containing binders and adhesives) produced by primary and secondary wood products manufacturing. Resinated wood includes residues from the manufacture and use of resinated wood, including materials such as board trim, sander dust, panel trim, and off-specification resinated wood products that do not meet a manufacturing quality or standard.

* * * * *

Subpart B—Identification of Non-Hazardous Secondary Materials That Are Solid Wastes When Used as Fuels or Ingredients in Combustion Units

■ 52. Amend 241.3 as follows:

■ a. Revise paragraph (a) and (b).

■ b. Revise paragraph (c) introductory text, and paragraphs (c)(1) introductory text, (c)(2) introductory text, and (c)(2)(ii), (iii), and (iv).

■ c. Revise paragraph (d)(1)(iii).

The revisions read as follows:

§ 241.3 Standards and procedures for identification of non-hazardous secondary materials that are solid wastes when used as fuels or ingredients in combustion units.

(a) Except as provided in paragraph (b) of this section or in § 241.4(a) of this subpart, non-hazardous secondary materials that are combusted are solid wastes, unless a petition is submitted to, and a determination granted by, the EPA pursuant to paragraph (c) of this section. The criteria to be addressed in the petition, as well as the process for making the non-waste determination, are specified in paragraph (c) of this section.

(b) The following non-hazardous secondary materials are not solid wastes when combusted:

(1) Non-hazardous secondary materials used as a fuel in a combustion unit that remain within the control of the generator and that meet the legitimacy criteria specified in paragraph (d)(1) of this section.

(2) The following non-hazardous secondary materials that have not been discarded and meet the legitimacy criteria specified in paragraph (d)(1) of this section when used in a combustion unit (by the generator or outside the control of the generator):

(i) [Reserved]

(ii) [Reserved]

(3) Non-hazardous secondary materials used as an ingredient in a combustion unit that meet the legitimacy criteria specified in paragraph (d)(2) of this section.

(4) Fuel or ingredient products that are used in a combustion unit, and are produced from the processing of discarded non-hazardous secondary materials and that meet the legitimacy criteria specified in paragraph (d)(1) of this section, with respect to fuels, and paragraph (d)(2) of this section, with respect to ingredients. The legitimacy criteria apply after the non-hazardous secondary material is processed to produce a fuel or ingredient product. Until the discarded non-hazardous secondary material is processed to produce a non-waste fuel or ingredient, the discarded non-hazardous secondary material is considered a solid waste and would be subject to all appropriate federal, state, and local requirements.

(c) The Regional Administrator may grant a non-waste determination that a non-hazardous secondary material that is used as a fuel, which is not managed within the control of the generator, is not discarded and is not a solid waste when combusted. This responsibility may be retained by the Assistant Administrator for the Office of Solid Waste and Emergency Response if combustors are located in multiple EPA Regions and the petitioner requests that the Assistant Administrator process the non-waste determination petition. If multiple combustion units are located in one EPA Region, the application must be submitted to the Regional Administrator for that Region. The criteria and process for making such non-waste determinations includes the following:

(1) Submittal of an application to the Regional Administrator for the EPA Region where the facility or facilities are located or the Assistant Administrator for the Office of Solid Waste and Emergency Response for a determination that the non-hazardous secondary material, even though it has been transferred to a third party, has not been discarded and is indistinguishable in all relevant aspects from a fuel product. The determination will be based on whether the non-hazardous secondary material that has been discarded is a legitimate fuel as specified in paragraph (d)(1) of this section and on the following criteria:

* * * * *

(2) The Regional Administrator or Assistant Administrator for the Office of Solid Waste and Emergency Response will evaluate the application pursuant to the following procedures:

* * * * *

(ii) The Regional Administrator or Assistant Administrator for the Office of Solid Waste and Emergency Response will evaluate the application and issue a draft notice tentatively granting or denying the application. Notification of this tentative decision will be published in a newspaper advertisement or radio broadcast in the locality where the facility combusting the non-hazardous secondary material is located, and be made available on the EPA's Web site.

(iii) The Regional Administrator or the Assistant Administrator for the Office of Solid Waste and Emergency Response will accept public comments on the tentative decision for 30 days, and may also hold a public hearing upon request or at his discretion. The Regional Administrator or the Assistant

Administrator for the Office of Solid Waste and Emergency Response will issue a final decision after receipt of comments and after a hearing (if any). If a determination is made that the non-hazardous secondary material is a non-waste fuel, it will be retroactive and apply on the date the petition was submitted.

