

The EPA Administrator, Michael S. Regan, signed the following notice on 5/5/2023, and EPA is submitting it for publication in the *Federal Register* (FR). While we have taken steps to ensure the accuracy of this Internet version of the rule, it is not the official version of the rule for purposes of compliance. Please refer to the official version in a forthcoming FR publication, which will appear on the Government Printing Office's govinfo website (<https://www.govinfo.gov/app/collection/fr>) and on Regulations.gov (<https://www.regulations.gov>) in Docket No. EPA-HQ-OAR-2017-0664. Once the official version of this document is published in the FR, this version will be removed from the Internet and replaced with a link to the official version.

6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 63

[EPA-HQ-OAR-2017-0664; FRL-5925.1-01-OAR]

RIN 2060-AV58

National Emission Standards for Hazardous Air Pollutants: Taconite Iron Ore Processing Amendments

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The U.S. Environmental Protection Agency (EPA) is proposing amendments to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Taconite Iron Ore Processing Plants, as required by the Clean Air Act (CAA). To ensure that all emissions of hazardous air pollutants (HAP) from sources in the source category are regulated, the EPA is proposing emission standards for mercury. In addition, the EPA is proposing to revise the existing emission standards for hydrogen chloride and hydrogen fluoride.

DATES: *Comments.* Comments must be received on or before **[INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**. Under the Paperwork Reduction Act (PRA), comments on the information collection provisions are best assured of consideration if the Office of Management and Budget (OMB) receives a copy of your

comments on or before **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

Public hearing: If anyone contacts us requesting a public hearing on or before **[INSERT DATE 5 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**, we will hold a virtual public hearing. See **SUPPLEMENTARY INFORMATION** for information on requesting and registering for a public hearing.

ADDRESSES: You may send comments, identified by Docket ID No. EPA-HQ-OAR-2017-0664, by any of the following methods:

- Federal eRulemaking Portal: <https://www.regulations.gov/> (our preferred method).

Follow the online instructions for submitting comments.

- Email: a-and-r-docket@epa.gov. Include Docket ID No. EPA-HQ-OAR-2017-0664 in the subject line of the message.
- Mail: U.S. Environmental Protection Agency, EPA Docket Center, Docket ID No. EPA-HQ-OAR-2017-0664, Mail Code 28221T, 1200 Pennsylvania Avenue, NW, Washington, DC 20460.
- Hand/Courier Delivery: EPA Docket Center, WJC West Building, Room 3334, 1301 Constitution Avenue, NW, Washington, DC 20004. The Docket Center's hours of operation are 8:30 a.m. – 4:30 p.m., Monday – Friday (except Federal holidays).

Instructions: All submissions received must include the Docket ID No. for this rulemaking. Comments received may be posted without change to <https://www.regulations.gov/>, including any personal information provided. For detailed instructions on sending comments and additional information on the rulemaking process, see the **SUPPLEMENTARY INFORMATION** section of this document.

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FOR FURTHER INFORMATION CONTACT: For questions about this proposed action, contact David Putney, Sector Policies and Programs Division (D243-02), Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711; telephone number: (919) 541-2016; email address: putney.david@epa.gov.

SUPPLEMENTARY INFORMATION:

Participation in virtual public hearing. To request a virtual public hearing, contact the public hearing team at (888) 372-8699 or by email at SPPDpublichearing@epa.gov. If requested, the hearing will be held via virtual platform on **[INSERT DATE 15 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**. The hearing will convene at 10:00 a.m. Eastern Time (ET) and will conclude at 4:00 p.m. ET. The EPA may close a session 15 minutes after the last pre-registered speaker has testified if there are no additional speakers. The EPA will announce further details at <https://www.epa.gov/stationary-sources-air-pollution/taconite-iron-ore-processing-national-emission-standards-hazardous>.

If a public hearing is requested, the EPA will begin registering speakers for the hearing no later than 1 business day after a request has been received. To register to speak at the virtual hearing, please use the online registration form available at <https://www.epa.gov/stationary-sources-air-pollution/taconite-iron-ore-processing-national-emission-standards-hazardous> or contact the public hearing team at (888) 372-8699 or by email at SPPDpublichearing@epa.gov. The last day to pre-register to speak at the hearing will be **[INSERT DATE 12 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**. Prior to the hearing, the EPA will post a general agenda that will list pre-registered speakers in approximate order at: <https://www.epa.gov/stationary-sources-air-pollution/taconite-iron-ore-processing-national-emission-standards-hazardous>.

The EPA will make every effort to follow the schedule as closely as possible on the day of the hearing. However, please plan for the hearings to run either ahead of schedule or behind schedule.

Each commenter will have 4 minutes to provide oral testimony. The EPA encourages commenters to provide the EPA with a copy of their oral testimony electronically (via email) by emailing it to *putney.david@epa.gov*. The EPA also recommends submitting the text of your oral testimony as written comments to the rulemaking docket.

The EPA may ask clarifying questions during the oral presentations but will not respond to the presentations at that time. Written statements and supporting information submitted during the comment period will be considered with the same weight as oral testimony and supporting information presented at the public hearing.

Please note that any updates made to any aspect of the hearing will be posted online at <https://www.epa.gov/stationary-sources-air-pollution/taconite-iron-ore-processing-national-emission-standards-hazardous>. While the EPA expects the hearing to go forward as set forth above, please monitor our website or contact the public hearing team at (888) 372-8699 or by email at *SPPDpublichearing@epa.gov* to determine if there are any updates. The EPA does not intend to publish a document in the *Federal Register* announcing updates.

If you require the services of a translator or special accommodation such as audio description, please pre-register for the hearing with the public hearing team and describe your needs by **[INSERT DATE 7 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**. The EPA may not be able to arrange accommodations without advanced notice.

Docket. The EPA has established a docket for this rulemaking under Docket ID No. EPA-HQ-OAR-2017-0664. All documents in the docket are listed in <https://www.regulations.gov/>.

Although listed, some information is not publicly available, *e.g.*, Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy. With the exception of such material, publicly available docket materials are available electronically in Regulations.gov.

Instructions. Direct your comments to Docket ID No. EPA-HQ-OAR-2017-0664. The EPA's policy is that all comments received will be included in the public docket without change and may be made available online at <https://www.regulations.gov/>, including any personal information provided, unless the comment includes information claimed to be CBI or other information whose disclosure is restricted by statute. Do not submit electronically to <https://www.regulations.gov/> any information that you consider to be CBI or other information whose disclosure is restricted by statute. This type of information should be submitted as discussed below.

The EPA may publish any comment received to its public docket. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make. The EPA will generally not consider comments or comment contents located outside of the primary submission (*i.e.*, on the Web, cloud, or other file sharing system). For additional submission methods, the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit <https://www.epa.gov/dockets/commenting-epa-dockets>.

The <https://www.regulations.gov/> website allows you to submit your comment anonymously, which means the EPA will not know your identity or contact information unless

you provide it in the body of your comment. If you send an email comment directly to the EPA without going through <https://www.regulations.gov/>, your email address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, the EPA recommends that you include your name and other contact information in the body of your comment and with any digital storage media you submit. If the EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, the EPA may not be able to consider your comment. Electronic files should not include special characters or any form of encryption and be free of any defects or viruses. For additional information about the EPA's public docket, visit the EPA Docket Center homepage at <https://www.epa.gov/dockets>.

Submitting CBI. Do not submit information containing CBI to the EPA through <https://www.regulations.gov/>. Clearly mark the part or all of the information that you claim to be CBI. For CBI information on any digital storage media that you mail to the EPA, note the docket ID, mark the outside of the digital storage media as CBI, and identify electronically within the digital storage media the specific information that is claimed as CBI. In addition to one complete version of the comments that includes information claimed as CBI, you must submit a copy of the comments that does not contain the information claimed as CBI directly to the public docket through the procedures outlined in *Instructions* above. If you submit any digital storage media that does not contain CBI, mark the outside of the digital storage media clearly that it does not contain CBI and note the docket ID. Information not marked as CBI will be included in the public docket and the EPA's electronic public docket without prior notice. Information marked as CBI will not be disclosed except in accordance with procedures set forth in 40 Code of Federal Regulations (CFR) part 2.

Our preferred method to receive CBI is for it to be transmitted electronically using email attachments, File Transfer Protocol (FTP), or other online file sharing services (*e.g.*, Dropbox, OneDrive, Google Drive). Electronic submissions must be transmitted directly to the Office of Air Quality Planning and Standards (OAQPS) CBI Office at the email address *oaqpscbi@epa.gov*, and as described above, should include clear CBI markings and note the docket ID. If assistance is needed with submitting large electronic files that exceed the file size limit for email attachments, and if you do not have your own file sharing service, please email *oaqpscbi@epa.gov* to request a file transfer link. If sending CBI information through the postal service, please send it to the following address: OAQPS Document Control Officer (C404-02), OAQPS, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, Attention Docket ID No. EPA-HQ-OAR-2017-0664. The mailed CBI material should be double wrapped and clearly marked. Any CBI markings should not show through the outer envelope.

