

FACTSHEET

EPA's Final Air Toxics Standards Major and Area Source Boilers and Certain Incinerators Overview of Rules and Impacts

ACTION

On February 21, 2011, the Environmental Protection Agency (EPA) – under court orders - finalized rules that will reduce emissions of air pollutants from existing and new Boilers, Commercial and Industrial Solid Waste Incinerators (CISWI), and Sewage Sludge Incinerators (SSI). This fact sheet provides an overview of the benefits of the rules and highlights key impacts and issues associated with them.

BACKGROUND

- These rules are developed under sections 112 and 129 of the Clean Air Act, two provisions that target toxic air pollution.
- Under these sections, EPA is required to set technology-based standards for toxic air pollutants, reflective of levels achieved by the best existing sources
- EPA may set less stringent standards for smaller boilers (area sources).
- Existing sources have three years to comply with these standards and can obtain an additional year beyond that, if technology cannot be installed in time.
- The regulations issued today are in response to a D.C. Court of Appeals ruling that vacated previous regulations affecting these sources in July 2007.

The specific actions EPA is taking today include:

- **Boilers at large sources of air toxics emissions:** There are about 13,800 boilers located at large sources of air pollutants, including refineries, chemical plants, and other industrial facilities. These standards will reduce emissions of harmful pollutants including mercury, organic air toxics and dioxins at some of the largest pollution sources. EPA estimates that the costs of implementation have been reduced by \$1.5 billion from the proposed standard. Health benefits to children and the public associated with reduced exposure to fine particles and ozone from these large source boilers are estimated to be \$22 billion to \$54 billion in 2014.
- **Boilers located at small sources of air toxics emissions:** There are about 187,000 boilers located at small sources of air pollutants, including universities, hospitals, hotels and commercial buildings that may be covered by these standards. Due to the small amount of emissions these sources are responsible for, EPA has limited the impact of the final rule making on small entities. The original standards for these have been dramatically refined and updated to ensure maximum flexibility for these sources, including revising the requirement from maximum achievable control technology to generally available control technology. The cost reduction from the proposed standard to the final is estimated to be \$209 million.

- **Solid waste incinerators:** There are 88 solid waste incinerators that burn waste at a commercial or an industrial facility, including cement manufacturing facilities. These standards, which facilities will need to meet by 2016 at the latest, will reduce emissions of harmful pollutants including mercury, lead, cadmium, nitrogen dioxide and particle pollution. The cost reduction from the proposed standard to the final is estimated to be \$12 million.
- **Sewage sludge incinerators:** There are more than 200 sewage sludge incinerators across the country. These standards will reduce emissions of harmful pollutants including mercury, lead, cadmium, and hydrogen chloride.
- **Identification of nonhazardous secondary materials that are solid waste:** EPA's rule determines which secondary materials are wastes and which are not when burned in combustion units as ingredients or fuels. The two categories of secondary materials determine which requirements apply to the affected combustion units.
- **Public comment and transparency: EPA is using a process outlined in the Clean Air Act to "reconsider" the rule and ensure additional opportunity for public comment and increase transparency:** The final standards for these sources are significantly different in some respects than the ones proposed. EPA believes that the changes deserve further public review and is using a process outlined in the Clean Air Act to provide the public an opportunity to comment and ensure complete transparency. By issuing these final rules and immediately "reconsidering" them - a process outlined in the Clean Air Act to ensure rules are based on the best science and data - the agency will meet its legal obligations under the Clean Air Act, while developing reasonable standards that protect the air Americans breathe.
- **Technical Assistance:** EPA is working with the Departments of Energy (DOE) and Agriculture (USDA) to provide facilities and institutions with technical assistance that will help boilers burn cleaner and more efficiently and comply with the new standards. This will help cut harmful pollution and reduce operating costs at the same time. The effort will be launched at the end of the reconsideration process.

RECONSIDERATION

EPA also will issue a notice that we are reconsidering certain aspects of the boiler and commercial and industrial solid waste incinerator rules. While these final rules reflect reasonable approaches consistent with the requirements of the Clean Air Act, some of the issues identified in the comments raised difficult technical issues that we believe 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, and
- Any provisions that we propose to modify after more fully evaluating the data and comments already received.

The Agency will also fully evaluate any petitions submitted to the agency requesting that we reconsider specific aspects of these rules. We will include additional issues in the reconsideration as appropriate.

Health Benefits, Costs and Jobs Impact of the Boiler, CISWI and SSI Final Rules

- The final air standards will cut emission of pollutants such as mercury, particle pollution, dioxin, lead, and nitrogen dioxide.
- These pollutants can cause a range of dangerous health effects - from developmental disabilities in children to cancer, heart disease and premature death.
- The standards will have direct benefits to many communities where people live very close to these units.
- Together, the standards will avoid more than 2,600 premature deaths, 4,100 heart attacks, and 42,000 asthma attacks.
- EPA estimates that Americans will receive 10 to 24 dollars in health benefits for every dollar spent to meet the standards.
- The standards are significantly different from the ones proposed and reflect the latest and best information provided during the public comment period.
- Overall, the changes have retained the significant health benefits and resulted in simpler rules to implement and a reduced burden on sources. The compliance costs of the final rules are approximately 50 percent of the costs of the proposal.

