

FACT SHEET
EPA's Proposal to Strengthen and Update the
Mercury and Air Toxics Standards for Power Plants

SUMMARY OF ACTION

- On April 3, 2023, the Environmental Protection Agency (EPA) proposed to strengthen and update the National Emission Standards for Hazardous Air Pollutants for Coal- and Oil-Fired Electric Utility Steam Generating Units (EGUs), commonly known as the Mercury and Air Toxics Standards (MATS) for power plants, to reflect recent developments in control technologies and the performance of these plants.
- This proposed rule reflects the most significant improvements and updates to MATS since EPA first issued these standards in February 2012. It also fulfills EPA's responsibility under the Clean Air Act to periodically re-evaluate its standards in light of advancements in pollution control technologies to determine whether revisions are necessary.
- The current MATS established standards to limit emissions of mercury; acid gas hazardous air pollutants (HAP) such as hydrogen chloride (HCl) and hydrogen fluoride; non-mercury HAP metals such as nickel, lead, and chromium; and organic HAP such as formaldehyde and dioxin/furan from coal- and oil-fired power plants.
- Combined with other changes affecting the power sector, MATS has driven sharp reductions in harmful air toxic pollutants from coal- and oil-fired power plants. Industry-reported emissions data, required by MATS, shows 2021 mercury emissions from coal-fired EGUs were 90 percent lower than pre-MATS levels.¹ Since 2010, acid gas HAP emissions have been reduced by over 96 percent and emissions of the non-mercury metals – including nickel, arsenic, and lead – have been reduced by more than 81 percent.
- This proposal builds upon the highly successful and cost-effective health protections in MATS. Based on its latest assessment of available control technologies, EPA is proposing to further limit the emission of non-mercury HAP metals from existing coal-fired power plants by significantly reducing the emission standard for filterable particulate matter (fPM), which is designed to control non-mercury HAP metals. EPA is proposing a two-thirds reduction in the fPM standard. Also, EPA is proposing to remove the low-emitting EGU provisions for fPM and non-mercury HAP metals.
- EPA is also proposing to tighten the emission limit for mercury for existing lignite-fired power plants by 70 percent, to a level that is aligned with the mercury standard that other coal-fired power plants have been achieving under the current MATS.
- EPA's proposal would also strengthen emissions monitoring and compliance by requiring coal-fired EGUs to comply with the fPM standard using PM continuous emission monitoring systems (CEMS).

¹ 2021 Power Sector Programs Progress Report; available at https://www3.epa.gov/airmarkets/progress/reports/pdfs/2021_full_report.pdf and in the rulemaking docket.

- PM CEMS provide regulators, the public, and facility owners or operators with cost-effective, accurate, and continuous emission measurements. This real-time, quality-assured feedback can lead to improved control device and power plant operation, which would reduce air pollutant emissions and exposure for local communities.
- In addition, EPA is proposing to revise startup requirements in MATS to assure better emissions performance during startup.

TECHNOLOGY REVIEW

- EPA is proposing to strengthen some emission limits in MATS, based on its determination that technologies and/or methods of operation are available to achieve additional HAP control from coal-fired EGUs at reasonable costs.
- EPA is proposing a more stringent standard for emissions of fPM – which serves as a surrogate for the non-mercury HAP metals – from existing coal-fired EGUs. EPA is proposing to revise the fPM emission standard from 0.030 pounds per million British thermal units of heat input (lb/MMBtu) to 0.010 lb/MMBtu and is soliciting comment on an even more stringent standard of 0.006 lb/MMBtu or lower.
 - Currently, 91% of coal-fired capacity without known retirement plans before the proposed compliance period already have demonstrated an fPM emissions rate at or below the EPA’s proposed revision to the standard.
- EPA is also proposing to tighten the standard for emissions of mercury from lignite-fired EGUs.
 - EPA is proposing that lignite-fired EGUs meet the same mercury emission standard as EGUs firing other types of coal (*i.e.*, bituminous and subbituminous), which is 1.2 pounds per trillion British thermal units of heat input (1.2 lb/TBtu) or an alternative output-based standard of 0.013 pounds per gigawatt-hour electric output. Lignite-fired EGUs are currently subject to a mercury emission standard of 4.0 lb/TBtu.
 - EPA’s review of information on current mercury emission levels and controls for lignite-fired EGUs shows that lignite-fired EGUs can achieve the more stringent mercury emission rate using available control technologies and/or improved methods of operation at reasonable costs.
- As noted above, EPA is also proposing to require that existing coal-fired EGUs utilize continuous emissions monitoring systems (CEMS) to demonstrate compliance with the fPM emission standard. EPA estimates that approximately two-thirds of the existing coal-fired generating fleet does not currently utilize such systems.
- Lastly, EPA is proposing to remove one of the two options for defining the startup period for MATS-affected EGUs, based on its determination that this option is not widely utilized or necessary and that removing it would better secure good emissions performance during startup periods.
- EPA requests public comment on all aspects of this proposed rule, including our evaluation of the costs and efficacy of control option assumptions.