Preamble acronyms and abbreviations. Throughout this preamble the use of “we,” “us,” or “our” is intended to refer to the EPA. We use multiple acronyms and terms in this preamble. While this list may not be exhaustive, to ease the reading of this preamble and for reference purposes, the EPA defines the following terms and acronyms here:

1-BP	1-bromopropane
ACI	activated carbon injection
BTF	beyond-the-floor
CAA	Clean Air Act
CBI	Confidential Business Information
CFR	Code of Federal Regulations
EPA	Environmental Protection Agency
ERT	Electronic Reporting Tool
ESP	electrostatic precipitator
FR	<i>Federal Register</i>
HAP	hazardous air pollutant(s)
HCl	hydrochloric acid

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HF	hydrogen fluoride
HI	hazard index
HQ	hazard quotient
km	kilometer
lb/LT	pounds of mercury emitted per long ton of pellets produced
MACT	maximum achievable control technology
MIR	maximum individual risk
NAICS	North American Industry Classification System
NESHAP	National Emission Standards for Hazardous Air Pollutants
NTTAA	National Technology Transfer and Advancement Act
OAQPS	Office of Air Quality Planning and Standards
OMB	Office of Management and Budget
PM	particulate matter
PRA	Paperwork Reduction Act
RDL	representative detection level
REL	reference exposure level
RFA	Regulatory Flexibility Act
RTR	residual risk and technology review
SBA	Small Business Administration
SSM	startup, shutdown, and malfunction
TOSHI	target organ-specific hazard index
tpy	tons per year
TRIM.FaTE	Total Risk Integrated Methodology. Fate, Transport, and Ecological Exposure model
UF	uncertainty factor
UPL	upper prediction limit
$\mu\text{g}/\text{m}^3$	microgram per cubic meter
UMRA	Unfunded Mandates Reform Act
URE	unit risk estimate
VCS	voluntary consensus standards

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 - F. Executive Order 13175: Consultation and Coordination with Indian Tribal Governments
 - G. Executive Order 13045: Protection of Children from Environmental Health Risks and Safety Risks
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I. General Information

A. Does this action apply to me?

Table 1 of this preamble lists the NESHAP and associated regulated industrial source category that is the subject of this proposal. Table 1 is not intended to be exhaustive, but rather provides a guide for readers regarding the entities that this proposed action is likely to affect. The proposed standards, once promulgated, will be directly applicable to the affected sources.

Federal, state, local, and tribal government entities would not be affected by this proposed action.

As defined in the *Initial List of Categories of Sources Under Section 112(c)(1) of the Clean Air Act Amendments of 1990* (see 57 FR 31576; July 16, 1992) and *Documentation for Developing the Initial Source Category List, Final Report* (see EPA-450/3-91-030; July 1992), the Taconite Iron Ore Processing source category includes any facility engaged in separating and concentrating iron ore from taconite, a low-grade iron ore to produce taconite pellets. The source category includes, but is not limited to, the following processes: liberation of the iron ore by wet or dry crushing and grinding in gyratory crushers, cone crushers, rod mills, and ball mills; pelletizing by wet tumbling with a balling drum or balling disc; induration using a straight grate or grate kiln indurating furnace; and finished pellet handling.

Table 1. NESHAP and Source Categories Affected by this Proposed Action

Source category	NESHAP	NAICS code ¹
Taconite Iron Ore Processing	40 CFR part 63, subpart RRRRR	21221

¹ North American Industry Classification System

B. Where can I get a copy of this document and other related information?

In addition to being available in the docket, an electronic copy of this action is available on the Internet. Following signature by the EPA Administrator, the EPA will post a copy of this proposed action at <https://www.epa.gov/stationary-sources-air-pollution/taconite-iron-ore-processing-national-emission-standards-hazardous>. Following publication in the *Federal Register*, the EPA will post the *Federal Register* version of the proposal and key technical

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documents at this same website. Information on the overall residual risk and technology review (RTR) program is available at <https://www3.epa.gov/ttn/atw/rrisk/rtrpg.html>.

A memorandum showing the rule edits that would be necessary to incorporate the changes to 40 CFR part 63, subpart RRRRR proposed in this action is available in the docket (Docket ID No. EPA-HQ-OAR-2017-0664). Following signature by the EPA Administrator, the EPA also will post a copy of this document to <https://www.epa.gov/stationary-sources-air-pollution/taconite-iron-ore-processing-national-emission-standards-hazardous>.

II. Background

A. What is the statutory authority for this action?

This action proposes to amend the NESHAP for Taconite Iron Ore Processing, which was previously amended when the EPA finalized the Residual Risk and Technology Review for this source category on July 28, 2020.¹

In the *Louisiana Environmental Action Network v. EPA (LEAN)* decision issued on April 21, 2020, the U.S. Court of Appeals for the District of Columbia Circuit (D.C. Circuit) held that the EPA has an obligation to address unregulated emissions from a major source category when the Agency conducts the 8-year technology review required by CAA section 112(d)(6).² This proposed rule addresses currently unregulated emissions of HAP from the Taconite Iron Ore Processing source category. Emissions data collected from the exhaust stacks of existing taconite indurating furnaces indicate that mercury (Hg) is emitted from the source category. However, mercury emissions from the Taconite Iron Ore Processing source category are not regulated under the existing Taconite Iron Ore Processing NESHAP. Therefore, the EPA is

¹ 85 FR 45476; July 28, 2020.

² *Louisiana Environmental Action Network (LEAN) v. EPA*, 955 F.3d 1088 (D.C. Cir. 2020). This document is a prepublication version, signed by EPA Administrator, Michael S. Regan on 5/5/2023. We have taken steps to ensure the accuracy of this version, but it is not the official version.

proposing new standards that reflect MACT for mercury emitted from taconite indurating furnaces, pursuant to CAA sections 112(d)(2) and (3). We are also proposing to modify the existing emissions standards for hydrochloric acid (HCl) and hydrofluoric acid (HF) pursuant to CAA section 112(d)(6). CAA section 112(d)(6) separately requires the EPA to review standards promulgated under CAA section 112 and revise them “as necessary (taking into account developments in practices, processes, and control technologies)” no less often than every 8 years. Based on new information, we are proposing to revise the technology review completed in 2020 by proposing revised HCl and HF standards at this time.

B. What is this source category and how does the current NESHAP regulate its HAP emissions?

The NESHAP for Taconite Iron Ore Processing (codified at 40 CFR part 63, subpart RRRRR) regulates HAP emissions from new and existing taconite iron ore processing plants that are major sources of HAP. Taconite iron ore processing plants separate and concentrate iron ore from taconite, a low-grade iron ore containing 20- to 25-percent iron, and produce taconite pellets, which are 60- to 65-percent iron. Taconite iron ore processing includes crushing and handling of the crude ore, indurating, and finished pellet handling.

The Taconite Iron Ore Processing NESHAP applies to each new or existing ore crushing and handling operation, ore dryer, pellet indurating furnace, and finished pellet handling operation at a taconite iron ore processing plant that is (or is part of) a major source of HAP emissions. There are currently eight taconite iron ore processing plants in the United States: six facilities are located in Minnesota and two are located in Michigan. While the Empire Mining facility in Michigan maintains an air quality permit to operate, the facility has been indefinitely idled since 2016. Therefore, the Empire Mining facility is not included in any analyses (*e.g.*, expected emissions, estimated cost impacts, estimated emission reductions) associated with this

proposed rulemaking. A different taconite facility, the Northshore Mining facility located in Minnesota, has been temporarily idled since 2022, but is expected to resume operations as early as Spring 2023. Therefore, we included the Northshore Mining facility in the analyses conducted for this rulemaking.

Indurating furnaces represent the most significant source of HAP emissions from the Taconite Iron Ore Processing source category. The indurating furnaces are responsible for approximately 99 percent of total HAP emissions from this source category. Indurating furnaces emit acid gases, mercury and other metal HAP (*e.g.*, arsenic, chromium, nickel) that are present in the taconite ore and sometimes in the fuel (such as coal) fed into the furnaces, and small amounts of organic HAP (*e.g.*, formaldehyde). The acid gases include HCl and HF and are formed when chlorine and fluorine compounds are released from the raw materials during the indurating process and combine with moisture in the exhaust stream.

The existing emission limits consist of particulate matter (PM) limits, which serve as a surrogate for particulate metal HAP emissions; PM also serves as a surrogate for HCl and HF. Table 2 lists the emission standards that currently apply to taconite iron ore processing facilities subject to 40 CFR part 63, subpart RRRRR. The current NESHAP also includes work practice standards to address organic HAP emissions and fugitive emissions.

Table 2. Current PM Standards for Taconite Iron Ore Processing

Affected source	Affected source is new or existing	PM Emission limits (gr/dscf)¹
Ore crushing and handling emission units	Existing	0.008
	New	0.005
Straight grate indurating furnace processing magnetite	Existing	0.01
	New	0.006
Grate kiln indurating furnace processing magnetite	Existing	0.01
	New	0.006
Grate kiln indurating furnace processing hematite	Existing	0.03

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	New	0.018
Finished pellet handling emission units	Existing	0.008
	New	0.005
Ore dryer	Existing	0.052
	New	0.025

¹ gr/dscf = grains per dry standard cubic foot.

The taconite iron ore processing NESHAP also regulates fugitive emissions from stockpiles (including uncrushed and crushed ore and finished pellets), material transfer points, plant roadways, tailings basins, pellet loading areas, and yard areas. Fugitive emissions must be controlled using the work practices specified in a facility's fugitive dust emissions control plan.

The EPA previously conducted a residual risk and a technology review pursuant to CAA sections 112(f)(2) and 112(d)(6), respectively (Docket Item No. EPA-HQ-OAR-2017-0664-0164). The EPA published the RTR proposed rule on September 25, 2019 (84 FR 50660), and the RTR final rule on July 28, 2020 (85 FR 45476). In the final rule, the EPA concluded that the risks associated with HAP emissions from taconite iron ore processing were acceptable and that the current NESHAP provides an ample margin of safety to protect public health. In the 2020 final rule, the EPA concluded that there were no developments in practices, processes, or control technologies that would warrant revisions to the standards. Therefore, no changes were made to the emissions standards as part of that action. However, the 2020 rulemaking removed the exemptions for periods of startup, shutdown, and malfunction (SSM), included provisions requiring electronic reporting, and made some other minor changes to the NESHAP.

