SUMMARY

PROPOSED NEW SOURCE PERFORMANCE STANDARDS FOR NEW SMALL MUNICIPAL WASTE COMBUSTION UNITS

40 CFR 60 SUBPART AAAA

CONTENTS

APPLICABILITY

The proposed NSPS would apply to all new small MWC units with a capacity to combust at least 35 tpd but no more than 250 tpd of MSW.[a] New small MWC units are defined as small MWC units that commence construction after the publication date of the NSPS proposal in the Federal Register. New small MWC units also include existing units that commence modification or reconstruction at least 6 months after the date that the NSPS is promulgated. The NSPS subcategorizes small MWC units into two classes that have different NO_x limits and slightly different stack testing requirements:

Class	Description
I	New units located at plants with an aggregate capacity > 250 tpd
II	New units located at plants with an aggregate capacity $\leq$ 250 tpd

[a] Municipal solid waste or municipal-type solid waste means household, commercial/retail, or institutional waste. Household waste includes material discarded by residential dwellings, hotels, motels, and other similar permanent or temporary housing. Commercial/retail waste includes material discarded by stores, offices, restaurants, warehouses, nonmanufacturing activities at industrial facilities, and other similar establishments or facilities. Institutional waste includes materials discarded by schools, by hospitals (nonmedical), by nonmanufacturing activities at prisons and government facilities, and other similar establishments or facilities. Household, commercial/retail, and institutional waste does include yard waste and refuse-derived fuel. Household, commercial/retail, and institutional waste does not include used oil; sewage sludge; wood pallets; construction, renovation, and demolition wastes (which include railroad ties and telephone poles); clean wood; industrial process or manufacturing wastes; medical waste; or motor vehicles (including motor vehicle parts or vehicle fluff).

SITING REQUIREMENTS

All new units must complete the following three requirements before commencing construction:

A. **Develop a Materials Separation Plan**. This plan identifies a goal and an approach for separating certain components of MSW prior to waste combustion for a given service area in order to make the separated materials available for recycling. A materials separation plan may include three items:

1. Elements such as dropoff facilities, buy-back or deposit-return incentives, curbside pickup programs, or centralized mechanical separation systems;

2. Different goals or approaches for different subareas in the service area; and

3. No materials separation activities for certain subareas or, if warranted, the entire service area.

B. **Develop a Siting Analysis**. This analysis addresses how your municipal waste combustion unit affects ambient air quality, visibility, soils, vegetation, and other relevant factors. This analysis can be used to determine whether the benefits of your proposed facility significantly outweigh the environmental and social costs resulting from its location and construction. This analysis must also consider other major industrial facilities near the proposed site.

C. **Conduct public meetings and respond to public comments.** These meetings and comment periods offer the public an opportunity to comment on both the Materials Separation Plan and Siting Analysis.

GOOD COMBUSTION PRACTICES:

OPERATOR TRAINING AND CERTIFICATION

< Applies to all units.

< A plant-specific operator training manual must be developed and available for MWC plant employees. MWC plant employees must review the plant-specific operator training manual every year. MWC plant chief facility operators, shift supervisors, and control room operators must complete the EPA or a State operator training course.

< MWC plant chief facility operators and shift supervisors must obtain an ASME (or State equivalent) operator certification.

GOOD COMBUSTION PRACTICES:

OPERATING REQUIREMENTS

< The load level of the MWC unit must be measured and must not exceed 110 percent of the maximum load level as demonstrated during the most recent dioxin/furan stack test.

< The particulate matter control device inlet flue gas temperature must be measured and must not exceed 17 ^{o}C above the maximum temperature demonstrated during the most recent dioxin/furan stack test.

< If the MWC unit uses activated carbon injection to control dioxins/furans or mercury emissions, the 8-hour block average carbon feed rate must be maintained at or above the highest average level established during the most recent dioxin/furan or mercury test.

< If the MWC unit uses activated carbon injection to control dioxins/furans or mercury emissions, the amount of carbon purchased and delivered to the MWC plant must not fall below the required quarterly usage of carbon.

NSPS EMISSION LIMITS

Organic Emissions (measured as total dioxins/furans)[b,d]

<	Dioxins/furans (compliance test by EPA Reference Method 23)	
	All small units	13 ng/dscm total mass
<	Basis for dioxins/furans standard	
	All small units	GCP and SD/FF/CI

Metal Emissions[b]

<	Cadmium (compliance test by EPA Reference Method 29)	
	All small units	0.020 mg/dscm
<	Lead (compliance test by EPA Reference Method 29)	
	All small units	0.20 mg/dscm
<	Mercury (compliance test by EPA Reference Method 29)	
	All small units	0.080 mg/dscm or 85-percent reduction of potential mercury emissions
<	Particulate matter (compliance test by EPA Reference Method 5)	
	All small units	24 mg/dscm
<	Opacity (compliance test by EPA Reference Method 9)	
	All small units	10 percent
<	Basis for cadmium, lead, mercury, particulate matter, and opacity standards	GCP and SD/FF/CI

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[b] All emission limits are corrected to 7 percent oxygen, dry basis.

