6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 60

[EPA-HQ-OAR-2017-0183; FRL 5120-02-OAR]

RIN 2060-AO18

Standards of Performance for New Stationary Sources and Emission Guidelines for Existing Sources: Large Municipal Waste Combustors Voluntary Remand Response and 5-year Review

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The EPA is proposing amendments to the new source performance standards (NSPS) and emission guidelines (EG) for large municipal waste combustion (MWC) units. These proposed amendments reflect the results from a reevaluation of the maximum achievable control technology (MACT) floor levels, a 5-year review, and the removal of startup, shutdown and malfunction exclusions and exceptions. These proposed amendments also streamline regulatory language, revise recordkeeping and electronic notification and reporting requirements, re-establish new and existing source applicability dates, clarify requirements for certain air curtain incinerators, close a 2007 proposed reconsideration action, correct certain typographical errors, make certain technical corrections, and clarify certain provisions in the NSPS and EG. These proposed amendments would revise all emission limits in the EG, except for carbon monoxide (CO) limits for two subcategories of combustors, and all nine emission limits in the NSPS. The EPA is reevaluating the MACT floors in response to the EPA's voluntary remand of the large MWC rules following a petitioner's request that the EPA review the MACT floors for large MWC units in consideration of a D.C. Circuit Court decision on MACT floor issues. The 5-year review is required by the Clean Air Act (CAA). The proposed amendments would result in an estimated 14,000 tons per year reduction in regulated pollutants.

DATES: Comments must be received on or before **[INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**. Under the Paperwork Reduction Act (PRA), comments on the information collection provisions are best assured of consideration if the Office of Management and Budget (OMB) receives a copy of your comments on or before [**INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER**.

Public hearing: If anyone contacts us requesting a public hearing on or before **[INSERT DATE 5 CALENDAR DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**, we will hold a virtual public hearing. See **SUPPLEMENTARY INFORMATION** for information on requesting and registering for a public hearing.

ADDRESSES: You may send comments, identified by Docket ID No. EPA-HQ-OAR-2017-0183, by any of the following methods:

- Federal eRulemaking Portal: https://www.regulations.gov/ (our preferred method). Follow the online instructions for submitting comments.
- *Email: a-and-r-docket@epa.gov*. Include Docket ID No. EPA-HQ-OAR-2017-0183 in the subject line of the message.
- *Fax*: (202) 566-9744. Attention Docket ID No. EPA-HQ-OAR-2017-0183.
- *Mail*: U.S. Environmental Protection Agency, EPA Docket Center, Docket ID No. EPA-HQ-OAR-2017-0183, Mail Code 28221T, 1200 Pennsylvania Avenue, NW, Washington, DC 20460.
- *Hand/Courier Delivery*: EPA Docket Center, WJC West Building, Room 3334, 1301 Constitution Avenue, NW, Washington, DC 20004. The Docket Center's hours of operation are 8:30 a.m. – 4:30 p.m., Monday – Friday (except Federal holidays).

Instructions: All submissions received must include the Docket ID No. for this rulemaking. Comments received may be posted without change to *https://www.regulations.gov/*,

including any personal information provided. For detailed instructions on sending comments and additional information on the rulemaking process, see the **SUPPLEMENTARY INFORMATION** section of this document.

FOR FURTHER INFORMATION CONTACT: For questions about this proposed action, contact Charlene E. Spells, Sector Policies and Programs Division (E143-05), Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, P.O. Box 12055, North Carolina 27711; telephone number: (919) 541-5255; email address: spells.charlene@epa.gov.

SUPPLEMENTARY INFORMATION:

Participation in virtual public hearing. To request a virtual public hearing, contact the public hearing team at (888) 372-8699 or by email at *SPPDpublichearing@epa.gov*. If requested, the hearing will be held via virtual platform on **[INSERT DATE 15 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**. The hearing will convene at 11:00 a.m. Eastern Time (ET) and will conclude at 7:00 p.m. ET. The EPA may close a session 15 minutes after the last pre-registered speaker has testified if there are no additional speakers. The EPA will announce further details at *https://www.epa.gov/stationary-sources-air-pollution/large-municipal-waste-combustors-lmwc-new-source-performance*.

If a public hearing is requested, the EPA will begin pre-registering speakers for the hearing no later than 1 business day after a request has been received. To register to speak at the virtual hearing, please use the online registration form available at *https://www.epa.gov/ https://www.epa.gov/stationary-sources-air-pollution/large-municipal-waste-combustors-lmwc-new-source-performance* or contact the public hearing team at (888) 372-8699 or by email at *SPPDpublichearing@epa.gov*. The last day to pre-register to speak at the hearing will be **[INSERT DATE 12 CALENDAR DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**. Prior to the hearing, the EPA will post a general agenda that will list

pre-registered speakers in approximate order at: *https://www.epa.gov/stationary-sources-air-pollution/large-municipal-waste-combustors-lmwc-new-source-performance.*

The EPA will make every effort to follow the schedule as closely as possible on the day of the hearing; however, please plan for the hearings to run either ahead of schedule or behind schedule.

Each commenter will have 4 minutes to provide oral testimony. The EPA encourages commenters to provide the EPA with a copy of their oral testimony electronically (via email) by emailing it to spells.charlene@epa.gov. The EPA also recommends submitting the text of your oral testimony as written comments to the rulemaking docket.

The EPA may ask clarifying questions during the oral presentations but will not respond to the presentations at that time. Written statements and supporting information submitted during the comment period will be considered with the same weight as oral testimony and supporting information presented at the public hearing.

Please note that any updates made to any aspect of the hearing will be posted online at *https://www.epa.gov/stationary-sources-air-pollution/large-municipal-waste-combustors-lmwc-new-source-performance*. While the EPA expects the hearing to go forward as set forth above, please monitor our website or contact the public hearing team at (888) 372-8699 or by email at *SPPDpublichearing@epa.gov* to determine if there are any updates. The EPA does not intend to publish a document in the *Federal Register* announcing updates.

If you require the services of a translator or special accommodation such as audio description, please pre-register for the hearing with the public hearing team and describe your needs by **[INSERT DATE 7 CALENDAR DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**. The EPA may not be able to arrange accommodations without advanced notice.

Docket: The EPA has established a docket for this rulemaking under Docket ID No. EPA-HQ-OAR-2017-0183. All documents in the docket are listed in

https://www.regulations.gov/. Although listed, some information is not publicly available, e.g., Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy. With the exception of such material, publicly available docket materials are available electronically in Regulations.gov.

Instructions: Direct your comments to Docket ID No. EPA-HQ-OAR-2017-0183. The EPA's policy is that all comments received will be included in the public docket without change and may be made available online at *https://www.regulations.gov/*, including any personal information provided, unless the comment includes information claimed to be CBI or other information whose disclosure is restricted by statute. Do not submit electronically to *https://www.regulations.gov/* any information that you consider to be CBI or other information whose disclosure is restricted by statute. This type of information should be submitted as discussed below.

The EPA may publish any comment received to its public docket. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make. The EPA will generally not consider comments or comment contents located outside of the primary submission (i.e., on the Web, cloud, or other file sharing system). For additional submission methods, the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit *https://www.epa.gov/dockets/commenting-epa-dockets*.

The *https://www.regulations.gov/* website allows you to submit your comment anonymously, which means the EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an email comment directly to the EPA without going through *https://www.regulations.gov/*, your email address will be automatically captured and included as part of the comment that is placed in the public docket and made

available on the Internet. If you submit an electronic comment, the EPA recommends that you include your name and other contact information in the body of your comment and with any digital storage media you submit. If the EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, the EPA may not be able to consider your comment. Electronic files should not include special characters or any form of encryption and be free of any defects or viruses. For additional information about the EPA's public docket, visit the EPA Docket Center homepage at *https://www.epa.gov/dockets*.

Submitting CBI: Do not submit information containing CBI to the EPA through *https://www.regulations.gov/*. Clearly mark the part or all of the information that you claim to be CBI. For CBI information on any digital storage media that you mail to the EPA, note the docket ID, mark the outside of the digital storage media as CBI, and identify electronically within the digital storage media the specific information that is claimed as CBI. In addition to one complete version of the comments that includes information claimed as CBI, you must submit a copy of the comments that does not contain the information claimed as CBI directly to the public docket through the procedures outlined in *Instructions* above. If you submit any digital storage media that does not contain CBI, mark the outside of the digital storage media clearly that it does not contain CBI and note the docket ID. Information not marked as CBI will be included in the public docket and the EPA's electronic public docket without prior notice. Information marked as CBI will not be disclosed except in accordance with procedures set forth in 40 Code of Federal Regulations (CFR) part 2.

Our preferred method to receive CBI is for it to be transmitted electronically using email attachments, File Transfer Protocol (FTP), or other online file sharing services (e.g., Dropbox, OneDrive, Google Drive). Electronic submissions must be transmitted directly to the Office of Air Quality Planning and Standards (OAQPS) CBI Office at the email address oaqpscbi@epa.gov, and should include clear CBI markings and note the docket ID. If you need assistance with submitting large electronic files that exceed the file size limit for email

attachments, and if you do not have your own file sharing service, please email oaqpscbi@epa.gov to request a file transfer link. If sending CBI information through the postal service, please send it to the following address: OAQPS Document Control Officer (C404-02), OAQPS, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, Attention Docket ID No. EPA-HQ-OAR-2017-0183. The mailed CBI material should be double wrapped and clearly marked. Any CBI markings should not show through the outer envelope.

Preamble acronyms and abbreviations. Throughout this preamble the use of "we," "us," or "our" is intended to refer to the EPA. We use multiple acronyms and terms in this preamble. While this list may not be exhaustive, to ease the reading of this preamble and for reference purposes, the EPA defines the following terms and acronyms here:

ACI	activated carbon injection
ANSI	American National Standards Institute
APCD	air pollution control device
ASME	American Society of Mechanical Engineers
ASNCR	advanced selective noncatalytic reduction
CAA	Clean Air Act
CBI	Confidential Business Information
Cd	cadmium
CDX	Central Data Exchange
CEDRI	Compliance and Emissions Data Reporting Interface
CEMS	continuous emissions monitoring system
CFR	Code of Federal Regulations
CISWI	Commercial and Industrial Solid Waste Units
CO	carbon monoxide
EAV	equivalent annualized value
EG	emission guidelines
EPA	Environmental Protection Agency
ERT	Electronic Reporting Tool
HAP	hazardous air pollutant(s)
HCl	hydrogen chloride
Hg	mercury
ICR	Information Collection Request
LN™	Low NO_x
MACT	maximum achievable control technology
MSW	municipal solid waste
MWC	municipal waste combustor
NAAQS	National Ambient Air Quality Standards
NAICS	North American Industry Classification System
NO_x	oxides of nitrogen (nitrogen oxides)
NSPS	new source performance standards
NTTAA	National Technology Transfer and Advancement Act
OTR	Ozone Transport Region

OAQPS	Office of Air Quality Planning and Standards
OMB	Office of Management and Budget
Pb	lead
PCDD/PCDF	polychlorinated dibenzodioxins and dibenzofurans (dioxins/furans)
PDF	portable document format
PM	particulate matter
ppm	parts per million
PRA	Paperwork Reduction Act
PV	present value
QRO	Certification for Municipal Solid Waste Combustion Facilities Operator
RFA	Regulatory Flexibility Act
RDL	representative detection level
RDF/FBC	refuse derived fuel fluidized bed combustor
RDF/S	refuse-derived fuel stoker combustor
RDF/SS	refuse derived fuel semi-suspension or spreader stoker wet process conversion combustor
RIA	Regulatory Impact Analysis
SCR	selective catalytic reduction
SNCR	selective noncatalytic reduction
SO_2	sulfur dioxide
SSM	startup, shutdown, and malfunction
tpd	tons per day
tpy	tons per year
UMRA	Unfunded Mandates Reform Act of 1995
UPL	upper prediction limit
VCS	voluntary consensus standards

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

I. General Information

A. Executive Summary

1. Purpose of the Regulatory Action

The EPA is proposing to revise the standards of performance for new stationary sources (new source performance standards, or NSPS) and emission guidelines (EG) for existing sources for large municipal waste combustors (MWCs) by amending existing standards for the large MWC source category, which comprises incinerators that combust greater than 250 tons per day (tpd) of municipal solid waste (MSW). The EPA is exercising its authority under section 129 of the Clean Air Act (CAA). The proposed standards would increase stringency of existing regulation of emissions of the nine pollutants listed in CAA section 129: cadmium (Cd), mercury (Hg), lead (Pb), particulate matter (PM), hydrogen chloride (HCl), sulfur dioxide (SO_2), polychlorinated dibenzodioxins and dibenzofurans (dioxins/furans or PCDD/PCDF), carbon monoxide (CO), and oxides of nitrogen (NO_x).

2. Summary of the Major Provisions of the Regulatory Action in Question

These proposed amendments reflect the results from a reevaluation of the maximum achievable control technology (MACT) floor, a 5-year review, and the removal of startup,

shutdown and malfunction (SSM) exclusions and exceptions. These proposed amendments also streamline regulatory language, revise recordkeeping and electronic reporting requirements, re-establish new and existing source applicability dates, clarify requirements for air curtain incinerators, close a 2007 proposed reconsideration action, correct certain typographical errors, make certain technical corrections, and clarify certain provisions in the NSPS and EG. Specifically, the major proposed amendments would do the following:

- Revise all emission limits in the EG, except for CO limits for two combustor subcategories, and all nine emission limits in the NSPS. With the exception of NO_x, the proposed standards are the result of a reevaluation of the MACT floors in response to the D.C. Circuit's 2008 remand of the large MWC rules.[1] At the same time this reevaluation took place, the EPA conducted a 5-year review as required by CAA section 129(a)(5). As a result of this review, the EPA is proposing NO_x standards that are more stringent than the reevaluated MACT floor emissions limits for NO_x and are consistent with the recently promulgated Good Neighbor Plan[2] which set ozone season standards for a significant portion of the large MWC source category.
- Remove the alternative percent reduction standards and NO_x emissions averaging allowance for existing sources and replace them with a numeric concentration-based emission limits only. This would establish a consistent approach to compliance for all facilities.
- Remove SSM exclusions and exceptions and significantly revise monitoring provisions during these periods. For NO_x, SO_2, and CO, where a continuous emissions monitoring system (CEMS) continuously measures the pollutant concentration, we propose eliminating the exclusions of periods of SSM from

[1] Order, *Sierra Club v. EPA*, No. 06-1250 (D.C. Cir. filed Feb. 15, 2008).
[2] https://www.epa.gov/csapr/good-neighbor-plan-2015-ozone-naaqs

CEMS data averaging calculations present in the 1995 large MWC rules and replacing them with a monitoring and compliance demonstration approach used in the more recent CAA section 129 rulemaking for Commercial and Industrial Solid Waste Units (CISWI) NSPS and EG.

- Streamline regulatory language to be more accessible than the 1995 large MWC rule. Primarily, convert text describing emission standards and performance testing requirements from paragraphs into tables to facilitate easier implementation and understanding of the requirements.
- Revise recordkeeping and electronic reporting requirements for source owners and operators to submit electronic copies of required performance test reports, performance evaluation reports, semiannual compliance reports, and annual reports through the EPA's Central Data Exchange (CDX) using the Compliance and Emissions Data Reporting Interface (CEDRI). The electronic submittal of the reports addressed in this proposed rulemaking will increase the usefulness of the data contained in those reports and will improve availability and transparency.
- Re-establish new and existing source applicability so that large MWC units currently subject to the NSPS would become "existing" sources under the proposed amended standards and would be required to meet the revised EG by the applicable compliance date for the revised guidelines. Large MWC units that commence construction after the date of this proposal or commence a modification on or after the date 6 months after promulgation of the amended standards, would be "new" units subject to the more stringent NSPS emission limits.
- Clarify requirements for air curtain incinerators that burn only wood waste, clean lumber, and yard waste or a mixture of these materials. The EPA is proposing to

eliminate the regulatory title V permitting requirement for air curtain incinerators that are not located at a major source or subject to title V for other reasons.

