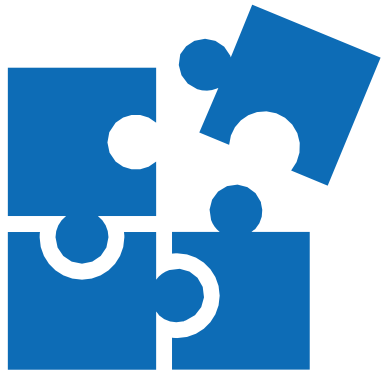


Large Municipal Waste Combustors

Proposed Amendments:
Standards of Performance for
New Stationary Sources and
Emissions Guidelines for
Existing Sources

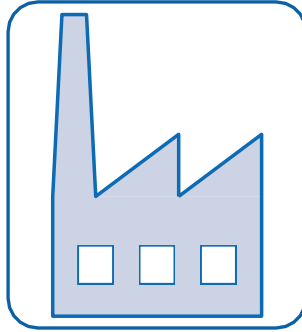
AAPCA & NACAA

February 29, 2024



Background

Large Municipal Waste Combustors (LMWCS)



Combust >250
tons/day



Combust municipal
solid waste

- Refuse collected from the **general public** and from **residential, commercial, institutional,** and **industrial** sources consisting of paper, wood, yard wastes, food wastes, plastics, leather, rubber, and other **combustible materials** and **non-combustible materials** such as metal, glass, and rock
- Does **not include** industrial process wastes or medical wastes segregated from other wastes

Clean Air Act Section 129

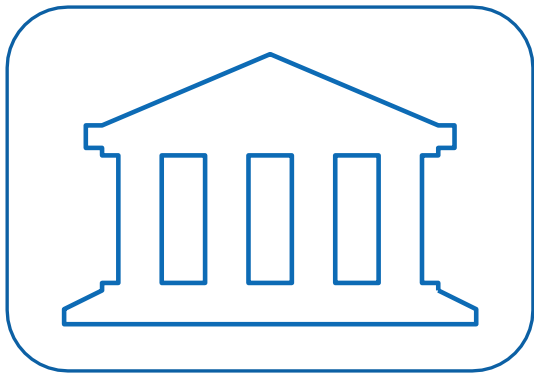
- Clean Air Act section 129 applies to any source burning **nonhazardous solid waste**
- EPA must set **numerical emissions standards** for new and existing sources for the following air pollutants:

Organics Dioxin/Furans	Metals Lead, Cadmium, Mercury	Acid Gases HCl, SO ₂	Particulate Matter	NOx, CO
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- Opacity is regulated as appropriate
- Work practice standards are not allowed
- EPA has discretion to distinguish among classes, types, and sizes within a category
- Title V operating permits are required for all sources/units
- EPA must review and revise standards as needed every 5 years (more frequent than other programs)

New Sources

- EPA's **new source performance standards** (NSPS) must be as stringent as the **best controlled similar unit**
- Standards are effective **6 months** after promulgation