C. What data collection activities were conducted to support this action?

Prior to developing the initial MACT standards for the Taconite Iron Ore Processing source category, which were finalized in 2003 (68 FR 61868; October 30, 2003), the EPA collected information on the emissions, operations, and location of taconite iron ore processing facilities. To inform the development of the 2019 RTR proposed rule, we obtained data from the

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EPA's 2014 National Emissions Inventory (NEI) database (<https://www.epa.gov/air-emissions-inventories/2014-national-emissions-inventory-nei-data>) and supplemental information submitted by industry. Data on the numbers, types, dimensions, and locations of the emission points for each facility were obtained from the NEI, state agencies, Google Earth™, and taconite iron ore processing industry staff. To inform this current action, in 2022, pursuant to CAA section 114, the EPA sent an information request (hereinafter "2022 CAA section 114 information request") to seven facilities in the source category to obtain updated information about taconite iron ore processing facilities. (The EPA did not send an information request to the Empire Mining facility since, as discussed in section II.B of this preamble, above, that facility has been indefinitely idled since 2016.) The 2022 CAA section 114 information request consisted of a questionnaire and stack testing requirements. The questionnaire was used to collect information on the location and number of indurating furnaces, production throughput, types of pellets produced, types and quantities of fuels burned, information on air pollution control devices and emission points, historical test data, and other documentation (e.g., title V permits). Two companies (U.S. Steel Corporation and Cleveland-Cliffs Incorporated) completed the questionnaire for which they reported data for seven major source facilities.³

In addition to the questionnaire, the EPA required each taconite iron ore processing facility, with the exception of the Empire Mining facility, to complete stack testing of one or more representative indurating furnaces for the following pollutants: filterable PM, metal HAP, and the acid gases HCl and HF.⁴ EPA Method 5 was used to measure filterable PM, EPA

³ As discussed in section II.B, this does not include the Empire Mining facility, which has been indefinitely idled since 2016.

⁴ The EPA did not require the Empire Mining facility to submit stack testing because the facility has been indefinitely idled since 2016.

Method 29 was used to measure metal HAP emissions, and EPA Method 26A was used to measure HCl and HF emissions. Six facilities completed the required stack testing and submitted emissions data for a total of seven indurating furnaces.⁵

In this action, the EPA used the emissions data collected from the 2022 CAA section 114 information request, as well as results from previous stack tests completed from 2014 through 2021 to develop proposed MACT standards for mercury, pursuant to CAA sections 112(d)(2) and (3).⁶ We also used the emissions data for HCl and HF collected from the 2022 CAA section 114 information request to inform proposed revisions to the existing emissions standards for these acid gases, pursuant to CAA section 112(d)(6). The data collected and considered are available in the docket for this action. In addition, the data collection and analyses for this action are described in detail in two documents, *Maximum Achievable Control Technology (MACT) Analysis for Proposed Mercury Standards for Taconite Iron Ore Indurating Furnaces* and *Revised Technology Review of Acid Gas Controls for Indurating Furnaces in the Taconite Iron Ore Processing Source Category*, both of which are available in the docket for this action (Docket ID No. EPA-HQ-OAR-2017-0664).

D. What other relevant background information and data are available?

⁵ The EPA initially planned to require the Northshore Mining facility to conduct stack testing. However, the facility's indurating furnaces were idled during the period of the information collection and are not expected to return to operation until at least spring 2023. As a result, we ultimately did not require the Northshore Mining facility to complete stack testing within the timeframe available before the Administrator's signature of this proposed rule.

⁶ Due to the relative scarcity of stack test data available from the taconite iron ore processing facilities, additional mercury emissions data from testing performed from 2014 through 2021 at facilities listed in the 2022 CAA section 114 information request were also used in development of the MACT standards for mercury. This testing was performed under similar conditions and testing methodologies that were requested in the 2022 CAA section 114 information request. This document is a prepublication version, signed by EPA Administrator, Michael S. Regan on 5/5/2023. We have taken steps to ensure the accuracy of this version, but it is not the official version.

In addition to the 2022 CAA section 114 information request discussed in section II.C. of this preamble, the EPA also reviewed the information sources listed below to help inform the development of the proposed MACT standards for mercury and to determine whether there have been developments in practices, processes, or control technologies for taconite iron ore processing facilities pursuant to CAA section 112(d)(6). These additional information sources include the following:

- Emissions tests and reports for testing completed between 2014 and 2021 on 11 indurating furnaces located at six plants in Minnesota. Stack tests on nine furnaces used EPA Method 29 to measure mercury emissions, stack tests on three furnaces used the Ontario Hydro method (ASTM D6784-16), and stack tests on one furnace used EPA Method 29 and the Ontario Hydro method.
- Data on the variation of the concentration of mercury in the ore from the mines used by taconite iron ore processing facilities provided by industry and the American Iron and Steel Institute (the industry association representing the industry in the affected NAICS category and their members).
- Site-specific Mercury Reduction Plans and mercury control technology evaluations required by Minnesota state regulations.⁷ These documents include Mercury Reduction Plans for Northshore Mining Company in Silver Bay, Minnesota and Minorca Mine, Inc. in Virginia, Minnesota; and technology evaluations for the following four plants: Hibbing

⁷ The Mercury Reduction Plans and mercury control technology evaluations were submitted to the Minnesota Pollution Control Agency (MPCA) in 2018 in response to a Minnesota regulation (see Minn. R. 7007.0502) requiring mercury emission reductions of 72 percent from 2008 or 2010 emission levels by January 1, 2025. The regulation requires a mercury reduction plan for sources that emit more than 3 pounds of mercury (or 5 pounds for industrial boilers). We also considered the MPCA responses to the industry submittals.

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Taconite Company in Hibbing Minnesota; United Taconite LLC in Forbes Minnesota, U.S. Steel – Minntac in Mountain Iron, Minnesota and U.S. Steel – Keetac in Keewatin, Minnesota.

Copies of these materials are available in the docket for this action (Docket ID No. EPA-HQ-OAR-2017-0664).

III. Analytical Procedures and Decision-Making

In this section, we describe the analyses performed to support the proposed decisions for the issues addressed in this proposal.

A. How did we address unregulated pollutants?

In evaluating the Taconite Iron Ore Processing source category and emissions data collected in support of the 2020 RTR and through the 2022 CAA section 114 information request, we identified mercury as a HAP emitted from facilities in the source category. Mercury, which is emitted primarily in a gaseous form (not as a particle), is not regulated under the existing standards for the source category. Emissions data from stack tests conducted since 2014 indicate mercury is emitted by indurating furnaces at taconite iron ore processing facilities. Mercury was the only HAP identified by the EPA that is not regulated under the existing standards for this source category. The EPA has a “clear statutory obligation to set emissions standards for each listed HAP” emitted from a source category.⁸ In this action, we are proposing emissions limits for mercury pursuant to CAA sections 112(d)(2) and (3) for new and existing indurating furnaces.

Pursuant to CAA section 112(d)(3), since there are fewer than 30 sources in the category, the minimum standards for existing sources are calculated based on the average performance of

⁸ National Lime v. EPA, 233 F. 3d 625, 634 (D.C. Cir. 2000).

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the best-performing five sources in the source category, taking into consideration the variability of HAP emissions from the emission sources. This is commonly referred to as the “MACT floor.” The MACT floor for new sources is based on the single best-performing source, with a similar consideration of variability in emissions from the best-performing source. The MACT floor for new sources cannot be less stringent than the emissions performance that is achieved in practice by the best-controlled similar source. To account for variability in the mercury emissions from indurating furnaces, we calculated the MACT floors using the 99-percent Upper Prediction Limit (UPL) approach from the stack test data collected for the 2022 CAA section 114 information request and data from the stack tests completed on indurating furnaces from 2014 through 2021.

The UPL approach addresses variability of emissions data from the best-performing source or sources in setting MACT standards. The UPL also accounts for uncertainty associated with emission values in a dataset, which can be influenced by components such as the number of samples available for developing MACT standards and the number of samples that will be collected to assess compliance with the emission limit. The UPL approach has been used in many environmental science applications. As explained in more detail in the memorandum *Use of Upper Prediction Limit for Calculating MACT Floors* which is available in the docket for this action (Docket ID No. EPA-HQ-OAR-2017-0664), the EPA uses the UPL approach to reasonably estimate the emissions performance of the best-performing source or sources to establish MACT floor standards.

In addition to calculating the MACT floor, the EPA must examine more stringent “beyond-the-floor” (BTF) regulatory options to determine MACT. Unlike the MACT floor’s minimum stringency requirements, the EPA must consider various impacts of the more stringent

regulatory options in determining whether the proposed MACT standards should reflect beyond-the-floor requirements. If the EPA concludes that the more stringent regulatory options have unreasonable cost, non-air quality health and environmental, and/or energy impacts, the EPA selects the MACT floor as MACT. However, if the EPA concludes that impacts associated with BTF levels of control are reasonable in light of additional emissions reductions achieved, the EPA selects those BTF levels of control as MACT.

The methodology used to develop the new mercury standards is described in detail in the document, *Maximum Achievable Control Technology (MACT) Analysis for Proposed Mercury Standards for Taconite Iron Ore Indurating Furnaces*, located in the docket for this action (Docket ID No. EPA-HQ-OAR-2017-0664). The results and proposed decisions based on the analyses performed pursuant to CAA sections 112(d)(2) and (3) are presented in section IV.A of this preamble.

B. How did we perform the technology review?

Emissions data collected as part of the 2022 CAA section 114 information request indicated that indurating furnaces using wet scrubbers to meet the NESHAP emissions standards have significantly lower acid gas emissions than those using other types of PM control. These emissions data were not available to us at the time of the 2020 technology review. Based on the new data, we determined it was appropriate to revisit the existing standards for HCl and HF in light of the air pollution control technologies available to control HCl and HF emissions from indurating furnaces.

