

FACT SHEET

FINAL ADJUSTMENTS TO THE AIR TOXICS STANDARDS FOR INDUSTRIAL, COMMERCIAL, AND INSTITUTIONAL BOILERS AND PROCESS HEATERS AT MAJOR SOURCE FACILITIES

ACTION

- On December 20, 2012, the U.S. Environmental Protection Agency (EPA) finalized a specific set of adjustments to Clean Air Act standards, originally finalized in March 2011, for boilers and certain solid waste incinerators.
 - These adjustments maintain extensive public health protections achieved by the March 2011 standards by reducing toxic air pollution, including mercury and particle pollution.
 - At the same time, these adjustments increase the rules' flexibility and address concerns raised by stakeholders.
 - The specific set of adjustments address new data provided to the agency and additional information about real-world performance and conditions under which affected boilers and incinerators operate.
 - These adjustments maintain the dramatic cuts in the cost of implementation that were achieved in the final standards issued in March 2011.
- This fact sheet summarizes adjustments to the "National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters." These adjustments reflect EPA's reconsideration of the final air toxics standards for these boilers and process heaters, which the Agency published on March 21, 2011.
- Boilers burn fuels, including natural gas, fuel oil, coal, biomass (e.g., wood), refinery gas, or other gas to produce steam. The steam is used to produce electricity or provide heat. Process heaters heat raw or intermediate materials during an industrial process. The boilers and process heaters that are covered by these standards do not burn solid waste unless they are exempt under the Clean Air Act from standards for incinerators.
- Boilers at large sources of air toxics emissions are known as major source boilers. They are located at large sources of air pollutants, including refineries, chemical plants, and other industrial facilities, but are also used to provide heat for commercial facilities and institutions. The majority of major source boilers and process heaters are located at industrial facilities.
- There are approximately 14,000 major source boilers and process heaters in the U.S. All of those will be required to conduct periodic tune-ups, and about 12% will be required to take steps to meet numerical emission limits if they do not already meet them.
- The final adjusted standards will be effective upon publication in the Federal Register.
- Existing sources must comply with the standards 3 years from the date of publication of the final revised standards, and if needed, may request an additional year.

KEY CHANGES TO THE 2011 RULE

- EPA is finalizing adjustments based on additional data and comments provided after the agency issued final standards and during the reconsideration process. With these adjustments, the EPA is:
 - **Adding new subcategories for light and heavy industrial liquids** to reflect design differences in the boilers that burn these fuels.
 - **Adding new emission limits for particulate matter (PM)** that are different for each biomass fuel subcategory to better reflect emissions during real-world operating conditions.
 - **Adding new emission limits for carbon monoxide (CO)** based on newly submitted data that shows CO emissions from boilers vary greatly. EPA is setting new limits to more adequately capture that variability.
 - **Allowing alternative total selective metals emission limits** to regulate metallic air toxics instead of using a PM as a surrogate, allowing more flexibility and decreasing compliance costs for units that emit low levels of HAP metals.
 - **Replacing numeric dioxin emission limits with work practice standards** to reflect a more robust analysis that shows dioxin emissions are below levels that can be accurately measured.
 - **Increasing flexibility in compliance monitoring** by adding alternative monitoring approaches for demonstrating continuous compliance with the PM limit.
 - **Adjusting PM and CO emission limits for units located outside the continental United States** to reflect new data and to better reflect the unique operating conditions associated with operating these units.
 - **Continuing to allow units burning clean gases** to qualify for work practice standards instead of numeric emission limits. EPA is removing the hydrogen sulfide (H₂S) fuel specification from the rule because it does not provide a direct indication of potential hazardous air pollutants (HAP) from combustion of gaseous fuel. Instead, mercury content alone is being used to determine clean gas.
- As a result of these adjustments, emission reductions of some pollutants (mercury, hydrogen chloride (HCl), and sulfur dioxides (SO₂)) will be greater than estimated for the March 2011 final standards, while emission reductions of other pollutants (non-mercury metals, particulate matter (PM), and volatile organic compounds (VOCs)) will be lower.
- Estimated total emission reductions for these adjusted standards:
 - 1.6 tons per year (tpy) of mercury;
 - 1786 tpy of non-mercury metals;
 - 39,385 tpy of HCl;
 - 16,593 tpy of PM_{2.5};
 - 570,000 tpy of SO₂; and,

