

FACT SHEET

PROPOSED AIR TOXICS STANDARDS FOR INDUSTRIAL, COMMERCIAL, AND INSTITUTIONAL BOILERS AT AREA SOURCE FACILITIES

ACTION

- On April 29, 2010, the Environmental Protection Agency (EPA) issued a proposed rule that would reduce emissions of toxic air pollutants from existing and new industrial, commercial, and institutional boilers located at area source facilities. An area source facility emits or has the potential to emit less than 10 tons per year (tpy) of any single air toxic or less than 25 tpy of any combination of air toxics.
- The proposed rule would reduce emissions of a number of toxic air pollutants including mercury, metals, and organic air toxics, which include dioxins.
- Boilers burn coal and other substances such as oil or biomass (e.g., wood) to produce steam or hot water, which is then used for energy or heat. They can also burn non-waste materials but do so usually only in small amounts.
 - Industrial boilers are used in manufacturing, processing, mining, refining, or any other industry.
 - Commercial and institutional boilers are used in commercial establishments, medical centers, educational facilities and municipal buildings.
 - The majority of area source boilers covered by this proposed rule are located at commercial and institutional facilities.
- The proposal would cover boilers located at area source facilities that burn coal, oil, or biomass, or non-waste materials, but not units that burn solid waste.
- EPA is proposing to regulate area source boilers based on boiler design. Boilers are designed differently depending on what kind of fuel they burn: coal, oil or biomass. Also, the proposal would set different requirements for large and small boilers.
 - Large boilers have a heat input capacity equal to or greater than 10 million British thermal units per hour (Btu per hr).
 - Small boilers have a heat input capacity less than 10 million Btu per hour.
- The proposal would reduce toxic air pollutants, also known as hazardous air pollutants or air toxics. These pollutants are known or suspected to cause cancer and other serious health and environmental effects.
 - In 2013, EPA estimates 110 to 300 premature deaths would be avoided by implementing this proposed rule.
 - 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.
 - The rule would also reduce emissions of other pollutants including cadmium, dioxin, furans, formaldehyde and hydrochloric acid. These pollutants can cause cancer or

- other adverse health effects in adults and children.
- Mercury, lead, dioxin, and furans can build up in the environment, causing serious environmental effects and harm to the food chain as well.
- EPA will accept comment on the proposal for 45 days after publication in the Federal Register. Also, EPA will hold a public hearing on this rule. Details will be posted at www.epa.gov/airquality/combustion as they become available.

PROPOSED REQUIREMENTS

- The proposed rule would establish standards to address emissions of mercury, particulate matter (PM) (as a surrogate for non-mercury metals), and carbon monoxide (CO) (as a surrogate for organic air toxics).
- For new boilers the proposal would require the following:
 - Coal-fired units would be required to meet emission limits for mercury, PM, and CO.
 - Biomass and oil-fired units would need to meet limits for PM and CO.
- For existing large boilers the proposal would require the following:
 - Coal-fired units would be required to meet emission limits for mercury and CO.
 - Biomass and oil-fired units would need to meet limits for CO.
 - All area source facilities with large boilers would be required to conduct an energy assessment to identify cost-effective energy conservation measures.
- Existing small boilers would not be required to meet emission limits. They would be required to meet a work practice standard by performing a boiler tune-up every 2 years. By improving the combustion efficiency of the boiler, fuel usage can be reduced and losses from combustion imperfections can be minimized. Minimizing and optimizing fuel use will reduce emissions of mercury and all other air toxics.

BENEFITS AND COSTS

- EPA estimates that there are approximately 183,000 existing area source boilers at 92,000 facilities in the United States and that approximately 6,800 new area source boilers will be installed over the next 3 years.
- EPA estimates that the proposal would reduce nationwide emissions from existing and new area source boilers by approximately:
 - 1,500 tons per year (tpy) of total air toxics,
 - 1,500 pounds per year of mercury,
 - 250 tpy of non-mercury metals,
 - 9 tpy of POM, and
 - 7,600 tpy of PM