When we conduct technology reviews, we primarily focus on the identification and evaluation of developments in practices, processes, and control technologies that have occurred since the MACT standards were promulgated. Where we identify such developments, we analyze

their technical feasibility, estimated costs, energy implications, and non-air environmental impacts. We also consider the emission reductions associated with applying each development. This analysis informs our decision of whether it is “necessary” to revise the emissions standards. In addition, we consider the appropriateness of applying controls to new sources versus retrofitting existing sources. For this exercise, we consider any of the following to be a “development”:

- Any add-on control technology or other equipment that was not identified and considered during development of the original MACT standards;
- Any improvements in add-on control technology or other equipment (that were identified and considered during development of the original MACT standards) that could result in additional emissions reduction;
- Any work practice or operational procedure that was not identified or considered during development of the original MACT standards;
- Any process change or pollution prevention alternative that could be broadly applied to the industry and that was not identified or considered during development of the original MACT standards; and
- Any significant changes in the cost (including cost effectiveness) of applying controls (including controls the EPA considered during the development of the original MACT standards).

In addition to reviewing the practices, processes, and control technologies that were considered at the time we originally developed (or last updated) the NESHAP, we review a variety of data sources in our investigation of potential practices, processes, or controls. See

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sections II.C and II.D of this preamble for information on the specific data sources that were reviewed as part of the technology review.

IV. Analytical Results and Proposed Decisions

A. What are the results of our analyses of unregulated pollutants and how did we establish the proposed MACT standards?

In this action, we are proposing mercury MACT standards for new and existing indurating furnaces, pursuant to CAA sections 112(d)(2) and (3). The results and proposed decisions based on the analyses performed pursuant to CAA sections 112(d)(2) and (3) are presented below.

Before calculating the MACT floor, we evaluated the available data on the design and operating characteristics of indurating furnaces to determine whether subcategorization was warranted. For each stack test, we collected information on the type of indurating furnace tested (grate kiln or straight grate indurating furnace), fuels burned, ore processed (magnetite or hematite), and the type and quantity of taconite pellets produced.

Regarding furnace type, there are eight straight grate indurating furnaces and 13 grate kiln indurating furnaces located at taconite iron ore processing facilities in the United States. This includes three grate kiln indurating furnaces at the Empire Mining facility. However, as discussed in section II.B, above, the Empire Mining facility has been indefinitely idled since 2016 and its three grate kiln indurating furnaces are not included in any analyses associated with this proposed action. Grate kiln furnaces consist of a moving grate and rotary kiln. Unfired (green) pellets are placed directly on a travelling grate which transports the pellets through a dryer and pre-heater to the rotary kiln, where induration occurs. Straight grate furnaces consist of a continuously moving grate that carries the green pellets through the furnace's different

temperature zones. Unlike the grate kiln furnace where the green pellets are placed directly on the grate, the green pellets in a straight grate furnace are placed on a 4 to 6-inch layer of previously fired pellets known as the hearth layer. The hearth layer allows for even air flow and protects the grate from the heat generated by the oxidation of the taconite pellets during induration. We compared the mercury emissions data for straight grate furnaces with the emissions data for grate kiln furnaces to determine whether there was a difference in emissions attributable to differences in furnace design. We currently have mercury emissions data from stack testing completed on five straight grate furnaces and nine grate kiln furnaces. We compared the average emissions in pounds of mercury per long ton of pellets produced (lb/LT) from grate kiln furnaces with that of straight grate furnaces and found the average was slightly higher for grate kiln furnaces (1.98×10^{-5} lb/LT for grate kiln furnaces versus 1.80×10^{-5} lb/LT for straight grate furnaces). We next ranked the 14 furnaces from lowest- to highest-emitter and found that one straight grate furnace had an emission rate lower than any of the grate kiln furnaces, while the other four straight grate furnaces had emissions rates comparable to those of grate kiln furnaces. We propose to conclude based on this information that subcategorizing based on furnace types is not warranted.

We also evaluated whether subcategorizing based on the type of ore processed would be appropriate. In the United States, there are two types of iron ore processed at taconite iron ore processing facilities: magnetite and hematite. Only one of the seven taconite plants processes hematite ore (Tilden Mining located in Michigan). This plant operates two grate kiln furnaces. We currently have mercury emissions data for only one of the two grate kiln furnaces located at this plant. The mercury emission rate for this grate kiln furnace was lower than all but one of the furnaces processing magnetite ore. Since we have emissions data for only one of the two grate

kiln furnaces currently processing hematite, we propose to conclude the data set is too limited to justify subcategorizing by ore type.

Next, we evaluated whether subcategorizing by fuel type would be appropriate. Most indurating furnaces can burn natural gas, coal, fuel oil, wood, and/or a fuel mixture (*e.g.*, coal and natural gas). However, responses to the 2022 CAA section 114 information request indicated that natural gas is the most common fuel used in indurating furnaces, with natural gas reported as the primary fuel for 14 furnaces. A natural gas and wood mix was used as the primary fuel for three furnaces, while natural gas and coal or coke blend was reported as the primary fuel for one furnace. Most of the furnaces were burning natural gas during the testing conducted pursuant to the 2022 CAA section 114 information request and most stack test data available to us are for furnaces burning natural gas. As part of the 2022 CAA section 114 information request, one facility completed two stack tests - one when burning only natural gas and one when co-firing with natural gas and coal. The stack tests were completed on the same furnace and the results showed a slight increase in mercury emissions from 2.08×10^{-5} lb/LT when burning only natural gas to 2.29×10^{-5} lb/LT when burning a mixture of natural gas and coal. We would expect higher mercury emissions from furnaces burning coal because coal is known to contain mercury and to emit mercury when burned. We would also expect mercury emissions from coal to vary based on the quantity of coal burned and the mercury content of the coal burned. However, based on the 2022 stack testing described above, the contribution of mercury from coal combustion to the overall mercury emissions appears to be relatively small. The 2022 stack test data suggests that most of the mercury emissions arise from mercury released from the taconite ore during induration. We expect that this result is likely due primarily to the relatively small mass of coal consumed compared to the mass of green pellets processed. For the furnace tested in 2022 while

co-firing natural gas and coal, the mass of green pellets processed per hour was over 110 times greater than the mass of coal burned per hour. Based on this information, we do not believe that variations in mercury emissions are attributable to fuel-type and propose to conclude that subcategorizing based on fuel-type is not warranted.

Finally, we evaluated whether subcategorizing based on the type of taconite pellets produced would be appropriate. Taconite iron ore processing plants produce two types of pellets: standard (also known as acid) pellets and fluxed pellets. Standard pellets are produced by mixing the concentrated ore with a binding agent (typically bentonite). Fluxed pellets are produced by adding a fluxing agent (typically limestone and/or dolomite) in addition to the binding agent. Based on the information reported in responses to the 2022 CAA section 114 information request, 15 of the 18 indurating furnaces produce both standard and fluxed pellets, whereas three furnaces located at two plants produce exclusively fluxed pellets. A comparison of the mercury emissions data indicated no significant difference in mercury emissions based on pellet type produced. The maximum measured mercury emissions were 2.54×10^{-5} lb/LT while producing flux pellets and 2.51×10^{-5} lb/LT while producing standard pellets. Based on this information, we propose to conclude that subcategorization based on pellet type is not appropriate.

Overall, based on our evaluation of the data, as discussed above, we are proposing that subcategorization is not appropriate for these emission sources (*i.e.*, the indurating furnaces) when considering mercury emissions.

To determine the proposed MACT standards for mercury for existing indurating furnaces in the source category, we evaluated two potential options as follows: (1) setting standards at the MACT floor for new and existing indurating furnaces; and (2) setting beyond-the-floor MACT

standards which are more stringent than the MACT floors for new and existing indurating furnaces.

Under Option 1, mercury limits for new and existing indurating furnaces would be set at the MACT floor level, based on the 99-percent UPL, and would apply individually to each furnace at each facility. We calculated the mercury MACT floor limits in units of pounds of mercury per long ton of taconite pellets produced (lb/LT) for existing sources based on the five best performing furnaces and for new sources based on the best performing furnace. The result was a MACT floor limit of 1.4×10^{-5} lb/LT for existing sources and a MACT floor limit of 3.1×10^{-6} lb/LT for new sources.

We compared the mercury emission rates for each existing indurating furnace to the MACT floor limit (*i.e.*, 1.4×10^{-5} lb/LT) to estimate the number of existing indurating furnaces that would require improved performance to meet the MACT floor limits. The emissions rates for the 14 indurating furnaces for which we have test data were based on the average mercury emissions rates measured during stack testing for each of those furnaces. For the remaining four indurating furnaces for which stack test data are not available,⁹ we used the mercury emissions rates determined through stack testing on indurating furnaces of the same size and design located at the same plant. Based on this analysis, we estimate that 11 existing indurating furnaces would require improved performance to comply with the mercury MACT floor limit and seven furnaces would not require improved performance. We determined that activated carbon injection (ACI) with a high efficiency venturi scrubber would provide the level of mercury reduction required for the 11 existing furnaces to achieve compliance with the proposed MACT floor.

⁹ These include one indurating furnace at the Tilden facility and three indurating furnaces at the Northshore facility.

Using ACI with a high efficiency venturi scrubber on the 11 furnaces we expect would require additional controls would result in a combined estimated reduction of 462 pounds of mercury per year from these sources. We estimate that the total capital investment to retrofit 11 existing furnaces with these controls would be \$129 million and the total annual costs would be \$71 million per year.