3. Costs and Benefits

Table 1 of this preamble summarizes the monetized benefits, costs, and emissions reductions of this proposed action for new and existing large MWCs from 2025 through 2044. As indicated in Table 1, the EPA projects that the proposed amendments would result in an estimated 14,000 tons per year reduction in regulated pollutants. The EPA conducted an economic analysis for this proposal, as detailed in the document *Regulatory Impact Analysis for the Proposed Standards of Performance for New Stationary Sources and Emission Guidelines for Existing Sources: Large Municipal Waste Combustors* (referred to as the RIA in this document). The RIA is available in the docket and is also briefly summarized in section IV of this preamble.

TABLE 1. MONETIZED BENEFITS, COSTS, NET BENEFITS, AND EMISSIONS REDUCTIONS OF THE PROPOSED NSPS AND EG AMENDMENTS, 2025–2044[a] (DOLLAR ESTIMATES IN MILLIONS OF 2022 DOLLARS, DISCOUNTED TO 2023)

	3 Percent Discount Rate		7 Percent Discount Rate	
	Present Value	Equivalent Annualized Value	Present Value	Equivalent Annualized Value
Benefits[b]	$5,100 and $16,000	$340 and $1,100	$3,100 and $9,800	$290 and $920
Compliance costs	$1,700	$110	$1,200	$120
Net benefits	$3,400 and $14,000	$230 and $970	$1,800 and $8,500	$170 and $800
Emissions reductions (short tons)	Total for period of analysis (years 2025-2044)			
Mercury	1,100 pounds			
Dioxins/Furans	1000 grams			
Hydrogen Chloride	6,900 short tons			
Sulfur Dioxide	48,000 short tons			
Nitrogen Oxides	230,000 short tons			
Cadmium	0.89 short tons			
Lead	3.6 short tons			
PM	490 short tons			

PM < 2.5 microns ($PM_{2.5}$)	280 short tons
Non-monetized benefits in this table	Health and environmental benefits from reducing 6,900 short tons of HAP from 2025 to 2044
	Non-health benefits from reducing 490 short tons of PM, of which 280 short tons are $PM_{2.5}$, from 2025 to 2044
	Visibility benefits
	Reduced ecosystem/vegetation effects

[a] Totals may not sum due to independent rounding. Numbers rounded to two significant digits unless otherwise noted.

[b] Monetized benefits include health benefits associated with reductions in $PM_{2.5}$ concentrations from reductions in directly emitted $PM_{2.5}$ and precursors such as SO_2 and NOx. The monetized health benefits are quantified using two alternative concentration-response relationships from Di et al. (2016) and Turner et al. (2017).

B. Does this action apply to me?

This proposal applies to large MWCs that combust more than 250 tpd of MSW as defined under section 129(a)(1)(B) of the 1990 CAA Amendments (*See* Pub. L 101-549, title III, section 305(a), November 15, 1990, 104 Stat. 2577) and regulated under 40 CFR part 60, subparts Cb and Eb. The North American Industry Classification System (NAICS) codes for the large municipal waste industry are 562213 and 924110. This list of categories and NAICS codes is not intended to be exhaustive, but rather provides a guide for readers regarding the entities that this proposed action is likely to affect. The proposed standards, once promulgated, will be directly applicable to the affected sources. Some large MWCs are owned and operated by local or municipal governments, and thus would be affected by this proposed action.

C. Where can I get a copy of this document and other related information?

In addition to being available in the docket, an electronic copy of this action is available on the Internet. Following signature by the EPA Administrator, the EPA will post a copy of this proposed action at https://www.epa.gov/stationary-sources-air-pollution/large-municipal-waste-combustors-lmwc-new-source-performance. Following publication in the *Federal Register*, the EPA will post the *Federal Register* version of the proposal and key technical documents at this same website.

A memorandum showing the rule edits that would be necessary to incorporate the changes to 40 CFR part 60, subparts Cb and Eb[3] proposed in this action is available in the docket (Docket ID No. EPA-HQ-OAR-2017-0183). Following signature by the EPA Administrator, the EPA also will post a copy of this document to https://www.epa.gov/stationary-sources-air-pollution/large-municipal-waste-combustors-lmwc-new-source-performance.

II. Background

A. What is the statutory authority for this action?

The statutory authority for this action is provided by section 129 of the CAA. CAA section 129 requires the EPA to establish NSPS and EG pursuant to CAA sections 111 and 129 for new and existing solid waste incineration units, including "incineration units with capacity greater than 250 tpd combusting municipal waste." This action amends the large MWC standards under such authority. In addition, CAA section 129(a)(5) specifically requires the EPA to review the standards at 5-year intervals and, if appropriate, revise the standards and the requirements for solid waste incineration units, including large MWC units.

In setting forth the methodology that the EPA must use to establish the first-stage technology-based standards, CAA section 129(a)(2) provides that standards "applicable to solid waste incineration units promulgated under . . . [section 111] and this section shall reflect the maximum degree of reduction in emissions of . . . [certain listed air pollutants] that the Administrator, taking into consideration the cost of achieving such emission reduction and any non-air quality health and environmental impacts and energy requirements, determines is achievable for new and existing units in each category." This level of control is referred to as a maximum achievable control technology, or MACT standard. CAA section 129(a)(4) further directs the EPA to set numeric emission limits for certain enumerated pollutants (Cd, CO, PCDD/PCDF, HCl, Pb, Hg, NOx, PM, and SO_2). In addition, the standards "shall be based on

[3] Note that the EPA is not proposing any amendments to 40 CFR part 60 subpart Ea at this time, but may reserve this subpart in a future action, as discussed later in this preamble.

methods and technologies for removal or destruction of pollutants" according to CAA section 129(a)(3). The EPA has substantial discretion to distinguish among classes, types, and sizes of incinerator units within a category while setting standards.

In promulgating a MACT standard, the EPA must first calculate the minimum stringency levels for new and existing solid waste incineration units in a category, based on levels of emissions control achieved in practice by the subject units. The minimum level of stringency is called the MACT floor. Different approaches exist for determining the floors for new and/or existing sources. For new, modified, and reconstructed sources, CAA section 129(a)(2) provides that the "degree of reduction in emissions that is deemed achievable . . . shall not be less stringent than the emissions control that is achieved in practice by the best controlled similar unit, as determined by the Administrator." Emissions standards for existing units may be less stringent than standards for new units, but CAA section 129(a)(2) requires that the standards "shall not be less stringent than the average emissions limitation achieved by the best-performing 12 percent of units in the category." The MACT floors form the least-stringent regulatory option the EPA may consider in the determination of MACT standards for a source category and therefore cost is not a factor for consideration. As a part of the "beyond-the-floor" evaluation, the EPA must evaluate standards more stringent than the floor, which includes the consideration of the factors outlined in CAA section 129(a)(2) including the costs, non-air quality health and environmental impacts, and energy requirements of more stringent controls. *See also Nat'l Ass'n for Surface Finishing v. EPA*, 795 F.3d 1, 5 (D.C. Cir. 2015) (explaining in related context under CAA section 112(d)(2), the EPA's obligation to set more stringent "beyond-the-floor" standards if practicable).

MACT analyses involve assessing emissions from the best-performing units in a source category. The assessment can be based on actual emissions data, knowledge of existing air pollution control in combination with actual emissions data, or other information such as state regulatory requirements that enable the EPA to estimate the performance of the regulated units.

For each source category, the assessment involves a review of actual emissions data with an appropriate accounting for emissions variability. Other methods of estimating emissions can be used, provided that the methods can be shown to provide reasonable estimates of the actual emissions performance of a source or sources. Where there is more than one method or technology to control emissions, the analysis may result in several potential regulations (regulatory options), one of which is selected as MACT for each pollutant. Each regulatory option must be at least as stringent as the minimum-stringency floor requirements. The EPA must also examine, but is not necessarily required to adopt, more stringent beyond-the-floor regulatory options to determine MACT. Unlike with floor minimum stringency requirements, the EPA must consider various impacts of the more stringent regulatory options in determining whether MACT standards are to reflect beyond-the-floor requirements. If the EPA concludes that the more stringent regulatory options have unreasonable impacts, the EPA selects the floor-based regulatory option as MACT. If the EPA concludes that impacts associated with beyond-the-floor levels of control are acceptable given the emissions reductions achieved, the EPA selects those levels as MACT.

Under CAA section 129(a)(2), for new sources, the EPA determines the best control currently in use for a given pollutant and establishes one potential regulatory option at the emission level achieved by that control, accounting for emissions variability. More stringent potential beyond-the-floor regulatory options might reflect controls used on other sources that could be applied to the source category in question. For existing sources, the EPA determines the average emissions limitation achieved by the best-performing 12 percent of units to form the floor regulatory option. Beyond-the-floor options reflect other controls capable of achieving better performance.

As noted earlier in this preamble, CAA section 129(a)(5) requires the EPA to conduct a review of the standards at 5-year intervals and, in accordance with CAA sections 129 and 111, if appropriate, revise the standards. In conducting the 5-year review, the EPA assesses the

performance of and variability associated with control measures affecting emissions performance at sources in the subject source category (including the installed emissions control equipment), along with recent developments in practices, processes, and control technologies, and determines whether it is appropriate to revise the NSPS and EG. This approach is consistent with the requirement that standards under CAA section 129(a)(3) "shall be based on methods and technologies for removal or destruction of pollutants before, during or after combustion." We do not interpret CAA section 129(a)(5), together with CAA section 111, as requiring the EPA to recalculate MACT floors in connection with this 5-year review.[4] This general approach is similar to the approach taken by the EPA in periodically reviewing CAA section 111 standards, which, under CAA section 111(b)(1)(B), requires the EPA, except in specified circumstances, to review NSPS promulgated under that section every eight years and to revise the standards if the EPA determines that it is appropriate to do so.

B. What is the regulatory background for this source category?

In December 1995, the EPA adopted EG (40 CFR part 60, subpart Cb) and NSPS (40 CFR part 60, subpart Eb)[5] for large MWC units pursuant to CAA section 129. As stated earlier in section I.A.1 of this preamble, large MWC units have a combustion capacity greater than 250 tpd of MSW. Both the EG and NSPS require compliance with emission limitations that reflect the performance of MACT. The 1995 NSPS apply to new large MWC units which commenced construction, were modified, or were reconstructed after September 20, 1994. The 1995 EG apply to existing large MWC units which commenced construction on or before September 20, 1994. The 1995 EG required that emission control retrofits be completed by December 2000.

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[4] Elsewhere in the CAA, including under CAA section 112(d)(6), the EPA is also obliged to undertake periodic reviews. Although the nature or scope of the periodic review under CAA section 112(d)(6) is different than under CAA section 129(a)(5), it may be worth noting that, even under CAA section 112(d)(6), the EPA is not obligated to recalculate MACT floors in the course of a periodic review. *NRDC v. EPA*, 529 F.3d 1077, 1084 (D.C. Cir. 2008); *Nat'l Ass'n for Surface Finishing v. EPA*, 795 F.3d 1, 7–9 (D.C. Cir. 2015).

[5] Note that on February 11, 1991, Subpart Ea was promulgated that applies Standards of Performance to MWCs which commenced construction after December 20, 1989, and on or before September 20, 1994.

Retrofits of controls at existing large MWC units were completed on time (by December 2000) and were highly effective in reducing emissions of most CAA section 129 pollutants. Relative to a 1990 baseline, the EG reduced organic emissions (PCDD/PCDF) by more than 99 percent, metal emissions (Cd, Pb, and Hg) by more than 93 percent, and acid gas emissions (HCl and SO_2) by more than 91 percent. While NO_x is also regulated under the 1995 EG and NSPS, the emissions reductions for NO_x were relatively modest compared to the other CAA section 129 pollutants.

The CAA requires review of these standards at 5-year intervals and, in 2006, amendments to the 1995 standards were promulgated. In the 2006 final rule, titled "Standards of Performance for New Stationary Sources and Emission Guidelines for Existing Sources: Large Municipal Waste Combustors" (71 FR 27324, May 10, 2006), revisions to the emission limits and compliance testing provisions were made to reflect the actual performance achieved by existing MWCs and to reflect improvements in CEMS data performance and reliability.

Following promulgation of the 2006 rulemaking, environmental groups filed a petition for review in the D.C. Circuit challenging the rulemaking. The petitioners challenged the MACT floor limits which the EPA promulgated in 1995. In light of then-recent precedents casting doubt on the soundness of MACT floors derived in part from state-issued air permits,[6] as the 1995 MACT floors for large MWCs were, the EPA sought a voluntary remand of the 2006 rule. In its

[6] Specifically, the petitioners pointed to a 2004 decision from the D.C. Circuit, which remanded MACT floors established for existing small MWCs derived from state-issued permit limits because the Court found the EPA did not fulfill the requirement of CAA section 129(a)(2) in setting the floors. *See Northeast Maryland Waste Disposal Authority v. EPA*, 358 F.3d 936 (D.C. Cir. 2004). Additionally, the EPA noted in its motion for a voluntary remand that since the time the EPA finalized the 2006 rulemaking, the D.C. Circuit issued three decisions that were relevant to rules promulgated under sections 112 and 129 of the CAA, since the floor setting requirements in section 129 are essentially equivalent to those under section 112. *See Sierra Club v. EPA*, 479 F.3d 875 (D.C. Cir. Mar. 13, 2007) (vacating the EPA's regulations setting national emission standards for brick and clay ceramics kilns under Section 112); *Natural Resources Defense Council v. EPA*, 489 F.3d 1250 (D.C. Cir. June 8, 2007) (vacating the EPA's regulations setting national emission standards under section 112 for hazardous air pollutants from industrial, commercial, and institutional boilers and process heaters and the EPA's regulations under section 129 defining the term "commercial and industrial solid waste incineration unit"); *Natural Resources Defense Council v. EPA*, 489 F.3d 1364 (D.C. Cir. June 19, 2007) (vacating portions of an EPA rule promulgated under CAA section 112 regulating hazardous air pollutants from the manufacture of plywood and composite wood products).

remand motion, the EPA announced its intention to grant the environmental groups' administrative petition to revisit the 1995 MACT floors and reevaluate the 2006 rule as necessary to comport with any revisions. The D.C. Circuit issued an order granting the EPA's request for a remand in 2008, which directed EPA to review its 2006 rulemaking. Order, *Sierra Club v. EPA*, No. 06-1250 (D.C. Cir. filed Feb. 15, 2008)

C. What data collection activities were conducted to support this action?

The majority of the data for addressing the MACT remand come from source inventory information from the original 1995 rulemaking docket and compliance test information compiled primarily from 2000 to 2009. This data set builds upon initial compliance data and inventory information collected in 2000. Starting with initial 2000 compliance data,[7] Microsoft Excel spreadsheet template files were created to compile compliance data for the following years. These spreadsheet templates, or load sheets, were distributed to EPA regional contacts for the regions where a large MWC was being operated. The load sheets were distributed in early 2008, with most of the responses being completed and returned at some point during the year. Usually, EPA regional office contacts or state personnel completed the load sheets, but occasionally corporate contacts would provide the information. Sometimes, copies of compliance test reports and annual reports were submitted instead of load sheets. In these cases, data were extracted from the test report and entered into a load sheet for the unit or directly entered into the large MWC database records. The database of emissions data is available in the docket for this action.

D. What other relevant background information and data are available?

In addition to the compliance data compiled in 2009, data gaps for newer large MWC facilities were filled by downloading publicly available permit applications, permits, and test reports from State environmental data website portals to establish baseline emission estimates and air pollution controls currently in place for each unit. The EPA also conducted a site visit to

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[7] Bradley Nelson and Can Kuterdam, Alpha-Gamma Technologies, Inc., to Walt Stevenson, U.S. EPA. "Performance / Test Data for Large Municipal Waste Combustors (MWCs) at MACT Compliance (Year 2000 Data). June 18, 2002. EPA Air Legacy Docket A-90-45, Item VIII-B-4.

the most recently constructed large MWC facility in the United States, where the only domestic MWC units with selective catalytic reduction (SCR) technology to control NO_x emissions are operated. The site visit report and memorandum documenting the review and supporting information are available in the docket for this action.

Finally, information and analyses from a separate rulemaking, the Good Neighbor Plan,[8] were instrumental in the review of the large MWC NSPS and EG. Specifically, the 5-year review used information on performance, technical feasibility, and cost considerations for advanced selective noncatalytic reduction (ASNCR) and low NO_x (LN™) controls that can be retrofitted onto existing MWC units, as well as information on SCR controls for new units.