(iv) If a change occurs that affects how a non-hazardous secondary material meets the relevant criteria contained in this paragraph after a formal non-waste determination has been granted, the applicant must re-apply to the Regional Administrator or the Assistant Administrator for the Office of Solid Waste and Emergency Response for a formal determination that the non-hazardous secondary material continues to meet the relevant criteria and, thus, is not a solid waste.

(d) * * *

(1) * * *

(iii) The non-hazardous secondary material must contain contaminants or groups of contaminants at levels comparable in concentration to or lower than those in traditional fuel(s) which the combustion unit is designed to burn. In determining which traditional fuel(s) a unit is designed to burn, persons may choose a traditional fuel that can be or is burned in the particular type of boiler, whether or not the combustion unit is permitted to burn that traditional fuel. In comparing contaminants between traditional fuel(s) and a non-hazardous secondary material, persons can use data for traditional fuel contaminant levels compiled from national surveys, as well as contaminant level data from the specific traditional fuel being replaced. To account for natural variability in contaminant levels, persons can use the full range of traditional fuel contaminant levels, provided such comparisons also consider variability in non-hazardous secondary material contaminant levels. Such comparisons are to be based on a direct comparison of the contaminant levels in both the non-hazardous secondary material and traditional fuel(s) prior to combustion.

* * * * *

■ 55. Add § 241.4 to read as follows:

§ 241.4 Non-Waste Determinations for Specific Non-Hazardous Secondary Materials When Used as a Fuel.

(a) The following non-hazardous secondary materials are not solid wastes when used as a fuel in a combustion unit:

(1) Scrap tires that are not discarded and are managed under the oversight of established tire collection programs, including tires removed from vehicles and off-specification tires.

(2) Resinated wood.

(3) Coal refuse that has been recovered from legacy piles and processed in the same manner as currently-generated coal refuse.

(4) Dewatered pulp and paper sludges that are not discarded and are generated and burned on-site by pulp and paper mills that burn a significant portion of such materials where such dewatered residuals are managed in a manner that preserves the meaningful heating value of the materials.

(b) Any person may submit a rulemaking petition to the Administrator to identify additional non-hazardous secondary materials to be listed in paragraph (a) of this section. Contents and procedures for the submittal of the petitions include the following:

(1) Each petition must be submitted to the Administrator by certified mail and must include:

(i) The petitioner's name and address;

(ii) A statement of the petitioner's interest in the proposed action;

(iii) A description of the proposed action, including (where appropriate) suggested regulatory language; and

(iv) A statement of the need and justification for the proposed action, including any supporting tests, studies, or other information. Where the non-hazardous secondary material does not meet the legitimacy criteria, the applicant must explain why such non-hazardous secondary material should be considered a non-waste fuel, balancing the legitimacy criteria with other relevant factors.

(2) The Administrator will make a tentative decision to grant or deny a petition and will publish notice of such tentative decision, either in the form of an advanced notice of proposed rulemaking, a proposed rule, or a tentative determination to deny the petition, in the **Federal Register** for written public comment.

(3) Upon the written request of any interested person, the Administrator may, at its discretion, hold an informal public hearing to consider oral comments on the tentative decision. A person requesting a hearing must state the issues to be raised and explain why written comments would not suffice to communicate the person's views. The Administrator may in any case decide on its own motion to hold an informal public hearing.

(4) After evaluating all public comments the Administrator will make a final decision by publishing in the **Federal Register** a regulatory amendment or a denial of the petition.

(5) The Administrator will grant or deny a petition based on the weight of evidence showing the following:

(i) The non-hazardous secondary material has not been discarded in the first instance and is legitimately used as a fuel in a combustion unit, or if discarded, has been sufficiently processed into a material that is legitimately used as a fuel.

(ii) Where any one of the legitimacy criteria in § 241.3(d)(1) is not met, that the use of the non-hazardous secondary material is integrally tied to the industrial production process, that the non-hazardous secondary material is functionally the same as the comparable traditional fuel, or other relevant factors as appropriate.

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