



# Environmental Fact Sheet

## REVISED TECHNICAL STANDARDS PROPOSED FOR HAZARDOUS WASTE COMBUSTION FACILITIES

*In an effort to reduce hazardous air pollutants, the Environmental Protection Agency (EPA) proposes a revised set of emission standards for hazardous waste-burning incinerators, cement kilns, and lightweight aggregate kilns. These standards would significantly limit emissions of many hazardous air pollutants and would create significant incentives for waste minimization.*

### Background

EPA is proposing this rule under the joint authority of the Clean Air Act (CAA) and the Resource Conservation and Recovery Act (RCRA). This proposal fulfills the Agency's commitment to upgrade the emission standards for hazardous waste-burning facilities, as stated in its *1993 Hazardous Waste Minimization and Combustion Strategy*. It also advances the Agency's mission to promote waste minimization. The three categories of facilities covered in this proposal burn more than 80 percent of the total amount of hazardous waste being combusted each year. (The remaining 15 to 20 percent is burned in industrial boilers and other types of industrial furnaces, which will be addressed in a later rulemaking.) The proposed standards would achieve significant reductions in some of the top priority pollutants for EPA—dioxins and furans by 98 percent, mercury by 80 percent, cadmium and lead by 95 percent, and four other toxic metals by 87 percent.

Children exposed to lead can suffer from damage to the brain and central nervous system, slowed growth, hyperactivity, and behavior and learning problems. Adults exposed to lead can suffer difficulties during pregnancy, high blood pressure, nervous disorders, and memory and concentration problems. Mercury exposure can lead to similar nervous system disorders, particularly in newborn infants whose mothers are exposed during pregnancy. These toxic substances all accumulate in the environment, leading to potential long-term health impacts.

This proposal establishes a common-sense approach that provides for coordinated CAA and RCRA permitting of hazardous waste-burning facilities. In particular, the proposal ensures that facilities will be able to avoid two potentially different regulatory compliance schemes by integrating the monitoring, compliance testing, and recordkeeping requirements of the CAA and RCRA. It also significantly promotes regional, state, and local agency flexibility by enabling them to coordinate their resources for permitting, compliance, and enforcement efforts.

In developing this rule, EPA met with affected stakeholders to elicit their feedback on a wide range of regulatory approaches. These groups include owners and operators of affected facilities, environmental groups, citizens' groups, nonprofit health organizations, and states.

## Action

The proposed, revised technical standards would limit emissions of dioxins and furans, mercury, semi-volatile metals (cadmium and lead), low-volatile metals (arsenic, beryllium, chromium, and antimony), particulate matter, acid gas emissions (hydrochloric acid and chlorine), hydrocarbons, and carbon monoxide. The standards are based on Maximum Achievable Control Technologies (MACTs), an approach required by the CAA. MACT reflects the maximum degree of hazardous air pollution reduction that can be achieved considering the availability, current use, costs, benefits, and impacts of emissions control technologies.

Under this proposed rule, continuous emissions monitors (CEMs) would be required for particulate matter and mercury. Prior to this rule, CEMs were required to be installed at these facilities for only carbon monoxide, total hydrocarbons and oxygen. In a related action, EPA is soliciting vendor participation in a CEM demonstration program, which will provide further technical support in the areas of commercial availability, performance, and reliability of these CEMs.

To provide regulatory relief to some facilities managing hazardous waste, the proposal contains a "comparable fuels specification" that would potentially extend to any facility generating or managing hazardous waste destined for burning. This common sense approach would exclude from regulation hazardous wastes that have the same characteristics as fossil fuels, and that are burned in lieu of fossil fuels. This exemption is expected to be an important element in the Agency's overall effort to fine-tune RCRA's regulatory scope. This proposal would also change the current "small quantity burner" exemption. Facilities that burn less than 27 gallons of hazardous waste per month will continue to be exempt from regulation. In the past, facilities that burned up to 2,000 gallons of hazardous waste per month were exempt.

