

**Commercial and Industrial Solid Waste
Incineration Units:
Background Information Document for
New Source Performance Standards and
Emission Guidelines**

Public Comments and Responses

**COMMERCIAL AND INDUSTRIAL
SOLID WASTE INCINERATION UNITS:
BACKGROUND INFORMATION DOCUMENT
FOR NEW SOURCE PERFORMANCE STANDARDS
AND EMISSION GUIDELINES**

Public Comments and Responses

Revised Draft

Office of Air Quality Planning and Standards
U.S. Environmental Protection Agency
Research Triangle Park, North Carolina 27711

November 2000

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1.0 INTRODUCTION

On November 30, 1999, the U.S. Environmental Protection Agency (EPA) proposed new source performance standards (NSPS) and emission guidelines for new and existing commercial and industrial solid waste incineration (CISWI) units under authority of section 129 and 111 of the Clean Air Act (CAA). The standards and guidelines will be codified in the Code of Federal Regulations (CFR) as 40 CFR part 60, subparts CCCC and DDDD, respectively.

This document contains summaries of the public comments that EPA received on the proposed standards and guidelines and EPA's responses to those comments. The preamble and this summary of comments and responses serve as the basis for the revisions made to the standards and guidelines between proposal and promulgation.

2.0 PUBLIC COMMENTS AND ORGANIZATION OF THIS DOCUMENT

The EPA received 95 comment letters during the comment period, which ended January 31, 2000 (see Table 2-1 for a list of commenters). Generally, the comments applied equally to the standards and guidelines. Therefore, these comment summaries are organized by topics that apply equally to the standards and guidelines, with two exceptions. Section 3.2 (Preconstruction and Siting Analysis) applies only to the standards and section 3.15 (State Requirements) applies only to the guidelines.

**TABLE 2-1. DOCKET A-94-63
CATEGORY IV-D**

Item Number	Commenter and Affiliation
IV-D-01	R. P. Huffman, Environmental Specialist Bayer Corporation Pittsburgh, PA
IV-D-02	L.L. Burrell, P.E., Environmental Issues Manager Chemical Manufacturers Association Arlington, VA
IV-D-03	P.C. Wright, Environmental Attorney The Dow Chemical Company Midland, MI
IV-D-04	J. Bardi, Administrative Assistant American Society for Testing & Materials West Conshohocken, PA
IV-D-05	L. Morrissey, Manager ASTM Technical Committee Operations West Conshohocken, PA
IV-D-06	Bharat Mathur, Chief Bureau of Air Illinois EPA Springfield, IL
IV-D-07	John M. Daniel Division of Air Program Coordination Commonwealth of Virginia Richmond, VA
IV-D-08	Andy S. Counts, VP Environmental Affairs America Furniture Manufacturers Association (AFMA) High Point, NC
IV-D-09	W.J. Sweeney, Corporate Environmental Manager Alyeska Pipeline Service Co. Anchorage, AK
IV-D-10	David S. Dec, Landers & Parsons, P.A. On Behalf of Okeelanta Power Limited Partnership and Osceola Power Limited Partnership (OPLP) Tallahassee, FL

**TABLE 2-1. DOCKET A-94-63 (CONTINUED)
CATEGORY IV-D**

Item Number	Commenter and Affiliation
IV-D-11	Bill Wilson, P.E. Central and Southwest Services, Inc. Dallas, TX
IV-D-12	C. David Cooper, PhD, P.E. University of Central Florida Orlando, FL
IV-D-13	Richard C. Abrams, Environmental Manager Everett Facility Kimberly-Clark Everett, WA
IV-D-14	Mike Soots, Corporate Director Engineering La-Z-Boy, Inc. Monroe, MI
IV-D-15	Tara Lee Lanier, Environmental Engineer Ashland, Inc. Columbus, OH
IV-D-16	Paul J. Eisele, PhD, Director Health, Safety, and Environmental Affairs Masco Corp. Taylor, MI
IV-D-17	John Bremerman Biomass One, LLP White City, OR
IV-D-18	Richard P. Moseley, Environmental Safety and Health Manager Hickory Chair Hickory, NC
IV-D-19	Mary Beth Bosco, Regulatory Counsel Used Oil Management Association Washington, D.C.
IV-D-20	Roy W. Wood Kodak Park Environmental Services Eastman Kodak Co.

**TABLE 2-1. DOCKET A-94-63 (CONTINUED)
CATEGORY IV-D**

Item Number	Commenter and Affiliation
IV-D-21	Edward J. Campobenedetto Institute of Clean Air Companies (ICAC) Washington, D.C.
IV-D-22	L. Glen Kurowski, Environmental Manager, Air Monsanto St. Louis, MS
IV-D-23	Joanna L. Johnson, General Counsel Automotive Oil Change Association (AOCA) Dallas, TX
IV-D-24	Greg Gesell, Principal Environmental Engineer American Ref-Fuel Houston, TX
IV-D-25	National Petrochemical & Refiners Association (NPRA) Washington, D.C.
IV-D-26	Francis A. Ferraro, Vice President Environmental Management and Policy Wheelabrator Technologies, Inc. Hampton, NH
IV-D-27	Peggi-Ann Davis, Chairman South Carolina Pulp & Paper Association (SCPPA) Hartsville, SC
IV-D-28	William R. Johnson, Senior Vice President of Operations Kincaid Furniture Co., Inc. Hudson, NC
IV-D-29	C. Richard Titus, Executive Vice President Kitchen Cabinet Manufacturers Association (KCMA) Reston, VA
IV-D-30	Bill W. Upton Placer Dome U.S. Inc Beowawe, NV
IV-D-31	Edward J. Wilusz, Director Government Relations Wisconsin Paper Council Necnah, WI

**TABLE 2-1. DOCKET A-94-63 (CONTINUED)
CATEGORY IV-D**

Item Number	Commenter and Affiliation
IV-D-32	Ted Holcombe, Senior Environmental Policy Engineer Environmental Affairs Department Pacific Gas and Electric Company San Francisco, CA
IV-D-33	John E. DiFazio, Jr. Chemical Specialties Manufacturers Association (CMSA) Washington, D.C.
IV-D-34	John R. Sreumgard, Executive VP Scrap Tire Management Council (STMC) of the Rubber Manufacturers Association (RMA) Washington, D.C.
IV-D-35	William J. Doyle, PhD Marathon Oil Company Findlay, OH
IV-D-36	Elsie L. Munsell, Deputy Assistant Secretary of the Navy Environment and Safety Washington, D.C.
IV-D-37	Michelle G. Lusk, Director of Regulatory Affairs Cement Kiln Recycling Coalition Washington, D.C.
IV-D-38	Kimberlie A. Cole, Environmental Compliance Manager GTS Duratek Oak Ridge, TN
IV-D-39	Michael G. Dowd On Behalf of Tractebel Power, Inc. Richmond, VA
IV-D-40	Alan E. Stinchfield, Director Regulatory Strategy and Technical Services Fort James Corp. Deerfield, IL
IV-D-41	Norman L. Morrow ExxonMobil Chemical Co. Houston, TX

**TABLE 2-1. DOCKET A-94-63 (CONTINUED)
CATEGORY IV-D**

Item Number	Commenter and Affiliation
IV-D-42	Jim Jackson Boise Cascade Corp. Boise, ID
IV-D-43	Llewellyn Matthews Northwest Pulp & Paper Association Bellevue, WA
IV-D-44	Corey A. Brandt, Environmental Projects Manager P.H. Glatfelter Co. Spring Grove, PA
IV-D-45	Terry Carroll Minergy Corp. Waukesha, WI
IV-D-46	Bruce Goodman On Behalf of Primary Power Management & Development Grand Rapids, MI
IV-D-47	Philip T. Cavanaugh Chevron Washington, D.C.
IV-D-48	Howard D. Lienert, P.E., Manager Environmental Regulatory Affairs, International Paper Memphis, TN
IV-D-49	Karin Ritter American Petroleum Institute (API) Washington, D.C.
IV-D-50	Terry Godar, citizen
IV-D-51	W. Fred McGuire, Chairman Utility Solid Waste Activities Group (USWAG) Washington, D.C.
IV-D-52	Ronald N. Liesemer American Plastics Council

**TABLE 2-1. DOCKET A-94-63 (CONTINUED)
CATEGORY IV-D**

Item Number	Commenter and Affiliation
IV-D-53	Rodger D. Randolph, Director State of Missouri Department of Natural Resources Division of Environmental Quality Jefferson City, MO
IV-D-54	Roderick T. Dwyer, Deputy General Counsel National Mining Association Washington, D.C.
IV-D-55	Sharon Kneiss, Vice President Regulatory Affairs American Forest & Paper Association Washington, D.C.
IV-D-56	Laura L. Burrell, P.E., Manager Environmental Policy Chemical Manufacturers Association Arlington, VA
IV-D-57	Ronald W. Gore, Chief Air Division Alabama Department of Environmental Management
IV-D-58	Matthew O. Tanzer General Electric Co. Fairfield, CT
IV-D-59	Michael R. Weber, Director of Environmental Affairs CMS Generation Co. Dearborn, MI
IV-D-60	Dana Dolloff, Director Environmental Affairs Rayonier
IV-D-61	John K. Pitner, Air Team Leader West Virginia Manufacturers Association (WVMA)
IV-D-62	Pamela F. Faggert, Vice President and Chief Environmental Officer Virginia Power Glen Allen, VA
IV-D-63	Sierra Club, California Communities Against Toxics and Desert Citizens Against Pollutants

**TABLE 2-1. DOCKET A-94-63 (CONTINUED)
CATEGORY IV-D**

Item Number	Commenter and Affiliation
IV-D-64	Robert D. Bessette, President Council of Industrial Boiler Owners (CIBO) Burke, VA
IV-D-65	Bart E. Cassidy On Behalf of Inter-Power/AhlCon Partners, L.P. Bala Cynwyd, PA
IV-D-66	Charles F. Conner, President Corn Refiners Association Washington, D.C.
IV-D-67	Tom Tyler, Associate Counsel Institute of Scrap Recycling Industries, Inc. Washington, D.C.
IV-D-68	Allen R. Ellett BP Amoco Oil Oregon, OH
IV-D-69	John E. Pinkerton National Council of the Paper Industry for Air and Stream Improvement (NCASI) Research Triangle Park, NC
IV-D-70	Hassan Nekoui Novartis Pharmaceuticals Corp.
IV-D-71	Ron Helms, Air Subcommittee Chair Alabama Pulp and Paper Council Montgomery, AL
IV-D-72	Benjamin S. Bilus, Senior Associate Counsel Champion International Corp. Stamford, CT
IV-D-73	Mark Vignovic, Director Environmental Control Weirton Steel Corp. Weirton, WV
IV-D-74	William D. Glover, Director of Engineering Vaughan Bassett Furniture Co. Galax, VA

**TABLE 2-1. DOCKET A-94-63 (CONTINUED)
CATEGORY IV-D**

Item Number	Commenter and Affiliation
IV-D-75	Stephen N. Haughey Frost & Jacobs, LLP Cincinnati, OH
IV-D-76	Lucinda Bach, Environmental Specialist Dayton Power & Light Co. (DP&L) Dayton, OH
IV-D-77	Maria Zannes Integrated Waste Services Association (IWSA) Washington, D.C.
IV-D-78	N. LaDonna Driver Hodge & Dwyer Attorneys at Law Springfield, IL
IV-D-79	Robert Nash, Manager Environmental Operations Glaxo Wellcome Research Triangle Park, NC
IV-D-80	John Kellogg, General Manager La-Z-Boy Lincolnton Lincolnton, NC
IV-D-81	Mary Barraco, Manager Compliance and Regulatory Affairs Kinross Gold, USA, Inc. Salt Lake City, UT
IV-D-82	Midge Shelby LWD, Inc. Calvert City, KY
IV-D-83	Barry A. Branscome, Vice President - Engineering Webb Furniture Enterprises, Inc. Galax, VA
IV-D-84	Tomey Tuttle Illinova Power Marketing, Inc.
IV-D-85	Melvin E. Keener, PhD, Executive Director Coalition for Responsible Waste Incineration Washington, D.C.

**TABLE 2-1. DOCKET A-94-63 (CONTINUED)
CATEGORY IV-D**

Item Number	Commenter and Affiliation
IV-D-86	Ronald L. Pitzer, Manager Environmental Affairs Eli Lilly and Co. Indianapolis, IN
IV-D-87	John R. Evans, Manager Environmental Affairs Lyondell Chemical Co. Houston, TX
IV-D-88	Louis Wolfe, citizen
IV-D-89	Arthur E. Smith, Jr., Environmental Officer and Counsel NiSource Merrillville, IN
IV-D-90	Daniel J. Porter Mandan Refinery BP Amoco Mandan, ND
IV-D-91	Dennis R. Knisley Eastman Chemical Co. Kingsport, TN
IV-D-92	Ron Huffman Bayer Corporation Pittsburgh, PA
IV-D-93	Sander Nydick Thermo Ecotek Corporation Waltham, MA
IV-D-94	J. L. Burgess, P.E., Director Division of Environmental Engineering North Dakota Department of Health Bismarck, ND
IV-D-95	S. Bem Air Programs Branch Indiana Department of Environmental Management Indianapolis, IN

2.1 LIST OF ACRONYMS AND ABBREVIATIONS

Abbreviations and Acronyms Used in This Document.