- 2,400 tpy of VOCs.
- The estimated annualized cost to implement these standards is \$1.4 to \$1.6 billion. The costs to comply *per boiler* are expected to decrease from the costs associated with the March 2011 standards because of data-driven changes to the emission limits, including less stringent requirements for particle pollution controls for biomass units.
 - When evaluating the same inventory of units as the March 2011 rule, the estimated annualized cost of the amended rule would be \$1.19 billion, a decrease of \$130 million
- The value of the benefits would increase by about 23% based on greater reductions of SO₂; estimated benefits associated with reduced exposure to fine particles would be \$27 to \$67 billion in the year 2015.

SEPARATE BUT RELATED ACTIONS

- EPA is finalizing adjustments to the standards that will reduce emissions of toxic air pollutants from new and existing industrial, commercial, and institutional boilers located at *area* source facilities. An area source facility has the potential to emit less than 10 tpy of any single air toxic and less than 25 tpy of any combination of air toxics.
- EPA is finalizing adjustments to the standards that will reduce emissions of air toxics from Commercial and Industrial Solid Waste Incinerators (CISWI). These final standards reflect EPA's proposed definition of *non-hazardous secondary materials* (NHSM).
- EPA is finalizing revisions to the definition of NHSM. The definition clarifies the status of particular materials and amends the process for determining whether other materials are NHSM.
- Information on these other rules can be found at <http://www.epa.gov/airquality/combustion/actions.html>.

BACKGROUND

- On March 21, 2011, the EPA published in the Federal Register national air toxics standards for major source industrial, commercial, and institutional boilers and process heaters. On the same day, the EPA also promulgated national air toxics standards for area source industrial, commercial, and institutional boilers and for commercial and industrial solid waste incinerators (CISWI).
- On March 21, 2011, the EPA also published a notice initiating the reconsideration of certain aspects of the final standards for major source industrial, commercial, and institutional boilers and process heaters, as well as the final standards for area source industrial, commercial, and institutional boilers and for CISWI. The final standards reflect reasonable approaches consistent with the requirements of the Clean Air Act. However, some of the issues identified in comments on the 2010 proposed rules raised difficult technical issues that the agency believes would benefit from additional public involvement. In addition, the agency wants to ensure that the public has ample opportunity to comment on changes in the final standards that were not in the proposal.

- In the March 21, 2011 notice, the EPA identified six issues for the major source boilers standards for which reconsideration and additional opportunity or public review and comment should be given:
 - revisions to the proposed subcategories;
 - establishment of a fuel specification through which gas-fired boilers that use a fuel other than natural gas may be considered Gas 1 units;
 - establishment of work practice standards for limited use major source boilers;
 - revisions to the proposed monitoring requirements for carbon monoxide;
 - revisions to the proposed dioxin emission limit and testing requirement; and,
 - establishment of a full-load stack test requirement for carbon monoxide coupled with continuous oxygen monitoring.
- Following promulgation, the EPA received 29 petitions for reconsideration filed by 22 industry groups, five industrial efficiency groups, one State agency, and one environmental group. In response to those petitions, we granted reconsideration of many aspects of the final standards.

FOR MORE INFORMATION

- To download this reconsideration notice from EPA's Web site, 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-2002-0058.
- For further information about the rule, contact Mr. Jim Eddinger of EPA's Office of Air Quality Planning and Standards, Sector Policies and Programs Division, Energy Strategies Group at (919) 541-5426 or by e-mail at eddinge.jim@epa.gov.