

## FACT SHEET

### FINAL STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES AND EMISSION GUIDELINES FOR EXISTING SOURCES: SEWAGE SLUDGE INCINERATORS

#### ACTION

- On February 21, 2011, the Environmental Protection Agency (EPA) finalized new source performance standards (NSPS) and emission guidelines (EG) for new and existing sewage sludge incineration (SSI) units. The rule will reduce emissions of air toxics and several of the common pollutants called criteria pollutants. The rules are expected to impact 204 units.
- The final rule will reduce emissions of a number of toxic air pollutants, including mercury, other metals and organic air toxics, which include dioxins/furans. Toxic air pollutants, also known as hazardous air pollutants or air toxics, are those pollutants known or suspected of causing cancer and other serious health effects
- A SSI unit is an incinerator or combustion device that is used to burn dewatered sewage sludge. SSI units are typically located at wastewater treatment facilities.

#### FINAL REQUIREMENTS

- The final rules cover two SSI subcategories based on the type of incinerator: multiple hearth (MH) and fluidized bed (FB).
- Units incinerating sewage sludge at other types of facilities (e.g., commercial, industrial, and institutional) will be covered under different air pollution incineration standards.
- The rules establishes emission limits for nine pollutants emitted from the regulated SSI units:
  - mercury
  - lead
  - cadmium
  - hydrogen chloride
  - particulate matter
  - carbon monoxide
  - dioxins/furans
  - nitrogen oxides
  - sulfur dioxide
- The rules also require provisions for testing, monitoring, recordkeeping, reporting and operator training.

#### BENEFITS AND COSTS

- EPA estimates that there are approximately 204 SSI units operating in the United States. The Agency expects that 155 of these units are currently meeting the emissions limits. Forty will need to install one or more air pollution control device. In the next five years, EPA estimates that there could be two new SSI unit constructed.

- These emissions reductions will lead to significant annual health benefits. In 2015, this rule will protect public health from exposure to fine particles by avoiding:
  - 2 to 6 premature deaths,
  - 2 cases of chronic bronchitis,
  - 4 nonfatal heart attacks,
  - 4 hospital and emergency room visits,
  - 4 cases of acute bronchitis,
  - 81 cases of respiratory symptoms
  - 320 days when people miss work,
  - 42 cases of aggravated asthma, and
  - 1,900 days when people must restrict their activities.
- EPA expects this rule will reduce nationwide emissions from SSI by:
  - 4 pounds per year of mercury,
  - 450 tons per year (tpy) of acid gases (i.e., hydrogen chloride and sulfur dioxide),
  - 58 tpy of particulate matter, and
  - 1.7 tpy of cadmium and lead.
- EPA estimates that the value of the benefits associated with reduced exposure to fine particles are \$21 million to \$52 million in the year 2015.
- EPA did not provide a monetary estimate of the benefits associated with reducing exposure to air toxics or other air pollutants, ecosystem effects, or visibility impairment. However, the rule would cut emissions of pollutants that are of particular concern for children. Mercury and lead can adversely affect developing brains – including effects on IQ, learning, and memory.
- EPA estimates that all facilities will choose to continue to incinerate as a method of disposal. EPA recognizes that should a facility choose an alternative method of disposal, that decision is based on local needs.
- Installing and maintaining controls for this rule is estimated to cost \$18 million per year.

## **KEY CHANGES FROM PROPOSAL**

- Key changes based on information and comments received on the proposal include:
  - clarifying the applicability to state that this rule applies only to sources that combust sewage sludge at wastewater treatment facilities treating domestic sewage sludge;
  - revising the subcategories for new multiple hearths (MH) to be consistent with the subcategory for existing MH;
  - revising the baseline emissions, costs, and impacts based on new information received. This revision resulted in a determination that the beyond-the-floor emission limits for mercury for the MH subcategory were no longer cost-effective; and
  - revising the requirements for opacity to no longer require opacity for sources subject to parametric monitoring and annual testing.

## **ADDITIONAL ANALYSES**

- The Clean Air Act (the Act) requires EPA to set a minimum emission standard for each regulated pollutant. The Act allows EPA to adopt emissions limitations and requirements that are more stringent than the minimum requirement. When considering more stringent standards, EPA must consider costs, non-air quality health and environmental impacts and energy requirements.
- EPA conducted an analysis to determine whether it was appropriate to finalize more stringent standards for pollutants (mercury and carbon monoxide) emitted from this industry as proposed. Based on information received from public comments and results of EPA's final analysis, the Agency determined that a standard that is more stringent for certain pollutants emitted from multiple hearth incineration units would not be appropriate to finalize as indicated in the proposed standards.