Btu	British thermal units
CAA	Clean Air Act
Cd	Camium
CEMS	Continuous emission monitoring system
CFR	Code of Federal Regulations
CISWI	Commercial and industrial solid waste incineration
EPA	Environmental Protection Agency
FR	Federal Register
HCl	Hydrogen Chloride
Hg	Mercury
HMIWI	Hospital/medical/infectious waste incineration
ICCR	Industrial Combustion Coordinated Rulemaking
lbs/hr	Pounds per hour
MACT	Maximum achievable control technology
mg/dscm	Milligrams per dry standard cubic meter
MWC	Municipal waste combustion
ng/dscm	Nanograms per dry standard cubic meter
NO _x	Oxides of nitrogen
NSPS	New source performance standards
PAH's	Polynuclear Aromatic Hydrocarbons
Pb	Lead

PCB's	Polychlorinated biphenyl
POM's	Particulate organic matter
ppm	Parts per million
PURPA	Public Utility Regulatory Policies Act
RDF	Refuse derived fuel
SNCR	Selective non-catalytic reduction
SO ₂	Sulfur dioxide
SWDA	Solid Waste Disposal Act
TEQ	Toxic equivalency

3.0 COMMERCIAL AND INDUSTRIAL SOLID WASTE INCINERATION UNITS

3.1 APPLICABILITY

3.1.1 Selection of Affected Units

Hazardous Waste

Comment: Six commenters (IV-D-20, IV-D-56, IV-D-58, IV-D-82, IV-D-85, IV-D-87) requested that language be added to §§60.2020(c) and 60.2555(c) of the proposed CISWI standards and guidelines that allows a unit to be exempt if it is operated under RCRA “Interim Status” provisions. The commenters (IV-D-20, IV-D-56, IV-D-58, IV-D-82, IV-D-85, IV-D-87) recommended exempting all units “required to obtain a permit under section 3005 of the Solid Waste Disposal Act,” instead of those that already have a section 3005 permit.

Four commenters (IV-D-20, IV-D-56, IV-D-82, IV-D-85) stated that, in §§60.2010 and 60.2550 of the proposed CISWI standards and guidelines, EPA should exempt units that are regulated under subpart EEE: Final Standards for Hazardous Air Pollutants from Hazardous Waste Combustors (September 30, 1999, FR 52827). Two commenters (IV-D-82, IV-D-85) noted that hazardous waste combustors subject to Subpart EEE will have Title V permits for air emissions instead of RCRA permits, and therefore, these facilities will not be required to obtain a section 3005 air emissions permit. Three commenters (IV-D-82, IV-D-85, IV-D-92) stated that the EPA should provide guidance on how facilities that burn both hazardous and non-hazardous waste in the same unit will transition between the CISWI standards and guidelines and the HWC MACT rule.

Response: The EPA has modified the hazardous waste exemption in §§60.2020(g) and 60.2555(g) to exempt units that are required to get a permit under section 3005 of the SWDA and units that are regulated under subpart EEE. Units that burn both hazardous and non-hazardous waste at the same time would either be required to get a permit under section 3005 of the SWDA

or would be subject to Subpart EEE, and therefore, would not be subject to the CISWI standards and guidelines.

Tires

Comment: One commenter (IV-D-24) stated that facilities that combust tire-derived fuel should not be subject to the CISWI standards and guidelines. Three commenters (IV-D-27, IV-D-55, IV-D-72) stated that units burning tires and tire-derived fuel should be explicitly excluded from the CISWI standards and guidelines.

Response: An exemption specifically for facilities that combust tire-derived fuel or tires has not been added to the CISWI standards and guidelines. However, a definition of commercial and industrial waste has been added to the CISWI standards and guidelines to clarify that they only cover units burning solid waste without energy recovery. Therefore, any unit that burns tires or tire-derived fuel for energy recovery is not subject to the CISWI standards and guidelines.

Control Devices

Comment: Three commenters (IV-D-09, IV-D-25, IV-D-49) stated that air pollution control equipment should be categorically exempt from the CISWI standards and guidelines. One commenter (IV-D-35) stated that any combustion device whose function is pollution control as mandated by another Federal or State requirement should be exempt from the CISWI standards and guidelines. One commenter (IV-D-73) stated that the CISWI standards and guidelines are not clear as to whether they apply to flares burning surplus, by-product, blast furnace gas. One commenter (IV-D-94) stated that it is unclear whether incinerators used for air pollution control are covered by the CISWI standards and guidelines.

Response: Incinerators used as air pollution control devices and flares would not be covered by the CISWI standards and guidelines because they are not burning contained gases. The definition of solid waste includes only "...solid, liquid, semisolid, or contained gaseous materials..." A definition of "contained gaseous material" has been added to the CISWI standards and guidelines to clarify that only gases that are in a container when that container is combusted are covered by the CISWI standards and guidelines.

Comment: Three commenters (IV-D-15, IV-D-56, IV-D-58) requested that remediation incinerators (e.g., soil and groundwater) be excluded from the CISWI standards and guidelines.

One commenter (IV-D-15) stated that these units, which are mostly temporary skid-mounted units that operate in one location for no more than 6 to 36 months, were not represented in the rulemaking database.

Response: The CISWI standards and guidelines do not cover hazardous waste combustion units. Therefore, if these remediation incinerators are burning hazardous wastes they would not be covered by the CISWI standards and guidelines. However, if these units are not burning hazardous wastes they are covered by the CISWI standards and guidelines. The commenters failed to provide any technical basis on which EPA could consider an exemption for portable remediation units.

Small Units (size issues)

Comment: Several commenters (IV-D-09, IV-D-24, IV-D-30, IV-D-35, IV-D-36, IV-D-49, IV-D-54, IV-D-57, IV-D-81, IV-D-92, IV-D-95) stated that the CISWI standards and guidelines should contain exemptions or subcategorizations for certain types of small units. One commenter (IV-D-09) stated that the EPA failed to include many small to moderate (less than 500 lb/hr and most intermittently operated) incinerators in its analysis and therefore has subjected these units to an inappropriate level of control.

Three commenters (IV-D-30, IV-D-35, IV-D-49) stated that “Smart Ash” incinerators should be exempt from the CISWI standards and guidelines. One commenter (IV-D-09) stated that the EPA did not include these units, which are also known as cyclonic barrel burners, in the regulatory analysis (50 to 150 lbs/hr capacity and typically burn nonhazardous oily materials including rags and sorbents).

Two commenters (IV-D-36, IV-D-95) requested that EPA clarify that small MWC units, those with a capacity of less than 35 tons per day, are exempt from the CISWI standards and guidelines. Three other commenters (IV-D-54, IV-D-57, IV-D-81) described small incineration units that burn municipal wastes (i.e., food wastes, cardboard, office trash) and stated that these small units should not be covered by the CISWI standards and guidelines.

One commenter (IV-D-24) stated that there should be a distinction between sizes and types of facilities if there are facilities identified with a heat release greater than 10 million Btu/hr that are subject to the CISWI standards and guidelines. The commenter (IV-D-24) stated that

subcategorizing on the basis of heat release rate would allow the CISWI standards and guidelines to take into account differences in controls and costs.

Response: The intent of the CISWI standards and guidelines is to cover commercial and industrial solid waste incinerators, regardless of size. However, EPA did not intend to cover cyclonic barrel burners in the CISWI standards and guidelines, therefore, an exemption for cyclonic barrel burners has been added to the final standards and guidelines. In addition, it is not the intent of the CISWI standards and guidelines to cover the combustion of municipal solid waste. Therefore, EPA revised the standards and guidelines to clarify that MWC units that combust greater than 30 percent municipal solid waste or refuse-derived fuel, as defined in 40 CFR part 60, subparts Ea, Eb, AAAA, and BBBB, and that have capacity to combust less than 35 tons per day of municipal solid waste or refuse-derived fuel are not subject to the CISWI standards and guidelines.

As described in the preamble to the proposed standards and guidelines (64 FR 67097, last paragraph of first column) “Categories may be divided into subcategories when differences (such as design, fuel, or waste type, etc.) between given types of units lead to corresponding differences in the technical feasibility of applying emission control techniques. The design and operating information that EPA reviewed to date for CISWI units does not indicate the need for subcategorization of this category.” No additional data was provided after proposal to support subcategorization. Therefore, there are no subcategories in the CISWI standards and guidelines.

The EPA’s CISWI inventory included a wide range of unit designs, waste types and sizes. The range of sizes in the database included units burning less than 100 pounds of waste per hour to those that burn about 40,000 pounds of waste per hour. Approximately 50% of the CISWIs in the inventory database burn 500 pounds of waste per hour or less. The EPA’s impacts analysis includes a small CISWI model unit that burns 100 pounds of waste per hour.

Agricultural Waste and Pathological Exemptions

Comment: Two commenters (IV-D-10, IV-D-26) stated that the exemption for agricultural wastes should be expanded to cover units combusting 90 percent by weight biomass fuels (which includes bagasse and untreated wood). Alternatively, one of the commenters (IV-D-10) suggested that the EPA could exempt both biomass fuel and agricultural waste.

Response: The EPA did not revise the agricultural waste exemption in the CISWI standards and guidelines to include untreated wood. It was not EPA's intent to include untreated wood and untreated wood products in the definition of agricultural waste. In the final CISWI standards and guidelines, CISWI units that recover energy are not covered. Therefore, units burning bagasse or untreated wood, which recover energy (e.g., generate steam) would not be covered.

Comment: Three commenters (IV-D-10, IV-D-12, IV-D-26) stated that instead of being measured on an instantaneous basis, the agricultural waste exemption (§60.2010(d) and §60.2550(d)(3) of the proposed CISWI standards and guidelines) should be based on an averaging period of a minimum of 30 days. One commenter (IV-D-86) stated that the agricultural waste exemption should be calculated on a calendar quarter basis rather than an instantaneous basis. In addition, two commenters (IV-D-10, IV-D-12) stated that the EPA should clarify that supplemental fuels (e.g., natural gas, oil, and wood) are not considered when calculating compliance with the 90 percent requirement.

Response: The EPA revised the agricultural waste exemption in (§60.2020(b) and §60.2555(b) of the final CISWI standards and guidelines) to clarify that the weight of agricultural waste is calculated on a calendar quarter basis. In addition, EPA clarified that the weight of auxiliary fuels and combustion air are excluded.

Comment: Three commenters (IV-D-26, IV-D-86, IV-D-94) stated that the pathological waste exemption (§60.2010(c) and §60.2550(d)(2) of the proposed CISWI standards and guidelines) should be calculated on a calendar quarter basis rather than an instantaneous basis.

Response: The EPA revised the pathological waste exemption (§60.2020(a) and §60.2555(a) of the final CISWI standards and guidelines) to clarify that the weight of pathological waste is calculated on a calendar quarter basis. In addition, EPA clarified that the weight of auxiliary fuels and combustion air are excluded.

Comment: One commenter (IV-D-86) stated that chemotherapeutic waste and low-level radioactive wastes should be added to the pathological waste exemption. The commenter (IV-D-86) recommended that the EPA use the appropriate definitions from the medical waste rule at 40 CFR 60.51c. In addition, the commenter (IV-D-86) requested that a new paragraph be added to exclude incinerator units that burn greater than 90 percent of any combination of agricultural, pathological, chemotherapeutic, and low-level radioactive waste.

Response: The EPA revised the pathological waste exemption in §60.2020(a) and §60.2555(a) of the final CISWI standards and guidelines by adding low-level radioactive waste and chemotherapeutic waste, consistent with the medical waste rule. In addition, the definitions for chemotherapeutic waste and low-level radioactive waste from 40 CFR 60.51c have been added.

The EPA did not revise §§60.2020 and 60.2555 to exempt incinerators that burn greater than 90 percent of any combination of agricultural, pathological, chemotherapeutic, and low-level radioactive waste. It is the EPA's intent to exempt units that burn primarily pathological waste or primarily agricultural waste, not units that burn a little of each of these wastes.

Parts, Rack and Drum Units

Comment: Four commenters (IV-D-56, IV-D-58, IV-D-87, IV-D-92) stated that, since parts, racks, and drum burn-off units were excluded from EPA's analysis, they should not be covered by the CISWI standards and guidelines.

Response: The EPA has added an exemption for rack, part, and drum reclamation units to §§60.2020(k) and 60.2555(k) of the final standards and guidelines. These reclamation units are a part of another process or manufacturing operation and are unique to the overall manufacturing process. Therefore, they are best considered during regulation development for the process they are part of. To the extent that rack, part and drum reclamation units are located at major sources, these units will be covered by MACT standards developed to regulate those major sources.

Other MACTs

Comment: One commenter (IV-D-32) stated that the standards should not apply to units subject to current or future combustion source Standards. Another commenter (IV-D-48) stated that there should be a general exclusion for units that are regulated under other MACT standards.

Response: The final standards and guidelines exclude combustion units that are subject to other combustion source regulations. Specifically, the final CISWI standards and guidelines exclude MWC units, HMIWI units, and hazardous waste combustion units. Some combustion units that are not specifically listed in §60.2020 of subpart CCCC or §60.2555 of subpart DDDD

are excluded because they recover energy. The final CISWI standards and guidelines do not cover combustion units that recover energy.

Boilers

Comment: Many commenters (IV-D-11, IV-D-13, IV-D-17, IV-D-21, IV-D-31, IV-D-40, IV-D-42, IV-D-43, IV-D-44, IV-D-46, IV-D-47, IV-D-48, IV-D-51, IV-D-55, IV-D-60, IV-D-61, IV-D-69, IV-D-71, IV-D-72, IV-D-76, IV-D-81, IV-D-84, IV-D-89, IV-D-93) stated that the CISWI standards and guidelines should not regulate boilers. These units included: utility boilers that are co-fired with tires or other supplemental fuels (yard waste; wood waste from logging operations; wood mill operations; fruit orchard operations; construction and demolition debris; industrial waste wood consisting of crates, pallets, cribbing, dunnage; kraft paper waste from manufacturing operations; paper pellets; non-chlorinated, non-halogenated plastics; discarded Christmas trees); industrial boilers at pulp and paper facilities that co-fire paper mill sludge with fossil and biomass fuels; and evaporation of boiler cleaning waste in fossil-fuel-fired steam generators. One commenter (IV-D-13) stated that EPA should expand the list of the subparts in 40 CFR Part 60 that are excluded from the proposed CISWI standards and guidelines to include the boilers Standards: subparts D, Da, Db, and Dc.

The commenters cited the following reasons for not including boilers in the CISWI standards and guidelines: The Congressional intent of section 129 of the CAA was to regulate incinerators, not boilers. Boilers were intended to be regulated under the section 112 industrial boiler MACT; EPA did not consider boilers in determining the MACT floor, emissions limitations, or impacts; and boilers were not considered by the ICCR committee or the EPA in developing the CISWI database or the respondent universe. Four commenters (IV-D-27, IV-D-47, IV-D-71, IV-D-69) stated that the CISWI standards and guidelines should not regulate process heaters.