We are proposing to set mercury standards at the MACT floor for new and existing sources, as described above. We request comment on this proposed approach.

Under Option 2, we evaluated setting beyond-the-floor MACT standards that are more stringent than the MACT floor standards discussed in Option 1. We considered limits at levels of 10 percent more stringent than the MACT floor, 20 percent more stringent than the MACT floor, 30 percent more stringent than the MACT floor, and 40 percent more stringent than the MACT floor. We considered increased stringency at 10 percent intervals up to 40 percent based on engineering judgement that such intervals were appropriate due to the expected margins of error associated with estimated control efficiencies and required carbon injection rates. Using smaller intervals would have resulted in overlap of the margins of error between intervals and using larger intervals would have resulted in less precision of results. Therefore, we decided to use 10 percent intervals. Nevertheless, we solicit comments and information regarding this approach.

We estimate that ACI with high efficiency venturi scrubbers could achieve standards up to 30 percent more stringent than the MACT floor, but at increased rates of carbon injection as the standards increase in stringency from 10 percent more stringent than the MACT floor up to 30 percent more stringent than the MACT floor. Based on our analysis, we expect that for standards that are at least 40 percent more stringent than the MACT floor, a baghouse would be required after the wet scrubber for one facility (Keetac). Of the beyond-the-floor options

considered, we estimate that the most cost-effective beyond-the-floor option would be to set the MACT standard for existing furnaces at a level 30 percent more stringent than the MACT floor (*i.e.*, a MACT standard of 8.4×10^{-6} lb/LT). Under this scenario, we estimate that 11 of the 18 existing indurating furnaces would require additional controls to meet the beyond-the-floor limit, and that these 11 furnaces could meet the beyond-the-floor limit using ACI (at a higher rate than needed to meet the 10 percent and 20 percent levels) with a high efficiency venturi scrubber. Under this approach, we estimate a total reduction of 621 pounds of mercury per year from the source category at an estimated incremental cost-effectiveness of about \$46,000 per pound of mercury removed to go beyond the MACT floor. This is above the \$/pound of mercury reduced that we have historically found to be reasonable and cost-effective when considering beyond-the-floor options for regulating mercury emissions. Further, our analysis indicates that some new furnaces (*e.g.*, if a new furnace was installed at the Keetac facility) would require ACI plus baghouses to comply with the MACT floor standard and that any increase in stringency of the standard (*i.e.*, any beyond-the-floor standard) for new sources, would also result in cost-effectiveness, measured in \$/pound of mercury removed, that is higher on a \$/pound basis than cost-effective numbers that the EPA has historically considered reasonable when considering beyond-the-floor options for regulating mercury emissions. We propose to conclude that requiring new or existing indurating furnaces to meet beyond-the-floor limits is not reasonable based on the estimated capital and operating costs and cost-effectiveness.

A detailed description of the analyses of mercury emissions, including consideration of subcategorization, the calculation of the MACT floor limits for new and existing furnaces, and the analysis of beyond-the-floor options (including the estimated costs, reductions and cost effectiveness of each option), are included in the memorandum, *Maximum Achievable Control*

Technology (MACT) Analysis for Proposed Mercury Standards for Taconite Iron Ore Indurating Furnaces. A description of the APCDs that we expect would be necessary to reduce emissions and the estimated costs of those controls are included in the memorandum *Development of Impacts for the Proposed Amendments to the NESHAP for Taconite Iron Ore Processing*. Copies of these memoranda are available in the docket for this action (Docket ID No. EPA-HQ-OAR-2017-0664).

1. What alternative compliance provisions are being proposed?

As discussed in section IV.A, we are proposing to set mercury emission standards at the MACT floor level for new and existing sources that would apply to indurating furnaces on a unit-by-unit basis. We are also proposing an emissions averaging compliance alternative that would allow owners and operators of taconite iron ore processing facilities to demonstrate compliance by averaging mercury emissions across existing indurating furnaces located at the same taconite facility. Under this emissions averaging compliance alternative, a taconite iron ore processing facility with more than one indurating furnace may average mercury emissions across the indurating furnaces located at the facility provided that the mercury emissions averaged across all indurating furnaces at the facility do not exceed a mercury emission limit of 1.26×10^{-5} lb/LT, on a production-weighted basis. This emission limit reflects a 10 percent adjustment factor to the MACT floor standard; according to our analysis, we expect this emission limit would result in mercury reductions greater than those achieved by application of the MACT floor on a unit-by-unit basis.

We are proposing this emissions averaging compliance alternative for existing indurating furnaces because we expect it will result in a greater level of mercury reduction than the unit-by-unit MACT floor limit at a lower cost per pound of mercury removed, while also providing

compliance flexibility. The proposed emissions averaging compliance alternative is available only to existing indurating furnaces at taconite iron ore processing facilities. New or reconstructed indurating furnaces would be subject to the unit-by-unit MACT floor standards as discussed in section IV.A above, and would be required to comply with those standards on a unit-by-unit basis. Specifically, we are proposing that indurating furnaces constructed or reconstructed after **[INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER]** would be considered new sources and would be required to comply with the proposed MACT floor emission standard for new sources of 3.1×10^{-6} lb/LT.

We expect that the United Taconite, Hibbing, and Minntac taconite iron ore processing facilities may elect to utilize this emissions averaging compliance alternative. If these three taconite iron ore processing facilities utilize the emissions averaging compliance alternative, then we expect that six of the 18 indurating furnaces in the source category¹⁰ would require the addition of ACI with a venturi scrubber. We estimate that this emissions averaging compliance alternative would result in total emissions reductions of 497 pounds of mercury per year, assuming that these three taconite iron ore processing facilities elect to use the emissions averaging compliance alternative to demonstrate compliance with the standards. We estimate that, under this emissions averaging compliance alternative, the total capital investment for industry would be \$90 million and total annual costs would be \$52 million.

We recognize that the EPA has generally imposed limits on the scope and nature of emissions averaging programs. These limits include: (1) no averaging between different types of pollutants; (2) no averaging between sources that are not part of the same affected facility; (3) no

¹⁰ As discussed in section II.B, this excludes the three grate kiln indurating furnaces at the Empire Mining facility.

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averaging between individual sources within a single major source if the individual sources are not subject to the same NESHAP; and (4) no averaging between existing sources and new sources. The emissions averaging allowed under the proposed emissions averaging compliance option in this action fully satisfies each of these criteria. First, emissions averaging would only be allowed for mercury emissions. Second, emissions averaging would only be permissible among individual existing affected units at a single stationary source (*i.e.*, the facility). Third, emissions averaging would only be permitted among indurating furnaces at the facility. Lastly, new affected sources could not use emissions averaging for compliance purposes. Accordingly, we have concluded that the averaging of emissions across affected units at a single taconite facility is consistent with the CAA.

We are also proposing to require that each facility that intends to utilize the emissions averaging compliance alternative develop an emissions averaging plan, which would provide additional assurance that the necessary criteria will be followed. We are proposing to require that a facility's emissions averaging plan include the identification of: (1) all units in the averaging group; (2) the control technology installed; (3) the process parameter(s) that will be monitored; (4) the specific control technology or pollution prevention measure to be used; (5) the test plan for the measurement of the HAP being averaged; and (6) the operating parameters to be monitored for each control device. A state, local, or tribal regulatory agency that is delegated authority for this rule could require the emissions averaging plan to be submitted or even approved before emissions averaging could be used. Upon receipt, the regulatory authority would not be able to approve an emissions averaging plan differing from the eligibility criteria contained in the rule.

We are proposing an emissions averaging compliance alternative because we expect it will provide a more flexible and less costly alternative to controlling mercury emissions from the source category, and we expect it will result in greater annual reductions of mercury emissions from the source category than unit-by-unit compliance. We expect that the proposed emissions averaging compliance alternative as described above would not lessen the stringency of the overall MACT floor level of performance and would provide flexibility in compliance, cost, and energy savings to owners and operators. We also recognize that we must ensure that any emissions averaging option can be implemented and enforced, will be clear to sources, and most importantly, will be no less stringent than unit-by-unit implementation of the MACT floor limits.

Under the proposed emissions averaging compliance alternative, we expect the 10 percent adjustment factor will ensure that the total quantity of mercury emitted from a facility's indurating furnaces will not be greater than if the facility's furnaces individually complied with the unit-by-unit MACT floor standards. We expect that the practical outcome of emissions averaging will be mercury emissions reductions equivalent to, or greater than, mercury reductions achieved through compliance with the MACT floor limits for each discrete indurating furnace on a unit-by-unit basis, and that the statutory requirement that the MACT standard reflect the maximum achievable emissions reductions would therefore be fully effectuated under this approach. We request comment on allowing sources to comply with the mercury MACT standards through the proposed emissions averaging compliance alternative. We also request comment on the appropriate adjustment factor to apply under this proposed compliance alternative.

2. What information did the EPA receive regarding mercury variation in taconite iron ore?

On February 14, 2023, the EPA received data from the American Iron and Steel Institute (AISI) and U.S. Steel Corporation (U.S. Steel) on the variation of mercury concentration within the taconite ore used by taconite iron ore processing facilities. U.S. Steel and AISI requested that these data be considered as one of the variability factors while developing the MACT standards for mercury emitted from indurating furnaces. AISI also suggested corrections to the mercury stack test emissions data that we used to develop the proposed MACT standards for mercury on March 13, 2023. On April 27, 2023, AISI and U.S. Steel also submitted suggestions on how to account for variations in mercury, chloride, and fluoride concentrations in taconite ore when developing standards for emissions of mercury, hydrogen chloride, and hydrogen fluoride from indurating furnaces. We did not have sufficient time prior to issuing this proposal to fully assess the information submitted but have made the submittals available in the docket for this action (Docket ID No. EPA-HQ-OAR-2017-0664). Therefore, the MACT standards for mercury proposed in this action do not include consideration of this information submitted by AISI and U.S. Steel. We request comment on the submittals in general and on the data on the variation of mercury content in taconite ore and whether and to what extent this variation should be considered in the development of the MACT standards for mercury from indurating furnaces (see discussion in section IV.A. of this preamble).

