

FACT SHEET

Standards of Performance for New Stationary Sources and Emission Guidelines for Existing Sources: Other Solid Waste Incineration Units

ACTION

- On November 30, 2005, the Environmental Protection Agency (EPA) promulgated rules to reduce emissions of air pollutants from other solid waste incineration (OSWI) units. The final OSWI rules regulate two subcategories of incinerators: (1) very small municipal waste combustion units and (2) institutional waste incineration units. The final rule is available at <http://www.epa.gov/ttn/oarpg/t3pfpr.html>.
- Very small municipal waste combustion (VSMWC) units are incinerators that burn less than 35 tons per day of municipal solid waste. Municipal solid waste is nonhazardous solid waste or refuse collected from residential, commercial, institutional, and industrial sources. Larger municipal waste combustion units are already regulated under two other rules promulgated earlier.
- Institutional waste incineration (IWI) units are incinerators located at institutions (e.g., public or private school; college or university; church or civic organization; fire or police department; town, city, county, State or Federal government; etc.) that burn solid waste generated on site.
- The final rules will establish emission limits for the following nine air pollutants from these incinerators: particulate matter (PM), sulfur dioxide (SO₂), hydrogen chloride (HCl), nitrogen oxides (NO_x), carbon monoxide (CO), lead (Pb), cadmium (Cd), mercury (Hg), and dioxins/furans. The final rules also will establish opacity limits.
- The emission limits in the final rules are based on levels that can be achieved by installing wet scrubbers. Other emission control technologies can also be used, as long as they meet the required emission limits.
- The final rules consist of new source performance standards (NSPS) for new (built after December 9, 2004) OSWI units and emission guidelines for existing OSWI units. Although the NSPS apply directly to new OSWI units, states must submit plans to implement the emission guidelines for existing OSWI units in their states, and EPA then approves the plans. If a state does not develop an approvable implementation plan, EPA will promulgate a federal plan that will apply to existing OSWI units located in that state.
- A new OSWI unit must demonstrate compliance with the emission limits in the NSPS upon start-up. Generally, existing OSWI units will have 5 years from the date EPA adopts the final emission guidelines to demonstrate compliance with the emission limits in those emission guidelines.
- EPA estimates that 248 existing OSWI units (12 VSMWC units and 236 IWI units) will

be subject to the final emission guidelines and that no OSWI units will be subject to the final NSPS because it is unlikely that any new OSWI units will be built.

HEALTH/ENVIRONMENTAL BENEFITS

- The final standards and guidelines will provide important improvements in protecting human health and the environment by reducing air pollutant emissions. EPA estimates total pollutant reductions of about 1,900 tons per year in the fifth year following promulgation if all facilities with existing OSWI units elect to install air pollution controls to comply with the emission guidelines. The emissions reductions by pollutant are listed below:

<u>Pollutant</u>	<u>Emissions Reductions</u>
Cd	0.3 tons
CO	13 tons
Dioxins/furans	3.0×10^{-4} tons
HCl	837 tons
Pb	5 tons
Hg	0.5 tons
NO _x	245 tons
PM	227 tons
SO ₂	598 tons

- Available information indicates that the OSWI unit population has been steadily declining over the past several years, and this trend would likely continue even in the absence of the OSWI standards and guidelines. This decline has been due to the availability of more economical waste disposal methods, such as landfilling. If all facilities with existing OSWI units decide to shut down their incinerators in favor of landfilling their waste, total air pollutant emissions will be reduced by about 2,200 tons per year.
- Exposure to emissions of some of these pollutants, such as dioxins/furans, HCl and metals, may produce a wide variety of human health effects including irritation of the lungs, skin and mucous membranes; problems with the central nervous system; kidney damage; and cancer.
- Exposure to PM may produce aggravated asthma, acute respiratory symptoms, chronic bronchitis, increased frequency of childhood illness, and other significant health problems. Furthermore, PM also impairs visibility by scattering and absorbing light. In many parts of the U.S., the visual range has been reduced by 70 percent from natural conditions.
- Acid gases, such as NO_x and SO₂, may produce both temporary and long-term respiratory symptoms, such as shortness of breath, changes in airway responsiveness, and increased

susceptibility to respiratory infection. Additionally, NO_x reacts in air to form ground-level ozone and fine particle pollution which are both associated with adverse health effects. Both NO_x and SO₂ are major precursors to acid rain which, when deposited, is associated with acidification of soil and surface water. Like NO_x, SO₂ also contributes to the formation of fine particle pollution.

- The health threat of CO is the reduction of oxygen delivery to the body's organs and tissues and is most serious for those who suffer from cardiovascular disease. At high levels of exposure, CO can be poisonous.

COST

- EPA estimates that no new OSWI units will be constructed, so there is no cost expected due to implementation of the NSPS.
- EPA estimates that the total nationwide annual costs to comply with the emission guidelines will be approximately \$42 million per year, if all OSWI units install wet scrubber controls to meet the final emission limits.
- Alternatively, owners or operators of OSWI units can choose to close their OSWI unit and use other means of waste disposal, such as landfilling. By shutting down their incinerator and sending the waste to a landfill, most facilities with OSWI units will incur no additional cost and some may even experience a small cost savings.

BACKGROUND

- Section 129 of the Clean Air Act requires EPA to establish performance standards for "other solid waste incineration units" that reflect the application of strict emissions controls known as maximum achievable control technology.
- The Act further requires that these standards address emissions of nine pollutants: particulate matter, sulfur dioxide, hydrogen chloride, nitrogen oxides, carbon monoxide, lead, cadmium, mercury, and dioxins/furans.
- EPA identified very small municipal waste combustion units and institutional waste incineration units as the two subcategories of the OSWI source category.

FOR MORE INFORMATION

- For further information about the final rules, contact Ms. Mary Johnson at EPA's Office of Air Quality Planning and Standards at 919-541-5025.
- For information regarding other solid waste incinerators, visit EPA's web site at: <http://www.epa.gov/ttn/atw/129/oswi/oswipg.html>. For other combustion-related regulations, visit EPA's Combustion Related Rules page at:

<http://www.epa.gov/ttn/atw/combust/list.html>