Response: The final CISWI standards and guidelines do not cover units, such as boilers and process heaters, that recover energy. (See the preamble to the final standards and guidelines for further discussion.)

De minimus for energy recovery units

Comment: Commenters (IV-D-10, IV-D-24, IV-D-26, IV-D-32, IV-D-40, IV-D-46, IV-D-48, IV-D-49, IV-D-58, IV-D-59, IV-D-62, IV-D-71) stated that energy recovery units (i.e., commercial and industrial boilers) burning small amounts of solid waste should not be regulated under the CISWI standards and guidelines.

Response: The EPA revised the final standards and guidelines so that units that recover energy are not covered. Therefore, the energy recovery units that the commenters reference would not be covered by the final standards and guidelines.

De minimus, energy recovery not specified

Comment: One commenter (IV-D-50) described flame or flash evaporation, where water with trace amounts of VOCs are injected into the combustion zone of a burner. The commenter (IV-D-50) stated that without a de minimus exemption, this process would be subject to the CISWI standards and guidelines and they would not be able to comply from both a technical and economic standpoint.

Response: The final standards and guidelines do not include a de minimus exemption. The intent of the CISWI standards and guidelines is to cover commercial and industrial solid waste incinerators, regardless of size or amount of waste burned.

Recovery Units

Comment: Three commenters (IV-D-56, IV-D-66, IV-D-92) stated that carbon regeneration furnaces should be exempt from the CISWI standards and guidelines. One commenter (IV-D-92) stated that these units are in the same category as the exclusion for units that recover metals or catalysts.

One commenter (IV-D-45) requested that the EPA add their glass aggregate process and cement process, which involve the combustion of pulp and paper sludge for the primary purpose of recovering its chemical constituents, to the list of excluded processes.

Several commenters (IV-D-33, IV-D-56, IV-D-58, IV-D-61, IV-D-66) stated that EPA should provide a general exclusion for materials “combusted for the primary purpose of recovering chemical constituents” in place of, or in addition to, the list of known processes.

One commenter (IV-D-56) stated that catalyst metals recovery units should be explicitly exempted by revising the solid waste definition to exclude manufacturing byproduct streams/residues combusted for catalyst metal reclamation and reuse.

Response: The EPA did not add an exemption for carbon regeneration furnaces, glass aggregate and cement processes, or catalyst metal recovery units. The commenter failed to provide an adequate explanation of the carbon recovery process and how the recovered carbon is used. The glass aggregate and cement process described by one of the commenters seems to be a manufacturing process and not a chemical recovery process. However, a petition process has been added to the final standards and guidelines and any unit not listed in §§60.2020(n) or 60.2555(n) may petition the Administrator, as described under §§60.2025 and 60.2555, for an exemption under the chemical recovery process provisions.

A chemical recovery unit exemption has been added to the final standards and guidelines for “units burning only manufacturing byproduct streams/residues containing catalyst metals which are reclaimed and reused as catalysts or used to produce commercial grade catalysts.”

Comment: One commenter (IV-D-54) supported the exemption for units burning waste “for the primary purpose of recovering metals,” but suggested that the exemption be modified to make it clear that any secondary material combusted for material recovery purposes (e.g., to recover metal values) is also covered.

Response: Section 129(g) of the CAA states that “solid waste incineration unit” does not include “(A) materials recovery facilities (including primary or secondary smelters) which combust waste for the primary purpose of recovering metals...” Therefore, these units continue to be exempt from the CISWI standards and guidelines and no regulation change is necessary.

Other

Comment: One commenter (IV-D-41) requested an exemption, in §§60.2020 and 60.2555 of the proposed CISWI standards and guidelines, for synthesis gas production units. The commenter provided the following recommended language:

“Synthesis gas production units. Processes whose [sic] primary purpose is the production of hydrogen, carbon monoxide, synthesis gas or other gases for use in other processes are exempt from this subpart.”

Response: In §§60.2020(n)(6) and 60.2555(n)(6) EPA has added an exemption for “units burning only hydrocarbon liquids or solids to produce hydrogen, carbon monoxide, synthesis gas, or other gases for use in other manufacturing processes.”

Comment: One commenter (IV-D-92) requested clarification that the control of aerosols is not be covered by the CISWI standards and guidelines.

Response: The final standards and guidelines include a definition of “contained gaseous material” to clarify that only those gases that are in a container when they are burned are covered by the CISWI standards and guidelines.

Comment: One commenter (IV-D-92) asked for clarification as to whether analytical ovens (muffle furnaces - these do not use controlled flame combustion) are covered by the CISWI standards and guidelines. One commenter (IV-D-41) stated that laboratory samples not intended for disposal should be specifically excluded from the definition of solid waste, if a general “discard” test is not added to the solid waste definition. The commenter (IV-D-41) suggested the following wording: “Materials are not solid wastes when combusted for the purpose of chemical or physical analysis.” The commenter (IV-D-41) stated that if none of these changes are made to the definition of solid waste, then an across-the-board exemption for small combustion sources should be added to the CISWI standards and guidelines.

Response: The CISWI standards and guidelines were not intended to cover analytical ovens used to perform chemical or physical analyses of samples of materials. Therefore, to ensure that these units are not covered, an exemption for laboratory analysis units has been added to §§60.2020 and 60.2555 of the final standards and guidelines.

Comment: Two commenters (IV-D-56, IV-D-58) stated that process gas incinerators that co-fire a de minimus amount of liquids should be exempt from the CISWI standards and guidelines. Another commenter (IV-D-92) asked for clarification as to whether units that are burning process waste gases continuously and process waste liquids or solids occasionally are covered by the CISWI standards and guidelines. Three commenters (IV-D-27, IV-D-55, IV-D-72) stated that EPA should clarify that condensate derived from the overhead gases from steam strippers and other emission control gases that are burned are not solid waste.

Response: If these units are not recovering energy, then they are covered by the CISWI standards and guidelines. The EPA intends to cover incinerators burning any amount of

commercial or industrial solid waste without energy recovery under the CISWI standards and guidelines. Solid waste includes liquid, solid, and semi-solid wastes.

Comment: Two commenters (IV-D-39, IV-D-46) asked EPA to confirm that the proposed emission guidelines do not apply to PURPA-qualifying (Federal Power Act, as amended by the Public Utility Regulatory Policies Act of 1978) small power production facilities that burn stable ratios of wood and biomass, and waste such as tire derived fuel, that are well blended, or homogenized, prior to combustion. One commenter (IV-D-59) stated that in 60.2020(a)(2) and 60.2555(a)(2) of the proposed standards and guidelines, the phrase “the unit burns homogeneous waste...to produce electricity” should be replaced with “the unit burns solid waste (as defined in this subpart) to produce electricity (however, if the unit burns any refuse-derived fuel, it is not exempt from this subpart).”

Response: The definition of commercial and industrial waste in the final CISWI standards and guidelines include only those wastes combusted without energy recovery. Therefore, since the units described by the commenters are recovering energy to produce steam or electricity, they are exempt from the CISWI standards and guidelines.

Comment: One commenter (IV-D-31) stated that the CISWI standards and guidelines should exclude fluidized-bed units at pulp and paper mills. The commenter (IV-D-31) stated that these units could be viewed as being subject to the CISWI standards and guidelines because they have combustion chambers that are physically separated from the energy recovery system. The commenter (IV-D-31) stated that there is no doubt that these units recover, export and use energy.

Response: The EPA agrees that units physically separated from their associated energy recovery systems may be legitimate energy recovery devices. Therefore, the requirement for energy recovery to be part of the unit’s “integral” design has been removed. The units described by the commenter would be considered to be recovering energy and would not be covered by the CISWI standards and guidelines. In addition, a definition of energy recovery has been added to the final standards and guidelines.

Comment: One commenter (IV-D-37) stated that cement kilns firing solid waste should be expressly excluded from the applicability of the proposed CISWI standards (§§60.2020 and 60.2555) by adding a provision similar to that in the MWC and MWI CISWI standards and guidelines. The commenter (IV-D-37) stated that EPA does not have authority to regulate

cement kilns under section 129. In addition, the commenter (IV-D-37) stated that these units were not included in the analysis and are very different than incinerators in design and function.

Response: The EPA did not intend to cover cement kilns under the CISWI standards and guidelines, therefore, an exemption for cement kilns has been added to §§60.2020 and 60.2555 of the final standards and guidelines to ensure that they are not covered.

The decision not to include cement kilns in the CISWI standards and guidelines reflects EPA's determination that cement kilns do not fit within the scope of the CISWI standards and guidelines and are more appropriately regulated by the cement kiln regulations promulgated under section 112. This decision does not reflect a determination that cement kilns cannot be regulated under section 129. With the exception of those solid waste incineration units that are expressly excluded from regulation by section 129(g)(1), Congress gave EPA the authority under section 129 to establish regulations for all solid waste incineration units. This includes cement kilns that combust solid waste material, including refuse-derived fuel.

Comment: One commenter (IV-D-95) questioned whether a health clinic that burns outdated pharmaceuticals would be a CISWI unit.

Response: A unit that burns outdated pharmaceuticals would be a CISWI unit under the CISWI standards and guidelines.

3.1.2 Modification and Reconstruction

Comment: One commenter (IV-D-22) stated that modifications to comply with the subpart DDDD or Part 63 CISWI standards and guidelines should not qualify as reconstruction or modification.

Response: The EPA believes that the commenter misread the regulations. section 60.2015(b) of proposed subpart CCCC clearly states that if you make a physical or operational change to your incineration unit primarily to comply with the emission guidelines in subpart DDDD, then your incineration unit is not affected by subpart CCCC. Such changes do not qualify as reconstruction or modification. In addition, the EPA revised the applicability of these subparts to distinguish between units likely to be covered under section 112 (i.e., those burning solid waste with energy recovery) and those covered under section 129 (i.e., those burning solid waste without energy recovery). Therefore, the EPA does not expect a unit to be

affected by regulations developed under section 112 (part 63) and regulations developed under section 129 (part 60).

Comment: One commenter (IV-D-41) stated that the proposed modification and reconstruction requirements of Subparts CCCC and DDDD are unnecessary, will result in duplicative and unnecessary burdens, and should be deleted. The commenter (IV-D-41) recommend that language be added to subpart CCCC to override 60.14 and 60.15 of the Part 60 general provisions. The commenter (IV-D-41) stated that, if the requirements are not deleted from subpart CCCC, then language should be added to eliminate the initial performance test requirements of 60.2115(a) and 60.8 for affected facilities that come under subpart CCCC through modification or reconstruction.

The commenter (IV-D-41) also stated that, since the emission limits in the CISWI standards and guidelines are the same, all sources in the category, whether new or existing, will be subject to the same requirements. The commenter (IV-D-41) also stated that sources should be allowed to opt into subpart CCCC at any time on or after the date on which they would become subject to the state or federal rule implementing subpart DDDD.

One commenter (IV-D-78) stated that the EPA should replace the proposed definition of modification with the definition in §60.14 of the Part 60 general provisions. The commenter (IV-D-78) stated that the proposed definition does not include any exceptions for maintenance, repair and replacement.

One commenter (IV-D-78) stated that the EPA should replace the proposed definition of reconstruction with the definition in §60.15 of the Part 60 general provisions. The commenter (IV-D-78) stated that the proposed definition entails a much more laborious cost analysis than the historical “reconstruction” concept, in that several years or decades worth of changes to the unit would have to be evaluated, from both a physical and cost standpoint. In addition, the commenter (IV-D-78) stated that the approach in the proposed CISWI standards and guidelines depends on records of original unit costs that may no longer exist and adjustments of costs that may have been incurred years or decades ago, to current dollar values. Another commenter (IV-D-92) stated that the definition of reconstruction should contain the section 111 Standards look-back of two years instead of a life-of-the-unit look-back.

Response: The definitions of modification and reconstruction in subparts CCCC and DDDD apply, rather than the definitions in the general provisions. Section 129 directs EPA to

adopt specific definitions for incineration units and those definitions are incorporated into subparts CCCC and DDDD.

Section 129 also requires separate standards for new and existing solid waste combustion units. A unit is either new or existing, but not both. Section 60.2015(b) of subpart CCCC states that if you make a physical or operational change to your incineration unit primarily to comply with the emission guidelines in subpart DDDD, then your incineration unit is not affected by subpart CCCC. Such changes do not qualify as reconstruction or modification. A unit cannot be subject to subpart CCCC and subpart DDDD at the same time. Therefore, the unit will not be subject to duplicate requirements.

3.2 PRECONSTRUCTION SITING ANALYSIS (NSPS ONLY)

Comment: One commenter (IV-D-50) stated that the requirements for the siting analyses should be more specific, like the RCRA incinerator CISWI standards and guidelines, or they should be left out.

Response: The EPA did not revise the siting requirements in the Standards. Section 129 of the CAA requires siting requirements that minimize, on a site-specific basis, potential risks to public health or the environment.

3.3 WASTE MANAGEMENT PLAN

Comment: One commenter (IV-D-26) stated that the requirements for the waste management plan are vague and should not apply to existing facilities. Another commenter (IV-D-92) stated that the waste management plan should be used to allow facilities to reduce their testing and/or monitoring burden.

Response: The EPA is retaining the waste management plan requirements in the standards and guidelines. The EPA believes that the waste management plan is necessary to reduce the amount of toxic emissions from incinerated waste. The waste management plan requirements have been written to provide flexibility so that site specific circumstances can be considered.

If a facility wants to reduce their testing and/or monitoring burden through the use of alternative procedures, 40 CFR 60.13(i) of the General Provisions allows a facility to petition the Administrator for alternative monitoring procedures or requirements.

3.4 OPERATOR TRAINING AND QUALIFICATION

Comment: Two commenters (IV-D-15, IV-D-58) stated that language should be added to the CISWI standards and guidelines to provide a mechanism to review and approve alternative operator availability and training for remotely operated systems. The remotely operated systems are run using automatic shutdown systems and telemetry and do not have an on-site operator.