B. What are the results of our technology review and what revisions to the MACT standards are we proposing?

The existing NESHAP for the taconite iron ore processing source category includes standards for HCl and HF that utilize PM as a surrogate for HCl and HF. As discussed below, however, we are proposing to change the way we regulate HCl and HF emissions from the source category based on a development in the industry. Specifically, we are proposing

numerical emission limits for HCl and HF instead of relying on PM as a surrogate for emissions of these specific HAP.

This proposal is consistent with the EPA's authority pursuant to CAA section 112(d)(6) to take developments in practices, processes, and control technologies into account to determine if it is "necessary" to revise the MACT standards previously set by the EPA. In this proposal, we are using our discretion to revisit part of the 2020 technology review; our review is limited to developments pertaining to the regulation of HCl and HF. The reasons for this proposal are discussed below.

As described in section III.B of this preamble, the technology review for the 2020 Taconite Iron Ore Processing RTR rulemaking focused on identifying and evaluating potential developments in practices, processes, and control technologies that have occurred since the NESHAP was promulgated in 2003.¹¹ Based on the information available to us at the time the 2020 RTR was promulgated, we concluded there were no developments in practices, processes, and control technologies for indurating furnaces. However, as part of the 2022 CAA section 114 information request, we collected new data on HCl and HF emissions from seven indurating furnaces. Six of the furnaces tested were equipped with wet venturi scrubbers and one furnace was equipped with dry electrostatic precipitators (ESPs). The HCl and HF emissions data showed that wet venturi scrubbers consistently achieved lower HCl emissions compared to the furnaces using dry ESPs. The results for HF are less clear, but we still expect wet controls achieve better control of HF compared to dry controls because HF is quite soluble in water.

¹¹ For information on the technology review completed in 2020, see the memorandum "*Final Technology Review for the Taconite Iron Ore Processing Source Category*," January 3, 2020 (available in the docket for this action; Docket Item ID No. EPA-HQ-OAR-2017-0664-0164). This document is a prepublication version, signed by EPA Administrator, Michael S. Regan on 5/5/2023. We have taken steps to ensure the accuracy of this version, but it is not the official version.

Based on our review of this new emission data and understanding of the chemistry of these compounds, the EPA is proposing amendments to the existing NESHAP, pursuant to CAA section 112(d)(6). The current NESHAP includes PM limits used as a surrogate for acid gas emissions. In this action, we are proposing that furnaces would be required to comply with the proposed numerical emission limits for HCl and HF, which would replace the use of PM emissions as a surrogate for emissions of HCl and HF from the source category.

The proposed revised HCl and HF emission limits for new and existing indurating furnaces were determined using a methodology similar to, but slightly different than, that used to develop the mercury emission limits. The mercury MACT floor limits were derived by calculating the UPL based on emissions test data for the top five performing (lowest emitting) sources pursuant to CAA section 112(d)(2)/(3). Since we are proposing a different approach to regulating HCl and HF limits from the approach in the current regulations, under the limited CAA section 112(d)(6) technology review, the objective was to calculate a proposed limit that reflects the performance (*i.e.*, level of emissions) of the taconite indurating furnaces that have wet venturi scrubbers (*i.e.*, the superior control technology for control of acid gases, especially HCl). Therefore, for existing furnaces, we used the emissions data from all six furnaces equipped with wet venturi scrubbers to calculate a UPL at the 99-percent confidence level for HCl and HF, which resulted in the following limits: 4.4×10^{-2} lb of HCl/LT and 1.2×10^{-2} lb of HF/LT. For new sources we used the emissions data from the best performing furnace to calculate a UPL at the 99-percent confidence level for HCl and HF, which resulted in the following limits: 4.4×10^{-4} lb of HCl/LT and 3.3×10^{-4} lb of HF/LT. Based on this data and methodology, for existing sources constructed or reconstructed before **[INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER]**, we are proposing limits of 4.4×10^{-2} lb of HCl/LT of taconite pellets

produced and 1.2×10^{-2} lb of HF/LT of taconite pellets produced. For new sources constructed or reconstructed after **[INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER]**, we are proposing limits of 4.4×10^{-4} lb of HCl/LT of taconite pellets produced and 3.3×10^{-4} lb of HF/LT of taconite pellets produced.

We expect that all existing indurating furnaces would be able to comply with the proposed numerical HF limit for existing sources without the addition of new controls or control measures; we also expect that HF emissions from existing sources would incidentally be reduced by about 38 tons per year due to controls used to comply with the proposed HCl limits (see discussion below). We expect that most existing indurating furnaces would be able to comply with the proposed HCl limit for existing sources without the addition of new controls or control measures. However, we expect that new add-on controls would be necessary at two existing indurating furnaces (that is, the two indurating furnaces currently equipped with dry ESPs) to comply with the proposed HCl limit for existing sources. The estimated total capital costs for installing the add-on controls necessary to meet the proposed HCl limit for existing sources is \$1.1 million, and the total annual costs are estimated to be \$1.4 million. We estimate that HCl emissions would be reduced by 713 tons per year. This results in an estimated cost effectiveness of about \$1,940 per ton of HCl removed. The results of the cost analyses indicate that the estimated cost effectiveness is within the range of values that the EPA has previously considered to be cost-effective for many different HAP. Detailed information on the methodology used to develop the proposed emission standards and costs are provided in the memorandum *Revised Technology Review of Acid Gas Controls for Indurating Furnaces in the Taconite Iron Ore Processing Source Category*, which is available in the docket for this action (Docket ID No. EPA-HQ-OAR-2017-0664). We request comment on our proposal to change the way we

regulate HCl and HF emissions from the source category. Specifically, we request comment on our proposal to directly regulate HCl and HF emissions from the source category and the numerical emission limits proposed for HCl and HF.

C. What performance testing are we proposing?

We are proposing that new and existing sources demonstrate compliance with the mercury, HCl, and HF standards by performing initial performance testing and that the performance testing be repeated at the same frequency as required for the existing PM standards (*i.e.*, at least twice per title V permit term; that is at least twice every 5 years as allowed under 40 CFR 63.9630). Existing sources constructed or reconstructed before **[INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER]** would be required to demonstrate initial compliance no later than 180 calendar days after the compliance date. New sources constructed or reconstructed before **[INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER]** would be required to complete the initial performance testing within 180 days after startup. We are proposing the performance tests for mercury be performed using EPA Method 29 and that performance tests for HCl and HF be performed using EPA Methods 26A. We considered allowing Method 30B as an alternative method for mercury performance testing. However, we expect that Method 30B may not work well at the low expected concentrations of mercury and that the relatively high PM in the sample might interfere with Method 30B. We request comment on whether to allow Method 30B as an alternative performance testing method for mercury.

During the initial and subsequent performance tests, we are proposing that testing be completed on every stack associated with each indurating furnace within 7 calendar days, to the extent practicable, such that the operating characteristics of the furnace and associated control

device (where applicable) remain representative and consistent for the duration of the performance test and under normal operating conditions. These testing requirements are consistent with the testing requirements for PM in the existing NESHAP (see 40 CFR 63.9620 and 63.9630).

D. What operating limits and monitoring requirements are we proposing?

In addition to performance testing, we are proposing owners and operators establish operating limits for the parameters listed in Table 3 for each control device used to comply with the mercury, HCl, and HF limits. We are proposing to require owners and operators to establish dry sorbent injection rate operating limits for dry sorbent injection systems used to comply with the HCl and HF limits, activated carbon injection rates for activated carbon injection systems used to comply with mercury limits, and pH operating limits for wet scrubbers used to comply with the HCl and HF limits (in addition to the requirements in the current NESHAP to establish pressure drop and scrubber water flow rate for wet scrubbers used to comply with the PM limits). The operating limits would be established during the most recent performance testing where compliance with the emissions limit is demonstrated. Parametric monitoring would be required to ensure the control devices operate properly and the source complies with the emissions limits on a continuous basis. This approach is consistent with the current requirements for demonstrating compliance with the existing PM emissions limits. The operating limits for the parameters listed in Table 3 would be set as the average of the measured parameter during the three test runs of the most recent performance test. Owners and operators would be required to comply with the existing provisions for installation, operation, and preventive maintenance of APCD and monitoring equipment. Owners and operators would be required to prepare a preventive maintenance plan, take corrective action if an air pollution control device exceeds the

established operating limit, and prepare and keep records of calibration and accuracy checks of the continuous parameter monitoring systems (CPMS) to document proper operation and maintenance of each monitoring system.

Table 3. Proposed Operating Limits and Parametric Monitoring Requirements for Demonstrating Continuous Compliance

For each . . .	Establish a minimum operating limit for . . .	Demonstrate continuous compliance by . . .
Wet Scrubber	pH	Maintain the daily average pH equal to or greater than the pH operating limit established during the most recent performance test.
Dry sorbent injection system	Sorbent injection	Maintain the daily average dry sorbent flow rate equal to or greater than the flow rate operating limit established during the most recent performance test.
Activated carbon injection	Activated carbon injection	Maintain the daily average activated carbon injection flow rate equal to or greater than the flow rate operating limit established during the most recent performance test.