E. How does the EPA perform the 5-year review?

In conducting 5-year reviews under CAA section 129(a)(5), the EPA assesses the performance of, and variability associated with, control measures affecting emissions performance at sources in the subject source category (including the installed emissions control equipment), along with developments in practices, processes, and control technologies. For development of this proposed rule, the EPA reviewed available performance data for large MWC units. In reviewing the standards based on currently available emissions information, we addressed the CAA section 129(a)(5) review's goals of assessing the performance efficiency of the installed equipment and ensuring that the emission limits reflect the performance of the technologies that sources are using to comply with MACT standards. In addition, we considered whether new technologies, processes, and improvements in practices have been demonstrated at sources subject to the 2006 large MWC rule. Our review evaluates implementation of the existing standards, which includes analysis of compliance data and identification of control and/or monitoring technologies trends that have occurred since the MACT standards were promulgated and previous 5-year reviews were conducted. Where we identify potential trends or

[8] See 88 FR 36654 (June 5, 2023).

developments that "indicate that emission limitations and percent reductions beyond those required by the standards … are achieved in practice,"[9] we analyzed their technical feasibility, estimated costs, energy implications, and non-air environmental impacts. We also consider the emission reductions associated with each development. This analysis informs our decision on whether to revise the emissions standards to reflect emission limitations "achieved in practice." In addition, we consider the appropriateness of applying controls to new sources versus retrofitting existing sources. We consider any of the following to be a potential development:

- Any add-on control technology or other equipment that was not identified and considered during development of the original MACT standards or previous 5-year reviews.
- Any improvements in add-on control technology or other equipment that were considered during development of the original MACT standards or previous 5-year reviews and could result in additional emissions reduction.
- Any significant changes in the cost (including cost-effectiveness) of applying controls (including controls the EPA considered during the development of the original MACT standards or during previous 5-year reviews).

F. What outreach and engagement did the EPA conduct?

There has been significant public interest in large MWC facilities due to concerns regarding impacts of emissions from these sources. In developing this proposed rule, the EPA conducted pre-proposal outreach activities with communities with environmental justice (EJ) concerns, as well as states and tribes. On December 6, 2022, a pre-proposal roundtable was conducted with communities to present background information on the industry and plans for the

[9] CAA section 129(a)(5) relies on CAA section 111 for requirements for 5-year review: "…the Administrator shall review, and in accordance with this section and section 7411 of this title, revise such standards and requirements." CAA section 111(b)(1)(B) states the following: "When implementation and enforcement of any requirement of this Act indicate that emission limitations and percent reductions beyond those required by the standards promulgated under this section are achieved in practice, the Administrator shall, when revising standards promulgated under this section, consider the emission limitations and percent reductions achieved in practice."

rulemaking, and to address questions. The EPA emailed information to roundtable stakeholders explaining how to comment on the non-regulatory docket established to solicit public input on the Agency's efforts to review and revise the large MWC emission standards. This information was sent to tribal nations, small businesses, and communities with EJ concerns via existing listservs on March 13, 2023[10]. The EPA also conducted a public roundtable on March 20, 2023 for members of communities with EJ concerns and their representatives. Additionally, the EPA held a consultation meeting with the Intergovernmental Association and other Unfunded Mandate Reform Act (UMRA) stakeholders on March 16, 2023, to discuss the impact this rulemaking will have on operators of large MWCs, including units that are owned and operated by state and local entities.

III. Analytical Results and Proposed Decisions

A. What are the results and proposed decisions based on our 5-year review and response to the voluntary MACT floor remand, and what is the rationale for those decisions?

1. Proposed limits.

In this action, the EPA is reevaluating the initial MACT standards established in 1995 for large MWCs pursuant to our 2008 request to the D.C. Circuit for a voluntary remand and conducting the 5-year review of large MWC under CAA section 129(a)(5). As part of this process, we considered four scenarios for setting new EG and NSPS emission limits based on the EPA's obligations to reevaluate MACT standards established in 1995 and to conduct the 5-year review under CAA section 129(a)(5). As part of EPA's MACT floors reevaluation, the Agency first must consider best performing units to establish MACT floors limits, and then further consider whether additional beyond-the-floor controls are appropriate. As part of the 5-year review, the EPA must further consider whether additional controls are appropriate given

[10] Information submitted to the pre-proposal non-regulatory docket at Docket ID No. EPA–HQ– OAR–2022–0920 is not automatically part of the proposal record. For information and materials to be considered in the proposed rulemaking record, it must be resubmitted in the rulemaking docket at EPA Docket ID No. EPA-HQ-OAR-2017-0183.

improvements in pollution controls. Accordingly, the EPA undertook the following analyses to identify potential regulatory approaches: (1) determined the MACT floor limits for all pollutants, (2) determined the beyond-the-floor based limits for all pollutants, (3) considered a combination of both MACT floor limits and 5-year review limits depending on the pollutant, and (4) further considered a combination of beyond-the-floor and 5-year review limits depending on the pollutant. Methodologies and rationale used to determine these limits are discussed in further detail in sections III.A.2 and 3 below. For reasons discussed later in this section of the preamble, the EPA is proposing the third scenario, which includes MACT floor limits for all pollutants except for NO_x. The proposed limits for NO_x reflect the results of the 5-year review. Tables 2 and 3 of this preamble present the proposed EG and NSPS emission limits for large MWCs, respectively. Current emission limits (from the 2006 rule) for existing and new units are provided for comparison. NO_x and CO limits were assessed by subcategories determined by combustor type, including mass burn waterwall (MB/WW), mass burn rotary combustor (MB/RC), refuse-derived fuel stoker (RDF/S), RDF spreader stoker fixed floor/100 percent coal capable and RDF semi-suspension/wet RDF process conversion (RDF/SS), and RDF/fluidized bed combustion (RDF/FBC).

TABLE 2. COMPARISON OF EXISTING SOURCE LIMITS FOR 2006 LARGE MWC RULE AND THE PROPOSED EMISSION LIMITS FOR EXISTING SOURCES

			Proposed Subcategory EG Limits				
Pollutant	Units of Measure	2006 EG (Current) Limits	MB/WW	MB/RC	RDF/S	RDF/SS	RDF/FBC
Cd	ug/dscm @ 7 percent O_2	35	1.5				
Pb	ug/dscm @ 7 percent O_2	400	56				
PM	mg/dscm @ 7 percent O_2	25	7.4				
Hg	ug/dscm @ 7 percent O_2	50	12				
PCDD/PCDF	ng/dscm @ 7 percent O_2	30/35[b]	7.2				
HCl	ppmdv @ 7 percent O_2	29	13				
SO_2	ppmdv @ 7 percent O_2	29	20				
NO_x[a]	ppmdv @ 7 percent O_2	180–250[c]	110				
CO	ppmdv @ 7 percent O_2	50–250[d]	100[e]	110	110	250[e]	110

[a] NO_x limit based on the 110 ppm (24-hour) NO_x limit being finalized under National Ambient Air Quality Standards (NAAQS). Units equipped with SCR devices will be subject to their currently permitted limit of 50 ppm.

[b] 30 ng/dscm for fabric filter equipped MWC units and 35 ng/dscm for electrostatic precipitator-equipped MWC units.

[c] Range in limits based on combustor type. MB/WW (205); RDF (250); MB/RC (210); RDF/FBC (180).
[d] Range in limits based on combustor type. MB/WW (100); MB/RC (250); RDF/S (200); RDF/SS (250); RDF/FBC (200); modular starved air or modular excess air (50).
[e] Reevaluated MACT floor limit was less stringent than current limit, so is not proposed to change.

TABLE 3. COMPARISON OF NEW SOURCE LIMITS FOR 2006 LARGE MWC RULE AND THE PROPOSED EMISSION LIMITS FOR NEW SOURCES

Pollutant	Units of Measure	2006 NSPS (Current) Limits	Proposed Subcategory NSPS Limits		
			MB/WW	MB/RC	RDF/S
Cd	ug/dscm @ 7 percent O_2	10	1.1		
Pb	ug/dscm @ 7 percent O_2	140	13		
PM	mg/dscm @ 7 percent O_2	20	4.9		
Hg	ug/dscm @ 7 percent O_2	50	6.1		
PCDD/PCDF	ng/dscm @ 7 percent O_2	13	1.8		
HCl	ppmdv @ 7 percent O_2	25	7.8		
SO_2	ppmdv @ 7 percent O_2	30	14		
NO_x[a]	ppmdv @ 7 percent O_2	150	50		
CO	ppmdv @ 7 percent O_2	50-150[b]	16		100

[a] NO_x limit based on 50 ppm (24 hour) permitted limit for units currently equipped with SCR control devices.
[b] Range in limits based on combustor type. MB/WW (100); RDF/S (150); Modular starved air or modular excess air (50).

2. MACT floor assessment.

To correct our initial analysis of MACT floors undertaken in 1995, the EPA proposes to recalculate the large MWC MACT floors to account for the development of caselaw calling into question the establishment of these standards based on state-issued permit levels where there is no evidence that the permit levels reflect the performance of the best performing sources. As discussed above, following a series of D.C. Circuit cases which called into question the use of state permitting data for establishing MACT floors,[11] the EPA sought and was granted a voluntary remand of the 2006 revisions to the large MWC regulations in response to a petition for reconsideration from environmental groups to re-evaluate the 1995 MACT floors, which were also based on emission limits established in state-issued permits (60 FR 65387, December 19, 1995). In its motion for a voluntary remand, the EPA explained that it intended to "re-analyze the floors in the 1995 rule,"[12] and "revisit the data and information used in the 1995 rule,

[11] *See* note 6, *supra*.
[12] EPA Motion for Voluntary Remand at 8, *Sierra Club v. EPA*, no. 06-1250 (D.C. Cir. filed Nov. 9, 2007).

as well as obtain additional data, to determine whether the 1995 floors need to be revised."[13] However, in reviewing the data and information the EPA utilized in calculating the 1995 MACT floors, the EPA determined that it does not have sufficient data from that time period to characterize the performance of all units that is necessary to evaluate MACT floors.

We are accordingly proposing to base our calculation of the MACT floors on additional emissions data from sources in the large MWC source category. In recalculating the MACT floors to correct for errors in our initial analysis, however, EPA is assessing the state of the industry at the time limits were first calculated for large MWCs in 1995. Given the specifics of the history of the regulation of this source category, the EPA views this as an appropriate approach to establish MACT floors that reflect the emission levels actually achieved by the best-performing sources using the maximum achievable control technology before sources in the category first complied with the 1995 standards. The EPA proposes utilizing 1995 performance levels to re-establish MACT floor requirements appropriately balances competing interest in this rulemaking, by recognizing on one hand that LMWC facilities have taken steps to reduce emissions since the EPA first promulgated 1995 standards, and on the other hand the EPA's obligation to ensure MACT floor standards are set correctly for each source category regulated under CAA section 129. To do this, however, the EPA finds it is necessary to utilize a different dataset to recalculate new MACT floors than the one used to set the initial MACT floors in 1995.

In a related context, for hospital, medical, and infectious waste incinerators (HMIWI) regulated under CAA section 129, the EPA addressed a remand from the D.C. Circuit to provide further explanation of the EPA's reasoning in determining MACT floors for new and existing HMIWI. *See* 74 FR 51368 (October 6, 2009). In that case, after the original MACT floors went into effect for HMIWI, approximately 94% of HMIWI units shutdown, and an additional 3% of units obtained exemptions from the EPA's regulations. 72 FR 5510, 5518 (proposed February 6,

[13] *Id.* at 10.

2007). Because of these significant changes in the regulated industry, in addressing the D.C. Circuit's remand, the EPA found it was not confident in using much of the same data relied upon in setting the original MACT floors in part because data were unavailable from the many units that shut down following promulgation of the original standards. The EPA instead found "the best course of action [was] to re-propose a response to the remand based on data from the 57 currently operating HMIWI." 73 FR 72962, 72970 (proposed December 1, 2008). In reviewing the EPA's decision in how it recalculated MACT floors for HMIWI, the D.C. Circuit found, "[w]hen the EPA determined that its regulation rested on unreliable data and that it had to reset the floors, the agency was functionally regulating on a blank slate even though the regulation continued to remain on the books." *Medical Waste Institute and Energy Recovery Council v. E.P.A.*, 645 F.3d 420 (D.C. Cir. 2011).

Similar to the D.C. Circuit's finding in *Medical Waste Institute*, the EPA proposes here it is functionally establishing new MACT floors for large MWCs on a blank slate. However, unlike the HMIWI rulemaking, the EPA has not seen significant retirements in the large MWC industry since the EPA first introduced standards pursuant to CAA section 129 in 1995, and the industry today is comprised of largely the same set of units that were operating before the original MACT floors went into effect. Instead of retirements, the majority of the industry undertook the installation of air pollution control devices and made other improvements to meet the 1995 standards. Therefore, the EPA proposes for recalculating MACT floors for LMWCs, because the industry today is comprised of largely the same set of units that were operating in 1995, that the EPA is able to calculate revised MACT floors appropriate for the current LMWC population based on the industry's 1995 performance level.

In calculating MACT floors, for existing sources, the CAA requires that MACT limits be no less stringent than the average emissions limitation achieved by the best-performing 12 percent of units in a source category. The EPA must determine some measure of the average emissions limitation achieved by the best-performing 12 percent of units to form the floor

regulatory option. For new sources, the CAA requires that MACT limits be no less stringent than the emissions control achieved in practice by the best-controlled similar unit.

Our first step in calculating the MACT floor limits based on the EPA's proposed rationale was to identify the population of units operating at the time of the original emission guidelines development (1990), then use corresponding compliance data reported from 2000 through 2009[14] to rank units by performance for each pollutant. Compliance data were adjusted to account for supplemental control from air pollution control device (APCD) configurations that were not in place prior to 1995. These control adjustments were made by assigning default control efficiencies to each APCD configuration for each pollutant, back calculating an "uncontrolled" emissions value from the post-retrofit data, then applying the control efficiencies corresponding to pre-retrofit configurations to estimate emissions that would more accurately represent the performance level of units operating in 1990.

Adjusted data were ranked, and top performing units were identified for each pollutant and any applicable subcategories. Then, corresponding emissions data were compiled and analyzed to determine the average performance of those units, with an appropriate accounting for emissions variability, to establish MACT floor emission limits. Separate methodologies were used for pollutants having stack test data (Cd, Pb, Hg, PM, HCl, and PCDD/PCDF) and pollutants having CEMS data (CO, NO_x, and SO_2).

For each stack test pollutant, a statistical analysis was performed on annual averages of screened run data from the 2000 to 2009 dataset to determine an upper prediction limit (UPL). For EG limits, average annual run data corresponding to the top 12 percent of units were used, and for NSPS limits, average annual run data for the single top performer was used.[15] The UPL

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[14] The Large MWC 2009 Database is located in the docket for this rulemaking in Microsoft Access database format. The memorandum documenting the database contents and creation is also available in the docket.

[15] For PCDD/PCDF, the top performing unit only had enough reported data to derive two annual averages. In this case, because the UPL template can only accommodate data sets of $n \geq 3$, unit run data were used instead.

is appropriate when data are not available for every source in a population of interest and a "prediction" element is warranted in the final floor value. This is the case for the 1990 population of large MWCs because several units shut down before compliance data were collected. The EPA's most recent UPL template, released in January 2022, was used to conduct the analysis. UPL results were rounded up to two significant figures.

UPL results and the derived EG and NSPS MACT floor limits are presented in Table 4 of this preamble. Additional discussion of the methodology, detailed results, and a copy of the UPL template can be found in the docket.[16]

TABLE 4. LARGE MWC MACT FLOOR EG AND NSPS LIMITS FOR STACK TEST POLLUTANTS

Pollutant	Units (@ 7 percent O_2)	EG MACT Floor Calculations		NSPS MACT Floor Calculations	
		UPL Result	MACT Floor Limit	UPL Result	MACT Floor Limit
Cd	ug/dscm	1.44	1.5	0.492	1.1[a]
Pb	ug/dscm	55.65	56	12.19	13
PM	mg/dscm	7.36	7.4	4.81	4.9
Hg	ug/dscm	11.997	12	6.07	6.1
PCDD/ PCDF	ng/dscm	7.18	7.2	1.73	1.8[b]
HCl	ppmdv	12.92	13	7.799	7.8

[a] Calculated results were less than the representative detection level (RDL), so the MACT floor limit has been set at Cd's 3 times RDL value of 1.1 ug/dscm.