Response: The EPA has not added a mechanism to review and approve alternative operator availability and training provisions for remote systems to the final standards and guidelines. However, under the general provisions (40 CFR part 60, subpart A), the owner or operator can apply for the Administrator's approval of alternative plans for operator certification. Until the Administrator approves the alternative plans, the owner or operator must comply with the requirements as written.

Comment: Two commenters (IV-D-56, IV-D-64) stated that EPA should clarify the inconsistency in general operator accessibility requirements. The commenters (IV-D-56, IV-D-64) stated that no guidance is given for when a qualified operator is available from between 1 and 8 hours. The commenters (IV-D-56, IV-D-64) recommended that the accessibility time requirement in §60.2065(a) and §60.2635(a) of the proposal be modified to read "8 hours."

Response: The EPA revised §60.2095 to change "unavailable" to "not accessible." The standards and guidelines require that a trained operator be accessible at all times. Accessible means that the trained and qualified operator is either on site, or can be on site within 1 hour. There are no reporting or recordkeeping requirements unless the operator is not accessible for 8 hours or more.

Comment: One commenter (IV-D-22) stated that due to 12-hour work shifts, the EPA should allow 12 hours of operation without a qualified operator before triggering additional reporting. Another commenter (IV-D-92) stated that the EPA should allow more than one year for operator certification.

Response: The EPA believes that the operator training requirements are adequate and did not revise the operator training requirements. The standards and guidelines (§60.2100(a) and §60.2665(a)) do allow for the unit to be operated by "other plant personnel familiar with the operation of the CISWI unit who have completed a review of the information specified in §60.2095(a) or §60.2660(a) within the past 12 months" when an operator is not accessible for

more than 8 hours and less than 2 weeks. However, in this case, you must record the period when all qualified operators were not accessible and include the deviation in the annual report.

3.5 SELECTION OF THE MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY FLOOR

Consideration of Other Technologies

Comment: One commenter (IV-D-88) stated the EPA failed to consider the use of catalytic filter bags in existing baghouses as an appropriate control for dioxins. It is less expensive and more effective than carbon injection.

Response: The EPA had no performance or cost data on catalytic filter bags at the time of proposal, and no data were submitted with the comment. Therefore, EPA could not consider them for the final standards and guidelines.

Comment: One commenter (IV-D-50) said that, although add-on controls are not required for NO_x and CO, “good operation and maintenance” should be required with no numeric emission limit.

Response: Under section 129, EPA is required to promulgate numerical emission limitations for the pollutants listed in the statute. The EPA has no information that would lead it to conclude that the units in the emission database are poorly operated or maintained. Therefore, the emission limitations were established to account for the worst reasonably foreseeable circumstance for well operated and maintained CISWI units.

Comment: One commenter (IV-D-24) stated that proper and complete analysis, addressing the full 12% of existing units should be completed to fully justify the emission guidelines. Unless there are a full 12% of the facilities equipped with wet scrubbers, at least some fabric filter-equipped facilities must be included in the best performing 12% to be considered for the emission guideline floor.

Response: When developing MACT floors, EPA did include units equipped with fabric filters in the best performing 12% for those pollutants for which fabric filters are effective (i.e., particulate matter, lead, and cadmium). Emission data for these units and pollutants were also considered in determining emission limitations.

MACT Determination Criteria

Comment: One commenter (IV-D-63) stated that EPA considered cost in determining whether to set standards more stringent than the floors but failed to consider “non-air quality health and environmental impacts,” such as the bioaccumulative effects of dioxin and mercury on the health of wildlife and humans. Failure to consider these impacts contravenes the CAA.

Response: The EPA did consider non-air quality impacts in determining MACT for CISWI units. The Federal Register notices and regulatory support documents discuss the analyses of the expected wastewater, solid waste, and energy consumption impacts associated with regulating CISWI unit emissions.

In addition, Congress directed EPA in section 129 to set technology-based standards at the first MACT stage and then address remaining risks to public health and the environment in the subsequent residual risk stage in sections 129(h)(3) and 112(f)(2). Standards and emission guidelines are technology-based standards, not health-based standards, so EPA may not set emission limitations that eliminate all dioxin, mercury, or other emissions if such limitations are not achievable based on current technology. The EPA must later assess the remaining risks CISWI unit emissions pose after MACT standards are applied and establish additional standards, if necessary, “to provide an ample margin of safety to protect public health...or to prevent, taking into consideration costs, energy, safety, and other relevant factors, an adverse environmental effect.” (Section 112(f)(2) of the Clean Air Act, which is referred to by section 129(h)(3)).

Comment: One commenter (IV-D-38) stated that EPA considered a dry/wet system to control mercury and dioxin emissions beyond the floor levels and asserted that the cost effectiveness is considered excessive. The commenter (IV-D-38) stated that because EPA did not say why it was considered excessive or explain the criteria used to make this judgement, this decision is arbitrary and capricious. The commenter (IV-D-38) also stated that EPA also failed to consider any other beyond the floor options, such as banning or restricting combustion of certain materials or good combustion technology and techniques. The commenter (IV-D-38) asserted that EPA must set beyond-the-floor standards that reflect these measures.

Response: When determining whether an emission reduction beyond the MACT floor is “achievable,” the Administrator must consider “the cost of achieving such emission reduction...” Therefore, when evaluating an air pollution control technology option beyond the MACT floor, EPA must weigh the cost of the control option versus its environmental benefit. In the case of

the “dry/wet” system, EPA’s judgement was that the additional costs were excessive compared to the minimal additional emission reductions that would be obtained.

The other beyond-the-floor options mentioned by the commenter (e.g., pollution prevention techniques) were considered. However, EPA does not have data to quantify the emission reductions associated with such techniques. As a result, EPA cannot compare the additional emission reduction versus “the cost of achieving such reduction” to determine whether it is achievable. At proposal, EPA requested information on emissions, current applications, and costs for any recommended control option beyond the floor. This information was not included with the comment, and, absent the necessary data, EPA cannot evaluate whether emission reduction beyond the floor is achievable using these techniques.

Units Considered in MACT Determination

Comment: One commenter (IV-D-36) requested that EPA clarify whether the ordnance-related unit in the CISWI database is considered a CISWI unit.

Response: At proposal, EPA was not aware that an ordnance-related unit was in the CISWI database. This unit is a hazardous waste combustion unit, not a CISWI unit. Therefore, this unit has been removed from the database and to our knowledge, this was the only ordnance-related unit in the CISWI database.

Comment: One commenter (IV-D-26) stated that one of their independent power production units, which burns biomass fuel, tire-derived fuel, and processed yard waste, was not included in the database even though data on it was provided during the ICCR process.

Response: The final CISWI standards and guidelines do not cover units that recover energy. See the preamble to the final standards and guidelines for further discussion.

Comment: One commenter (IV-D-26) stated that the CISWI database includes a hazardous waste incinerator in Liverpool, OH. Another commenter (IV-D-58) stated that the database used by EPA in the development of the standards and guidelines incorrectly accounted for CISWI units they currently operate.

Response: We acknowledge that the CISWI database is not perfect. In fact, it is not possible, given limited time and resources, to develop a database that is perfect. However, EPA believes the CISWI database is representative of the types of units currently operating in the CISWI category and, more importantly, that it provides an adequate basis upon which to base the

final standards and guidelines. The hazardous waste combustion unit that the commenter refers to was included in an earlier version of the CISWI database. However, that version of the database was reviewed by EPA and stakeholders prior to development of the proposed standards and guidelines and additional units were removed, such as hazardous waste combustion units, boilers, small MWC units, and medical waste incinerator units. As a result, the hazardous waste combustion unit that the commenter referred to is no longer in the CISWI database and was not used in determining the emission limitations.

3.6 SELECTION OF THE MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY EMISSION LIMITS

Cadmium

Comment: Six commenters (IV-D-38, IV-D-56, IV-D-58, IV-D-61, IV-D-64, IV-D-86) noted that the data upon which the cadmium emission limit is based is extremely limited. As a result, the commenters believed the proposed emission limit for cadmium is too stringent compared to limits from other EPA rulemakings for similar sources (i.e., municipal waste combustors, hazardous waste combustors, hospital/medical/infectious waste incinerators), and will not be reliably achievable in practice by units subject to the standards and guidelines, even when employing MACT technology. One of the commenters (IV-D-38) suggested that EPA reevaluate the emission limit using data available from these other rulemakings.

Response: See below.

Dioxin/Furans

Comment: Thirteen commenters (IV-D-24, IV-D-26, IV-D-33, IV-D-36, IV-D-38, IV-D-56, IV-D-58, IV-D-61, IV-D-64, IV-D-79, IV-D-82, IV-D-85, IV-D-86) noted that the data upon which the dioxin/furans emission limit is based is extremely limited. As a result, the commenters believed that the proposed emission limit for dioxin/furans is too stringent compared to limits from other EPA rulemakings for similar sources (i.e., municipal waste combustors, hazardous waste combustors, hospital/medical/infectious waste incinerators), and will not be reliably achievable in practice by units subject to the standards and guidelines, even when employing MACT technology. Nine of the commenters (IV-D-24, IV-D-26, IV-D-33, IV-D-56, IV-D-58,

IV-D-61, IV-D-64, IV-D-79, IV-D-86) suggested that EPA reevaluate the emission limit using data available from these other rulemakings.

Response: See below.

Hydrogen Chloride (HCl)

Comment: Eight commenters (IV-D-26, IV-D-33, IV-D-38, IV-D-56, IV-D-58, IV-D-61, IV-D-64, IV-D-86) suggested that the limited data upon which the proposed HCl limit is based does not adequately account for the variability in waste types and control technology performance that CISWI units could reasonably foresee. Therefore, the commenters stated that a percent reduction alternative should be added to the final standards and guidelines for HCl. One commenter (IV-D-88), on the other hand, stated that the limit of 62 ppmvd is greater than what can be achieved with scrubbers (e.g., they achieve 99% on new hydrochloric acid steel pickling processes), and could, in most cases be achieved without a control device.

Response: See below.

Lead

Comment: Two commenters (IV-D-38, IV-D-64) stated that the lead emission limit should be reevaluated because the small number of tests appears to have resulted in a low emission standard.

Response: See below.

Mercury

Comment: Eleven commenters (IV-D-24, IV-D-26, IV-D-33, IV-D-38, IV-D-56, IV-D-58, IV-D-61, IV-D-64, IV-D-82, IV-D-85, IV-D-86) noted that the data upon which the mercury emission limit is based is extremely limited. As a result, the commenters believed that the proposed emission limit for mercury is too stringent compared to limits from other EPA rulemakings for similar sources (i.e., municipal waste combustors, hazardous waste combustors, hospital/medical/infectious waste incinerators), and will not be reliably achievable in practice by units subject to the standards and guidelines, even when employing MACT technology. Seven of the commenters (IV-D-24, IV-D-33, IV-D-56, IV-D-58, IV-D-61, IV-D-64, IV-D-86) suggested that EPA reevaluate the emission limit using data available from these other rulemakings.

Response: See below.

Nitrogen Oxides (NO_x)

Comment: One commenter (IV-D-22) stated that existing units burning wastes containing measurable concentrations of organically bound nitrogen will not be able to achieve the proposed limit for NO_x. The commenter (IV-D-22) recommended a limit of 780ppm for existing sources. One commenter (IV-D-21) stated that the proposed limit ignores the application of NO_x control technologies such as selective non-catalytic reduction (SNCR) to facilities in similar source categories.

Response: See below.

Particulate Matter

Comment: One commenter (IV-D-21) stated that the proposed limit for PM is two to three times higher than is achievable with a properly designed fabric filter or electrostatic precipitator, which can achieve levels below 30 mg/dscm. In addition, recent CISWI standards and guidelines for small MWC and medical waste incinerators are well below the proposed limit of 70 mg/dscm for CISWI units. One commenter (IV-D-22) said that, due to a high percentage of particulates less than 1.0 micron in size, they cannot meet the PM limit. The commenter (IV-D-22) recommended that EPA allow an alternative standard of 85% PM control for units with more than 85% by weight of PM being less than 1.0 microns. One commenter (IV-D-64) stated that the proposed particulate matter emission limit is extremely low and not achievable in practice. The commenter (IV-D-64) stated that EPA should reevaluate the existing database for representativeness and determine revised emission limits to allow achievability. The commenter (IV-D-64) stated that this reevaluation could include data from municipal waste combustors and hazardous waste incinerators.

Response: See below.

Sulfur Dioxide (SO₂)

Comment: Ten commenters (IV-D-22, IV-D-26, IV-D-33, IV-D-38, IV-D-41, IV-D-56, IV-D-58, IV-D-61, IV-D-64, IV-D-86) suggested that the limited data upon which the proposed SO₂ limit is based does not adequately account for the variability in waste types and control

technology performance that CISWI units could reasonably foresee. Therefore, the commenters stated that a percent reduction alternative should be added to the final standards and guidelines for SO₂.

Response: See below.

Inconsistency with Other Rulemakings

Comment: One commenter (IV-D-40) stated that the emission limits for cadmium, dioxin/furans, lead, and mercury should be consistent with those from the Hazardous Waste Combustor rule. Another commenter (IV-D-16) is concerned that the emission limits are more stringent than those from the municipal and medical waste incinerator CISWI standards and guidelines.

Response: See below.

Limits not Stringent Enough

Comment: One commenter (IV-D-63) stated that EPA's emission standards are less stringent than required by the CAA. The final standards should be as stringent as those calculated by the commenter from the CISWI database. The commenter (IV-D-63) stated that if EPA feels their data are insufficient to represent actual performance of individual units, the EPA should use its authority to obtain such data. The commenter (IV-D-63) stated that EPA's concern that the proposed mercury standard is too stringent, which results from the EPA's erroneous belief that all units should be able to achieve the floor levels just by employing a particular technology, is unfounded.

Response: Comments on the selection of emission limitation are discussed and responded to in the preamble to the final standards and guidelines.

Opacity

Comment: One commenter (IV-D-86) stated that the emissions limitation for opacity should be removed, because an opacity limitation is not required by the CAA, and it is difficult to obtain accurate readings when wet scrubbers are used (due to high moisture content).

