

FACT SHEET

Final Amendments to the National Emissions Standards for Hazardous Air Pollutants from Integrated Iron and Steel Manufacturing Facilities

ACTION

- On March 18, 2024, the U.S. Environmental Protection Agency (EPA) announced amendments to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for integrated iron and steel manufacturing facilities. This final rule will limit emissions of hazardous air pollutants (HAP) previously unregulated from these sources, including mercury, hydrochloric acid, and dioxins/furans.
- This final rule affects all integrated iron and steel manufacturing facilities engaged in the production of steel from iron ore and includes the processes of sinter production, iron production and iron preparation (hot metal desulfurization).
- To provide additional protection from air toxic emissions, particularly for communities living near integrated iron and steel manufacturing facilities, the final rule requires fenceline monitoring for chromium, a portion of which is a potent carcinogen, and is persistent in the environment. The rule requires emissions analyses and reductions if data shows that the facility emits air toxics at levels that exceed the rule’s “action levels.”
- The final rule will improve air quality and health particularly for workers and people living in surrounding communities which are predominantly minority and low-income. The final rule strengthens standards for sinter plants—among the highest-emitting sources in this category—which have concentrated impacts on communities in the Midwest.
- There are ten integrated iron and steel manufacturing facilities (eight operating and two idle) in the U.S. This rule will work in concert with the Biden-Harris Administration’s historic clean steel investments and demand-side initiatives, funded by the Inflation Reduction Act, to ensure that U.S. steelmaking is the cleanest and most competitive in the world.
- Following a technology review for the NESHAP, and carefully considering feedback and comments from industry and other stakeholders on the Agency’s July 2023 proposal, EPA’s final rule requires:
 - Fenceline monitoring for chromium with an action level that, if exceeded, triggers a requirement that a facility must analyze and take corrective action to lower emissions
 - EPA will soon propose the technical details about the fenceline monitoring method. EPA will finalize the method in advance of the final rule’s fenceline requirements going into effect.
 - Work practices for basic oxygen process furnaces (BOPF) to capture more fugitive emissions – air emissions that don’t pass through a stack, vent or similar emission point. Fugitive emissions include toxic metals and fine particles.

- New limits or work practices for five specific (and previously unregulated) fugitive sources, including toxic metals and fine particles, from blast furnace (BF) and BOPF processes: planned and unplanned BF bleeder valve openings, BF and BOPF slag processing, BF bell leaks, and BF beaching of iron.
- New emissions limits determined using a calculation method known as the upper prediction limit (UPL). For the first time, this rule – using the UPL – will include emissions limits reductions based on maximum achievable control technology (MACT) for:
 - hydrochloric acid (HCl), total hydrocarbons (THC) from BFs, and
 - HCl, dioxins/furans (D/F) and THC from BOPFs
- Work practice standards and surrogate limits for currently unregulated D/F emissions from BF stoves.
- New emissions limits, based on the UPL, for two currently unregulated HAP from sinter plants: carbonyl sulfide (COS) and HCl.
- New emissions limits based on the addition of activated carbon injection (ACI) controls at sinter plants for D/F, Polycyclic Aromatic Hydrocarbons (PAH) and mercury.
- Work practice standards and surrogate limits for two unregulated HAP from sinter plants: carbon disulfide (CS₂) and hydrogen fluoride (HF)
- Additionally, EPA decided not to finalize the proposed tightening of the opacity limits for the BF casthouses and the BOPF shops.

EMISSIONS REDUCTIONS – BENEFITS AND COSTS

- When fully implemented, EPA projects this final rule will reduce emission of HAP metals, including manganese, lead, arsenic, and chromium, by about 64 tons per year (tpy) and 473 tpy of fine particle pollution (PM_{2.5}).
- Reducing HAP from these facilities will have a range of health benefits reducing incidents of lung and other cancers, developmental effects, and adverse effects on the gastrointestinal, reproductive, and central nervous systems.
- Scientific evidence shows that long- and short-term exposures to PM_{2.5} can harm people’s health, leading to heart attacks, asthma attacks, and premature death. Large segments of the U.S. population, including children and older adults, people with heart or lung conditions, communities of color, and low socioeconomic status populations, are at elevated risk of adverse health effects from hazardous air pollutants and PM_{2.5}.
- EPA estimates that the annual compliance cost to each firm will represent less than 1% of their revenues.
- This final rule will result in significant public health benefits. EPA estimated the net benefits of reducing PM_{2.5} from integrated iron and steel manufacturing facilities could be as high as \$3.7 billion from 2026 to 2035. Public health benefits of reducing fine particles include reduced incidents of asthma, and fewer lost school days, and hospitalizations. The HAP reductions will achieve additional unquantified benefits. EPA is unable to quantify the benefits of the HAP reductions.

BACKGROUND

- The Clean Air Act (CAA) requires EPA to regulate hazardous air pollutants (HAP), also known as toxic air pollutants or air toxics, from categories of industrial facilities in two phases.
- The first phase is “technology-based,” where EPA develops technology standards for controlling the emissions of air toxics from sources in an industry group or “source category.” 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 MACT standards, the CAA directs EPA to assess the remaining health risks from each source category to determine whether the MACT 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, every 8 years after setting MACT standards, the CAA requires that EPA review and revise the standards, if necessary, to account for developments in practices, processes or control technologies for reducing air pollution.
- On May 20, 2003, EPA issued the NESHAP for Integrated Iron and Steel Manufacturing Facilities and amended the rule on July 17, 2006.
- EPA completed the Residual Risk and the initial Technology Review for this source category on July 23, 2020.
- In response to the Court’s April 21, 2020, decision in Louisiana Environmental Action Network v. EPA (LEAN), EPA is required to address any unregulated emissions from a major source category when the Agency conducts the 8-year technology review.
- This final rule complies with the LEAN decision by addressing these gaps for integrated iron and steel facilities, as part of the technology review.

FOR MORE INFORMATION

- To download a copy of the final rule, go to EPA's website at <https://www.epa.gov/stationary-sources-air-pollution/integrated-iron-and-steel-manufacturing-national-emission-standards>.
- Today’s final rule and other background information are also available either electronically at <https://www.regulations.gov/>, the 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 the EPA Headquarters library, room number 3334 in the 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 action can be accessed using Docket ID No. EPA-HQ-OAR-2002-0083.
- For additional technical information about the rule, contact Katie Boaggio at the EPA's Office of Air Quality Planning and Standards, at (919) 541-2223 or at *boaggio.katie@epa.gov*.