[b] The top performer for PCDD/PCDF only had two years of data. The UPL requires at least three data points, so instead of annual averages, individual test runs were used in this case.

Unlike stack test pollutants, there are no individual run data for CEMS pollutants. Instead, data for CO, NO_x, and SO_2 are collected continuously, and available data comprise only peak annual values for which the current rule requires reporting. Although upper limit statistical approaches were initially considered for establishing MACT floor limits, it was ultimately determined that the data already account for emissions variability, since the annual peak 24-hour or 4-hour average has been selected from the year's CEMS data and represents only the highest end of readings for the year. Therefore, no statistical calculations to account for variability are

[16] See memorandum "MACT Floor Calculations for Large Municipal Waste Combustor Units" available at Docket ID. No. EPA-HQ-OAR-2017-0183.

warranted for the CEMS pollutant data sets. The limits were reevaluated simply by averaging annual peak CEMS data corresponding to the top performers for each pollutant and applicable subcategory. For NO_x and CO, separate NSPS limits were calculated for only two subcategories, MB/WW and RDF. They were not broken down further, as was done for EG limits, because the MB/RC, RDF/SS, and RDF/FBC subcategories represent single, unique facilities with unit designs that likely will not be used in any future large MWC units. For NSPS purposes, we assumed the overarching MB or RDF subcategories will represent performance of any units built in the future.

As with the UPL results for stack test pollutants, resulting averages for CEMS pollutants were rounded up to two significant figures. In cases where results were greater (less stringent) than the current large MWC EG limit, the current limit was retained as the MACT floor limit.

Averages and subsequent MACT floor EG and NSPS limits are summarized in Tables 5 and 6 of this preamble, respectively. Additional discussion of the methodology, detailed results, and a copy of the UPL template can be found in the docket.[17]

TABLE 5. LARGE MWC MACT FLOOR EG LIMITS FOR CEMS POLLUTANTS

Pollutant	Units (@ 7 percent O_2)	EG MACT Floor Calculations									
		Average of Annual Peak CEMS Data					MACT Floor Limit				
		MB/ WW	MB/RC	RDF	RDF/SS	RDF/FBC	MB/ WW	MB/RC	RDF	RDF/SS	RDF/FBC
SO_2	ppmdv	19.33					20				
NO_x	ppmdv	226.52	142.25	157.29		290.83	205[a]	150	160		180[a]
CO	ppmdv	168.52	109.92	102.14	818.90	101.40	100[a]	110	110	250[a]	110

[a] Calculated limit was less stringent than current limit so kept at current limit.

TABLE 6. LARGE MWC MACT FLOOR NSPS LIMITS FOR CEMS POLLUTANTS

Pollutant	Units (@ 7 percent O_2)	NSPS MACT Floor Calculations			
		Average of Annual Peak CEMS Data		MACT Floor Limit	
		MB	**RDF**	**MB**	**RDF**
SO_2	Ppmdv	13.96		14	
NO_x	Ppmdv	130.50	154.46	140	150[a]

[17] See memorandum "MACT Floor Calculations for Large Municipal Waste Combustor Units" available at Docket ID. No. EPA-HQ-OAR-2017-0183.

CO	Ppmdv	15.65	99.03	16	100

[a] Calculated limit was less stringent than current limit so kept at current limit.

3. Beyond-the-floor and 5-year review results and selection of proposed emission limits.

For assessing beyond-the-floor options at the time of the original rulemaking (i.e., as companion to addressing the remand of the original rule's MACT floors), the EPA recognizes that the majority of large MWC units have since been equipped with air pollution control devices that would represent state-of-the-art technology in the 1990s, such as spray dryer absorbers (SD) for HCl and SO_2; fabric filters for PM, Cd, and Pb; activated carbon injection (ACI) for Hg and PCDD/PCDF; and selective noncatalytic reduction (SNCR) for NO_x emissions control. Therefore, to represent beyond-the-floor emission limits for existing sources numerically, we have assumed that the new source MACT floor (i.e., emissions control achieved in practice by the best controlled similar unit) as the emission limit applied to existing sources would represent the beyond-the-floor option in the reevaluation of the 1995 standards.

To assess additional control options currently in use in completion of the 5-year review pursuant to CAA section 129(a)(5), the EPA assessed the performance of, and variability associated with, control measures affecting emissions performance at large MWC sources (including the installed emissions control equipment), and recent developments in practices, processes, and control technologies. As evidenced by the recently finalized Good Neighbor Plan rulemaking,[18] there are cost-effective advanced NO_x control technologies available for retrofit to existing large MWC units, namely ASNCR and Covanta's LN™ Technology. Furthermore, for new sources, SCR has been installed on the most recently constructed large MWC facility (comprising three units) in the United States, so the permitted emission limit for this SCR-

[18] See 88 FR 36654 (June 5, 2023). The Good Neighbor Plan established a combination approach to secure reductions of ozone-forming emissions of NO_x from power plants and industrial facilities in nine large industries. This included NOx emissions limits and compliance assurance requirements for large MWC units operating within the Ozone Transport Region, which applies to 28 MWC facilities with a total of 80 units, across 20 states. In promulgating these requirements, the EPA found costs effectiveness values to install applicable control technologies were in line with control technology costs for other large industry sectors covered by the rule.

equipped facility represents the 5-year review-based standard for new sources. Neither of these control options were being applied to large MWC units in the 1990s, and development and commercial application of LN technology and ASNCR did not occur until the 2000s. To reflect that these technologies are now available and economically and technically viable, the EPA determined that the beyond-the-floor option for NO_x did not reflect the current state of the control technologies. Instead, the third and fourth scenarios consider the NO_x control technologies as 5-year review options for consideration and combine this with either MACT floor or beyond-the-floor controls for the other pollutants. In other words, the third scenario consists of MACT floor emission limits for all pollutants except NO_x, which is being proposed as a 5-year review emission limit. The fourth scenario consists of beyond-the-floor emission limits for all pollutants except NO_x, which is proposed as a five-year review emission limit. As discussed further at the end of this section, as part of the five-year review, the EPA also reviewed and is taking comment on whether more recent improvements present additional control options for other pollutants.

The estimated cost impacts and emissions reductions of the MACT floor, beyond-the-floor,[19] MACT floor/5-year review, and beyond-the-floor/5-year review are presented in sections IV.D. and IV.B of this preamble, respectively. Based on our analyses and the findings of the Good Neighbor Plan, selecting the MACT floor/5-year review scenario provides the most cost-effective means to maximize emission reductions. As presented in section IV.B of this preamble, the MACT floor, the MACT floor/5-year review scenario, and beyond-the-floor/5-year review scenarios are expected to result in 5,020, 14,200 and 16,800 tons per year of emissions reductions of regulated pollutants, respectively. Therefore, it is evident that the emissions reductions for the 5-year review scenarios are significantly greater than the MACT floor (approximately 11,000 tons per year more), while the beyond-the-floor scenario only adds 2,600

[19] As noted, the 5-year review scenario for NO_x was notably cost-effective and technically feasible compared to the beyond-the-floor for NO_x, so beyond-the-floor for all pollutants (scenario 2) was not evaluated for cost or air impacts.

tons per year in incremental emissions reduction above the MACT floor/5-year review scenario. As discussed earlier, cost is not a consideration for the MACT floor level of control, but consideration of the costs, including incremental cost-effectiveness, of the 5-year review and beyond-the-floor scenarios is allowed. In section IV.D of this preamble the cost impacts of each scenario assessments are presented. In reviewing the cost results, the MACT floor/5-year review scenario is just under $100 million per year in total annual costs (including annualized capital costs and operating and maintenance costs), while the beyond-the-floor/5-year review scenario is estimated to cost $582 million per year. From a cost-effectiveness viewpoint, the MACT floor/5-year review scenario comes in at approximately $7,000 per ton emissions reduction, while the beyond-the-floor/5-year review scenario, being over five times more costly with less incremental emissions reductions, results in a cost-effectiveness estimates at approximately $35,000 per ton emissions reduction of regulated pollutants. Considering this, as mentioned above, the MACT floor/5-year review scenario provides the most cost-effective means to maximize emissions reductions and this scenario is being proposed.

Selection of the MACT floor/5-year review scenario further recognizes that most sources have already been retrofitted with APCD that were considered to be state of the art for MWCs in the 1990s (i.e., spray dryers, fabric filters, activated carbon injection, and selective noncatalytic reduction). That is, other than NO_x, most large MWC units have control devices in place to meet at least some of the standards, with options for incremental improvements being readily available through increased sorbent use, for example. The NO_x control retrofits that are currently available (but were not in the 1990s) for most existing large MWCs appear to be cost effective (approximately $5,000 to $6,000 per ton). Except for very limited examples, these technologies appear to be, and in fact recently have been, technically feasible for several existing large MWC units currently operating in the U.S.

As a result of the 5-year review, the EPA is proposing the 110 parts per million (ppm) (24-hour) NO_x limit finalized under the Good Neighbor Plan, based on the application of

ASNCR or Covanta LN™ NO_x technology. For this proposed action, the EPA has evaluated this limit for the full population of large MWCs, and the EPA finds that this limit is cost-effective for units outside of the Ozone Transport Region that are not covered by the Good Neighbor Plan.[20]

Unlike the Good Neighbor Plan, the EPA is not proposing a mechanism for existing large MWCs to request a case-by-case emission limit based on a demonstration that application of ASNCR and Covanta's LN™ Technology or any other NO_x emission reduction technologies or measures is not technically feasible. This is because the EPA does not have the same ability to establish less stringent case-by-case emission limits under CAA section 129 standards, as it does under the "good neighbor provision" of CAA section 110(a)(2)(D)(i)(I). We request comment on whether there are unique circumstances (e.g., combustor design/type) that render the proposed NO_x emission limit technically infeasible and whether subcategorized emission limits may be appropriate in certain instances.

For new units, the EPA is proposing a NO_x NSPS limit of 50 ppm (24-hour), based on the permitted NO_x limit for the only facility currently using SCR technology with an air-to-air heat exchanger providing flue gas reheat prior to entering the SCR reactor. This design can only be reasonably applied during construction of the unit, so retrofitting SCRs to other existing units would be technically infeasible and/or very costly if a supplemental burner is required to provide reheat. We are proposing to apply this limit to all new units. .

Aside from NO_x, the only other potential improvements considered technically feasible for large MWCs as part of the 5-year review are circulating fluidized bed scrubbers (CFBS) for acid gas control and oxidation catalysts for CO control. Neither of these technologies appear to be in use on any large MWC units, but they have been included in construction permits for some large MWC unit projects that were never constructed. Like SCR, CO oxidation catalysts would be prohibitively costly to retrofit to existing large MWC units, as they would require new facility

[20] In the Good Neighbor Plan, the EPA separately found this limit is cost-effective for units inside of the Ozone Transport Region. 88 FR 36654 (June 5, 2023).

footprint space and flue gas routing to accommodate an entirely new piece of equipment in the air pollution control device system. However, new sources may consider their application to meet the proposed CO limit. For CFBS, theoretically existing acid gas control devices could be replaced with a CFBS in the same footprint (similar to electrostatic precipitator replacement with fabric filter devices for particulate control) to achieve slightly better acid gas control than spray dryer absorbers. There is no available cost algorithm specific to CFBS, but available information comparing technical and performance parameters of CFBS and spray dryer absorbers (SDAs) indicates that SDA costs might serve as a reasonable proxy for CFBS costs. Based on expected costs for spray dryer replacement (since direct CFBS cost data are unavailable), the EPA has estimated the emissions and cost impacts of setting the limits to a level that would most likely require most existing sources to retrofit with CFBS, and has determined that the marginal improvement in emissions performance compared to increased sorbent injection rates using existing controls is not cost effective (approximately $73,000 per ton versus approximately $4,600 per ton). Further explanation is provided in the large MWC cost memorandum.[21] Since we have no data demonstrating the technical feasibility on new or existing MWC units, we are not proposing standards based on any potential performance improvements of these technologies and are instead using the MACT floor calculations to establish EG and NSPS limits for existing and new units. We request comment on whether there are any large MWC units equipped with these technologies (i.e., CFBS and oxidation catalysts) and the performance and cost information of these controls.

B. What other actions are we proposing, and what is the rationale for those actions?

1. Changes to the Applicability Date of the 1995 large MWC EG and NSPS.

In this proposal, large MWC units would be treated differently under the amended standards as proposed than they were under the 1995 large MWC rule in terms of whether they

[21] "Compliance Cost Analyses for Proposed Large MWC Rule Amendments" available at Docket ID. No. EPA-HQ-OAR-2017-0183.

are “existing” or “new” sources. Consistent with CAA section 129, new dates would define which units are considered new sources. Large MWC units that are currently subject to the NSPS would become existing sources under the proposed amended standards and would be required to meet the revised EG standards by the applicable compliance date for the revised guidelines. However, those units would continue to be NSPS units subject to the 1995 large MWC rule until they become subject to the amended existing source standards. Large MWC units that commence construction after the date of this proposal, or for which a modification is commenced on or after the date 6 months after promulgation of the amended standards, would be new units subject to the NSPS emission limits. Units for which construction or modification is commenced prior to those dates would be existing units subject to the proposed EG. That is, under these proposed amendments, any large MWC units that commenced construction on or before **[INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER]**, or that are reconstructed or modified prior to the date 6 months after promulgation of any revised final standards, would be subject to the 1995 large MWC NSPS/1991 NSPS (Ea, as appropriate) until the applicable compliance date for the revised EG, at which time those units would become existing sources. Similarly, large MWC units subject to the EG under the 1995 large MWC rule would need to meet the revised EG by the applicable compliance date for the revised guidelines. Large MWC units that commence construction after **[INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER]** or that are reconstructed or modified 6 months or more after the date of promulgation of any revised standards would have to meet the revised NSPS emission limits being added to 40 CFR part 60, subpart Eb within 6 months after the promulgation date of the amendments or upon startup, whichever is later.

Due to the timing of the original promulgation of NSPS for this source category and the 1990 CAA Amendments, there is a second NSPS applicable to large MWCs for which some standards are still referenced in title V operating permits. Subpart Ea standards apply to units for which construction commenced after December 20, 1989, and on or before September 20, 1994.

Due to the proposed resetting of the "new" and "existing" definitions described above, any units that meet subpart Ea applicability would become existing units subject to 40 CFR part 60, subpart Cb once implemented through a state or Federal plan. As such, subpart Ea would no longer be necessary. We propose to "reserve" 40 CFR part 60, subpart Ea NSPS standards once the revised EG emission limits are implemented (i.e., remove the current text of subpart Ea once it is no longer in use and maintain subpart Ea as a placeholder) and request comment on whether this future action would help or hinder implementation of the standards and any potential unintended consequences this could cause.

2. Proposed removal of alternative percent reduction standards for Hg, HCl, and SO_2 and emissions averaging allowance for NO_x.

In addition to the proposed emission limits discussed in section III.A of this preamble, we also propose to remove all alternative percent reduction standards that were allowed in the original rulemaking. Specifically, we are proposing to remove the 85 percent reduction allowed for Hg (NSPS and EG), the 95 percent allowed for HCl (NSPS and EG), and the 80 percent (NSPS) and 75 percent (EG) allowed for SO_2. The percent reduction standards were introduced in 1989 when MWCs were regulated under section 111 of the CAA. They were established in addition to numeric emission limits and offered as an alternative means of compliance. The rationale for removal of these alternative standards is twofold. First, the proposed reevaluation of the standards relies solely on the vast amount of pollutant concentration data reported and compiled in the emissions database. There are not as much data available to evaluate for the alternative percent reduction standards, which increases the risk of mischaracterizing the emissions limitations achieved by the best-performing sources when using that data. Retaining the existing percent reduction alternatives could introduce a disconnect between the numeric reevaluated limits and the alternative percent reduction standards. Second, having a numeric concentration limit for these pollutants provides a level playing field for the environmental protection and health of the surrounding communities by preventing situations where a different

concentration of pollutants is emitted from facility to facility or unit to unit. Most owners and operators can meet pollutant concentration limits and primarily use the concentration as their compliance target, with far fewer units emitting at much higher concentrations using the percent reduction allowance. For these reasons, we have determined that, at least for the large MWC source category, a single pollutant concentration limit is the most prevalent compliance standard and the most protective of the environment and human health for all communities where large MWCs operate. We request comment on the proposed removal of alternative percent reduction standards for Hg, HCl, and SO_2 and on the proposed rationale for removal of these alternative standards.