Response: Section 129 of the CAA specifies that "standards promulgated under section 111 and this section . . . shall specify numerical emission limitations for . . . opacity (as

appropriate) . . . ” In our judgement, an opacity limitation is appropriate for the CISWI units, just as opacity limitations have been appropriate for the other categories of solid waste incineration units regulated under section 129.

In addition, Method 9 includes procedures for how to obtain opacity readings when water vapor (e.g., from a wet scrubber) is present in the plume. Section 2.3.1 of Method 9 states that “when condensed water vapor is present within the plume as it emerges from the emission outlet, opacity observations shall be made beyond the point in the plume at which condensed water vapor is no longer visible.” Section 2.3.2 of Method 9 states that “when water vapor in the plume condenses and becomes visible at a distinct distance from the emission outlet, the opacity of emissions should be evaluated at the emission outlet prior to the condensation of water vapor and the formation of the steam plume.”

Emission Database

Comments: Two commenters (IV-D-24, IV-D-91) urged EPA to obtain more emission data in conjunction with feed data from CISWI units in the inventory database, or, if not available, obtain and analyze additional data from relevant sources so that the emission limits are truly representative of MACT and also account for waste feed characteristics. Another commenter (IV-D-79) stated that EPA should consider the specific types of waste feed as part of its evaluation and determination of MACT standards in addition to the types of control systems currently in use, because emissions are greatly influenced by the type of waste incinerated.

Response: The types of waste burned by CISWI units vary significantly, and, as a result, there is not enough data to relate emission levels to specific types of waste. However, EPA believes that the approach used to establish emission limitations adequately accounts for waste variability, because it considers the worst reasonably foreseeable circumstance that a CISWI unit may encounter. (For a complete discussion, see the preamble to the final standards and guidelines.)

Comment: Five commenters (IV-D-26, IV-D-40, IV-D-44, IV-D-46, IV-D-48) stated that the database and information gathering have been inadequate to support the regulation of various types of boilers and small power production facilities. Therefore, the commenters concluded that the CISWI standards and guidelines have insufficient sample data to accurately determine the applicable emission limits and standards for these types of units.

Response: The final CISWI standards and guidelines do not cover units that recover energy. See the preamble to the final standards and guidelines for further discussion.

Comment: One commenter (IV-D-79) submitted a 1997 emission test for a 2000 lb/hr incinerator with a hydrated lime injection system and fabric filter.

Response: The EPA appreciates the commenter submitting this test report. The EPA has added the data for this unit to the CISWI emission database. The unit appears to be able to comply with the final standards and guidelines for all pollutants. Although the data do not demonstrate that this is the best-controlled unit in the category, the data do fall within the range of data from units equipped with wet scrubbers or fabric filters, which were considered in setting the emission limitations.

3.7 STACK TESTING AND TEST METHODS

Test Methods

Comment: One commenter (IV-D-26) stated that Methods 6C and 26A should be included in the emission guidelines as alternative methods.

Response: The EPA agrees with the commenter and has added Methods 6C and 26A to the CISWI standards and guidelines as alternative methods.

Comment: One commenter (IV-D-26) stated that §60.2700(b) of the proposal requires that all stack tests be conducted using the minimum run duration specified in the test method. However, the commenter (IV-D-26) pointed out that EPA Methods 5, 6, 23, and 29 in 40 CFR Part 60, Appendix A do not specify minimum run durations. The commenter (IV-D-26) suggested that the test durations should be as follows (these are equivalent to those specified in Subparts Ea, Eb, and Cb): Method 5 - 2 hours; Method 6 or 6c - 1 hour; Method 23 - 4 hours; and Method 29 - 2 hours.

Response: The EPA revised the standards and guidelines to include a run duration of 1-hour for test Methods 5, 6, 6C, 7, 7A, 7C, 7D, 7E, 10, 10A, 10B, 23, 26A, and 29, which is sufficient to collect an adequate sample.

Comment: One commenter (IV-D-26) stated that Method 26A should be combined with Method 5 to reduce testing costs.

Response: It is appropriate to combine Method 26A and Method 5. Method 26A states that "If desired, the particulate matter recovered from the filter and the probe is analyzed

following the procedures in Method 5.” Section 1.2 of Method 26A also describes a different sampling arrangement that must be used if particulate matter is sampled concurrently.

Comment: One commenter (IV-D-26) stated that, based on the MWC standard development process, Method 29 has been validated down to only 57 ug/dscm for mercury and the proposed limit is 5 ug/dscm. Another commenter (IV-D-24) stated that the emission concentration limit of 5 ug/dscm for mercury is likely below the detectable limits of the test method. Five commenters (IV-D-24, IV-D-26, IV-D-77, IV-D-82, IV-D-85) stated that the proposed mercury emission limit is below the detectable limits of available and approved test methods. In addition, two commenters (IV-D-82, IV-D-85) stated that the detection limit for SW 846 Method 0060 is 5.6 ug/dscm, therefore, a facility could never prove they were in compliance with this standard using EPA approved test methods.

Response: The EPA revised the emission limitation for mercury to 0.47 mg/dscm (470 ug/dscm); therefore, the commenter’s concern about the detection limit should no longer be an issue. However, it should be noted that Method 29 of appendix A of part 60 is the compliance method for mercury, rather than SW 846 Method 0060 cited by the commenter.

Comment: Two commenters (IV-D-40, IV-D-71) stated that the toxic equivalent (TEQ) approach should be used for any dioxins/furans emission limits. One commenter (IV-D-71) stated that any non-detectable compound should be calculated as zero.

Response: The dioxins/furans limit in the final standards and guidelines is on a toxic equivalency (TEQ) basis and they contain procedures for calculating TEQ. The provisions in the standards and guidelines §60.2125(g) and §60.2690(g) require that the measured concentration of each isomer be multiplied by the corresponding toxic equivalent factor in table 3 of subpart CCCC or table 4 of subpart DDDD. Nondetected isomers would be treated as zero.

Comment: Three commenters (IV-D-24, IV-D-26, IV-D-77) stated that the proposed dioxin limit is below the analytical method detection limit (0.28 ng/dscm). One commenter (IV-D-26) stated that the limit is also below the reference method quantization limit (2.93 ng/dscm) of the test method based on test data analysis using paired or quad sampling. One commenter (IV-D-24) stated that the emission concentration limit of 0.37 ng/dscm for dioxin is likely below the detectable limit of the test method.

Response: The emission limitation for dioxin/furans in the final standards and guidelines is 0.41 ng/dscm on a TEQ basis. Converting the dioxin/furan limitation from a TEQ basis to a

total mass basis results in a value that is at least one order of magnitude higher than the TEQ limitation (i.e., in the range of 4 ng/dscm or higher). Therefore, the dioxin/furan limitation in the final standards and guidelines is well above the detection and reference method quantization limits cited by the commenters.

Comment: One commenter (IV-D-92) stated that there will be difficulty doing the Method 9 opacity tests due to a shortage of persons certified in Method 9 opacity measurement.

Response: The EPA believes that Method 9 is the appropriate test method for the required opacity limitation. Owners or operators may have one of their existing CISWI operators certified in Method 9 opacity measurements.

Stack Testing

Comment: Three commenters (IV-D-56, IV-D-58, IV-D-61) stated that EPA should allow the owner/operator to propose and the Administrator to approve mass balances as site-specific alternatives to stack testing. Three commenters (IV-D-22, IV-D-41, IV-D-64) stated that EPA should provide owners/operators with the option to determine compliance through feed composition. One commenter (IV-D-22) stated that EPA should allow feed testing and certification of the absence Cd, Pb, Hg, chlorine and chlorides to demonstrate compliance with Cd, Pb, Hg, hydrogen chloride and dioxin/furan limits. Another commenter (IV-D-41) stated EPA should allow feed analyses a three hour composite feed sample analysis, along with measured or calculated stack gas rate to be used as an alternative to the stack tests for HCl and metals.

Response: Under the general provisions (40 CFR 60.13(i)), facilities can apply for approval of alternative or equivalent methods, including mass balances and feed composition, as site-specific alternatives to performance testing. Alternatively, a facility could petition the Administrator under §60.2115 (Standards of Performance) or §60.2680 (Emission Guideline) for specific operating limits to be established during the initial performance test and continuously monitored thereafter, reflecting the use of an alternative means of limiting emissions than the use of a wet scrubber to comply with the emission limitations.

Comment: Two commenters (IV-D-8, IV-D-82) requested that EPA delete the statement in §§60.2145 and 60.2715 of the proposal, that “the Administrator may request a repeat stack test at any time.” The commenters (IV-D-8, IV-D-82) asserted that the Administrator must show

cause for the repeat stack test and the facility must have the opportunity to respond to that request.

Response: The EPA has not removed the statement referred to by the commenters. To ensure that standards are complied with continuously, the EPA has the authority under section 114(a)(2) of the Clean Air Act to conduct inspections and to "...sample any emissions which such person is required to sample" The statement is included in the CISWI standards and guidelines for clarification purposes.

Comment: One commenter (IV-D-41) requested clarification that the initial performance test is required "...within 60 days after your CISWI unit reaches the maximum charge rate at which it will operate,..." Another commenter (IV-D-50) stated that "charge rate" is not defined, nor do the standards and guidelines describe how to measure charge rate on a continuous basis, record it once per hour, and calculate a 3-hour average, especially for a batch unit. One commenter (IV-D-92) asked for clarification on how the charge rate is determined for a batch unit. The commenter (IV-D-92) stated that EPA should clarify how batch units "continuously" monitor charge rates. Another commenter (IV-D-78) stated that EPA should change the term "charge rate" to language that is understood by historical practice or define the term "charge rate."

Response: The EPA revised the standards and guidelines to include procedures for calculating the maximum charge rate for continuous and intermittent units, as well as for batch units (see §60.2110(a)(1) and §60.2675(a)(1) of the final standards and guidelines). The charge rate is a measure of the capacity (e.g., waste combustion rate) at which you plan to operate the unit. The EPA believes that this is clear in the standards and guidelines, and therefore, has not added a definition of charge rate.

Operating Parameters

Comment: One commenter (IV-D-26) suggested that the petitioning and approval process mentioned in §60.2705(b) (What are my operating parameter requirements?) be specified and that a time period be specified for obtaining approval. The commenter (IV-D-26) recommend that if the Administrator does not respond within a certain time frame (e.g., 60 days), the proposed operating parameters would be considered approved until the Administrator determines otherwise. Another commenter (IV-D-26) stated that the methods for establishing the

minimum and maximum site-specific operating parameters during the initial stack test is not clear. If it is intended that the stack testing be conducted over a range of operating parameters in order to establish the minimum and maximum conditions that will demonstrate compliance with the emission limits, then the scope of such testing would be unnecessarily extensive and expensive. As an alternative, minimum and maximum levels for operating parameters could be established based upon some predetermined +/- 20 percent (or other) margin around the monitored operating parameters recorded during the initial stack testing. Another commenter (IV-D-41) requested clarification that stack tests are not needed at all operating conditions and feed compositions in order to determine the operating parameters. The commenter (IV-D-41) asserted that operating parameters need to be able to show compliance at minimum and maximum feed rates and compositions, but the testing is done at a representative feed rate. The commenter (IV-D-41) stated that engineering analysis is needed to show that the operating parameters proposed accomplish this need.

Response: The EPA has revised the standards and guidelines to specify the information requirements for the petition for specific operating limits for units that use a device other than a wet scrubber to comply with the emission limitations. The petition for specific operating limits must be submitted with the startup notification. The initial performance test cannot be conducted until after the petition has been approved by the Administrator. Following approval, the values for these operating limits must be submitted with the initial test report. (The EPA believes that establishing the operating limitations warrants EPA approval.) The performance tests do not need to be done at all possible operating conditions to establish maximum or minimum levels for operating parameters. Performance testing, as specified in §§60.2125 and 60.2690, must consist of a minimum of three test runs conducted under conditions representative of normal conditions.

Comment: One commenter (IV-D-26) stated that the default 3-hour rolling average basis specified by §60.2710 of the proposal for determining compliance with established operating parameters is not appropriate. The commenter (IV-D-26) stated that the averaging period for an operating parameter should be established on the same basis as the length of the testing performed to establish compliance with the emission standard for which the operating parameter is a surrogate.

Response: The EPA revised the test durations, and they are now consistent with the operating parameter averaging times. All pollutants require a 3-run average with a 1-hour

minimum sample time per run, so the total sampling time for the performance test that is used to establish the parameter limits is 3 hours.

More time for Establishing Operating Parameters and/or Stack Tests

Comment: One commenter (IV-D-41) stated that sources using a control device other than a wet scrubber to comply with the SO₂ and HCl emission limits may need extra time to obtain review and approval of stack test and operating parameter plans. The commenter (IV-D-41) recommended either the normal 60 or 180 days, or 60 days from approval of the proposed operating parameters, whichever is later, to complete the physical portion of the stack test. In addition, the commenter (IV-D-41) stated that the CISWI standards and guidelines should allow the permitting authority the right to provide an additional 30 days for submitting initial stack test results and operating parameter values, when appropriate.

Response: The EPA did not revise the standards and guidelines to allow more time for approval of stack test and operating parameter plans, nor did it revise the standards and guidelines to allow more time for submitting the initial performance test results. There is adequate time to receive approval for the alternative operating parameters from the EPA and conduct the initial performance test before the deadline. Existing units have 180 days from the final compliance date to conduct the initial performance test. New units have 180 days from their initial startup or 60 days from when they reach their operating charge rate, whichever is sooner, to conduct the initial performance test. Both existing and new units have an additional 60 days following the initial performance test to submit the initial test report.

Owners and operators of units should know what emission controls will be used and what operating parameters are important to monitor prior to their initial startup (for new units) or the final compliance date (for existing units). The EPA encourages that petitions for alternative operating parameters be sent to EPA as early as possible. Once received, EPA will review each petition in a timely manner.