Congress
Clean Air Act



EPA
Sets performance standards for new sources



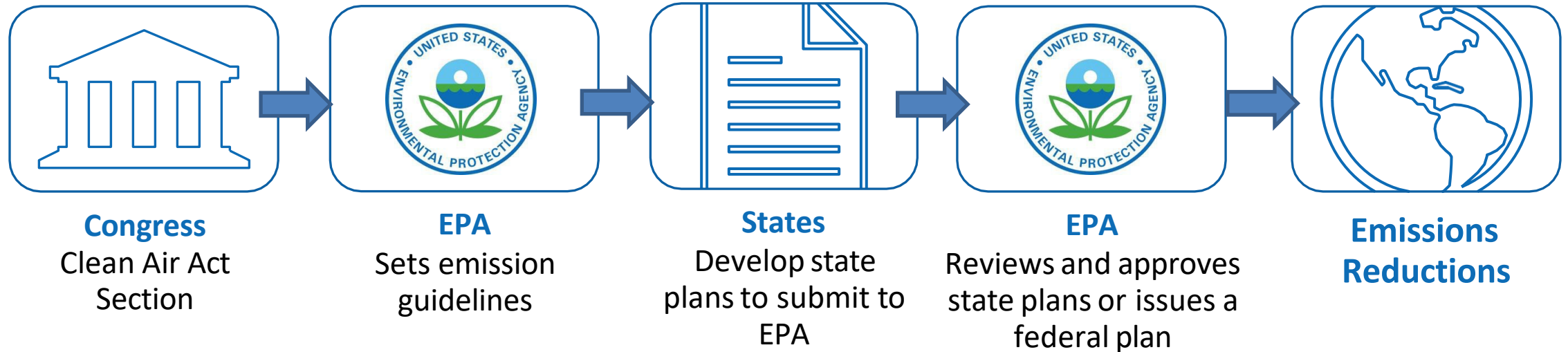
States
Issue state permits



Emissions Reductions

Existing Sources

- Emission guidelines (EG) for **existing sources** must be as stringent as the average emission limitation achieved by the **best performing 12 percent of units in the category**
- Existing sources must achieve compliance no later than **5 years** after promulgation of emission guidelines, or **3 years** after the state plans are approved, whichever is earlier



1995

- EPA adopted NSPS and Emission Guidelines for LMWC units

2000

- NSPS and Emission Guidelines fully implemented, including installation of control technologies

2006

- EPA promulgated the 5-year review, minor adjustments to several limits

2024

- EPA proposed the 5-year review, and reevaluation of maximum achievable control technology (MACT) floor levels.



Facility and Proximity Information

Geographic Distribution of LMWC Facilities

- EPA's current facility list includes 152 units located at 57 facilities, operating in 18 states
 - Facility counts by state: Florida (10), New York (7), Pennsylvania (6), Massachusetts (5), Connecticut (4), New Jersey (4), Minnesota (3), Virginia (3), California (2), Maine (2), Maryland (2)
 - One facility in each of the following states: Alabama, Hawaii, Indiana, Michigan, New Hampshire, Oklahoma, Oregon, Washington, Wisconsin



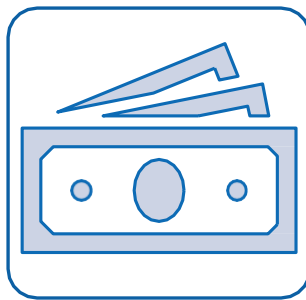
Additional LMWC Facility Information



Most facilities are located in urban areas with significant population exposure and environmental justice concerns



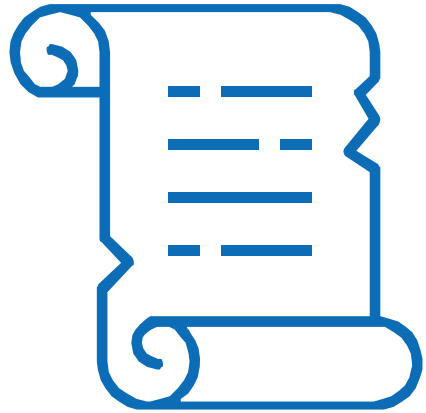
22 facilities are owned by state or municipal governments



EPA does not expect a significant economic impact on a substantial number of small entities for this action