For similar reasons, we also propose to remove the NO_x emissions averaging alternative provided in 40 CFR 60.33b(d)(1) of the EG. The EPA has observed that this alternative, which allows for emissions trading among large MWC sources, is scarcely used, if at all. Furthermore, the emissions averaging alternative is incompatible with the NO_x emissions standards established under the Good Neighbor Plan,[22] which are similarly being proposed as part of this rule's 5-year review process in light of cost-effective retrofit options available for increased NO_x control at existing facilities. We understand that this provision may have been useful in the original 1995 rulemaking but have determined that it is no longer necessary to provide this allowance. We request comment on the proposed removal of the NO_x emissions averaging alternative and on the proposed rationale for removal of this alternative standard.

3. Proposed changes to startup, shutdown and malfunction provisions.

In addition to the proposed actions described above, we are proposing additional revisions to the NSPS and EG. We are proposing revisions to the SSM provisions of the NSPS and EG in order to ensure that they are consistent with the decision in *Sierra Club v. EPA*, 551 F. 3d 1019 (D.C. Cir. 2008), in which the court vacated two provisions that exempted sources from

[22] The Good Neighbor Plan did not establish an emissions trading program for non-power plant industries, including large MWCs, due to inadequate baseline data and other information that would be needed to develop emissions budgets. *See* 88 FR 36683 June 5, 2023.

the requirement to comply with otherwise applicable CAA section 112(d) (or 129(a)(1)) emission standards during periods of SSM. While the Court's ruling did not specifically address the legality of source-category-specific SSM provisions adopted in the 1995 large MWC rule, the decision calls into question the legality of those provisions. As such, the EPA is proposing to remove the exemption for SSM periods contained in the 1995 large MWC rule and the proposed emission standards summarized in this preamble would apply at all times.

We are not proposing a separate emission standard for large MWC units that applies during periods of startup and shutdown. We determined that large MWC units will be able to meet the emission limits during periods of warmup and startup because most units use natural gas or clean distillate oil to warm up the unit and do not add waste until the unit has reached combustion temperatures during a brief startup period. Emissions from burning natural gas or distillate fuel oil would generally be significantly lower than from burning solid wastes for most pollutants, specifically those where compliance is measured using stack tests (e.g., Cd, Pb, Hg, PM, PCDD/PCDF, and HCl).

Emissions during periods of shutdown are also generally significantly lower than emissions during normal operations because the materials in the incinerator are almost fully combusted before shutdown occurs. Furthermore, the approach for establishing MACT floors for large MWC units ranked individual MWC units based on actual performance for each pollutant and subcategory, with an appropriate accounting of emissions variability. Because we accounted for emissions variability and established appropriate averaging times to determine compliance with the standards, we believe we have adequately addressed any minor variability that may potentially occur during startup or shutdown. We request comment on the proposed removal of the exemption for startup and shutdown periods and the rationale for applying the proposed emission standards at all times.

For NO_x, SO_2 and CO, where the current rule requires that a CEMS continuously measures the concentration, we are proposing to eliminate the exclusions of periods of warmup,

startup, and shutdown from CEMS data averaging calculations present in the 1995 large MWC rules and replace them with a monitoring and compliance demonstration approach used in the more recent CAA section 129 rulemaking for CISWI NSPS and EG. First, we are proposing that CEMS data must be collected and reported whenever the large MWC unit is operating. Periods when the combustor is operating but no monitoring data are recorded due to monitor malfunctions would be considered deviations or violations.[23] This is consistent with observed increased CEMS reliability (availability) experienced for CEMS monitors operated across multiple source categories, typically greater than 99 percent, and the regulatory provisions currently associated with CEMS data availability.

Secondly, CEMS data collected while the large MWC unit is warming up (no waste is introduced to the grate), starting up (warmup period is over and waste is first fed to the grate but not at steady state operation) and shutting down (waste is no longer being fed but is burning down on grate) will be flagged as warmup, startup, or shutdown period data. CEMS data collected during warmup, startup, or shutdown periods will be averaged at stack oxygen content and not corrected to 7 percent oxygen, as are data during normal operations. This is consistent with the regulatory approach used for a subcategory of units in the CISWI (see 80 FR 3018, January 21, 2015) that are similar in type to large MWCs, where: "[P]etitioners indicated that correcting CO concentration measurements to 7 percent oxygen is problematic during startup and shutdown periods when the flue gas oxygen content approaches the oxygen content of ambient air, especially with regard to the energy recovery unit (ERU) subcategory. Oxygen contents relatively close to ambient air are often maintained during combustion unit startup and shutdown in order to safely operate the unit, but, as a result, the corrected CO values during these periods are artificially inflated due to the oxygen correction calculation." To resolve this issue in the CISWI rule, the EPA determined that the 7 percent oxygen correction would not be required for

[23] This excludes periods of required routine monitor calibrations or quality assurance/quality control periods.

CEMS data collected during periods of startup and shutdown. We are proposing a similar approach here, where the CEMS data for the warmup period (no time limit specified, but we request comment on a recommended warmup period cutoff) and up to 3 hours of allowable startup or shutdown time per occurrence will be used to calculate rolling or block average values, but will be averaged in at stack oxygen content instead of at a 7 percent oxygen diluent cap. No changes to the current 4- or 24-hour averaging periods are proposed. Instead, we are requesting comment on whether we should adopt a 30-day hourly rolling average for demonstrating compliance for pollutants measured using continuous monitoring, similar to provisions that have been promulgated in many recent combustion standards, such as CISWI and the Mercury Air Toxics Standards (40 CFR part 63, subpart UUUU) and the National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial and Institutional Boilers and Process Heaters (40 CFR part 63, subpart DDDDD), as examples (see further discussion on the averaging time for CEMS below).

Periods of startup, normal operations, and shutdown are all predictable and routine aspects of a source's operations. Malfunctions, in contrast, are neither predictable nor routine. Instead, they are, by definition, sudden, infrequent, and not reasonably preventable failures of emissions control, process, or monitoring equipment. (40 CFR 60.2) (Definition of malfunction). The EPA interprets CAA section 129 as not requiring emissions that occur during periods of malfunction to be factored into development of CAA section 129 standards. This reading has been upheld as reasonable by the D.C. Circuit in *U.S. Sugar Corp. v. EPA*, 830 F.3d 579, 606-610 (2016). The Court's reasoning in *U.S. Sugar* applies equally to section 129 standards given the similarities between the section 112 and 129 standard setting criteria. For the reason stated earlier in this preamble, we are proposing revisions to 40 CFR 60.58b and 40 CFR 60.59b.

4. Proposed Changes for Optional Continuous Monitoring.

The 2006 final amendments to the large MWC rules revised the PM and Hg compliance testing requirements to allow the optional use of a PM CEMS or Hg CEMS in place of stack

testing, and would allow the optional use of multi-metal, HCl, PCDD/PCDF CEMS in place of stack tests after performance specifications for these CEMS are promulgated (see 71 FR 27326, May 10, 2006). These amendments also allowed for continuous automated sorbent monitoring for Hg and PCDD/PCDF. Since this time, other performance specifications have been promulgated and the EPA is proposing to incorporate them into these large MWC requirements. However, another consideration is to reinvestigate whether the use of CEMS for compliance testing requires the EPA to adopt alternative emission limits. In the 2006 final rule, we made the following statements (see 71 FR 27330, May 10, 2006):

> "The move from once per year stack testing (where emission limits were calculated from the 99 percentile) to CEMS (99.7 percentile) suggests the emission limit should be increased if the same data averaging period is used. To address this, the final rule increases the data averaging period from 8 hours (typical particulate matter and mercury stack test period) to a 24-hr daily average if particulate matter or mercury CEMS are used. Past analysis of sulfur dioxide CEMS and nitrogen oxides CEMS data (and utility particulate matter CEMS data) indicate increasing the averaging period to a 24-hr daily average will reduce emissions variability and associated peak emissions estimates. EPA supports the optional use of particulate matter and mercury CEMS but is fully aware that no particulate matter CEMS or mercury CEMS data from MWC units are available from domestic MWC units. EPA encourages MWC owners or operators who elect to apply particulate matter or mercury CEMS, to notify EPA as soon as data are collected to allow a determination if alternative emission limits are appropriate."

Note that, if owners and operators decide to use PM or Hg CEMS for compliance demonstration purposes, these data must be submitted to EPA.

As noted in this section, more recent combustion rulemakings have been promulgated with 30-day hourly rolling averages for pollutants measured with Hg CEMS (*e.g.*, Mercury Air Toxics Standards – 40 CFR part 63, subpart UUUU) or other optional CEMS (*e.g.*, CISWI NSPS

and EG, 40 CFR part 60, subparts CCCC and DDDD). We request comment on whether the 30-day rolling hourly average is appropriate to use in the large MWC source category, both for the currently required CEMS and for optional CEMS and continuous automated sampling systems, considering potential CEMS reliability/availability concerns, especially for the optional CEMS devices that have not been extensively applied commercially and lack the extensive track record of the more established CEMS. We also request comment on whether data are available to analyze whether an alternative emission limit should be established for pollutants that have standards based on stack test data.

5. Changes to Streamline Regulatory Text Within the Large MWC EG and NSPS.

The EPA is proposing changes to the regulatory format of the large MWC standards to be more accessible and easier to follow than the 1995 large MWC rule. Paragraph text describing emission standards and performance testing requirements would be converted to tables to facilitate easier implementation and understanding of the requirements, especially as staged compliance dates are introduced with the proposed standards. These streamlining efforts do not change the regulatory numbering of the 1995 rule but do add new tables to the end of the subparts for these requirements, similar to other more recently developed CAA section 129 standards. A memorandum showing the rule edits that would be necessary to incorporate the changes to 40 CFR part 60, subparts Cb and Eb proposed in this action is available in the docket (Docket ID No. EPA-HQ-OAR-2017-0183).

6. Closing the 2007 Proposed Reconsideration of the Large MWC EG and NSPS.

In this proposal, we are completing action on the March 20, 2007, notice of reconsideration that was never finalized. In that notice, we announced our reconsideration of three out of four aspects of the rule that were requested for reconsideration: operator stand-in provisions, data requirements for continuous monitors, and the status of operating parameters during the two weeks prior to Hg and PCDD/PCDF testing (see 72 FR 13016). As a brief summary:

- Operator Stand-In Provisions – A petitioner was concerned that the EPA was, in its operator stand-in provisions, "allow(ing) untrained employees to perform the duties of a certified chief facility operator or certified shift operator." The EPA discussed the various certification and training requirements of the standards and concluded that the "…limited exemption did not undermine the MWC regulation, did not allow untrained individuals to operate the MWC, and would, in fact, improve the efficiency of the regulation by reducing unnecessary reporting and paperwork requirements" (see 72 FR 13019).
- Data Requirements for Continuous Monitors – Petitioners were concerned about the EPA's elimination of a "requirement that operators obtain CEMS data for 75 percent of the operating hours per day before the data is counted toward the CEMS data availability requirements." The Agency discussed how the CEMS data availability requirements have continually increased as CEMS have become more reliable and noted that most rules have migrated away from a daily basis and instead use a percent of operation basis. As a result, the requirements (without the daily component) are superior. We also note that we are proposing updated CEMS data availability requirements in this action which require even greater CEMS data availability than the requirements that were requested for reconsideration by petitioners (see 72 FR 13019).
- Status of Operating Parameters During the Two Weeks Prior to Hg and PCDD/PCDF Testing – A petitioner claimed that the EPA "now allows MWC to avoid meeting mass carbon feed rate limits for PCDD/PCDF testing, as well as Hg testing, and increases to more than four weeks per year the total amount of time that MWC can avoid meeting mass carbon feed rate limits." The EPA discussed the need for optimization testing and demonstrated how, out of economic and practical concerns, these are done in short, often the same, test

periods so that concerns over four weeks of carbon feed rate parameters being waived are not warranted. As a result, the EPA stated that the provision for optimization testing for ACI is appropriate and the EPA is not proposing to change it (see 72 FR 13019).

Of the three issues that we granted reconsideration on and discussed in the 2007 proposal notice, only a single comment expressing support for our proposed reconsideration approach was received. Therefore, in absence of adverse comment, we are proposing to finalize our reconsideration as previously proposed.[24] EPA seeks comment on the issues discussed above.

7. Updating Operator Training Exam Requirements.

In this proposal, we are updating the citation to and incorporating by reference the American Society of Mechanical Engineers (ASME) Standard for the Qualification and Certification of Resource Recovery Facility Operators (QRO). In the 1995 large MWC rule, the cited QRO was the 1994 version, QRO-1-1994. Since that time, ASME has released a 2005 version as the most recent one available. This QRO is identified as QRO-1-2005 and will be incorporated by reference and updated within the text of 40 CFR 60.17(g) and 60.54b.

8. Proposed Revisions to Title V Permitting Requirements for Air Curtain Incinerators Burning Only Wood Waste, Clean Lumber, and Yard Waste.

CAA section 129(e) generally requires title V permits[25] for "solid waste incineration units." Under CAA section 129(g)(1), however, the term "solid waste incineration unit" does not include air curtain incinerators that only burn wood wastes, yard wastes, and clean lumber (and that comply with opacity limitations). In our view, the opacity limitations applicable under CAA 129 to such air curtain incinerators are not standards or regulations "under section 7411," such

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[24] While not necessary to respond, we note that the Pb standard aspect of the petition for reconsideration that was not granted is considered moot based on this proposed action to address the voluntary remand of the MACT floors which would result in more stringent Pb standards.

[25] Title V permits are required by Title V of the Clean Air Act and are legally enforceable documents designed to improve compliance by clarifying what sources must do to control pollution due to federal or state regulations. More information is available at: https://www.epa.gov/title-v-operating-permits/basic-information-about-operating-permits

that the air curtain incinerators would be subject to a title V permitting requirement under CAA section 502(a). The 1995 large MWC rule (see 60 FR 65387, December 19, 1995) contains a regulatory requirement that air curtain incinerators that burn only wood waste, clean lumber, and yard waste must apply for and obtain a tile V operating permit. The EPA is proposing to eliminate this regulatory title V permitting requirement for such air curtain incinerators that are not located at a major source or subject to title V for other reasons.

As background, in previous rulemaking for the Other Solid Waste Incinerators EG and NSPS (40 CFR part 60 subparts EEEE and FFFF), we provided for title V permitting for these air curtain incinerators for various reasons, as explained in 70 FR 74884–74885 (December 16, 2005). In particular, we believed initially that compliance with a title V permit was necessary to assure compliance with the opacity requirements established for such incinerators. Since then, the EPA has received feedback from several states indicating that the title V requirements are unnecessarily burdensome and expensive for states to maintain for these air curtain incinerators. Based on available data, air curtain incinerators that burn exclusively wood waste, clean lumber, and yard waste are commonly located at facilities that would not otherwise require a title V operating permit (such as land clearing operations in public or private land) and, to EPA's knowledge, no large MWC facility also operates an air curtain incinerator on premises.[26] In this rulemaking, we are reconsidering the need for a regulatory requirement for title V permitting for these air curtain incineration units that are only subject to an opacity limitation and related requirements to assure compliance, because such units are not considered solid waste incineration units under CAA section 129. Also, based on input from various states on the burdens and costs of title V permitting for such incinerators, we no longer believe it is

[26] CAA section 129(e) generally requires title V permits for ''solid waste incineration units.'' Under CAA section 129(g)(1), however, the term ''solid waste incineration unit'' does not include air curtain incinerators that only burn wood wastes, yard wastes, and clean lumber (and that comply with opacity limitations). In addition, in our view, the opacity limitations applicable, under CAA section 129, to such air curtain incinerators are not standards or regulations ''under section 7411,'' such that the air curtain incinerators would be subject to a title V permitting requirement under CAA section 502(a).

appropriate or necessary to require title V permitting. We request comment on the proposed removal of title V permitting requirements for air curtain incinerators that burn only wood waste, clean lumber, and yard waste under CAA section 129.