[d] Dioxins/furans are on a total mass basis measured as tetra- through octachlorinated dibenzo-p-dioxins and dibenzofurans.

NSPS EMISSION LIMITS (Continued)

Acid Gas Emissions[b]

<	Sulfur dioxide (compliance test by CEMS)	
	All small units	30 ppmv or 80-percent reduction of potential sulfur dioxide emissions
<	Hydrogen chloride (compliance test by EPA Reference Method 26)	
	All small units	25 ppmv or 95-percent reduction of potential hydrogen chloride emissions
<	Basis for sulfur dioxide and hydrogen chloride standards	GCP and SD/FF/CI
<	Nitrogen oxides (compliance test by CEMS)	
	Class I units	150 ppmv except 180 ppmv is allowed for the first year of operation
	Class II units	No emission limit
<	Basis for nitrogen oxides standard	
	Class I units	SNCR
	Class II units	No control requirement

Fugitive Ash Emissions

<	Fugitive ash (compliance test by EPA Reference Method 22)	
	All small units	Visible emissions for no more than 5 percent of the time from ash transfer systems except during maintenance and repair activities
<	Basis for fugitive ash emission standard	Wet ash handling or enclosed as handling

[b] All emission limits are corrected to 7 percent oxygen, dry basis.

NSPS EMISSION LIMITS (Continued)

CO Emissions

< Carbon monoxide must be measured using a CEMS, and the concentration in the flue gas cannot exceed the following levels:

MWC Unit Type	CO Limit (ppmv)[c]	Averaging Time[d]
Fluidized bed	100	4-hour
Mass burn rotary refractory	100	4-hour
Mass burn rotary waterwall	100	24-hour
Mass burn waterwall and refractory	100	4-hour
Mixed fuel-fired (pulverized coal/RDF)	150	4-hour
Modular starved-air and excess-air	50	4-hour
Spreader stoker, mixed fuel-fired (coal/RDF)	150	24-hour
Stoker, RDF	150	24-hour

[c] All emission limits in the table are corrected to 7 percent oxygen, dry basis.

[d] All averages are block averages.

CONTINUOUS MONITORING REQUIREMENTS

Pollutant/Operating Parameter		Requirement
<	Sulfur dioxide	CEMS, 24-hour daily geometric average
<	Nitrogen oxides (Class I units only)	CEMS, 24-hour daily arithmetic mean
<	Carbon monoxide	CEMS, 4-hour block or 24-hour daily arithmetic average, as applicable
<	Opacity	COMS, 6-minute average and annual stack test
<	Load	Continuous monitoring systems, 4-hour block arithmetic average
<	Flue gas temperature	Continuous monitoring systems, 4-hour block arithmetic average
<	Carbon feed rate (if carbon injection used to meet the dioxin/furan or mercury emission limits).	Continuously monitor parameters is and calculate 8-hour block arithmetic average carbon mass feed rate during periods of operation

STACK TESTING REQUIREMENTS

Stack Testing Schedule

<	Class I units	Annual stack test[e]
<	Class II units	Annual or third year stack test[e,f]

Stack Testing Methods

Pollutant	Test Method
Dioxins/furans[d]	EPA Method 23
Cadmium	EPA Method 29
Lead	EPA Method 29
Mercury	EPA Method 29
Particulate matter	EPA Method 5
Opacity	EPA Method 9
Hydrogen chloride	EPA Method 26
Fugitive ash	EPA Method 22

[d] Dioxins/furans are on a total mass basis measured as tetra- through octachlorinated dibenzo-p-dioxins and dibenzofurans.

[e] Reduced testing option is available for small MWC units that meet a dioxin/furan emission limit of 7 ng/dscm.

[f] The proposed standards include provisions that would allow Class II small MWC units to conduct stack tests for dioxins/furans, cadmium, lead, mercury, particulate matter, and hydrogen chloride every third year if the MWC unit meets certain specified criteria.

ABBREVIATIONS AND ACRONYMS

Abbreviations, acronyms, and other terms used:

ASME	=	American Society of Mechanical Engineers
CEMS	=	continuous emission monitoring system
CO	=	carbon monoxide
COMS	=	continuous opacity monitoring system
EPA	=	Environmental Protection Agency
GCP	=	good combustion practices
mg/dscm	=	milligrams per dry standard cubic meter*
MSW	=	municipal solid waste
MWC	=	municipal waste combustion
ng/dscm	=	nanograms per dry standard cubic meter*
NSPS	=	new source performance standards
ppmv	=	parts per million by volume*
RDF	=	refuse-derived fuel
SD/FF/CI	=	spray dryer/fabric filter/activated carbon injection system
SNCR	=	selective noncatalytic reduction
tpd	=	tons per day
total mass	=	total mass basis of tetra- through octa-chlorinated dibenzo-p-dioxins and dibenzofurans (not toxic equivalency (TEQ) basis)

* At standard temperature and pressure (20 EC, 101.3 kilopascals).