Preliminary List of State or Municipal- Owned Facilities

State	Facility
Alabama	Covanta Huntsville, Inc.
California	Long Beach City, SERRF Project
Connecticut	Wheelabrator Lisbon, Inc. (WM)
Florida	Miami-Dade County Department of Solid Waste Management
	Palm Beach Renewable Energy Facility #1
	Pasco County
	Hillsborough City Resource Recovery Facility
	McKay Bay Refuse-to-Energy Facility
	Pinellas County Utilities Administration
	Lee County Department of Solid Waste Management
	Palm Beach Renewable Energy Facility #2
Hawaii	H-POWER
Maryland	Montgomery County Resource Recovery Facility
Maine	Ecomaine – Portland
Michigan	Kent County Waste to Energy Facility
Minnesota	Covanta Hennepin Energy Resource Co., LLC
New Jersey	Union County Resource Recovery Facility
New York	Onondaga County Resource Recovery Facility
Pennsylvania	HBG Resource Recovery FAC/Harrisburg
	York County Resource Recovery Center
	Lancaster County Resource Recovery Facility
Washington	Spokane Waste To Energy



Proposed Rulemaking

EPA is proposing to:

Revise all emission limits for existing sources (except for CO limits for two subcategories of combustors), and all emission limits for new sources

Proposed Emission Limits

Pollutant	Units (@7% O ₂)	2006 EG (Current) Limit	Proposed EG Limits					2006 NSPS (Current) Limit	Proposed NSPS Limits	
			MB/WW	MB/RC	RDF/S	RDF/SS	RDF/FBC		MB	RDF/S
Cd	ug/dscm	35	1.5					10	1.1	
Pb	ug/dscm	400	56					140	13	
PM	mg/dscm	25	7.4					20	4.9	
Hg	ug/dscm	50	12					50	6.1	
CDD/CDF	ng/dscm	30/35 ^a	7.2					13	1.8	
HCl	ppmdv	29	13					25	7.8	
SO ₂	ppmdv	29	20					30	14	
NO _x	ppmdv	180-250 ^b	110					150	50	
CO	ppmdv	50-250 ^c	100 ^f	110	110	250 ^f	110	50-150 ^d	16 ^e	100

a. 30 ng/dscm for FF-equipped MWC units and 35 ng/dscm for ESP-equipped MWC units.

b. Range in limits based on combustor type: MB/WW (205), RDF (250), MB/RC (210), RDF/FBC (180).

c. Range in limits based on combustor type: MB/WW (100), MB/RC (250), RDF/S (200), RDF/SS (250), modular starved air or modular excess air (50).

d. Range in limits based on combustor type: MB/WW (100), RDF (150), modular starved air or modular excess air (50).

e. Note that the MB/RC, RDF/SS, and RDF/FBC subcategories are representative of single, unique facilities that likely will not be a design used in any future large MWC units. For the NSPS purposes, we assume the overarching MB or RDF/S subcategories will represent performance of any units built in the future.

f. Calculated limit was less stringent than current limit so kept at current limit

EPA is proposing to:

Remove exemptions and exclusions for startup, shutdown, and malfunction

- Proposed limits would apply at all times.
- For pollutants monitored continuously (CO, SO₂, NO_x), the proposed limits would apply without oxygen correction.

Add provisions for electronic reporting of certain notifications and reports

- We are proposing that owners and operators of LMWC units submit electronic copies of the following via CEDRI:
 - Required test reports
 - Performance evaluation reports
 - Semiannual compliance reports
 - Annual reports
 - Certain notifications

EPA is proposing to:

Revise reporting and recordkeeping requirements

- Adding reporting of annual arithmetic averages of all hourly data recorded during normal operations
- Clarifying data for continuous monitoring systems must be recorded using “local time” unless alternative time system is approved by the Administrator

Clarify title V permitting requirements for certain air curtain incinerators (ACI)

- Changing applicability from 100% yard waste to 100%:
 - Clean wood
 - Clean Lumber
 - Yard waste, or
 - Mixture of the three
- Remove requirement to obtain Title V permit for ACI units

EPA is
proposing to:

Close a 2007 reconsideration action

Make other technical edits, clarifications, and revisions intended to improve the understanding of the rule and improve consistency with other incineration rules

What does the proposal say about compliance?