9. Electronic Reporting.

The EPA is proposing that owners and operators of large MWC units submit electronic copies of required performance test reports, performance evaluation reports, semiannual compliance reports, annual reports, and certain notifications through the EPA's Central Data Exchange (CDX) using the Compliance and Emissions Data Reporting Interface (CEDRI). A description of the electronic data submission process is provided in the memorandum Electronic Reporting Requirements for New Source Performance Standards (NSPS) and National Emission Standards for Hazardous Air Pollutants (NESHAP) Rules, available in the docket for this action. The proposed rule requires that performance test results collected using test methods that are supported by the EPA's Electronic Reporting Tool (ERT) as listed on the ERT website[27] at the time of the test be submitted in the format generated through the use of the ERT or an electronic file consistent with the xml schema on the ERT website, and other performance test results be submitted in portable document format (PDF) using the attachment module of the ERT. Similarly, performance evaluation results of continuous emissions monitoring systems (CEMS) measuring relative accuracy test audit (RATA) pollutants that are supported by the ERT at the time of the test must be submitted in the format generated through the use of the ERT or an electronic file consistent with the xml schema on the ERT website, and other performance evaluation results be submitted in PDF using the attachment module of the ERT. The proposed rule requires that certain notifications are submitted as a PDF upload in CEDRI.

For semiannual and annual reports, the proposed rule requires that owners and operators use the appropriate spreadsheet template to submit information to CEDRI. A draft version of the

[27] *https://www.epa.gov/electronic-reporting-air-emissions/electronic-reporting-tool-ert*

proposed template for these reports is included in the docket for this action.[28] The EPA specifically requests comment on the content, layout, and overall design of the template(s).

Additionally, the EPA has identified two broad circumstances in which electronic reporting extensions may be provided. These circumstances are (1) outages of the EPA's CDX or CEDRI which preclude an owner or operator from accessing the system and submitting required reports and (2) force majeure events, which are defined as events that will be or have been caused by circumstances beyond the control of the affected facility, its contractors, or any entity controlled by the affected facility that prevent an owner or operator from complying with the requirement to submit a report electronically. Examples of force majeure events are acts of nature, acts of war or terrorism, or equipment failure or safety hazards beyond the control of the facility. The EPA is providing these potential extensions to protect owners and operators from noncompliance in cases where they cannot successfully submit a report by the reporting deadline for reasons outside of their control. In both circumstances, the decision to accept the request for additional time to report is within the discretion of the Administrator, and reporting should occur as soon as possible.

The electronic submittal of the reports addressed in this proposed rulemaking will increase the usefulness of the data contained in those reports, is in keeping with current trends in data availability and transparency, will further assist in the protection of public health and the environment, will improve compliance by facilitating the ability of regulated facilities to demonstrate compliance with requirements and by facilitating the ability of delegated state, local, tribal, and territorial air agencies and the EPA to assess and determine compliance, and will ultimately reduce burden on regulated facilities, delegated air agencies, and the EPA. Electronic reporting also eliminates paper-based, manual processes, thereby saving time and resources, simplifying data entry, eliminating redundancies, minimizing data reporting errors, and

[28] See 60.59b and 60.39b Annual and Semiannual Compliance Report Proposal Draft, available at Docket ID. No. EPA-HQ-OAR-2017-0183

providing data quickly and accurately to the affected facilities, air agencies, the EPA, and the public. Moreover, electronic reporting is consistent with the EPA's plan[29] to implement Executive Order 13563 and is in keeping with the EPA's Agency-wide policy[30] developed in response to the White House's Digital Government Strategy.[31] For more information on the benefits of electronic reporting, see the memorandum Electronic Reporting Requirements for New Source Performance Standards (NSPS) and National Emission Standards for Hazardous Air Pollutants (NESHAP) Rules, referenced earlier in this section.

10. Technical and implementation corrections.

The EPA is proposing corrections and clarifications to the NSPS and EG that were identified during implementation of the previous regulations. These amendments are being made to improve the clarity of the NSPS and EG, and to make technical corrections that have been brought to the EPA's attention since the December 19, 1995, promulgation. These corrections and clarifications will improve the implementation of the regulations by large MWC owners and operators, and state and Federal air pollution control agencies.

Following is a list of the most significant revisions. Non-substantive typographical corrections are also proposed but are not listed here.

Applicability and delegation of authority

- Adding 40 CFR 60.32b(o) and 60.50b(q) to clarify that large MWC units subject to 40 CFR part 60, subpart Cb are not subject to 40 CFR part 60, subpart Db. This makes the NSPS and EG consistent with 40 CFR part 60, subpart Db, which exempts large MWC units from that subpart.

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[29] EPA's Final Plan for Periodic Retrospective Reviews, August 2011. Available at: *https://www.regulations.gov/document?D=EPA-HQ-OA-2011-0156-0154*.

[30] E-Reporting Policy Statement for EPA Regulations, September 2013. Available at: https://www.epa.gov/sites/production/files/2016-03/documents/epa-ereporting-policy-statement-2013-09-30.pdf.

[31] Digital Government: Building a 21st Century Platform to Better Serve the American People, May 2012. Available at: *https://obamawhitehouse.archives.gov/sites/default/files/omb/egov/digital-government/digital-government.html*.

- Revising 40 CFR 60.30b(b) to clarify that approval of certain exemption claims in 40 CFR 60.32b(b)(1), (d), (e), (f)(1), and (i)(1); approval of a NO_x trading program; approval of major alternatives to test methods and monitoring; approval of waivers of recordkeeping; and performance test and data reduction waivers are retained by the EPA Administrator and not transferred to the state upon delegation of authority to the state to implement an approved state plan.
- Revising 40 CFR 60.50b(n)(2) to clarify that the EPA Administrator retains sole authority to issue the federally enforceable 11 tpd limit for exemptions in 40 CFR 60.50b(b) and the 30 percent municipal waste limit for co-fired units in 40 CFR 60.50b(j)(2).
- Revising 40 CFR 60.50b(n)(4) to correct a typographical error and clarify that the EPA Administrator retains sole authority to review and approve demonstrations that establish the relationship between carbon dioxide (not CO) and oxygen as part of initial and annual performance tests.

Definitions

- Amending the definition of "federally enforceable" in 40 CFR 60.51b to correct a cross referencing error and reference 40 CFR 51.165 and 51.166 instead of 40 CFR 51.18 and 51.24

Performance Testing and Monitoring

- Revising 40 CFR 60.58b(f)(7) and 60.58b(k)(4) to correct an oversight and clarify that the revised testing schedule (once per calendar year, but no less than 9 months and no more than 15 months following the previous test) also applies to fugitive ash and HCl testing.

Reporting and recordkeeping requirements

- Revising 40 CFR 60.39b(b) and (g) to clarify that state plans were due on May 10, 2007, not April 28, 2007.

- Adding 40 CFR 60.59b(d)(2)(iii) to clarify that all data for continuous monitoring systems must be recorded using "local time" for the location where the affected facility is located unless an alternative time system is approved by the Administrator.
- Revising 40 CFR 60.59b(g)(1) to require that owners and operators must additionally report the annual arithmetic average of all hourly values recorded during operations for the reporting year.

C. What compliance dates are we proposing, and what is the rationale for the proposed compliance dates?

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

The proposed amendments to the EG would then allow existing large MWC units to demonstrate compliance with the amended standards as expeditiously as practicable after approval of a state plan, but no later than three years from the date of approval of a state plan or five years after promulgation of the revised standards, whichever is earlier. Consistent with CAA section 129, the EPA expects states to require compliance as expeditiously as practicable. However, because we anticipate that many large MWC units will find it necessary to retrofit existing emission control equipment and/or install additional emission control equipment to meet the proposed revised limits, the EPA anticipates that states may choose to provide the 3-year compliance period allowed by CAA section 129(f)(2).[32]

[32] The CAA Section 129 does not require EPA to establish the control technology sources must use to meet a numeric emission limit. The costs are based on assumptions of air pollution control device retrofits, new equipment, or increased use of sorbent that may be needed to comply with the emission limits, but owners will evaluate and use the controls that they determine are necessary for their source.

In revising the standards in a state plan, a state would have two options. First, it could include both the 2006 large MWC standards and the new standards in its revised state plan, which would allow a phased approach in applying the new limits. That is, the state plan would make it clear that the standards in the 2006 large MWC rule remain in force for large MWC units and apply until the date the revised existing source standards are effective (as defined in the state plan).[33] Second, states whose existing large MWC units do not need to improve their performance to meet the revised standards may consider an alternative approach where the state would replace the 2006 large MWC rule standards with the standards in the final rule, follow the procedures in 40 CFR part 60, subpart B, and submit a revised state plan to the EPA for approval. If the revised state plan contains only the revised standards (*i.e.*, the 2006 large MWC rule standards are not retained), then the revised standards must become effective immediately for those units that are subject to the 2006 large MWC rule, since the 2006 large MWC rule standards would be removed from the state plan. We request comment on the feasibility of the proposed compliance dates and rationales.

The EPA will revise the existing Federal plan to incorporate any changes to existing source emission limits and other requirements that the EPA ultimately promulgates. The Federal plan applies to large MWC units in any state without an approved state plan. The proposed amendments to the EG would allow existing large MWC units subject to the Federal plan up to five years after promulgation of the revised standards to demonstrate compliance with the amended standards, as required by CAA section 129(b)(3).

IV. Summary of Cost, Environmental, and Economic Impacts

A. What are the affected sources?

The large MWC source category comprises units with a capacity greater than 250 tpd of MSW. The current population of large MWC units is estimated to include 152 units at 57

[33] All sources currently subject to the 1995 large MWC EG or NSPS will become existing sources once the final revised large MWC standards are in place. See section III.B above.

facilities nationwide. Of these, 129 (85 percent) are mass burn units, and the remaining are refuse-derived fuel systems. Approximately 30 percent of currently operating large MWCs are subject to 40 CFR part 60, subpart Eb (2006 NSPS limits), with the remaining subject to 40 CFR part 60, subparts Ea (NSPS limits for units constructed after December 20, 1989, and on or before September 20, 1994) or Cb (EG for units constructed before September 20, 1994). We estimate that there are 22 municipally owned or operated facilities with a total of 62 municipally owned or operated large MWC units.

B. What are the air quality impacts?

We have estimated the potential emissions reductions from existing sources that may be realized through implementation of the emission limits under consideration. Emissions reductions were estimated for all units where add-on controls, improvements to existing control devices, or increased carbon or lime injection rates would likely be required to meet a given limit.[34] Because good combustion practices are assumed to be the most effective control for CO, as opposed to add-on controls or control improvements, no additional control costs or associated emission reduction benefits were assessed for CO.[35] For all other pollutants, it was assumed that units would comply with emission limits by operating the control measure(s) described in the large MWC cost memorandum.[36] Reductions in PM less than 2.5 microns ($PM_{2.5}$) were also assessed. These reductions are presented in Table 7 of this preamble.

TABLE 7. ESTIMATED EMISSIONS REDUCTIONS BY REGULATORY SCENARIO

Pollutant	Unit of Measure	Reductions Achieved Through MACT Floor Scenario	Reductions Achieved Through Beyond-the-Floor/5-Year Review Scenario	Reductions Achieved Through Proposed Scenario

[34] See memorandum "Emission Reduction Estimates for Existing Large MWCs" available at Docket ID. No. EPA-HQ-OAR-2017-0183.

[35] Furthermore, the annual maximum data for the majority of sources do not reflect actual performance. As noted in section III.B.3., we are proposing significant changes to the continuous monitoring reporting provisions so that we have access to continuous data. Therefore, an assessment of any presumed emission reductions in comparison to the reevaluated MACT floor for CO is not possible at this time.

[36] See memorandum "Compliance Cost Analyses for Proposed Large MWC Rule Amendments" available at Docket ID. No. EPA-HQ-OAR-2017-0183.

Cd	ton/yr	0.0443	0.0572	0.0443
Pb	ton/yr	0.181	0.812	0.181
PM	ton/yr	24.4	87.7	24.4
$PM_{2.5}$	ton/yr	14.2	47.1	14.2
Hg	lb/yr	57.0	333	57.0
PCDD/PCDF	g/yr	52.2	249	52.2
HCl	ton/yr	344	928	344
SO_2	ton/yr	2,420	4,350	2,420
NO_x	ton/yr	2,230	11,400	11,400
Total	ton/yr	5,020	16,800	14,200

Indirect or secondary air emissions can result from the increased energy requirements associated with the operation of new control devices (*i.e.*, increased emissions of criteria pollutants from the power plants supplying that additional electricity). However, the reevaluated emission limits for large MWCs are unlikely to have any consequential secondary air impacts, because the increase in energy requirements due to new control measures is minimal, and what little additional energy is required would be redirected from power already being generated at the plant.

We expect that existing units still operating electrostatic precipitators for particulate control will retrofit with a fabric filter control device, but the difference in energy needs for each of these devices is expected to be minimal. Furthermore, any improvements made to existing fabric filters will not be significant enough to require a larger fan, meaning that electricity consumption would remain unchanged. For NO_x control, most units already have SNCR, so further control would require retrofitting with ASNCR or LN™ NO_x technology. Existing SNCR equipment would likely be used by these retrofit options, meaning any additional power consumption requirements would be minimal. In the rare case where a unit goes from no SNCR to SNCR, the minimal amount of power required to pump reagent to the furnace would be supplied by the unit's own generating capabilities, rather than through fossil fuel combustion. We expect Hg and PCDD/PCDF to be further controlled through increased carbon injection for units that already have ACI systems, or with the installation of new ACI systems. Increases in

power demand for existing systems and demand for new systems are both expected to be minimal and would be met with a small fraction of the power generation from the facility. Similarly, power demand increases for acid gas control systems are expected to be minimal and met with power that facilities are already generating. Acid gases are typically controlled with a dry sorbent injector scrubber or spray dryer absorber. Additional control (*i.e.*, increased sorbent injection rates in the existing control device) would require only minimal increases in sorbent conveying equipment power needs. If an owner or operator determined a need for a retrofit to a CFBS to meet the standards for acid gases, this retrofit could provide a small savings in sorbent injection and power consumption needs. A CFBS is generally more effective at acid gas control for the same amount of sorbent and at an equal to lesser power consumption than spray dryer absorbers.

C. What are the water, solid waste, and energy impacts?

We anticipate affected sources will need to apply additional controls to meet the proposed emission limits. These control measures impact waste disposal, water usage, and electricity requirements.

PM controls or control improvements will increase the amount of particulate collected that will require disposal. Increased ACI rates for Hg and PCDD/PCDF control, as well as increased lime injection for acid gas control, will also require additional waste disposal. The total amount of solid waste that would require disposal as a result of control measures implemented to meet the proposed limits is anticipated to be approximately 66,800 tpy. This includes 16.7 tpy from PM capture, 15,000 tpy from carbon injection, and 51,800 tpy from lime injection.

Advanced SNCR for NO_x control is the only control measure among those expected to be implemented which will require additional water usage, as water is used in the reagent solution injected into the furnace and/or flue gas duct. We estimate that 42,800,000 gallons of water per year will be used for new NO_x control. The injected liquid evaporates in the flue gas stream, so there would be no associated wastewater disposal requirements.

The energy impacts associated with meeting the proposed emission limits would consist primarily of additional electricity needs to run added or improved controls. However, large MWCs are already generating their own electricity, and the power demand for added or improved controls would be met at the cost of electricity sales to customers. The installation of fabric filters would require some unit downtime, which would result in a decrease in a facility's electricity production. We estimate an electricity loss of approximately 35,300 megawatt-hours for PM control.

Although we anticipate minimal growth in this source category, we recognize the possibility that some new units may be installed in the future. However, we expect any new units to be similar to the most recently constructed large MWC, which can already meet the limits considered for each option. Therefore, no additional controls or associated secondary impacts are anticipated for new sources as a result of the proposed limits.