3.8 MONITORING

Averaging time

Comment: Three commenters (IV-D-56, IV-D-58, IV-D-64) stated that the 3-hour rolling average compliance time for operating parameters should be revised to 24 hours. One of the

commenters (IV-D-64) stated that this daily-average approach has precedent in other CISWI standards and guidelines and is a more practical basis for determining compliance with operating parameter limits. One commenter (IV-D-26) stated that due to concerns stemming from EPA's Any Credible Evidence Rule, averaging times need to be specified for affected units that are already required to use CEMS for compliance monitoring/demonstration purposes as conditions of existing permits and/or other regulations. The commenter (IV-D-26) stated that, for units that are required by existing permits to continuously monitor SO₂ or NO_x, a 24-hour arithmetic block average compliance interval should be specified.

Response: The EPA did not revise the standards and guidelines to allow 24-hour averaging. The 3-hour rolling averaging period was chosen to be consistent with the performance test averaging times, which consist of three 1-hour sample runs.

Comment: One commenter (IV-D-86) asked EPA to clarify that the 3-hour rolling average is not to be calculated and updated every minute, but is composed of three 1-hour blocks.

Response: The commenter's assumption is correct. The 3-hour rolling average comprises three 1-hour blocks. This has been clarified in the final CISWI standards and guidelines.

Title V

Comment: One commenter (IV-D-26) stated that the emission guidelines should stipulate that compliance with the stack test and monitoring requirements in the standards and guidelines will meet the enhanced and periodic monitoring requirements under the Title V operating permit program and 40 CFR Part 70 regulations.

Response: There is no reason to include any additional reference to Part 70 monitoring requirements in the MACT rule, as the function of the permit under Part 70 is to incorporate the MACT rule's applicable requirements including the monitoring requirements.

Charge Rate

Comment: Several commenters (IV-D-12, IV-D-26, IV-D-56, IV-D-58) stated that the standards and guidelines should allow the use of alternative methods or operating procedures (e.g., steam rate, oxygen content in the flue gas, etc.) that can be used as surrogate measures to indicate charging rate. Three commenters (IV-D-10, IV-D-12, IV-D-26) stated that it is difficult

or impossible to obtain instantaneous readings of the charging rate of solid materials such as biomass fuels. Two commenters (IV-D-10, IV-D-26) stated that EPA should allow the use of steam generation monitoring for determining charge rate.

Response: The EPA has revised the standards and guidelines to include specific procedures for determining the charge rate for continuous, intermittent, and batch units (see §§60.2110(a)(1) and 60.2675(a)(1) of the final standards and guidelines). The commenters' suggestion to use steam rate or steam generation monitoring no longer applies because the CISWI standards and guidelines do not include units that recover energy (e.g., boilers).

Allow Additional Flexibility in Determining Operating Parameters

Comment: Several commenters (IV-D-21, IV-D-50, IV-D-56, IV-D-58, IV-D-64,) provided comments on the operating limits. Three commenter (IV-D-56, IV-D-58, IV-D-64) stated that EPA should provide the flexibility of petitioning the Administrator for alternative operating parameters for wet scrubbers as provided in §§60.2135(b) and 60.2705(b) of the proposal for other pollution control devices. Three commenters (IV-D-41, IV-D-56, IV-D-58) stated that, when using a pollution control device other than a wet scrubber, the EPA should allow the use of site-specific calibration and monitoring programs when site-specific factors and experience necessitate the use of practices that differ from manufacturers' recommendations, or where the manufacturer's recommendations are incomplete or become obsolete. One commenter (IV-D-56) stated that EPA should allow the use of initial engineering data and/or manufacturer's recommendations in determining site-specific operating parameters, because operating parameters recorded during initial performance testing may not adequately cover the full range of proper operation that the control systems and/or incinerator may experience.

One commenter (IV-D-50) stated that instead of minimum pressure drop across the scrubber the EPA should focus on statistical process control, which is a better tool for setting monitoring parameters for pH, flow, amperage and horsepower. The commenter (IV-D-50) stated that too much differential pressure is as much of a problem as too little.

One commenter (IV-D-21) stated that EPA should require the monitoring of oxygen and carbon monoxide. The commenter (IV-D-21) stated that, as a minimum, parametric monitoring should include temperature and flow (residence time) data that is calibrated to the conditions established during the initial stack test and verified during the annual tests.

Response: The EPA has revised the standards and guidelines to include specific procedures for determining the maximum or minimum site-specific operating limits for CISWI units using a wet scrubber or a fabric filter to comply. Owners or operators of units using a wet scrubber or fabric filter to comply may petition the Administrator for alternative operating parameters under section 60.13 of the Part 60 General Provisions. For CISWI units that are using an air pollution control device other than a wet scrubber to comply with the emission limitations, the owner or operator must petition the Administrator for site-specific operating limitations to be established during the initial performance test and continuously monitored thereafter.

Data Recording

Comment: One commenter (IV-D-50) stated that the proposed standards and guidelines require that too much data be collected and saved. Recording data every minute and maintaining the data for 5 years could amount to 8,059,200 pieces of data for one scrubber. Under the Acid Rain CISWI standards and guidelines, CEMS for SO₂ and NO_x only have to be able to make four readings per hour, and only two readings are required for a valid hourly average. One commenter (IV-D-78) stated that the data recording frequency should be changed from one minute to the fifteen-minute provision in §60.13.

Response: The EPA agrees with the commenters and revised the data recording times to every 15 minutes rather than every minute.

Comment: Two commenters (IV-D-21, IV-D-63) recommended incorporating periodic monitoring techniques using low-cost, portable analyzers to verify unit performance and parametric data at specific intervals. One commenter (IV-D-63) stated that yearly stack testing does not satisfy the section 129 requirement that emission monitoring protect public health. If CEMS are too costly or unavailable, EPA should require portable emission analyzers to test emissions at periodic intervals.

Response: Annual performance testing is not the only testing and monitoring requirement included in the standards and guidelines. The proposed and final standards and guidelines include continuous monitoring requirements to ensure compliance with operating limits, which are established during the annual performance tests (i.e., tests that demonstrate compliance with emission limitations). The operating limits ensure that the CISWI unit and air

pollution control equipment are operating properly, assuring the EPA and the public that the emission reductions envisioned by the standards and guidelines are being achieved.

Comment: One commenter (IV-D-63) stated that EPA claims that HCl CEMS are too costly based on the argument that the annual costs for the CEMS are about 70 percent of the annual cost for operating a wet scrubber. Without an explanation of why this is considered too costly, the decision is arbitrary and capricious.

Response: The conclusion that HCl CEMS are too costly is simply a judgement based on experience. To require CEMS for one pollutant at a cost approaching the annual costs for the control technology itself is unreasonable when other methods of monitoring performance and emissions are available that, in EPA's judgement, adequately protect public health and the environment.

Comment: One commenter (IV-D-63) noted that EPA claims that CEMS for PM and mercury have not been demonstrated for the purpose of determining compliance. If CEMS for PM or mercury have been demonstrated to be effective in other applications, they should be used for compliance.

Response: The EPA is actively pursuing the use of CEMs for the continuous measurement of particulate and mercury emissions. Performance specifications for these types of monitoring devices are being developed so that they can be used for compliance determination. Currently, these performance specifications have been proposed but have not yet been promulgated. It would be premature to require these CEMs in the CISWI standards and guidelines before the performance specifications are finalized. Therefore, CEMs for particulates and mercury have not been included in the CISWI standards and guidelines.

Idle Periods

Comment: One commenter (IV-D-41) stated that idle periods when the waste is not being fed into the incinerator should also be excluded from the operating limits. The commenter (IV-D-41) stated that their unit is a fluidized bed unit that must be maintained at operating temperature even if waste is not being fed. The commenter (IV-D-41) stated that during these periods they may not be able to maintain scrubber operating conditions (particularly pressure drop), but there is no environmental issue, since the pollutants requiring control are not being fed to the incinerator.

Response: The important consideration with regard to emissions is not whether waste is being fed into the incinerator but whether waste is being combusted in the incinerator. The CISWI standards and guidelines define shutdown as “the period of time after all waste has been combusted in the primary chamber.” Therefore, if all the waste has been combusted in the commenter’s fluidized bed incinerator, then the incinerator would be considered to be shutdown under the CISWI standards and guidelines. The operating limits do not apply during CISWI unit shutdown.

Operating parameter compliance date

Comment: One commenter (IV-D-41) recommended that compliance with the operating parameter limits begin on the date the initial stack test report is submitted, rather than on the date of the completion of the stack test.

Response: The requirement for existing units to meet the operating limits “on the date the initial performance test is required or completed (whichever is earlier)” has not been changed. Since the unit is required to meet the emission limits on the date that the initial performance test is completed, it is reasonable to expect that the unit meet the operating limits as well. Because operating parameter values are directly measured and, unlike pollutant measurements, do not require subsequent chemical analysis, the owner or operator will know what the operating limits are upon completion of the performance test.

Miscellaneous

Comment: Two commenters (IV-D-86, IV-D-92) asked for clarification on the minimum data requirements. One commenter (IV-D-86) requested that EPA define or describe what is considered a “valid operating hour” and a “valid operating day.” Another commenter (IV-D-92) asked the EPA to clarify how to show compliance for a batch unit with the requirement to collect monitoring data for a minimum of 75% of the time in a day. The commenter (IV-D-92) asked EPA to clarify when batch units are supposed to collect monitoring data, since startup, shutdown, and malfunctions are excluded.

Response: The minimum monitoring requirements have been revised in the final standards and guidelines and no longer refer to “valid monitoring data” and the percentage of operating hours and days for which monitoring data must be collected. In the final standards and

guidelines, monitoring data must be collected at all times that the CISWI unit is operating, except during monitor malfunctions, associated repairs, and required quality assurance or quality control activities.

3.9 REPORTING AND RECORDKEEPING REQUIREMENTS

Comment: One commenter (IV-D-15) stated that facilities commencing construction between November 30, 1999 and the promulgation date are not provided guidance on when to file the siting analysis and waste management plan. The commenter (IV-D-15) recommended that EPA allow 120 days following promulgation for those facilities that begin construction after November 30, 1999 and before the promulgation date.

Response: Only those units that commence construction after the promulgation date are required to submit a siting analysis. Therefore, a unit that commences construction between November 30, 1999 and the promulgation date would not be required to submit a siting analysis.

A unit that commences construction between November 30, 1999 and the promulgation date would be a new incineration unit as defined under §60.2015 of the final standards. Section 60.2060 of the standard requires that the waste management plan be submitted prior to commencing construction. However, §60.2005 states that the standard does not become effective until 6 months after the publication of the final rule in the Federal Register. Therefore, a unit that commences construction between November 30, 1999 and the promulgation date does not have to submit the waste management plan until 6 months after publication of the final rule in the Federal Register.

Comment: One commenter (IV-D-65) stated that §60.2020 of the proposed rule inappropriately requires owners of small power production facilities or cogeneration facilities to notify EPA that its unit qualifies for exemption to the rule and to provide documentation that the unit qualifies for exemption. The commenter (IV-D-65) stated that these requirements are inconsistent with the express statutory determination to exempt such units without requiring any documentation or other evidence to be submitted to EPA.

Response: The purpose of the notification requirement for small power production facilities or cogeneration facilities is to exempt these units from the additional provisions of the subpart. There is no statutory determination to exempt such units without requiring any documentation or other evidence to be submitted to EPA.

Comment: Two commenters (IV-D-82, IV-D-85) stated that the period of time for preparing the stack test report should be extended from 60 days to 90 days with the possibility of a further extension based upon circumstances beyond the facilities control. The commenters (IV-D-82, IV-D-85) stated that 60 days may not be enough time to perform and report on dioxins/furans analyses, since there are only a limited number of laboratories that can perform this analysis.

Response: The EPA believes that 60 days is an adequate amount of time to prepare and submit a performance test report and that no regulation change is necessary.

Comment: One commenter (IV-D-41) stated that the feed rate recording requirements under §§60.2160(b)(1) and 60.2730(b)(1) of the proposal need to be clarified for continuously fed units. The commenter (IV-D-41) recommended the following revision: “(1) CISWI unit charge dates, times, weights, and hourly charge rates, or for continuously fed units, hourly waste feed rates and start and stop dates and times for all waste feed periods. In addition, the commenter (IV-D-41) recommend changing the term “charge rate” everywhere it appears in the rule and the tables to “charge rate or waste feed rate.”

Response: The EPA believes the requirements in §§60.2175(b)(1) and 60.2740(b)(1) (§§60.2160(b)(1) and 60.2730(b)(1) of the proposal) are clear for both batch and continuous units and that the commenter’s suggested language does not add anything to the standards and guidelines that is not already required in §§60.2175(b)(1) and 60.2740(b)(1). Therefore, the commenter’s suggested changes have not been made.

Comment: One commenter (IV-D-41) recommended that the first annual report be required 13 months after the initial stack test report and that it cover the 12 months following the stack test report submission. The commenter (IV-D-41) stated that each subsequent annual report should then cover the 12 months following the last report. The commenter (IV-D-41) stated that this will allow the source 30 days to prepare and submit the report after the end of the reporting period.

Response: The EPA has not changed the due date for the first annual report. The first annual report is due “no later than 12 months following the submission of the initial test report” and the initial test report is due 60 days after completion of the initial performance test. Therefore, if the reporting period for the first annual report were to begin on the date of the

completion of the initial performance test, then the owner or operator would have 60 days in which to prepare and submit the first annual report.

Comment: One commenter (IV-D-41) stated that the semiannual reports required by §§60.2200 and 60.2760 should be coordinated with the annual report schedule rather than on a calendar year basis, so only two reports need be submitted per year, rather than the three proposed.

Response: The deviation reports are not semiannual reports. The deviation report needs to be submitted for only the half of the year in which the deviation occurred. Therefore, if you had one deviation, you would submit only two reports that year: the annual report and the deviation report. In addition, 40 CFR 60.19 allows an owner or operator to petition the Administrator for alternative submittal dates.

Comment: One commenter (IV-D-41) stated that sources should be allowed to substitute their semiannual Title V deviation report for the semiannual exceedance report required by the CISWI standards and guidelines. The commenter (IV-D-41) suggested that the exceedance reports required under §§60.2185, 60.2190, 60.2745, and 60.2750 only be required until the source submits its first Title V deviation report, which includes these requirements.