E. What recordkeeping and reporting requirements are we proposing?

We are proposing facilities would be required to submit the notifications required in 40 CFR 63.9640; report the results of initial and subsequent compliance stack testing for mercury, HCl and HF; maintain monitoring records to demonstrate compliance with the proposed operating limits for air pollution control devices; comply with the recordkeeping requirements in 40 CFR 63.9642; and comply with the reporting requirements in 40 CFR 63.9641, including the requirement to report deviations from the proposed requirements in the semi-annual report and to submit corrective action reports. Facilities that elect to comply with the mercury emissions standard using emissions averaging would be required to also submit an implementation plan in accordance with the proposed provisions in 40 CFR 63.9623(d)(1); maintain a copy of the

approved implementation plan; and maintain monthly records of the quantity of taconite pellets produced by each furnace included in the emission average and the calculated average mercury emissions.

F. What are the results of any risk analyses completed for this action?

In the July 28, 2020, final Taconite Iron Ore Processing RTR rule (85 FR 45476), the EPA conducted a residual risk assessment and determined that risk from the Taconite Iron Ore Processing source category was acceptable and the standards provided an ample margin of safety to protect public health (see Docket Item No. EPA-HQ-OAR-2017-0664-0163), and the EPA therefore did not promulgate standards to reduce risk further. Since the final rule, the EPA received new facility operation and HAP emissions data from all seven operational major source facilities through the 2022 CAA section 114 information request and facility stack testing. Specifically, these facilities completed stack testing and submitted emissions data for PM, metal HAP, HCl and HF for seven indurating furnaces. The EPA used the new emissions data that were collected to develop updated estimates of HAP emissions from indurating furnaces for each of these facilities. Detailed information on the new emissions data is provided in the memorandum *Emissions Data Collected in 2022 for Indurating Furnaces Located at Taconite Iron Ore Processing Plants*, which is available in the docket for this action (Docket ID No. EPA-HQ-OAR-2017-0664).

To determine whether these new HAP emissions estimates would significantly alter our previous estimates of the human health risk posed by the Taconite Iron Ore Processing source category, we performed a baseline (baseline means prior to any controls proposed in this action) risk analysis using the updated emissions. The methodologies used for this risk analysis are the same as those described in section III.C. of the preamble to the September 25, 2019, proposed

rule “National Emission Standards for Hazardous Air Pollutants: Taconite Iron Ore Processing Residual Risk and Technology Review” (84 FR 50660). We present the results of the new risk analysis in Table 4 of this preamble (rows labelled “Updated Source Category” and “Updated Whole Facility”) and in more detail in the document *Taconite Iron Ore Processing 2023 Risk Analysis Report*, available in the docket for this action (Docket ID No. EPA-HQ-OAR-2017-0664). The risk analysis results from the July 28, 2020, final Taconite Iron Ore Processing RTR rule (85 FR 45476) are also provided in Table 4 for comparison (rows labelled “Final Rule Source Category” and “Final Rule Whole Facility”).

Table 4. Comparison of Taconite Iron Ore Processing Source Category Baseline Inhalation Risk Assessment Results from the 7/28/20 Final Rule to the 2023 Updated Results

Risk Assessment	Maximum Individual Cancer Risk (in 1 million) ³		Estimated Population at Increased Risk of Cancer \geq 1-in-1 Million		Estimated Annual Cancer Incidence (cases per year)		Maximum Chronic Noncancer TOSHI ¹		Maximum Screening Acute Noncancer HQ ²
	Based on Actual Emissions	Based on Allowable Emissions	Based on Actual Emissions	Based on Allowable Emissions	Based on Actual Emissions	Based on Allowable Emissions	Based on Actual Emissions	Based on Allowable Emissions	Based on Actual Emissions
Final Rule Source Category	3 (As, Ni, Be)	5 (As, Ni, Be)	38,000	43,000	0.001	0.001	0.2 (Mn)	0.2 (Mn)	HQREL = <1 (As)
Updated Source Category ⁴	5 (As, Ni, Be)	6 (As, Ni, Be)	56,000	56,400	0.002	0.003	0.1 (Mn)	0.2 (Mn)	HQREL = 1 (As)
Final Rule Whole Facility	3 (As, Ni, Be)	-	40,000	-	0.001	-	0.2 (Mn)	-	-
Updated Whole Facility ⁴	5 (As, Ni, Be)	-	56,000	-	0.002	-	0.2 (Mn)	-	-

¹ The TOSHI is the sum of the chronic noncancer hazard quotients (HQs) for substances that affect the same target organ or organ system.

² The maximum estimated acute exposure concentration was divided by available short-term threshold values to develop HQ values.

³ Five facilities contribute to the maximum individual risk (MIR) – Keetac, Hibbing, Minorca, UTAC, and Minntac.

⁴ Includes updated emissions data received following proposal from the 2022 CAA section 114 information request and any testing data received after publication of the RTR final rule.

The results of the revised inhalation risk modeling, as shown in Table 4 of this preamble, indicate that the cancer risk estimates for the Taconite Iron Ore Processing source category increased slightly from the estimate in the RTR final rule. Specifically, the maximum individual

cancer risk (MIR) based on actual emissions (lifetime) increased from 3-in-1 million to 5-in-1 million (driven by arsenic, beryllium and nickel from fugitive dust sources and indurating furnaces). The number of people with chronic cancer risks of greater than or equal to 1-in-1 million increased from 38,000 to 56,000. The total estimated annual cancer incidence (national) based on actual emission levels increased from 0.001 to 0.002 excess cancer cases per year. The maximum chronic noncancer target organ-specific hazard index (TOSHI) value based on actual emissions decreased from 0.2 to 0.1 (neurological; driven by manganese compounds from fugitive dust and ore crushing sources). The maximum screening acute noncancer HQ value (off-facility site) remained about 1 (driven by arsenic from fugitive dust and ore crushing sources).

Regarding multipathway risk, in the July 28, 2020, final Taconite Iron Ore Processing RTR rule (85 FR 45476), we concluded that there was “no significant potential for multipathway health effects.” This determination was based upon a site-specific multipathway assessment that found cancer risk based on the fisher scenario was 0.2-in-1 million (arsenic). In addition, the noncancer hazard quotients were less than 1 for mercury (0.02) and for cadmium (0.01). We performed a linear scaling of the multipathway risks using a conservatively high estimate of the revised emissions for arsenic (4.4 times increase in emissions), mercury (2.4 times increase in emissions) and cadmium (emissions decreased). Using these scaling factors, the adjusted multipathway risks for cancer increased to 0.9-in-1 million (arsenic), and the adjusted noncancer hazard quotient for mercury increased to 0.05 (arsenic was unchanged).

The results of the updated inhalation risk analysis and the updated multipathway risk assessment indicate that the risk for the Taconite Iron Ore Processing source category has increased slightly, but still remains well within the range of acceptability. Further, we have not identified any information that would change the ample margin of safety analysis finalized in the

2020 RTR final rule. Based on these results, we are not proposing any changes to our decisions regarding risk acceptability or ample margin of safety that were made under CAA section 112(f) in the July 28, 2020, Taconite Iron Ore Processing RTR final rule (85 FR 45476).

G. What other actions are we proposing?

On January 5, 2022, the EPA published in the *Federal Register* (87 FR 393) a final rule amending the list of HAP under the CAA to add 1-bromopropane (1-BP) in response to public petitions previously granted by the EPA. As each NESHAP is reviewed, we are evaluating whether the addition of 1-BP to the CAA section 112 HAP list impacts the source category. For the Taconite Iron Ore Processing source category, we conclude that the inclusion of 1-BP as a HAP will not impact the NESHAP because, based on available information, we expect that 1-BP is not emitted from this source category. As a result, no changes are being proposed to the rule based on the addition of 1-BP to the CAA section 112 HAP list. Nevertheless, we are requesting comments and data regarding any potential emissions of 1-BP from this source category.

Also, in addition to the proposed actions described above, we are proposing to update the electronic reporting requirements found in 40 CFR 63.9641(c) and 40 CFR 63.9641(f)(3) to reflect new procedures for reporting CBI. Specifically, we are proposing to include an email address that owners and operators may use to electronically submit compliance reports containing CBI to the OAQPS CBI Office.

H. What compliance dates are we proposing?

The amendments to the Taconite Iron Ore Processing NESHAP proposed in this rulemaking for adoption of mercury standards under CAA sections 112(d)(2) and (3) and adoption of HCl and HF standards under CAA section 112(d)(6) are subject to the compliance deadlines outlined in the CAA under section 112(i). For existing sources, CAA section 112(i)(3)

requires compliance “as expeditiously as practicable, but in no event later than 3 years after the effective date of such standard” subject to certain exemptions further detailed in the statute.¹² In determining what compliance period is as “expeditious as practicable,” we consider the amount of time needed to plan and construct projects and change operating procedures. The EPA projects that several existing sources would need to install new add-on controls to comply with the proposed mercury limits; we also expect that one or two facilities will need to install controls for acid gases. We expect that these sources will require substantial time to plan, design, construct, and begin operating the new add-on controls, and to conduct performance testing, and implement monitoring to comply with the revised provisions. Therefore, we are proposing to allow 3 years for existing sources constructed or reconstructed before **[INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER]** to become compliant with the new emission standards for mercury, HCl and HF. These sources would have to continue to meet the current provisions of 40 CFR part 63, subpart RRRRR.

Pursuant to CAA section 112(i), we are proposing that all affected sources that commenced construction or reconstruction after **[INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER]** would comply with the provisions by the effective date of the final rule or upon startup, whichever is later. The final action is not a “major rule” as defined by 5 U.S.C. 804(2), so the effective date of the final rule will be the promulgation date as specified in CAA section 112(d)(10).