Further details regarding water, solid waste, and energy impacts for new and existing sources are provided in the large MWC secondary impacts memorandum.[37]

D. What are the cost impacts?

We have estimated compliance costs for all existing units to add the necessary controls to meet the proposed standards.[38] We anticipate an overall capital investment of approximately $309 million, with an associated total annualized cost (including operating and maintenance costs) of approximately $99.8 million (in 2022 dollars). The cost breakdown by pollutant grouping and regulatory option are provided in Table 8 of this preamble.

TABLE 8. COMPLIANCE COSTS BY REGULATORY OPTION (2025-2044)

Pollutant Grouping	MACT Floor Limit Option		Beyond-the-Floor/5-year Review Option		Proposed Option	
	Total Capital Cost ($)	Total Annual Cost ($/yr)[a]	Total Capital Cost ($)	Total Annual Cost ($/yr)[a]	Total Capital Cost ($)	Total Annual Cost ($/yr)[a]
Particulates (Cd, Pb, PM)	$35,700,000	$5,460,000	$113,000,000	$16,400,000	$35,700,000	$5,460,000

[37] "Secondary Impacts of Control Scenarios for Large MWC Standards" available at Docket ID. No. EPA-HQ-OAR-2017-0183.

[38] See memorandum "Compliance Cost Analyses for Proposed Large MWC Rule Amendments" available at Docket ID. No. EPA-HQ-OAR-2017-0183.

Hg and PCDD/PCDF	$16,400,000	$22,000,000	$65,000,000	$121,000,000	$16,400,000	$22,000,000
Acid gases (HCl and SO_2)	$-	$12,900,000	$1,120,000,000	$386,000,000	$-	$12,900,000
NO_x	$50,800,000	$10,800,000	$257,000,000	$59,400,000	$257,000,000	$59,400,000
Total control costs	$103,000,000	$51,100,000	$1,560,000,000	$582,000,000	$309,000,000	$99,800,000

[a] – Includes operating and maintenance costs. Capital annualized over 20 years at an interest rate of 7.5% unless noted otherwise (See "Compliance Cost Analyses of the Proposed Rule Amendments for Large MWC Rule Amendments" memorandum in the docket to this rulemaking for more details).

E. What are the economic impacts?

The EPA conducted an economic impact analysis for the proposed rule in the Regulatory Impact Analysis (RIA), which is available in the docket for this action. If the compliance costs, which are key inputs to an economic impact analysis, are small relative to the receipts of the affected companies, then the impact analysis may consist of a calculation of annual (or annualized) costs as a percent of sales for affected parent companies. This type of analysis is often applied when a partial equilibrium or more complex economic impact analysis approach is deemed unnecessary given the expected size of the impacts. The annualized cost per sales for a company represents the maximum price increase in the affected product or service needed for the company to completely recover the annualized costs imposed by the regulation, assuming no change in affected output. We conducted a cost-to-sales analysis to estimate the economic impacts of this proposal, given that the equivalent annualized value (EAV) of the compliance costs over the period of 2025 to 2044 are $120 million using a 7 percent or $110 million using a 3 percent discount rate in 2022 dollars, which is small relative to the revenues of the affected industry.

The EPA estimated the annualized compliance cost each firm is expected to incur and determined the estimated cost-to-sales ratio for affected units. This cost averages 0.15 percent of parent company revenue and does not exceed 3.5 percent of parent company revenue for any affected unit. The estimated cost-to-sales ratio for affected entities, none of which are small according to Small Business Administration size standards, averages 1.1 percent and does not

exceed 4.4 percent.[39] Therefore, the projected economic impacts of the expected compliance costs of the proposal are likely to be relatively small as compared to parent company revenue.

F. What are the benefits?

Pursuant to EO 12866 as amended by EO 14094, the RIA for this action analyzes the benefits associated with the projected emissions reductions under this proposal to inform the EPA and the public about these projected impacts.

This proposed rule is projected to reduce emissions of Hg and non-Hg metal hazardous air pollutant (HAP), $PM_{2.5}$, SO_2, and NO_x nationwide. The potential impacts of these emissions reductions are discussed in detail in Section 4 of the RIA.

The projected reductions in Hg are expected to reduce the bioconcentration of methylmercury in fish. Subsistence fishing is associated with vulnerable populations, including minorities and those of low socioeconomic status.

The potential benefits from reducing Hg and non-Hg metal HAP were not monetized and are therefore not reflected in the benefit-cost estimates associated with this proposal due to methodology and data limitations. Instead, we provide a qualitative discussion of the health effects associated with HAP emitted from sources subject to control under the proposed action. The EPA remains committed to supporting research to address these limitations. Potential benefits from reductions of PCDD/PCDF and reduction in nitrogen and sulfur deposition were also not monetized in this analysis and are therefore not directly reflected in the quantified benefit-cost comparisons. We anticipate that taking these non-monetized effects into account would show the proposal to have a greater net benefit.

The proposed control measures to reduce HAP and $PM_{2.5}$ emissions could improve air quality and the health of persons living in surrounding communities. The proposed control

[39] The proposal is expected to generate annual compliance cost increases greater than 2 percent of annual revenue for five out of 21 ultimate parent entities. Of these, three are municipally owned, one was previously owned by a collection of municipalities, and one is privately owned with 56 units under one parent company. The average cost-to-sales ratio of the remaining 16 entities is approximately 0.35 percent.

measures are expected to reduce about 0.23 tpy of HAP metal emissions, including emissions of Cd, Pb, Hg, and PCDD/PCDF. We provide a qualitative discussion of the health effects associated with HAP emitted from sources subject to control under the proposed action in Section 4.2 of the RIA, available in the docket for this action. The EPA remains committed to improving methods for estimating HAP benefits by continuing to explore additional aspects of HAP-related risk from large MWCs, including the distribution of that risk.

The proposed control measures are also estimated to reduce $PM_{2.5}$ emissions by about 14 tpy for the source category. The EPA estimated monetized benefits related to avoided premature mortality and morbidity associated with reduced exposure to $PM_{2.5}$ for 2025 to 2044. The present value (PV) of the short-term benefits for the proposed rule range from $5.1 billion at a 3 percent discount rate to $3.3 billion at a 7 percent discount rate with an EAV of $340 million and $310 million, respectively. The EAV represents a flow of constant annual values that would yield a sum equivalent to the PV. The PV of the long-term benefits for the proposed rule range from $17 billion at a 3 percent discount rate to $10 billion at a 7 percent discount rate with an EAV of $1.1 billion and $960 million, respectively. All estimates are reported in 2022 dollars. For the full set of underlying calculations see the *LMWC Workbook*, available in the docket for this action.

G. What environmental justice analysis did we conduct?

The locations of the new, modified, and reconstructed sources that will become subject to the proposed large MWC NSPS (40 CFR part 60, subpart Eb) are not known. Therefore, to examine the potential for any EJ issues that might be associated with the proposed NSPS, we performed a proximity demographic analysis for all 57 existing large MWC facilities that are currently subject to 40 CFR part 60, subparts Cb, Ea and Eb. These characterize populations near existing facilities that might modify or reconstruct in the future and become subject to the proposed NSPS requirements. This proximity demographic analysis characterized the individual demographic groups of the populations living within 5 kilometers (approximately 3.1 miles) and

within 50 kilometers (approximately 31 miles) of the existing facilities. The EPA then compared the data from this analysis to the national average for each of the demographic groups.

The results of the proximity demographic analysis are shown in Table 9 of this preamble. The percent of the population living within 5 kilometers of the existing large MWC facilities in the following racial/ethnicity demographics are above the national average: African American (20 percent versus 12 percent nationally), Hispanic/Latino (23 percent versus 19 percent nationally), and other/multiracial (9 percent versus 8 percent nationally). In addition, the percent of population living within 5 kilometers of the existing large MWC facilities is above the national average for the following demographics: people living below the poverty level (16 percent versus 13 percent nationally), people over 25 without a high school diploma (15 percent versus 12 percent nationally), and those experiencing linguistic isolation (8 percent versus 5 percent nationally).

The percent of the population living within 50 kilometers of the existing large MWC facilities in the following racial/ethnicity demographics are above the national average: African American (14 percent versus 12 percent nationally), Hispanic/Latino (21 percent versus 19 percent nationally), and other/multiracial (11 percent versus 8 percent nationally). In addition, the percent of population living within 50 kilometers of the large MWC existing facilities is above the national average for linguistic isolation (8 percent versus 5 percent nationally).

TABLE 9. PROXIMITY DEMOGRAPHIC ASSESSMENT RESULTS FOR LARGE MWC FACILITIES

Demographic Group	Nationwide	Population within 50 km of 57 Facilities	Population within 5 km of 57 Facilities
Total population	328,016,242	82,056,095	3,916,651
	Race and Ethnicity by Percent		
White	60%	54%	48%
African American	12%	14%	20%
Native American	0.7%	0.3%	0.4%
Hispanic or Latino (includes white and nonwhite)	19%	21%	23%
Other and multiracial	8%	11%	9%
	Income by Percent		

Below poverty level	13%	12%	16%
Above poverty level	87%	88%	84%
	Education by Percent		
Over 25 and without a high school diploma	12%	12%	15%
Over 25 and with a high school diploma	88%	88%	85%
	Linguistically Isolated by Percent		
Linguistically isolated	5%	8%	8%

Notes:

- The nationwide population count and all demographic percentages are based on the Census' 2015–2019 American Community Survey 5-year block group averages and include Puerto Rico. Demographic percentages based on different averages may differ. The total population counts within 5 km and 50 km of all facilities are based on the 2010 Decennial Census block populations.
- To avoid double counting, the "Hispanic or Latino" category is treated as a distinct demographic category for these analyses. A person is identified as one of five racial/ethnic categories above: White, African American, Native American, Other and Multiracial, or Hispanic/Latino. A person who identifies as Hispanic or Latino is counted as Hispanic/Latino for this analysis, regardless of what race this person may have also identified as in the Census.

The proposed large MWC NSPS and EG (40 CFR part 60, subparts Cb and Eb) cover new and existing solid waste incineration units "with capacity greater than 250 tons per day combusting municipal waste." The proposed standards would increase stringency of existing regulation of emissions of the nine pollutants listed in CAA section 129: Cd, Hg, Pb, PM, HCl, SO2, PCDD/PCDF, CO, and NO_x, among other proposed actions (see section I.A of this preamble for a summary of the major requirements being proposed). As discussed in section IV.B, the proposed amendments to the large MWC NSPS and EG would result in an estimated 14,200 tons per year reduction in regulated pollutants.

The methodology and the results (including facility-specific results) of the demographic analysis are presented in the document titled *Analysis of Demographic Factors for Populations Living Near Large Municipal Waste Combustors*, which is available in the docket for this action.

V. Request for Comments

We solicit comments on this proposed action. In addition to general comments on this proposed action, we are also interested in additional data that may improve the analyses, including data on the number of facilities that will require retrofit and data to inform EPA's projections of APCD use by large MWCs. We are specifically interested in receiving any

information regarding developments in practices, processes, and control technologies that reduce pollutant emissions.

VI. Statutory and Executive Order Reviews and 1 CFR Part 51

Additional information about these statutes and Executive Orders can be found at *https://www.epa.gov/laws-regulations/laws-and-executive-orders*.

A. Executive Order 12866: Regulatory Planning and Review and Executive Order 14094: Modernizing Regulatory Review

This action is a "significant regulatory action" as defined under section 3(f)(1) of Executive Order 12866, as amended by Executive Order 14094. Accordingly, the EPA submitted this action to the OMB for Executive Order 12866 review. Documentation of any changes made in response to the Executive Order 12866 review is available in the docket. The EPA prepared an analysis of the potential costs and benefits associated with this action. This analysis, "*Regulatory Impact Analysis for the Proposed Standards of Performance for New Stationary Sources and Emission Guidelines for Existing Sources: Large Municipal Waste Combustors*," can be found in the docket for this action.

Table 10 of this preamble presents the estimated PV and EAV of the projected health benefits, compliance costs, and net benefits of the proposed rule in 2022 dollars discounted to 2023. The estimated monetized net benefits are the projected monetized benefits minus the projected monetized costs of the proposed rule.

In assessing the potential costs and benefits of its actions, EPA includes all potential costs and benefits, and not just those that stem from the regulated pollutants. Moreover, as explained in detail in the RIA, it is not possible to monetize the vast majority of the public health benefits associated with reductions of HAP. Accordingly, the projected monetized health benefits include those related to public health associated with projected reductions in fine PM ($PM_{2.5}$) and ozone concentrations. The projected health benefits are associated with several point estimates and are presented at real discount rates of 3 and 7 percent. There are no changes in emissions from

climate pollutants such as carbon dioxide (CO_2) as determined in the analysis of secondary air impacts in section IV.B of the preamble. Thus, there are no climate benefits or disbenefits to be accounted for in the estimates of benefits for this proposal. The compliance costs are represented in this analysis as the costs of control technologies and measures applied to meet the emissions limits in the proposed policy scenario described earlier in this preamble. In simple terms, these costs are an estimate of the increased expenditures for large MWCs to implement the proposed requirements.

These results present an incomplete overview of the potential effects of the proposal because important categories of benefits—including benefits from reducing Hg and non-Hg metal HAP and the benefits from increased transparency of emissions —were not monetized and are therefore not reflected in the benefit-cost tables. We anticipate that taking non-monetized effects into account would show the proposal to have a greater net benefit than this table reflects.

TABLE 10. PROJECTED MONETIZED BENEFITS, COMPLIANCE COSTS, AND NET BENEFITS OF THE PROPOSED RULE, 2025 TO 2044
(MILLIONS OF 2022 DOLLARS, DISCOUNTED TO 2023 DOLLARS) [a]

		3% Discount Rate	7% Discount Rate
PV	Health benefits [c, d]	$5,100 and $16,000	$3,100 and $9,800
	Compliance costs	$1,700	$1,200
	Net benefits	$3,400 and $14,000	$1,800 and $8,500
EAV [b]	Health benefits [c, d]	$340 and $1,100	$290 and $920
	Compliance costs	$110	$120
	Net benefits	$230 and $970	$170 and $800

[a] Values have been rounded to two significant figures. Rows may not appear to sum correctly due to rounding.
[b] The annualized present value of costs and benefits are calculated over the 20-year period from 2025 to 2044. The choice of this analysis period is explained in the RIA for the proposal.
[c] The projected monetized benefits include those related to public health associated with reductions in $PM_{2.5}$ and ozone concentrations. The projected health benefits are associated with several point estimates and are presented at real discount rates of 3 and 7 percent.
[d] Several categories of benefits remain unmonetized and are thus not reflected in the table. Non-monetized benefits include important benefits from reductions in HAP including Cd, Pb, and PCDD/PCDF emissions. In addition, benefits to provision of ecosystem services associated with reductions in nitrogen and sulfur deposition and ozone concentrations are not monetized.

As shown in Table 10 of this preamble, at a 3 percent discount rate, this proposed rule is projected to reduce $PM_{2.5}$ and ozone concentrations, producing a projected PV of monetized health benefits of about $5.1 billion and $16 billion, with an EAV of about $340 million and $1.1

billion discounted at 3 percent. The PV of the projected compliance costs are $1.7 billion, with an EAV of about $110 million discounted at 3 percent. Combining the projected benefits with the compliance costs yields a net benefit PV estimate of $3.4 billion and $14 billion and an EAV of $250 million and $1.0 billion.

At a 7 percent discount rate, this proposed rule is expected to generate projected PV of monetized health benefits of $3.1 billion and $9.8 billion, with an EAV of about $290 million and $920 million. The PV of the projected compliance costs are $1.2 billion, with an EAV of $120 million discounted at 7 percent. Combining the projected benefits with the projected compliance costs yields a net benefit PV estimate of $1.8 billion and $8.5 billion and an EAV of $170 million and $800 million.

The potential benefits from reducing Hg and non-Hg metal HAP were not monetized and are therefore not reflected in the benefit-cost estimates associated with this proposal. Potential benefits from PCDD/PCDF emission reductions and reduced nitrogen and sulfur deposition are not monetized in this analysis and are therefore not directly reflected in the quantified benefit-cost comparisons. We anticipate that taking these non-monetized effects into account would show the proposal to have a greater net benefit.