Response: The reporting requirements of the CISWI standards and guidelines remain as proposed. The same information may be used in the CISWI exceedance report and the Title V exceedance report, if appropriate.

Comment: One commenter (IV-D-41) stated that computer records should not be required to be maintained on site, only to be available on site.

Response: The EPA has changed the recordkeeping requirement from “maintained onsite” to “available onsite” as requested by the commenter.

Comment: One commenter (IV-D-86) stated that the requirement to maintain records for “a period of at least five years” should be changed to “a period of five years.”

Response: The EPA did not revise the language in the CISWI standards and guidelines. The EPA believes the commenter’s suggestion does not change the meaning of the standards and guidelines.

Comment: One commenter (IV-D-86) stated that the recordkeeping requirements in the standards and guidelines should be made consistent with the general recordkeeping provisions in Subpart A of Part 63, specifically: (1) Allow the most recent two years of data to be kept on-site,

while the remaining 3 years of data may be retained off-site; (2) allow the files to be maintained on microfilm, on a computer, on computer floppy disks, or on microfiche.

Response: The EPA has changed the recordkeeping requirement from “maintained onsite” to “available onsite.”

Comment: One commenter (IV-D-86) stated that the EPA should allow data compression techniques used in the SOCMI rule to reduce the volume of data that must be stored. The commenter (IV-D-86) specifically asked for the following: (1) Allow the source to record block average values for 15-minute or shorter periods calculated from all measured data values during each period of at least one measured data value per minute; and (2) allow that if the daily average value for a monitored parameter for a given operating day is within the range established, the source need only retain block hourly average values for that operating day.

Response: The data recording requirements have been revised from every minute to every 15 minutes in the final standards and guidelines. This change will significantly reduce the amount of data that must be stored.

3.10 DEFINITIONS

Definition of Solid Waste

General

Comment: Several commenters (IV-D-26, IV-D-35, IV-D-49, IV-D-52, IV-D-77, IV-D-89) supported the basic structure of the definition of solid waste as proposed. However, many commenters stated that the definition of solid waste and the definition of CISWI unit in the proposed standards and guidelines were too broad, and therefore, inappropriately covered some boilers and other units that recover energy from burning fuels. The commenters believe that units that recover energy (e.g., boilers and process heaters) were intended to be regulated under section 112 and that only incinerators were intended to be regulated under section 129. The commenters cited the following reasons why the proposed standards and guidelines could be inappropriately perceived as including units that recover energy:

- Many commenters (IV-D-10, IV-D-14, IV-D-16, IV-D-18, IV-D-26, IV-D-28, IV-D-29, IV-D-33, IV-D-34, IV-D-46, IV-D-61, IV-D-67, IV-D-82, IV-D-83, IV-D-84, IV-D-85) stated that the actual universe of materials burned for energy

recovery is broader than those included as fuels in the proposed definition of solid waste.

- Many commenters (IV-D-27, IV-D-42, IV-D-48, IV-D-55, IV-D-56, IV-D-58, IV-D-61, IV-D-64, IV-D-71, IV-D-72, IV-D-75, IV-D-78) stated that legitimate energy recovery devices, such as process heaters, fluidized-bed units, two-stage combustion units, and gasifiers, can be physically separated from their associated energy recovery systems. Therefore, these units do not meet the requirement in paragraph (2) of the definition of solid waste that stated that heat recovery must be incorporated as a part of the unit's integral design in order to qualify for the fuels exclusions.
- Several commenters (IV-D-09, IV-D-10, IV-D-21, IV-D-27, IV-D-31, IV-D-40, IV-D-45, IV-D-54, IV-D-59, IV-D-64, IV-D-65, IV-D-69, IV-D-71) stated that viable fuels can have a heating value less than the 5,000 Btu/lb as fired requirement that is in the definition of solid waste.

Response: See below.

Defining Solid Waste for Section 129

Comment: Three commenters (IV-D-32, IV-D-51, IV-D-84) supported the development of a solid waste definition exclusively for the section 129 program. One commenter (IV-D-51) stated that it would be unwise and unnecessarily complex to adopt the definition of "solid waste" used in EPA's hazardous waste program for purposes of section 129, as the two programs have differing jurisdictional scopes and statutory goals. One commenter (IV-D-32) specifically supported adopting a CAA section 129 definition of solid waste different from the RCRA definition.

One commenter (IV-D-63) stated that EPA has defined "solid waste" unlawfully and far too narrowly. The commenter (IV-D-63) stated that the definition of "solid waste" in 40 CFR 261.2 does apply to nonhazardous waste for the purpose of section 129. The commenter (IV-D-63) asserted that EPA must use that definition and is not free to redefine "solid waste" now. The commenter (IV-D-63) stated that even assuming EPA is free to redefine "solid waste," the proposed definition must be rejected as inconsistent with the SWDA and the CAA. The commenter (IV-D-63) stated that the exclusion for any material with a heating value greater than 5000 Btu/lb and burned for energy recovery, regardless of whether it was previously discarded, fails to give the term "discarded" its proper meaning under the SWDA and must be rejected.

Response: See below.

Discard Concept

Comment: Several commenters (IV-D-41, IV-D-56, IV-D-58, IV-D-61, IV-D-64) stated that the definition of solid waste must include the concept of discard in order to be consistent with the SWDA. (Commenters IV-D-56, IV-D-64 provided suggested language.) One commenter (IV-D-41) pointed out that under the SWDA a material is a solid waste only if it is to be discarded. The commenter (IV-D-41) stated that the inclusion of this test is critical to assuring that process streams are not inappropriately identified as solid waste. One commenter (IV-D-58) stated that the proposed definition of solid waste (with limited exclusions) includes all materials that are combusted, including fuels combusted in internal combustion engines and fuels combusted in process equipment that does not incorporate an integral energy recovery system.

Response: See below.

Hazardous Waste

Comment: Several commenters (IV-D-25, IV-D-48, IV-D-49, IV-D-54) stated that EPA should clarify that materials that are expressly exempt from RCRA Subtitle C regulation (40 CFR 261.4) are not solid wastes under the CISWI standards and guidelines. One commenter (IV-D-49) recommended adding the phrase “other than any wastes that are subject to the provisions of 40 CFR sections 261.6(a)(3) and (4)(1998)” to subparagraph 1(v) of the definition of solid waste in §§60.2245 and 60.2850.

Response: See below.

Clarification

Comment: Two (IV-D-31, IV-D-78) commenters asked the EPA to clarify whether the list of fuels is freestanding from the 5,000 Btu/lb requirement, or whether a material must be on the list and meet the Btu requirement to be considered a fuel. One commenter (IV-D-78) recommended that EPA clarify that the requirements are meant to stand independently by adding “or” at the end of paragraph (i).

One commenter (IV-D-39) asked EPA to confirm that if a unit burns a single MSW waste stream of tires, then the tires burned by that unit are not considered MSW and, therefore, are not

automatically considered a “solid waste” under the proposed guidelines. Also, the commenter (IV-D-39) asked EPA to clarify that, provided the unit does not burn any medical or RCRA wastes, whether or not the unit is subject to the proposed guidelines depends on the Btu content of the tires and whatever other non-MSW, non-medical and non-RCRA waste is burned.

One commenter (IV-D-78) stated that the definition of solid waste is unclear in that a material that meets the criteria for a fuel under paragraph (2) of the definition, could still be considered a solid waste if it is captured by the criteria under paragraph (1). The commenter (IV-D-78) stated that this creates confusion as to whether materials such as tire derived fuel and refuse derived fuel (RDF) are covered under the CISWI standards and guidelines. The commenter (IV-D-78) requested that the phrase “regardless of the provisions in paragraph (2) of this definition”, be removed from paragraph (1) of the definition of solid waste.

One commenter (IV-D-78) requested that the EPA clarify whether or not all of the criteria in (i) through (v) of paragraph (1) of the solid waste definition would have to be satisfied in order for a material not to be a “solid waste.”

Response: The EPA’s response to these comments on the definition of solid waste are addressed in the preamble to the final standards and guidelines. In response to comments, EPA revised the definitions of solid waste and CISWI unit.

CISWI Unit

Comment: One commenter (IV-D-62) stated that for the sake of clarity, EPA should exempt circulating fluidized bed combustion (FBC) units, because the CISWI definition does not specifically include circulating FBC units.

Response: The EPA has not revised the definition of CISWI unit to exempt circulating fluidized bed combustors. However, EPA did add a definition of commercial and industrial waste that excludes units that recover energy. Therefore, if the commenter’s circulating fluidized bed combustor recovers energy, then it would not be covered by the standards and guidelines.

Biomass

Comment: One commenter (IV-D-94) suggested that the definition of clean wood be revised to include bushes, shrubs, and clippings from bushes and shrubs.

Response: The final CISWI standards and guidelines do not use the term “clean wood.” Therefore, the definition for “clean wood” has been removed from the final standards and guidelines.

Comment: One commenter (IV-D-10) stated that yard waste should not be subject to the CISWI standards and guidelines, especially when the yard waste is used as a fuel in a cogeneration facility with energy recovery.

Response: The EPA revised the final standards and guidelines to exclude units that recover energy. If the commenter combusts yard waste as a fuel in a unit at a cogeneration facility with energy recovery, then the unit is not covered by the CISWI standards and guidelines.

Comment: Several commenters (IV-D-04, IV-D-05, IV-D-08, IV-D-12, IV-D-14, IV-D-16, IV-D-18, IV-D-26, IV-D-28, IV-D-29, IV-D-40, IV-D-51, IV-D-62, IV-D-65, IV-D-74, IV-D-83, IV-D-84, IV-D-89) requested revisions or clarifications to the definitions of biomass fuel, coal, coal refuse, natural gas, and oil.

Response: The EPA revised the final standards and guidelines to exclude units that recover energy. As a result, these terms are no longer needed and EPA deleted the definitions of biomass fuel, coal, coal refuse, natural gas, and oil in the final standards and guidelines.

Contained Gaseous Material

Comment: Several commenters (IV-D-09, IV-D-22, IV-D-25, IV-D-35, IV-D-41, IV-D-48, IV-D-49, IV-D-58, IV-D-64, IV-D-66, IV-D-92) stated that a definition of “contained gaseous material” should be added to the standards and guidelines to clarify that combustion air or other gases that are “contained” in a pipe or duct prior to introduction into the combustor are not the subject to the standards and guidelines. Several commenters (IV-D-22, IV-D-25, IV-D-41, IV-D-64) provided the following definition: “Contained gaseous material means gases that are in a container when that container is combusted.” One commenter (IV-D-22) stated that, without the definition, the term contained gases could be misinterpreted to include fume incinerators that are used as air pollution control devices to control process offgases. One commenter (IV-D-49) stated that the definition should be similar to the RCRA definition, where contained gaseous material is essentially limited to gases held in an individual container such that the gas is amenable to shipment in the container and once removed from the container and burned, such gases cease to be considered “contained.”

Response: The EPA agrees with the commenter and has added a definition of contained gaseous material to the final standards and guidelines. The definition is consistent with EPA's intent at proposal, which is to consider "contained gaseous material" as gases that are in a container when that container is combusted.

Agricultural Waste

Comment: One commenter (IV-D-12) recommended that any reference that connects "bagasse" with the words "agricultural waste" be removed from the standards and guidelines. The commenter (IV-D-12) stated that this can be accomplished by replacing the term "agricultural waste" with the term "agricultural materials." Alternatively, the commenter (IV-D-12) stated that the term "bagasse" could be removed from the definition of "agricultural waste."

Response: The EPA is retaining the definition of agricultural waste as proposed. It is EPA's intent to include bagasse in the definition and no change is necessary.

Combustion

Comment: Two commenters (IV-D-25, IV-D-49) stated that the standards and guidelines should contain a definition for "combustion" to clarify where combustion must take place in the unit for the unit to be considered a CISWI unit. The commenters (IV-D-25, IV-D-49) provided the following definition: "Combustion means the burning of material in the flame zone. The flame zone does not include the backpass of a combustion device or a stack."

Response: The EPA believes that the standards and guidelines are clear as proposed and no change is necessary.

Homogeneous Waste

Comment: Two commenters (IV-D-44, IV-D-48) stated that the standards and guidelines should contain a definition of "homogeneous fuels." One commenter (IV-D-48) stated that the definition of homogeneous fuels, should not result in the regulation of fuel-like materials that are homogeneous or consistent in nature, such as tire derived fuel and paper scrap.

Response: The EPA believes that the standards and guidelines are clear as written and no change is necessary. Sections 60.2020 of subpart CCCC and 60.2555 of subpart DDDD are consistent with section 129 of the CAA, which defines "solid waste incineration unit." Under

section 129(g)(1), qualifying small power production facilities that burn homogeneous waste such as units that burn tires or used oil (but not including refuse-derived fuel) for the production of electric energy are not considered to be solid waste incineration units. In addition, qualifying cogeneration facilities that burn homogeneous waste for the production of electric energy and steam or forms of useful energy are not considered solid waste incineration units.

Municipal Solid Waste

Comment: One commenter (IV-D-59) stated that it was not clear whether tires would be considered a fuel or a waste under the proposed CISWI solid waste definition. The commenter (IV-D-59) stated that the definition of MSW in Subparts AAAA and BBBB differs slightly (but significantly) from the definition in Subparts Ea and Eb. The commenter (IV-D-59) stated that to resolve the inconsistency, the proposed definition of solid waste should only refer to the clearer definition of MSW in Subparts AAAA and BBBB.

Response: The definition of solid waste in the final standards and guidelines reflects the definition of solid waste in the Solid Waste Disposal Act (SWDA), and therefore, no longer refers to the definition of municipal solid waste. In addition, the final standards and guidelines do not cover units that recover energy.

Miscellaneous

Comment: One commenter (IV-D-50) stated that the definitions in the CISWI standards and guidelines should be consistent with the definitions in Subparts E, Ea, Eb, Ec, and Ed, as well as the SWDA.

Response: These subparts were generally considered during the development of the CISWI standards and guidelines and they were made consistent with these subparts where appropriate. The definition of solid waste in the final standards and guidelines reflect the definition in the Solid Waste Disposal Act (SWDA).