- Among other issues, EPA requests comment on whether we have accurately assessed the variability of fPM emissions and requests information on the costs, pollution reduction benefits, and cost-effectiveness of applying lower emission limits to sources subject to MATS; and whether there are other factors the Agency should consider that would support a more stringent emission limit.

RISK REVIEW

- The results of the 2020 RTR showed that emissions of HAP from coal- and oil-fired power plants have been reduced such that residual risk is at an acceptable level.
- EPA has carefully reviewed the 2020 assessment of residual risk and has decided not to propose any changes to the risk analysis in this action. EPA did not find any errors in the 2020 residual risk review, and has determined that the risk review was conducted using approaches and methodologies that are consistent with prior residual risk analyses and reviews for other industrial sectors.
- Although EPA is not reopening the 2020 risk review, the proposed standards under this technology review would achieve reductions in HAP emissions from power plants and likely reduce HAP exposures to affected populations.

EMISSIONS CHANGES, BENEFITS AND COSTS

- EPA projects that the proposed changes would result in the following emissions reductions in the year 2035:
 - 82 pounds of mercury;
 - 800 tons of fine particulate matter (PM_{2.5});
 - 8,800 tons of sulfur dioxide (SO₂);
 - 8,700 tons of nitrogen oxides (NO_x); and
 - 5 million tons of carbon dioxide (CO₂).
- As directed under Executive Order 12866 and consistent with EPA Guidelines for Preparing Economic Analysis, EPA estimated health benefits, climate
- benefits, compliance costs, and net benefits of the proposed revisions to the MATS rule in a Regulatory Impact Analysis (RIA).
- **Present value:** The present value of benefits and costs of this action are calculated over the 10-year period from 2028 to 2037. EPA projects the present value of net benefits to be \$2.4 billion to \$3.0 billion. This includes \$1.2 billion to \$1.9 billion in health benefits, \$1.4 billion in climate benefits, and compliance costs of \$230 million to \$330 million.
- **Annual value:** EPA projects the estimated annualized value net benefits to be \$300 million to \$350 million. This includes \$170 million to \$220 million in health benefits, \$170 million in climate benefits, and compliance costs of \$33 million to \$38 million.
- The potential benefits from reducing mercury and non-mercury metal HAP were not monetized and are not included in these estimates. However, this proposal is projected to reduce emissions of mercury and non-mercury metal HAP, which should help reduce exposure to methylmercury for sub-populations that rely on subsistence fishing and

reduce exposure to non-mercury metal HAP including carcinogens such as nickel, arsenic, and hexavalent chromium, for residents living in the vicinity of these facilities.

POWER SECTOR EFFECTS

- The power sector analysis supporting this action indicates that the proposed rule would result in relatively minor impacts on the power sector.
 - For example, EPA projects the proposed revisions to MATS would lead to small national increases in energy prices. Retail electricity prices are projected to increase in the contiguous U.S. by an average of less than 0.1 percent in 2028, 2030, and 2035. In 2035, the delivered natural gas price is anticipated to increase by less than 0.1 percent in response to the proposed rule.
 - In addition, EPA projects that, under the proposed rule about 500 megawatts of coal-fired capacity would retire by 2028. Consistent with this small increase in projected retirements, the Agency does not project coal production for use in the power sector to change significantly by 2028.
- Today's proposed rule is one part of a broader suite of actions that Administrator Regan announced in March 2022 to protect communities across the nation from the various health and environmental impacts of power plant pollution. EPA is committed to developing these actions in a transparent and orderly way to provide regulatory certainty and a long-term planning horizon that allows states, grid operators, and power companies to make good investments and planning decisions, while preserving the industry's ability to deliver reliable and affordable electricity.