EPA believes that this proposal will create significant incentives for waste minimization (source reduction and recycling). In addition to creating regulatory-driven incentives to remove metals from hazardous waste streams going to combustion facilities, the proposal specifically seeks to encourage facilities to identify opportunities to use waste minimization to help achieve compliance with MACT standards or to achieve either the small quantity or comparable fuels exclusions. For example, the proposal requests comment on whether facilities should be granted an extra year to come into compliance with MACT standards if their waste minimization efforts need an extra year to be put into place (thereby perhaps changing the types of facility modifications that would be needed for compliance). Of the nearly four million tons of hazardous waste combusted annually, approximately 1.8 million tons were combusted at on-site facilities (i.e., the same facilities at which the waste was generated). Combustion at an on-site facility presents a somewhat unique situation in which facility owners and operators also have direct control over waste generation. Therefore, EPA is targeting efforts to help ensure these facilities take steps to reduce the generation of waste at its source and minimize the quantity ultimately burned.

## Applicability

This proposed rule would apply to hazardous waste incinerators, cement kilns, and lightweight aggregate kilns that burn hazardous waste as fuel.

- Hazardous waste incinerators are enclosed, controlled flame combustion devices used primarily to treat organic and/or aqueous wastes.
- Cement kilns receive liquid hazardous waste to burn as fuel to run their cement processes. Cement is produced by heating mixtures of limestone and other minerals or additives at high temperatures in a rotary kiln, followed by cooling, grinding, and finish mixing.

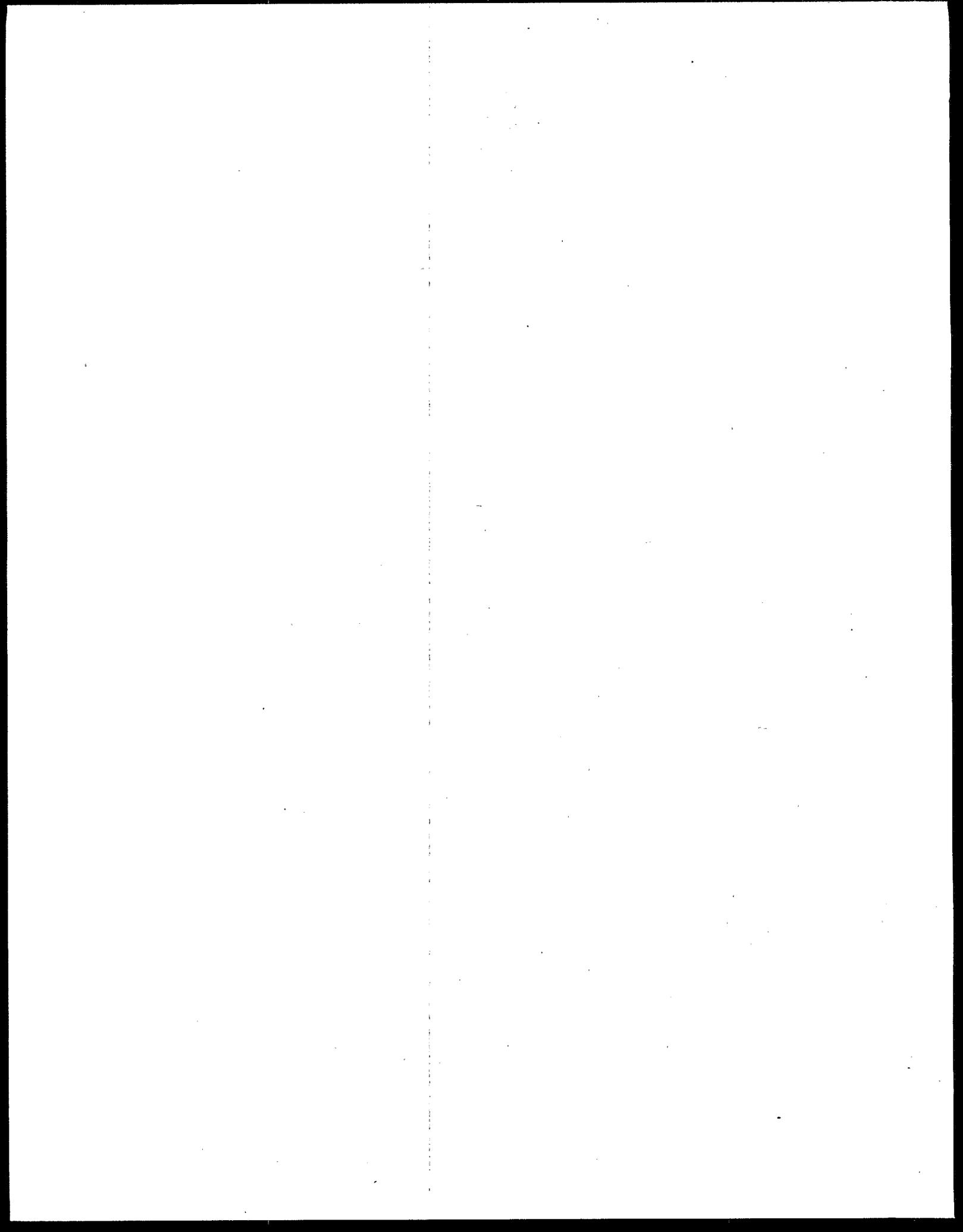
- Lightweight aggregate kilns produce lightweight aggregate and burn liquid hazardous waste as fuel to run their processes. Lightweight aggregate refers to a wide variety of raw materials (such as clay, shale, or slate) which, after thermal processing, can be combined with cement to form concrete products. It is produced either for structural or thermal insulation purposes.