Comment: Another commenter (IV-D-92) asked EPA to define “distinct operating unit.” Another commenter (IV-D-22) asked EPA to clarify that the definition of CISWI unit excludes units that are not distinct operating units, but rather are integral to a single chemical process and treat waste solely from that process.

Response: A definition for “distinct operating unit” has not been added. The term “distinct operating unit” is used in the final standards and guidelines in the definition of commercial and industrial waste as follows: “Commercial and industrial waste means solid waste combusted in an enclosed device using controlled flame combustion without energy recovery that is a distinct operating unit of any commercial or industrial facility...” The EPA believes that this phrase is clear since the words are used according to their common meanings. The Webster dictionary defines “distinct” as “distinguishable to the eye or mind as discrete; separate.” Commenter IV-D-22 does not provide any description of the chemical process units and their wastes, so EPA is unable to make a determination of the applicability of the CISWI standards and guidelines.

3.11 SELECTION OF THE FORMAT

Comment: Two commenters (IV-D-24, IV-D-41) stated that percent reduction alternatives should be added for every section 129 pollutant for which controls are specified. One of the commenters (IV-D-41) suggested that the hazardous waste incinerator and the municipal waste incinerator databases should be used to set the CISWI emission limits and percentage reductions.

Response: Alternative percent reduction limitations have not been added to the final standards and guidelines. See the preamble to the final standards and guidelines for additional discussion.

3.12 IMPACTS

Comment: One commenter (IV-D-79) stated that EPA should evaluate control equipment other than wet scrubbers as the standard control for the CISWI standards and guidelines, because most wet scrubbers use large volumes of water and transfer pollutants from the air phase to a water phase. The commenter (IV-D-79) stated that, as a result, the wastewater from a scrubber may require wastewater treatment prior to discharge. The commenter (IV-D-79) claimed that a dry scrubber system would have less of an environmental impact than a wet scrubber.

Response: The standards and guidelines do not require that wet scrubbers be used. Any type of air pollution control device, including dry scrubbers, may be used as long as the emission limitations are met.

3.13 STARTUP, SHUTDOWN, AND MALFUNCTION PROVISIONS

Comment: Three commenters (IV-D-56, IV-D-58, IV-D-61) stated that start-up, shutdown, and malfunction restrictions should only apply when waste is being fed. The commenters recommended that §§60.2110(a) and 60.2680(a) of the proposed standards and guidelines be modified to read as follows: “The standards of this subpart apply at all times *when firing solid waste* except during CISWI units startups, shutdowns, or malfunctions.”

Response: The EPA has not made the edit suggested by the commenters. The EPA has added definitions for startup, shutdown and malfunction to the final standards and guidelines that make the commenter’s edit unnecessary. The definitions make it clear that startup is the period before waste is first charged to the unit, and shut down is the period after all the waste has been combusted. Therefore, the standards only apply when waste is being combusted.

Comment: Several commenters (IV-D-07, IV-D-41, IV-D-64, IV-D-82, IV-D-85, IV-D-86) stated that the EPA should delete the requirements in §§60.2110(b) and 60.2680(b) of the proposed standards and guidelines that require that “each startup, shutdown, or malfunction must last no longer than 3 hours.” Two commenters (IV-D-82, IV-D-85) indicated that some large units take up to 72 hours to come into steady state conditions. Another commenter (IV-D-64) stated that the 3-hour restriction does not consider the possible detrimental impact on emissions, and is not achievable or practical for some types of incinerator designs. One commenter (IV-D-41) stated that if the EPA insists on maintaining a time limit, it should be a limit on the time waste may be fed while in startup, shutdown or malfunction mode. The commenter (IV-D-41) stated that if a waste feed limit is specified, the start-up, shutdown and malfunction requirements in §§60.2090(a)(3) and 60.2660(a)(3) of the proposed standards and guidelines should be deleted. One commenter (IV-D-64) stated that malfunctions are different from startups and shutdowns and should be dealt with separately.

Response: The EPA agrees with the commenters that startups and shutdowns should not be limited to 3 hours. The standards and guidelines have been revised (§§60.2120(b) and 60.2685(b) of the final standards and guidelines) so that only malfunctions are limited to 3 hours in duration. The EPA believes that facilities should be able to correct a malfunction within 3 hours. If the malfunction cannot be corrected within three hours, then the unit should be shut down. The malfunction should be corrected before the unit resumes operation.

3.14 LEGAL CONSIDERATIONS

Comment: One commenter (IV-D-63) stated that EPA's parameter monitoring requirements appear to be of little value in determining compliance and may be unlawful. The unspecified operating parameter ranges do not correlate directly with emission limits. In addition, the commenter (IV-D-63) stated that the absence of reliable day-to-day emissions data (or information that can be reliably correlated to emissions) will make it impossible for citizens to determine CISWI units' compliance status.

Response: Operating limits are an acceptable alternative to requiring continuous emission monitoring when CEMS are unavailable or the costs are unreasonable, and they fully meet the provisions of the CAA. The operating limits are set during performance tests that demonstrate compliance with emission limitations. Therefore, by requiring that operating parameters be continuously monitored to demonstrate compliance with operating limits, we ensure that the CISWI unit and air pollution control equipment are operating properly. We can then be assured that the emission limitations are being achieved.

Comment: One commenter (IV-D-63) claimed that EPA's failure to regulate drum and parts reclaimer incinerators is unlawful, and its failure to explain this decision makes the decision arbitrary and capricious. It appears that EPA is deliberately refusing to regulate these units even though it knows that its refusal is likely to have serious effects on the environment and on people's health.

Response: Drum and parts reclaimers were initially brought to our attention as a result of our efforts to develop inventory databases for industrial combustion sources, such as boilers, nonhazardous solid waste incinerators, combustion turbines, and internal combustion engines. Because we had little information on these types of units, we initially grouped them into the inventory of CISWI units.

Upon further examination and consideration, we have concluded that burn-off processes or operations, which remove coating or residue from a material to be regenerated or reused, are not "solid waste incineration" units within the scope of the CISWI category under section 129. These reclamation units are a part of another process or manufacturing operation and are unique to the overall manufacturing process. Therefore, they are best considered during regulation development for the process they are part of. These types of units would be more appropriately regulated under section 112. Therefore, they were removed from the CISWI database and were

not considered when determining MACT for CISWI units. In addition, to clarify EPA's intent not to cover these units, an exemption for rack, part and drum reclamation units was added to the final standards and guidelines.

Comment: One commenter (IV-D-07) stated that the definition of Administrator in the emission guidelines is constructed so that EPA maintains the majority of the discretionary authority, thereby necessitating the delegation of provisions back to the State. The commenter (IV-D-07) asserted that neither the Act nor the historical record supports this for section 111(d) regulations. The commenter (IV-D-07) requested that the definition of Administrator be modified to replace “if delegated” with “if the applicable plan has been approved under §60.27(b).”

Response: The definition of Administrator includes the EPA Administrator or a State agency to which the EPA delegates authority. To clarify the definition of Administrator, the phrase “if delegated by the EPA” has been removed from the definition of Administrator in the standards and guidelines. Under section 129 and 111(d) of the Clean Air Act, the States are required to develop State Plans to implement and enforce the emission guidelines. The EPA will delegate authority to the States when EPA approves the State Plans. This process has been followed for previous section 129 and 111(d) standards and guidelines.

Most of the CISWI standards are clear and nondiscretionary, and therefore, can be delegated to the States. However, there are a few discretionary elements in the CISWI standards that are necessary in order to provide adequate compliance flexibility. In order to ensure nationwide consistency in the implementation of the CISWI standards, the authority for these discretionary elements is retained by the EPA, and therefore, are not delegated to the States. For example, §§60.2025 and 60.2558 of the standards and guidelines allow units to petition for an exemption under the chemical recovery unit provisions. If this provision were delegated to the States, one State could determine that a unit meets the chemical recovery exemption requirements, whereas another State could determine that an identical unit does not meet the chemical recovery exemption requirements. By retaining the authority for the chemical recovery exemption petition process such inconsistencies and inequities are avoided.

Comment: One commenter (IV-D-63) stated that EPA’s technology-based floor approach is unlawful and contravenes the CAA. The commenter (IV-D-63) stated that the proposed floors do not reflect the actual performance of the best performing 12% of existing units for the

emission guidelines or the best performing unit for the new source performance standards. Another commenter (IV-D-21) said that the proposed limits for CO and NO_x, which represent no control and the highest uncontrolled emission rate in the database, violate the requirements of the CAA.

Response: This comment is discussed in the preamble to the final standards and guidelines.

Comment: One commenter (IV-D-63) stated that EPA's floors for oxides of nitrogen and carbon monoxide are unlawful (for the same reasons as the previous general floor comments). The commenter (IV-D-63) asserted that EPA failed to explain why it used different criteria to evaluate CO and NO_x controls than the criteria used for the other pollutants and is, thus, being capricious and arbitrary.

Response: The approach EPA used to determine MACT for CO and NO_x was no different than the approach used to determine MACT for other pollutants. The approach is outlined in the preamble to the final standards and guidelines.

3.15 STATE REQUIREMENTS (EMISSION GUIDELINES ONLY)

Comment: One commenter (IV-D-07) stated that the requirement in 60.2515(a)(6) to include a transcript of the public hearing on the State plan is too burdensome and should be removed.

Response: The EPA agrees that it may be more expensive to obtain a hearing transcript. Therefore, EPA has changed the requirement in §60.2515(a)(6) to be consistent with the general provisions for emission guidelines in 40 CFR 60.23(f), the guidelines now read "Certification that the hearing on the State plan was held, a list of witnesses and their organizational affiliations, if any, appearing at the hearing, and a brief written summary of each presentation or written submission." The EPA notes, however, that 40 CFR 60.23(c) requires the State to prepare and maintain a record of each hearing, including a list of witnesses and the text of each presentation.

Comment: One commenter (IV-D-07) stated that EPA should indicate that copies of the materials required in §60.2515(a)(9) do not need to be submitted if the provisions of 40 CFR §60.25(d) are met.

Response: The EPA does not view the requirements in §60.2515(a)(9) of the CISWI guidelines as an increase in the burden required to comply with 40 CFR §60.25(d). The same materials that are used to comply with 40 CFR §60.25(d) can be used to satisfy the requirement in §60.2515(a)(9) of the CISWI guidelines.

3.16 SELECTION OF POLLUTANTS

Comment: One commenter (IV-D-63) stated that EPA should use authority under §129(a)(4) to establish emission limits for PCBs, POMs, and PAHs. Another commenter (IV-D-64) supported EPA's approach of providing emission limits for only those pollutants listed in CAA §129.

Response: Section 129 requires that numerical emission limitations be specified for "...particulate matter, opacity (as appropriate), sulfur dioxide, hydrogen chloride, oxides of nitrogen, carbon monoxide, lead, cadmium, mercury, and dioxins and dibenzofurans." Both the proposed and final standards and guidelines specify emission limitations for these pollutants, and we have no data that would lead us to conclude that emission limitations for other pollutants should be added. We believe, however, that the emission limitations in the final standards and guidelines will require application of air pollution control technologies that will also minimize emissions of PCBs, POMs, and PAHs.

3.17 AIR CURTAIN INCINERATORS

Comment: Two commenters (IV-D-68, IV-D-90) stated that air curtain incinerators that combust waste comprising primarily "yard waste", clean waste paper and cardboard should be exempted from the CISWI standards and guidelines. One commenter (IV-D-68) stated that emissions from those incinerators cannot be appreciably different from those burning clean wood and lumber, and, if incineration is not used, the volume of these wastes in landfills will increase. One commenter (IV-D-68) stated that the preamble to the standards and guidelines includes the term "yard waste" in the description of wood waste, but the standards and guidelines do not clearly make this distinction. The commenters (IV-D-68, IV-D-90) stated that there is no meaningful way to quantify the emissions from an air curtain incinerator. One commenter (IV-D-68) stated that the only monitoring requirement for this type of incinerator should be a visible opacity standard.

Response: The provision that air curtain incinerators meet only opacity limitations is restricted by Section 129(g)(1)(c) of the Clean Air Act to “air curtain incinerators provided that such incinerators only burn wood wastes, yard wastes and clean lumber.” Therefore, it is inappropriate to extend the provision to air curtain incinerators that burn waste paper and cardboard.

Air curtain incinerators that burn 100% yard waste are subject to the MWC regulations (40 CFR part 60, subparts Cb, Ea, Eb, AAAA and BBBB), and therefore, are not subject to the CISWI standards and guidelines.

The EPA has clarified that the air curtain incinerator provisions in the CISWI standards and guidelines cover air curtain incinerators that burn only:

1. 100% wood waste;
2. 100% clean lumber; or
3. 100% a mixture of only wood waste, clean lumber, and/or yard waste.

3.18 MISCELLANEOUS

Comment Period

Comment: Several commenters (IV-D-01, IV-D-02, IV-D-03, IV-D-06, IV-D-70, IV-D-91) requested that the comment period be extended. One commenter (IV-D-01) requested a 60-day extension, two commenters (IV-D-02, IV-D-70) requested a 30-day extension, and two commenters (IV-D-03, IV-D-06) requested at least a 30-day extension. Another commenter (IV-D-92) requested that the EPA accept comments after the comment period closes.

Response: The comment period was not extended, 60 days is adequate time to prepare comments.

Corrections

Comment: One commenter (IV-D-41) stated that table 2 of Subpart DDDD should be labeled “for existing sources”, rather than “for new sources.”

Response: The EPA corrected this typographical error in the final guidelines.

Clarification

Comment: One commenter (IV-D-36) stated that §60.2550 of subpart CCCC should be clarified by either merging paragraph (a) and (d), or by adding “and that meet all the criteria in paragraph (d)” to the end of paragraph (a).

Response: The EPA revised subpart CCCC by merging paragraphs (a) and (d) of §60.2550 to clarify the requirements.

TECHNICAL REPORT DATA

(Please read Instructions on reverse before completing)

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17. KEY WORDS AND DOCUMENT ANALYSIS		
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