BACKGROUND

- Power plants are among the largest domestic sources of emissions of mercury and other toxic air pollutants such as arsenic, chromium, cobalt, nickel, hydrogen chloride, beryllium, and cadmium.
 - Exposure to these HAP, at certain levels and duration, is associated with a variety of adverse health effects, which may include irritation of the lung, skin, and mucus membranes; detrimental effects on the central nervous system; damage to the kidneys; alimentary effects such as nausea and vomiting; and cancer.
- In addition to mercury emission standards, MATS also has an HCl emission standard, which serves as a surrogate for all acid gas HAP; an emission standard for fPM, which serves as a surrogate for the non-mercury HAP metals; and work practice standards that require periodic combustion tune-ups to limit formation and emissions of organic HAP. Coal-fired EGUs with operational add-on flue gas desulfurization (FGD) technology (e.g., wet scrubber, spray dryer absorber, dry sorbent injection) and SO₂ CEMS can demonstrate compliance with an alternative SO₂ emission limit that serves as an alternative surrogate for the acid gas HAP.
- Section 112 of the Clean Air Act (CAA) requires EPA to regulate air toxics from listed categories of industrial facilities in two phases.

- The first phase is “technology-based,” where EPA develops standards for controlling the emissions of air toxics from sources in an industry group or “source category” under section 112(d) of the CAA. These maximum achievable control technology (MACT) standards are based on emissions levels that are already being achieved by the best-controlled and lower-emitting sources in an industry.
- Within 8 years of setting the MACT standards, section 112(f)(2) of the CAA directs EPA to assess the remaining health risks from each source category to determine whether the standards protect public health with an ample margin of safety and protect against adverse environmental effects. This second phase is a “risk-based” approach called residual risk. Here, EPA must determine whether more health-protective standards are necessary.
- Also, at least every 8 years after setting MACT standards, section 112(d)(6) of the CAA requires EPA to review and revise the standards, if necessary, to account for improvements in air pollution controls and/or prevention.
- This proposed action responds to President Biden’s January 20, 2021, Executive Order 13990 “Protecting Human Health and the Environment and Restoring Science to Tackle the Climate Crisis.”
- This Executive Order directed EPA to review and consider publishing a proposed action to suspend, revise, or rescind the May 22, 2020, final action known as the MATS Supplemental Finding, which included the MATS RTR.
- In February 2023, EPA revoked the 2020 finding that it was not appropriate and necessary to regulate coal- and oil-fired power plants under CAA section 112, based on a number of factors that EPA must consider under the Clean Air Act including the significant emissions of HAPs from these plants, the harmful health impacts of this pollution on the public as a whole and on vulnerable communities and populations, and the availability of cost-effective controls to reduce these emissions.

PUBLIC HEARING AND COMMENT

- EPA will hold a virtual public hearing for this proposed action. Further details will be announced at <https://www.epa.gov/stationary-sources-air-pollution/mercury-and-air-toxics-standards>.
- EPA will accept comment on the proposal for 60 days after publication in the *Federal Register*. Comments, identified by Docket ID No. EPA-HQ-OAR-2018-0794, may be submitted by one of the following methods:
 - Go to <https://www.regulations.gov/> and follow the online instructions for submitting comments.
 - Send comments by email to a-and-r-docket@epa.gov, Attention Docket ID No. EPA-HQ-OAR-2018-0794 in the subject line of the message.
 - Fax your comments to: (202) 566-9744, Attention Docket ID No. EPA-HQ-OAR-2018-0794.

- Mail your comments to: EPA Docket Center, Environmental Protection Agency, Mail Code: 28221T, 1200 Pennsylvania Ave, NW, Washington, DC 20460, Attention Docket ID No. EPA-HQ-OAR-2018-0794.
- Deliver comments in person to: EPA Docket Center, 1301 Constitution Ave., NW, Room 3334, Washington, DC. Note: In-person deliveries (including courier deliveries) are only accepted during the Docket Center's normal hours of operation. Special arrangements should be made for deliveries of boxed information.

FOR MORE INFORMATION

- Interested parties can download a copy of the proposed rule from EPA's website at the following address: <https://www.epa.gov/stationary-sources-air-pollution/mercury-and-air-toxics-standards>.
- Today's proposed action and other background information are also available electronically at <https://www.regulations.gov/>, EPA's electronic public docket and comment system.
 - The Public Reading Room is located at the EPA Headquarters library, room number 3334 in the EPA WJC 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-2018-0794.
- For further technical information about the proposed rule, contact Sarah Benish, EPA's Office of Air Quality Planning and Standards, at (919) 541-5620 or benish.sarah@epa.gov.