### **SEPARATE BUT RELATED ACTIONS**

- EPA has finalized a rule that would reduce emissions of toxic air pollutants from new and existing industrial, commercial, and institutional boilers and process heaters located at *major* source facilities. A major source facility emits or has the potential to emit 10 or more tons per year (tpy) of any single air toxic or 25 tpy or more of any combination of air toxics.
- EPA has finalized a rule to reduce emissions of toxic air pollutants from new and existing industrial, commercial, and institutional boilers and process heaters located at *area* source facilities. An area source facility has the potential to emit less than 10 tpy of any single air toxic or less than 25 tpy of any combination of air toxics.
- EPA has also finalized a rule to reduce air toxics from Commercial and Industrial Solid Waste Incinerators (CISWI). This final rule reflects the Agency's final definition of *non-hazardous solid waste*.
- EPA has finalized a definition of non-hazardous solid waste to include sewage sludge. This determination establishes that facilities that burn sewage sludge will be regulated as incinerators under CAA section 129 rather than CAA section 112.
- EPA also will issue a notice announcing that it will "reconsider" certain aspects of the boiler and CISWI rules. The SSI rule is not part of the reconsideration. The final boiler and CISWI rules reflect reasonable approaches consistent with the requirements of the Clean Air Act. However, some of the issues identified in the comments on our April 2010 proposals raised difficult technical issues that the Agency believes would benefit from additional public involvement. EPA is in the process of developing a proposed rule that will request additional comment on:
  - specific elements of the final rules that would benefit from additional public review and comment, and
  - any provisions that EPA proposes to modify or add after more fully evaluating the data and comments already received.

EPA will fully evaluate any petitions submitted to the Agency requesting that we reconsider specific aspects of these rules. Additional issues may be added for reconsideration as appropriate. Through the reconsideration process, EPA intends to ensure that the standards will protect the health of all Americans and be practical to implement.

## **BACKGROUND**

- Section 129 of the Clean Air Act requires EPA to develop and adopt NSPS and EG for solid waste incineration units including SSI. This is the first time EPA has regulated SSI units under section 129 of the CAA.
- EPA issued standards for other solid waste incineration (OSWI) units on December 16, 2005. The OSWI rule established numerical emission limits for very small municipal waste combustion and institutional waste incineration units.
- Following the finalization of the OSWI rule, EPA received a petition for reconsideration asking that SSI and other units be covered under the OSWI rule. In January 2007, EPA took final action on the reconsideration and concluded that no changes to OSWI were necessary.
- In 2007, the U.S. Court of Appeals for the District of Columbia Circuit vacated and remanded the 2005 Commercial and Industrial Solid Waste Incineration (CISWI) definition rule.
- On June 4, 2010, EPA's Office of Solid Waste and Emergency Response (OSWER) proposed a new definition of solid waste. OSWER determined that sewage sludge is a solid waste. This determination established that sewage sludge incineration will be regulated under CAA section 129 rather than CAA section 112. This final rule reflects the Agency's final definition of *non-hazardous solid waste*.

## **FOR MORE INFORMATION**

- To download this final rule from EPA's website, go to:  
<http://www.epa.gov/airquality/combustion/actions.html>.
- Today's action and other background information are also available either electronically at <http://www.regulations.gov>, EPA's electronic public docket and comment system, or in hardcopy at the EPA Docket Center's Public Reading Room.
  - The Public Reading Room is located at EPA Headquarters, Room Number 3334 in the EPA West Building, 1301 Constitution Avenue, NW, Washington, DC. Hours of operation are 8:30 a.m. to 4:30 p.m. eastern standard time, Monday through Friday, excluding federal holidays.
  - Visitors are required to show photographic identification, pass through a metal detector and sign the EPA visitor log. All visitor materials will be processed through an X-ray machine as well. Visitors will be provided a badge that must be visible at all times.
  - Materials for this proposed action can be accessed using Docket ID No. EPA-HQ-OAR-2009-0559.

- For further information about the proposed rule, contact Ms. Amy Hambrick of EPA's Office of Air Quality Planning and Standards, Sector Policies and Programs Division, Natural Resources and Commerce Group at (919) 541-0964 or by e-mail at [hambrick.amy@epa.gov](mailto:hambrick.amy@epa.gov).