- These emissions reductions will lead to significant annual health benefits. In 2013, this rule will protect public health by avoiding:
 - 110 to 300 premature deaths,
 - 81 cases of chronic bronchitis,
 - 190 nonfatal heart attacks,
 - 169 hospital and emergency room visits,
 - 190 cases of acute bronchitis,
 - 16,000 days when people miss work,
 - 2,100 cases of aggravated asthma, and
 - 95,000 acute respiratory symptoms.
- The benefits of this proposed regulatory action are estimated to range from \$1 billion to \$2.4 billion and \$900 million to \$2.2 billion, at 3% and 7% discount rates, respectively.
- The vast majority of area source boilers are estimated to be located at commercial and institutional facilities and generally owned or operated by small entities. Because of this, EPA anticipates that the proposed rulemaking would have a significant economic impact on small entities. EPA has limited the impact of the proposed rulemaking on small entities by requiring that only coal-fired boilers meet emission limits for mercury, establishing work practices or management practices, instead of emission limits, for existing small units of less than 10 million Btu per hour of heat input, and exempting most area source boilers from title V permit requirements.
- EPA estimates the total nationwide capital cost for the rulemaking for existing and new boilers, as proposed, to be approximately \$2.5 billion, with an annualized cost of 1 billion. The annual cost includes control device operation and maintenance and annual boiler tune-ups, as well as monitoring, recordkeeping, reporting, and performance testing.

THREE SEPARATE BUT RELATED ACTIONS

- EPA has proposed 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. (<http://epa.gov/airquality/combustion/actions.html>)
- EPA has proposed an updated definition of nonhazardous solid waste. The new definition would potentially affect some units currently considered boilers by moving them into the category of commercial and industrial solid waste incinerators if they burn solid waste. (<http://www.epa.gov/wastes/nonhaz/definition.htm>)
- EPA has also proposed a rule to reduce air toxics from Commercial and Industrial Solid Waste Incinerators (CISWI). This proposed rule reflects the Agency's proposed definition of solid waste. (<http://epa.gov/airquality/combustion/actions.html>)

BACKGROUND

- The CAA requires EPA to develop rules to reduce specific air toxics emissions (30 urban toxic pollutants) that have been identified as posing the greatest threat to public health in the largest number of urban areas as a result of emissions from certain categories of area sources. Industrial boilers and institutional/commercial boilers are listed as two of the area source categories for regulation.
- In addition, both industrial boilers and commercial/institutional boilers are on the list of CAA source categories which requires that those categories be subject to MACT regulation for specific air toxics. These two categories were included on the list because of emissions of mercury and POM.
- The proposal would cover boilers located at area source facilities that burn coal, oil, or biomass, or non-waste materials. Natural gas-fired area source boilers do not emit any of the urban air toxic pollutants for which area source boilers were listed, and are not part of the two categories we propose to regulate.
- The standards for area sources in the listed categories must be technology-based. Standards for area sources can be based on either generally available control technology (GACT), or maximum achievable control technology (MACT).
- To determine GACT, we look at methods, practices and techniques that are commercially available and appropriate for use by the sources in the category. We consider the economic impacts on sources in the category and the technical capabilities of the firms to operate and maintain the emissions control systems.
- MACT can be based on the emissions reductions achievable through application of measures, processes, methods, systems, or techniques, but must at least meet minimum control levels as defined in the CAA. Economic impacts cannot be considered when determining those minimum control levels.
- The proposed standards for existing coal-fired boilers and all new boilers are based on MACT for mercury and CO, and on GACT for PM. The proposed standards for existing biomass and oil-fired boilers are based on MACT for CO, and on GACT for mercury and PM.
- The schedule for completing this rule is part of a court order which requires the EPA Administrator to complete a final rule by December 16, 2010.

HOW TO COMMENT

- EPA will accept comment on the proposal for 45 days after publication in the Federal Register. Comments, identified by Docket ID No. EPA-HQ-OAR-2008-0708, may be submitted by one of the following methods:
 - www.regulations.gov: Follow the on-line instructions for submitting comments.
 - E-mail: Comments may be sent by electronic mail (e-mail) to a-and-r-Docket@epa.gov.
 - Fax: Fax your comments to: 202-566-1741.
 - Mail: Send your comments to: Air and Radiation Docket and Information Center, Environmental Protection Agency, Mail Code: 2822T, 1200 Pennsylvania Ave., NW, Washington, DC, 20460.
 - Hand Delivery or Courier: Deliver your comments to: EPA Docket Center, Room 3334, 1301 Constitution Ave., NW, Washington, DC, 20460. Such deliveries are only accepted during the Docket's normal hours of operation, and special arrangements should be made for deliveries of boxed information.

FOR MORE INFORMATION

- To download this proposed rule from EPA's Web site, go to Recent Actions at <http://www.epa.gov/ttn/oarpg/new.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-2008-0708.
- For further information about the proposal, contact Ms. Mary Johnson of EPA's Office of Air Quality Planning and Standards, Sector Policies and Programs Division, Energy Strategies Group at (919) 541-5025 or by e-mail at johnson.mary@epa.gov.