Revisions to State Plans are due 1 year after promulgation of revised standards

Existing LMWC units would have no later than 3 years after State Plan revision to comply OR 5 years after promulgation of the revised standards, whichever comes first

The EPA will revise the existing Federal Plan to incorporate new standards, which applies to LMWC units in a state without a State Plan

Pollutant Grouping	MACT Floor		Beyond the floor/5 Year Review		Proposed	
	Total Capital Cost (\$)	Total Annual Cost (\$/yr)	Total Capital Cost (\$)	Total Annual Cost (\$/yr)	Total Capital Cost (\$)	Total Annual Cost (\$/yr)
Particulates (PM, Cd, Pb)	\$35,700,000	\$5,460,000	\$113,000,000	\$16,400,000	\$35,700,000	\$5,460,000
Mercury and Dioxin/Furans	\$16,400,000	\$22,000,000	\$65,000,000	\$121,000,000	\$16,400,000	\$22,000,000
Acid Gases (HCl, SO ₂)	\$-	\$12,900,000	\$1,120,000,000	\$386,000,000	\$-	\$12,900,000
Nitrogen Oxides	\$50,800,000	\$10,800,000	\$257,000,000	\$59,400,000	\$257,000,000	\$59,400,000
Total Control Cost	\$103,000,000	\$51,100,000	\$1,560,000,000	\$582,000,000	\$309,000,000	\$99,800,000

Potential Costs

- Cost of controls estimated for existing units only. No new units projected based on one new unit since 1995
- Costs will depend on the current control technologies installed at the facility
- Costs will not be uniform across all LMWC units

Control Technologies

Particulate Matter

- Fabric filter retrofit, upgraded fabric filter or upgraded filters (bags)

Mercury and Dioxin/Furans

- Activated carbon injection retrofit or increased carbon injection

Acid Gases

- Increased lime injection (no new equipment)

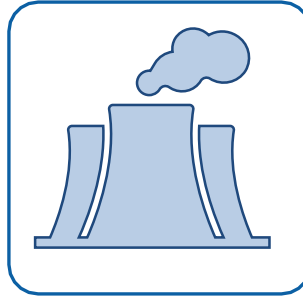
NO_x

- EG - Add advanced selective noncatalytic reduction (ASNCR), retrofit with ASCNR, or other low NO_x technology
- NSPS – Selective catalytic reduction

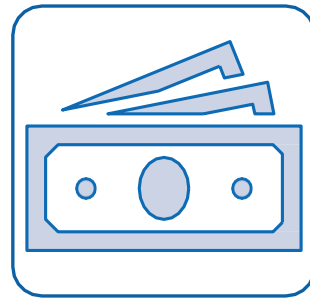
CO

- EG and NSPS - Good combustion practices (no new equipment)

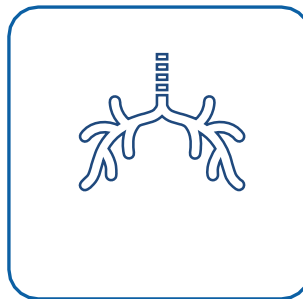
Benefits



14,000 tons per year
reduction in regulated
pollutants, if finalized



Net present value of health benefits,
due to reductions in particulate
matter and ozone, to be up to \$14
billion over 20 years



Additional potential benefits from
reductions of mercury and other
hazardous air pollutants, which EPA did
not estimate.

EPA is requesting comment on:

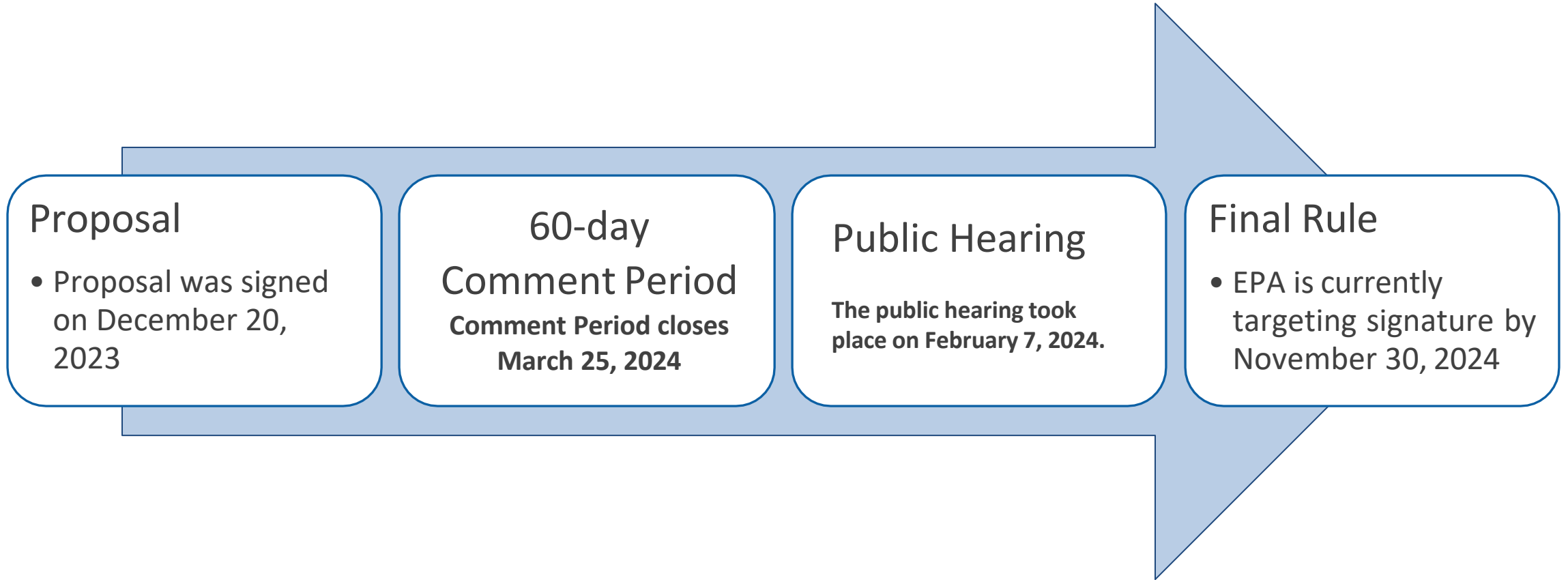
Information regarding developments in practices, processes, and control technologies that reduce pollutant emissions

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

Infeasibility of applying NO_x controls (SNCR or LN)

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 (for LMWCs)

Feasibility of the proposed compliance dates and rationales

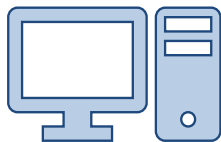


Rulemaking Process

How to Comment

Docket ID No.
EPA-HQ-OAR-2017-0183

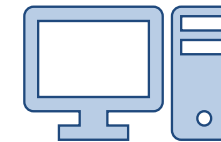
[Link to LMWC docket](#)



Go to

<https://www.regulations.gov>

and follow the online instructions for submitting comments



Send comments via email to:

A-and-r-Docket@epa.gov

Attention Docket ID No.
EPA-HQ-OAR-2017-0183.



Deliver comments in person to
EPA Docket Center, 1301
Constitution Ave., NW, Room
3334, Washington, DC.



Fax your comments to
(202) 566-9744, Attention
Docket ID No.
EPA-HQ-OAR-2017-0183.



Mail your comments to:
EPA Docket Center, Environmental
Protection Agency, Mail Code:
28221T, 1200 Pennsylvania Ave., NW,
Washington, DC 20460, Attention
Docket ID No.
EPA-HQ-OAR-2017-0183.

For More Information on LMWCs



[EPA's LMWC Web Page](#)

[42 U.S. Code § 7429 - Solid waste
combustion](#)

Contacts

For
questions
related to
the
rulemaking

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