Major and Area Source Boiler Rules

Based on public comments and additional data provided during the public comment period, EPA made some significant changes to the requirements for biomass, gas-fired units, small boilers, and pollution limits for carbon monoxide (CO).

- **Small Boilers:** New data identified technical difficulties with small units' design that preclude the use of emission test methods for both new and existing small boilers. As a result, EPA did not set specific emission limits for small boilers, i.e. those having a heat input capacity of less than 10 million British Thermal Units (BTUs) per hour (commonly found in churches, schools, or commercial buildings.). Instead, the Agency is requiring small boilers to be tuned-up every other year to keep them running efficiently, which minimizes pollution and encourages cost-effective fuel use.
- **Limited Use Units:** The final rule establishes a work practice standard instead of numeric emission limits for all new and existing "limited use" boilers. The operator will be required to perform a tune-up for each unit once every two years. These units are operated less than 10 percent of the year as emergency and backup boilers to supplement process power needs.
- **Clean Gas Units:** All facilities with boilers or process heaters that use "clean" gas – natural gas or other gaseous fuels from refineries or landfills, etc. that meet specifications for mercury and hydrogen sulfide similar to those of natural gas – will now be subject to work practice standards in lieu of numeric emissions limits. Energy audits will continue to be required but the rule clarifies certain provisions (recognizing previously performed audits, adjusted audit frequency with facility sizes) to minimize costs.
- **Large Boilers:** Technical information led the Agency to establish a solid fuel subcategory to ensure that all solid fuel-burning units are appropriately regulated and to recognize that there is no clear technical distinction between units that burn coal and biomass.

- **Biomass:** The increase in the CO limit resulting from the submittal of additional data, the creation of a solid fuel category, and the establishment of work practice standards for startup and shutdowns, allows additional flexibility to existing biomass units in how they achieve compliance, lowering costs and encouraging coal-fired units to co-fire or switch to biomass. All biomass area sources will require a tune-up every other year in lieu of numeric emissions limits.
- **Coal:** Co-firing with biomass could be part of a cost-effective compliance strategy.
- **Compliance Testing Requirements:** Compliance testing requirements for CO were adjusted based on comments received. Rather than continuous monitoring, units are required to measure CO once a year at full load while conducting routine parametric testing to track oxygen levels indicative of combustion efficiency, lowering compliance costs.
- **HBEL:** The Agency did not receive information sufficient to form a basis for the development of a health-based emissions limit (HBEL) for acid gases, specifically hydrochloric acid or HCL, hydrogen cyanide, hydrogen fluoride, and chlorine, as well as emissions from other sources in the facilities that have boilers.
- **Pollutant-by-Pollutant Approach:** As a result of both legal and policy considerations, the Agency did not move away from its historic approach of calculating the minimum standards (MACT Floor) on a pollutant-by-pollutant basis. However, as a result of the information received during the comment period, changes were made to the final rule and EPA is confident that all the standards can be achieved.
- **Costs and Benefits:** The Agency estimates that the cost to comply with the Major and Area Source Boiler Rules is \$1.9 billion dollars while the combined benefits associated with reduced exposure to air pollution range from \$22 billion to \$54.5 billion in 2014. This rule cut costs from initial proposal by nearly 50 percent.

CISWI

Based on public comments and additional data provided during the public comment period, burn-off ovens and cyclonic burn barrels will not be regulated and language has been added to clarify that space heaters are not regulated under the final rule. In addition EPA separated energy recovery units (ERUs) into create two subcategories (solid and liquid) and adjusted CO compliance testing consistent with the approach taken in the Boiler MACT Rule. As a result, affected facilities will have:

- **More flexibility** in achieving standards; and
- **Lower compliance costs.**

SSI

EPA verifies in the final rule that SSI are incinerators as defined by the Clean Air Act and must be regulated as such. However, technical data submitted during the comment period showed that:

- **Multiple hearth units** are fundamentally different than fluidized beds, the only proposed subcategory. As a result, the Agency added a second subcategory.

- Beyond the Floor Limits for Mercury were not cost-effective given the lower than estimated amount of mercury currently emitted from these facilities.
- The resulting emission reductions and costs of the final rule are significantly lower than those of the proposed rule.

TECHNICAL ASSISTANCE

Department of Energy (DOE) Assistance for Major Source Industrial Boilers and Process Heaters

- DOE has joined EPA in an effort to help ensure that major sources burning coal and oil have information on cost-effective clean energy strategies for compliance.
- DOE will provide site-specific technical and cost information to major source facilities that are currently burning coal or oil in their boilers.
- This assistance effort will begin once the reconsideration is complete; DOE will be prepared to visit these coal- and oil-fired facilities to discuss these clean energy options. DOE will also provide the facilities with information on potential funding and financing opportunities. Facilities that make use of this outreach can potentially develop strategies to reduce their emissions to comply with the regulations while adding to their bottom line.
- The boiler tune-up portion of the regulation can save facilities energy-related costs, and the energy audit portion of the regulation will identify additional energy and cost savings. DOE will provide to all affected sources information on financial incentives available at the local, state, utility and federal level to assist them in undertaking a boiler tune-up and/or energy audit.

Department of Agriculture (USDA) Assistance and Outreach to Major and Area Source Boilers

- Working with EPA, USDA will be reaching out to facilities that have boilers that burn biomass to make sure that they understand the regulation, its cost- and energy-saving features, and the benefits that can accrue as a result.