Because the Agency believes that there will be potentially a large influx of RCRA permit modification requests resulting from requirements proposed in this notice, the Agency is considering options that will streamline the RCRA permit modification process for these types of changes to ensure that necessary modifications are made expeditiously.

### **For More Information**

The *Federal Register* notice and this fact sheet are available in electronic format on the Internet through the EPA Public Access Server. This fact sheet also is available through fax-on-demand. The system can be accessed 24 hours a day. Call 202-651-2060, and follow the voice prompts. (Be sure you know the document numbers for publications you want to order.) The service is free.

For additional information or to order paper copies of the *Federal Register* notice, call the RCRA Hotline at 1-800-424-9346 (outside the Washington, D.C. area), or 703-412-9810 in the Washington, D.C. area or TDD 1-800-553-7672 (hearing impaired). Copies of documents applicable to this proposed rule may be obtained by writing: RCRA Information Center (RIC), U.S. Environmental Protection Agency, Office of Solid Waste (5305W), 401 M Street SW, Washington, DC 20460.



**PROPOSED STANDARDS FOR HAZARDOUS WASTE INCINERATORS, CEMENT KILNS, AND LWAKS**

HAZARDOUS AIR POLLUTANT (units)	INCINERATORS		CEMENT KILNS		LIGHTWEIGHT AGG. KILNS	
	EXISTING	NEW	EXISTING	NEW	EXISTING	NEW
Dioxin/Furans (ng TEQ/dscm)	0.2	0.2	0.2	0.2	0.2	0.2
Mercury (ug/dscm)	50	50	50	50	72	72
Total Chlorine (HCl + Cl <sub>2</sub> ) (ppmv)	280	67	630	67	450	62
Semi-Volatile Metals (SVM) (lead, cadmium) (ug/dscm)	270	62	57	55	12	5.2
Low Volatility Metals (LVM) (antimony, arsenic, beryllium, chromium) (ug/dscm)	210	60	130	44	340	55
Particulate Matter (PM) (gr/dscf)	0.030 (equal to 69 mg/dscm)	0.030	0.030 (equal to 69 mg/dscm)	0.030	0.030 (equal to 69 mg/dscm)	0.030
Carbon Monoxide (CO) <sup>1</sup> (ppmv)	100	100	Main Stack - not applicable Bypass - 100	Main Stack - not applicable Bypass - 100	100	100
Hydrocarbons (HC) (ppmv)	12	12	Main Stack - 20 Bypass - 6.7	Main Stack - 20 Bypass - 6.7	14	14

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Cement kilns with bypass stacks must comply with either the CO or the HC standard in the bypass duct, but not both.