B. Paperwork Reduction Act (PRA)

The information collection activities in this proposed rule have been submitted for approval to the OMB under the PRA. The Information Collection Request (ICR) documents that the EPA prepared has been assigned EPA ICR number 1847.10 for subpart Cb (OMB Control number 2060-0390) and 1506.15 for subparts Ea and Eb (OMB Control number 2060-0210). You can find a copy of the ICR for each subpart in the docket for this rule, and they are briefly summarized here.

These regulations apply to facilities that own and operate MWC units with a combustion capacity greater than 250 tpd of MSW that were constructed on or before September 20, 1994 (subject to 40 CFR 60, subpart Cb), facilities for which construction is commenced after

December 20, 1989 and on or before September 20, 1994 (subject to 40 CFR 60, subpart Ea), or for which construction is commenced after September 20, 1994 or for which modification or reconstruction is commenced after June 19, 1996 (subject to 40 CFR 60, subpart Eb). The reporting and recordkeeping requirements discussed below result from the EG that apply to large MWCs covered by the EPA-approved and effective state plans and, where a state plan has not been approved, large MWCs covered by the Federal plan, and large MWCs subject to the NSPS. This information is being collected to ensure compliance with 40 CFR part 60, subparts Cb and Eb. In general, all EG and NSPS require initial notifications, performance tests, and periodic reports by the owners or operators of the affected facilities. They are also required to maintain records of the occurrence and duration of any SSM in the operation of an affected facility, or any period during which the monitoring system is inoperative. These notifications, reports, and records are essential in determining compliance, and are required of all affected facilities subject to EG or NSPS.

The proposed amendments to the EG and NSPS would remove SSM exclusions and exceptions. These proposed amendments would also streamline regulatory language, revise recordkeeping, and require electronic reporting requirements; re-establish new and existing source applicability dates; clarify requirements for air curtain incinerators; correct certain typographical errors; make certain technical corrections and clarify certain provisions in the NSPS and EG. See section 4 of the Supporting Statement to the ICR for these proposed amendments in the docket to this rulemaking for more details.

For the proposed amendments to the EG in 40 CFR part 60, subpart Cb, the EPA is also proposing to revise all emission limits, except CO for two combustor subcategories. Similarly, for the proposed amendments to NSPS 40 CFR part 60, subpart Eb, the EPA is proposing to revise all emission limits.

Because EPA is proposing to revise applicability dates and ultimately reserve subpart Ea, the burden associated with units currently subject to subparts Ea and Eb has been combined with

the burden for those currently subject to subpart Cb. The EPA does not anticipate any construction of new units or NSPS-triggering reconstruction or modifications of existing units within the next 3 years.

Respondents/affected entities: Existing large MWC units constructed on or before **[INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER]**, or that are reconstructed or modified prior to the date 6 months after promulgation of any revised final standards.

Respondent's obligation to respond: Mandatory (40 CFR 60, subparts Cb, Ea, and Eb).

Estimated number of respondents: 57

Frequency of response: Annual

Total estimated burden: 980 hours (per year). Burden is defined at 5 CFR 1320.3(b).

Total estimated cost: $100,000 (per year), includes no annualized capital or operation and maintenance costs.

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

Submit your comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden to the EPA using the docket identified at the beginning of this rule. You may also send your ICR-related comments to OMB's Office of Information and Regulatory Affairs via email to OIRA_submission@omb.eop.gov, Attention: Desk Officer for the EPA. Since OMB is required to make a decision concerning the ICR between 30 and 60 days after receipt, OMB must receive comments no later than **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**. The EPA will respond to any ICR-related comments in the final rule.

C. Regulatory Flexibility Act (RFA)

I certify that this action will not have a significant economic impact on a substantial number of small entities under the RFA. This action will not impose any requirements on small entities. We have estimated that no small entities would be affected by the proposed changes to the EG and NSPS. For more information, please refer to the RIA for the proposed rule.

D. Unfunded Mandates Reform Act of 1995 (UMRA)

This action may contain a Federal mandate under UMRA, 2 U.S.C. 1531–1538, that may result in expenditures of $100 million or more for state and local governments, in the aggregate, and on the private sector. As explained in section VI.F, this action does not impose specific requirements on tribal governments. As a result of these potential impacts to governmental entities and the private sector, the EPA initiated consultation with these entities. The EPA also held meetings described in section VI. E of this preamble under Federalism consultation.

E. Executive Order 13132: Federalism

The EPA has concluded that this action has federalism implications under EPA policy for implementing EO 13132, Federalism, because the rule imposes substantial direct compliance costs on state or local governments, and the Federal government will not provide the funds necessary to pay those costs. The EPA conducted a Federalism/UMRA consultation outreach briefing on March 16, 2023. Invited participants included representatives from the National Governors Association, the National Conference of State Legislatures, the Council of State Governments, the National League of Cities, the U.S. Conference of Mayors, the National Association of Counties, the International City/County Management Association, the National Association of Towns and Townships, the County Executives of America, and the Environmental Council of States to request their input on this rulemaking. Additionally, the Agency invited representatives from the National Association of Clean Air Agencies, the Association of Air Pollution Control Agencies, the Association of State and Territorial Solid Waste Management Officials, and other groups representing state and local government

professionals. The purpose of the consultation was to provide general background on the rulemaking, answer questions, and solicit input from these national associations' state and local government members. Due to interest in this action, additional outreach meetings were held on April 17, 2023, and April 27, 2023, and included local government representatives of both the U.S. Conference of Mayors and the Waste To Energy Association, respectively. Subsequent to the outreach meetings, the EPA received letters from multiple organizations. These letters were submitted to the pre-proposal non-rulemaking docket. See Docket ID No. EPA-HQ-OAR-2022-0920. A detailed Federalism Summary Impact Statement (FSIS) describing the most pressing issues raised in pre-proposal and post-proposal comments will be forthcoming with the final action, as required by section 6(b) of Executive Order 13132. In the spirit of EO 13132, and consistent with EPA policy to promote communications between state and local governments, the EPA specifically solicits comment on these proposed actions from state and local officials.

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

This action does not have tribal implications as specified in Executive Order 13175. The EPA is not aware of any large MWC unit owned or operated by tribal governments. During the development of this action, the EPA offered pre-proposal government-to-government consultation with Tribal Nations. No Tribal Nations requested consultation with the EPA. This action will not have substantial direct costs or impacts on the relationship between the Federal government and Indian tribes or on the distribution of power and responsibilities between the Federal government and Indian Tribes, as specified in Executive Order 13175. Thus, Executive Order 13175 does not apply to the proposed amendments. Consistent with the *EPA Policy on Consultation and Coordination with Indian Tribes,* the EPA will offer post-proposal government-to-government consultation with all federally recognized tribes.

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

The EPA interprets Executive Order 13045 as applying to those regulatory actions that concern environmental health or safety risks that the EPA has reason to believe may disproportionately affect children, per the definition of "covered regulatory action" in section 2-202 of the Executive Order. This action is not subject to Executive Order 13045 because it does not concern an environmental health risk or safety risk.

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

This action is not a "significant energy action" because the proposed amendments are not likely to have a significant adverse effect on the supply, distribution, or use of energy. There would be no change in energy consumption resulting from the proposed amendments, and the EPA does not expect any price increase for any energy type. We also expect that there would be no impact on the import of foreign energy supplies, and no other adverse outcomes are expected to occur with regards to energy supplies.

I. National Technology Transfer and Advancement Act (NTTAA) and 1 CFR Part 51

This rulemaking involves technical standards. Therefore, the EPA conducted searches through the Enhanced National Standards System Network Database managed by the American National Standards Institute (ANSI) to determine if there are voluntary consensus standards (VCS) that are relevant to this action. The Agency also contacted VCS organizations and accessed and searched their databases.

We conducted searches for EPA Methods 1, 3A, 3B, 5, 6, 6A, 6C, 7, 7A, 7C, 7D, 7E, 9, 10, 10A, 10B, 19, 22, 23, 26, 26A, 29 of 40 CFR Part 60, Appendix A. No applicable voluntary consensus standards were identified for EPA Methods 6C, 7D, 7E, 19 and 22.

During the search, if the title or abstract (if provided) of the VCS described technical sampling and analytical procedures that are similar to the EPA's reference method, the EPA

considered it as a potential equivalent method. All potential standards were reviewed to determine the practicality of the VCS for these rules. This review requires significant method validation data which meet the requirements of EPA Method 301 for accepting alternative methods or scientific, engineering and policy equivalence to procedures in the EPA reference methods. The EPA may reconsider determinations of impracticality when additional information is available for particular VCS.

Three voluntary consensus standards were identified as an acceptable alternative to EPA test methods for the purposes of these rules.

The EPA proposes to allow use of the manual portion only and not the instrumental portion of voluntary consensus standard ANSI/ASME PTC 19-10-1981 Part 10 (2010), "Flue and Exhaust Gas Analyses" as an acceptable alternative to EPA Methods 3B, 6, 6A, 6B, 7, 7C. This method is available at the American National Standards Institute (ANSI), 1899 L Street NW, 11th Floor, Washington, DC 20036 and the American Society of Mechanical Engineers (ASME), Three Park Avenue, New York, NY 10016-5990. See https://www.ansi.org and https://www.asme.org. The standard is available to everyone at a cost determined by ANSI/ASME ($96). The cost of obtaining this method is not a significant financial burden, making the methods reasonably available.

The EPA proposes to allow the use of the voluntary consensus standard ASTM D7520-16, "Standard Test Method for Determining the Opacity of a Plume in the Outdoor Ambient Atmosphere" as an acceptable alternative to EPA Method 9 only if the following conditions are followed:

1. During the digital camera opacity technique (DCOT) certification procedure outlined in Section 9.2 of ASTM D7520-16, you or the DCOT vendor must present the plumes in front of various backgrounds of color and contrast representing conditions anticipated during field use such as blue sky, trees, and mixed backgrounds (clouds and/or a sparse tree stand).

2. You must also have standard operating procedures in place including daily or other frequency quality checks to ensure the equipment is within manufacturing specifications as outlined in Section 8.1 of ASTM D7520-16.

3. You must follow the record keeping procedures outlined in 40 CFR 63.10(b)(1) for the DCOT certification, compliance report, data sheets, and all raw unaltered JPEGs used for opacity and certification determination.

4. You or the DCOT vendor must have a minimum of 4 independent technology users apply the software to determine the visible opacity of the 300 certification plumes. For each set of 25 plumes, the user may not exceed 15 percent opacity of anyone reading and the average error must not exceed 7.5 percent opacity.

5. This approval does not provide or imply a certification or validation of any vendor's hardware or software. The onus to maintain and verify the certification and/or training of the DCOT camera, software, and operator in accordance with ASTM D7520-16 and conditions 1 to 4 above is on the facility, DCOT operator, and DCOT vendor.

This method is available at ASTM International, 1850 M Street NW, Suite 1030, Washington, DC 20036. See https://www.astm.org. The standard is available to everyone at a cost determined by ASTM ($90). The cost of obtaining this method is not a significant financial burden, making the method reasonably available.

The EPA proposes to allow the use of the voluntary consensus standard ASTM D6784-16, "Standard Test Method for Elemental, Oxidized, Particle-Bound and Total Mercury Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method)" (D6784-16 was reapproved in 2016 to include better quality control than earlier 2008 version) as an acceptable alternative to EPA Method 29 (portion for Hg only) as a method for measuring Hg. Note that this approval applies to concentrations approximately in the range of 0.5 to 100 micrograms per standard cubic meter ($\mu g/Nm^3$). This method is available at ASTM International, 1850 M Street NW, Suite 1030, Washington, DC 20036. See https://www.astm.org. The standard is available to

everyone at a cost determined by ASTM ($82). The cost of obtaining this method is not a significant financial burden, making the method reasonably available.

In addition, for the purpose of this rule, the EPA proposes to allow the use of facility operator certification method ASME QRO–1–2005 (R2015), Standard for the Qualification and Certification of Resource Recovery Facility Operators. The 1995 rule cited a certification for facility operator ASME QRO-1-1994. Since that time, ASME has released a 2005 version as the most recent one available. This method is available at the American Society of Mechanical Engineers (ASME), Three Park Avenue, New York, NY 10016-5990. See https://www.asme.org. The standard is available to everyone at a cost determined by ASME ($59). The cost of obtaining this method is not a significant financial burden, making the methods reasonably available.

Additional information for the VCS search and determinations can be found in the memorandum, *Voluntary Consensus Standard Results for Large Municipal Waste Combustors NSPS and EG*, which is available in the docket for this action (Docket ID No. EPA-HQ-OAR-2017-0183).

Under 40 CFR 60.8(b) and 60.13(i) of subpart A of the General Provisions, a source may apply to the EPA to use alternative test methods or alternative monitoring requirements in place of any required testing methods, performance specifications or procedures in the final rule or any amendments. The EPA welcomes comments on this aspect of the proposed rulemaking and, specifically, invites the public to identify potentially applicable VCS and to explain why such standards should be used in these regulations.

The EPA is incorporating by reference the VCS ANSI/ASME PTC 19.10–1981 Part 10 (2010), "*Flue and Exhaust Gas Analyses*" as an acceptable alternative to EPA Method 3B, 6, 6A, 6B, 7, 7C. for the determination of oxygen content (manual procedures only); the VCS ASTM D7520-16, "*Standard Test Method for Determining the Opacity of a Plume in the Outdoor Ambient Atmosphere*" as an acceptable alternative to EPA Method 9 only if certain conditions are followed as described above; and the VCS ASTM D6784–16, "*Standard Test Method for*

Elemental, Oxidized, Particle-Bound and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method)," as an acceptable alternative to EPA Method 29 (Hg portion only) as a method for measuring Hg. Further, the EPA is incorporating by reference facility operator certification method ASME QRO–1–2005 (R2015), "*Standard for the Qualification and Certification of Resource Recovery Facility Operators*," as an updated certification to the 1994 version that has been incorporated by reference in the current rules.

J. Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations and Executive Order 14096: Revitalizing Our Nation's Commitment to Environmental Justice for All

The EPA believes that the human health or environmental conditions that exist prior to this action result in or have the potential to result in disproportionate and adverse human health or environmental effects on communities with environmental justice concerns. As stated in Section IV.F. of this preamble, the locations of the new, modified, and reconstructed sources that will become subject to the proposed large MWC NSPS (40 CFR 60, subpart Eb) are not known. Therefore, to examine the potential for any EJ issues that might be associated with the proposed NSPS, we performed a proximity demographic analysis for the 57 existing large MWC facilities that are currently subject to 40 CFR part 60, subparts Cb, Ea and Eb. These characterize populations near existing facilities that might modify or reconstruct in the future and become subject to the proposed NSPS requirements.

For large MWCs, a total of 3.9 million people live within 5 kilometers (approximately 3.1 miles) of existing facilities. The proportion of demographic groups living near large MWC facilities are above the national average, include African American, Hispanic or Latino and other/multiracial populations. The proportion of other demographic groups living within 5 kilometers of large MWC facilities is similar or lower than the national average. See section IV.F for an analysis that characterizes populations living in proximity of facilities and risks prior to the proposed regulation.

The EPA believes that this action is likely to reduce existing disproportionate and adverse effects on communities with environmental justice concerns. While the locations of the new, modified, and reconstructed sources that will become subject to the proposed large MWC NSPS (40 CFR 60 subpart Eb) are not known, this action proposes to establish standards for large MWC emission sources that will enhance protection for these populations by reducing pollutant emissions at future modified and reconstructed sources and minimizing future emission increases resulting from new sources. The proposed amendments to the EG and NSPS would also remove exclusions and exceptions from compliance during periods of SSM.

The EPA additionally identified and addressed EJ concerns by engaging in outreach activities to communities we expect to be impacted most by the rulemaking (see section II.F).

The information supporting this Executive Order review is contained in Section IV.G of this preamble. The demographic analysis is presented in the document *Analysis of Demographic Factors for Populations Living Near Large Municipal Waste Combustors*, which is available in the docket for this action.

List of Subjects in 40 CFR Part 60

Environmental protection, Air pollution control, Hazardous substances, Incorporation by reference, Reporting and recordkeeping requirements.

Michael S. Regan,
Administrator.

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