We solicit comment on these proposed compliance periods, and we specifically request submission of information from sources in this source category regarding specific actions that

¹² Association of Battery Recyclers v. EPA, 716 F.3d 667, 672 (D.C. Cir. 2013) (“Section 112(i)(3)'s 3-year maximum compliance period applies generally to any emission standard . . . promulgated under [section 112]” (brackets in original)).

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would need to be undertaken to comply with the proposed standards and the time needed to make the adjustments for compliance with any of the proposed standards. We note that information provided may result in changes to the proposed compliance dates.

V. Summary of Cost, Environmental, and Economic Impacts

A. What are the affected sources?

As previously indicated, there are currently seven major sources subject to the Taconite Iron Ore Manufacturing NESHAP that are operating in the United States. One additional major source, Empire Mining, is subject and has a permit to operate, but has been indefinitely idled since 2016. The NESHAP for Taconite Iron Ore Processing applies to the owner or operator of a taconite iron ore processing plant that is (or is part of) a major source of HAP emissions. A taconite iron ore processing plant is any facility engaged in separating and concentrating iron ore from taconite ore to produce taconite pellets. Taconite iron ore processing includes the following processes: liberation of the iron ore by wet or dry crushing and grinding in gyratory crushers, cone crushers, rod mills, and ball mills; concentration of the iron ore by magnetic separation or flotation; pelletizing by wet tumbling with a balling drum or balling disc; induration using a straight grate or grate kiln indurating furnace; and finished pellet handling. A major source of HAP is a plant site that emits, or has the potential to emit, any single HAP at a rate of 9.07 megagrams (10 tons) or more, or any combination of HAP at a rate of 22.68 megagrams (25 tons) or more per year from all emission sources at the plant site.

B. What are the air quality impacts?

This action proposes first-time emissions standards for mercury and revised emissions standards for HCl and HF and would require some plants to install additional controls on their indurating furnaces. For HCl, HF and mercury, installation of controls will result in a combined

reduction of total HAP of 751 tons of HAP per year (tpy). Specifically, we estimate that the installation of controls will reduce HCl and HF emissions by 713 tpy and 38 tpy, respectively, and will reduce mercury emissions by 497 pounds per year (0.25 tpy).

Indirect or secondary air emissions impacts are impacts that would result from the increased electricity usage associated with the operation of control devices (*e.g.*, increased secondary emissions of criteria pollutants from power plants). Energy impacts consist of the electricity and steam needed to operate control devices and other equipment. We find that the secondary impacts of this action are minimal. Refer to the memorandum *Development of Impacts for the Proposed Amendments to the NESHAP for Taconite Iron Ore Processing* for a detailed discussion of the analyses performed on emissions reductions and potential secondary impacts. This memorandum is available in the docket for this action (Docket ID No. EPA-HQ-OAR-2017-0664).

C. What are the cost impacts?

This action proposes emission limits for new and existing sources in the Taconite Iron Ore Processing source category. Although this action contains requirements for new sources, we are not aware of any new sources being constructed now or planned in the next year, and, consequently, we did not estimate any cost impacts for new sources. We estimate the total capital and annualized costs of the proposed rule for existing sources in the Taconite Iron Ore Processing source category will be approximately \$91 million and \$54 million per year, respectively. The annual costs are based on operation and maintenance of added control systems. A memorandum titled *Development of Impacts for the Proposed Amendments to the NESHAP for Taconite Iron Ore Processing* includes details of our cost assessment, expected emission

reductions and estimated secondary impacts. A copy of this memorandum is available in the docket for this action (Docket ID No. EPA-HQ-OAR-2017-0664).

D. What are the economic impacts?

For the proposed rule, the EPA estimated the cost of installing additional APCD in order to comply with the proposed emission limits. This includes the capital costs of the initial installation, and subsequent maintenance and operation of the controls. To assess the potential economic impacts, the expected annual cost was compared to the total sales revenue for the ultimate owners of affected facilities. For this rule, the expected annual cost is \$8 million (on average) for each facility, with an estimated nationwide annual cost of \$54 million per year. The seven affected facilities are owned by two parent companies (U.S. Steel and Cleveland-Cliffs, Inc.). Neither parent company qualifies as a small business, and the total costs associated with the proposed amendments are expected to be less than 1 percent of annual sales revenue per ultimate owner.

The EPA also modeled the impacts of the proposed amendments using two standard partial equilibrium economic models: one for taconite iron ore pellets and one for steel mill products. The EPA linked these two partial equilibrium models by specifying interactions between supply and demand in both markets and solving for changes in prices and quantity across both markets simultaneously. These models use baseline economic data from 2019 to project the impact of the proposed NESHAP amendments on the market for taconite iron ore pellets and steel mill products. The models allow the EPA to project facility- and market-level price and quantity changes for taconite iron ore pellets and market-level price and quantity changes for steel mill products, including changes in imports and exports in both markets. Under the proposed amendments, the models project a 0.26 percent fall in the quantity of domestically

produced taconite iron ore pellets along with a 0.58 percent increase in their price. The models also project a 0.02 percent fall in the quantity of domestically produced steel mill products along with an 0.01 percent increase in their price.

Information on our economic impact estimates on the sources in the Taconite Iron Ore Processing source category is available in the document *Economic Impact Analysis for the Proposed National Emission Standards for Hazardous Air Pollutants: Taconite Iron Ore Processing Amendments* (EIA), available in the docket for this action (Docket ID No. EPA-HQ-OAR-2017-0664). The EIA also includes an analysis of less and more stringent alternative regulatory options for mercury and acid gases.

E. What analysis of environmental justice did we conduct?

Consistent with the EPA's commitment to integrating environmental justice (EJ) in the Agency's actions, and following the directives set forth in multiple Executive Orders, the Agency has evaluated the impacts of this action on communities with EJ concerns. Overall, we found that in the population living in close proximity of facilities, the following demographic groups were above the national average: White, Native American, and people living below the poverty level. For two facilities, the percentage of the population that is Native American was more than double the national average.

Executive Order 12898 directs the EPA to identify the populations of concern who are most likely to experience unequal burdens from environmental harms, which are specifically minority populations (people of color), low-income populations, and Indigenous peoples (59 FR 7629; February 16, 1994). Additionally, Executive Order 13985 is intended to advance racial equity and support underserved communities through Federal government actions (86 FR 7009; January 20, 2021). The EPA defines EJ as "the fair treatment and meaningful involvement of all

people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.”¹³ The EPA further defines fair treatment to mean that “no group of people should bear a disproportionate burden of environmental harms and risks, including those resulting from the negative environmental consequences of industrial, governmental, and commercial operations or programs and policies.”

For the Taconite Iron Ore Processing source category, the EPA examined the potential for EJ concerns by conducting a proximity demographic analysis. The proximity demographic analysis is an assessment of individual demographic groups in the total population living within 10 kilometers (km) and 50 km of the facilities. The EPA then compared the data from this analysis to the national average for each of the demographic groups. Since the taconite iron ore processing facilities are very large, a radius of 10 km was used as the near facility distance for the proximity analysis. A distance closer than 10 km does not yield adequate population size for the results. The results of the proximity analysis are in the technical report *Analysis of Demographic Factors For Populations Living Near Taconite Iron Ore Processing Source Category Operations*, available in the docket for this action (Docket ID No. EPA-HQ-OAR-2017-0664).

The results in Table 5 show that for the population living within 10 km of the eight facilities, the following demographic groups were above the national average: White (93 percent versus 60 percent nationally), Native American (0.8 percent versus 0.7 percent nationally), and people living below the poverty level (15 percent versus 13 percent nationally). For two

¹³ <https://www.epa.gov/environmentaljustice>

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facilities, the percentage of the population living within 10 km that is Native American (1.9 percent and 2.3 percent) was more than double the national average (0.7 percent).

Table 5. Taconite Iron Ore Processing Source Category Proximity Demographic Results

Demographic group	Nationwide	Total population living within 10 km of Taconite facilities
Total Population	328M	59,000
Number of Facilities	-	8
Race and Ethnicity by Percent [Number of people]		
White	60 percent [197M]	93 percent [54,900]
African American	12 percent [40M]	1 percent [600]
Native American	0.7 percent [2M]	0.8 percent [500]
Hispanic or Latino (includes white and nonwhite)	19 percent [62M]	0.9 percent [500]
Other and Multiracial	8 percent [27M]	4 percent [2,400]
Income by Percent [Number of People]		
Below Poverty Level	13 percent [44M]	15 percent [9,000]
Above Poverty Level	87 percent [284M]	85 percent [50,000]
Education by Percent [Number of People]		
Over 25 and without a High School Diploma	12 percent [40M]	6 percent [3,600]
Over 25 and with a High School Diploma	88 percent [288M]	94 percent [55,400]
Linguistically Isolated by Percent [Number of People]		
Linguistically Isolated	5 percent [18M]	0.4 percent [200]

Notes:

- Nationwide population and demographic percentages are based on Census' 2015-2019 ACS 5-year block group averages. Total population count within 10km is based on 2010 Decennial Census block population.
- To avoid double counting, the "Hispanic or Latino" category is treated as a distinct demographic category. A person who identifies as Hispanic or Latino is counted as Hispanic/Latino, regardless of race.
- The sum of individual populations with a demographic category may not add up to total due to rounding.

The proposed actions, if finalized, will ensure compliance via frequent compliance testing and monitoring of control device operating parameters, and reduce emissions via new standards for mercury and revised standards for HCl and HF and by requiring affected sources to meet all the emissions standards at all times (including periods of startup, shutdown, and malfunctions). Therefore, the EPA expects that there would be a positive, beneficial effect for all populations in proximity to affected sources, including in communities potentially overburdened by pollution, which are often minority, low-income and indigenous communities.

F. What analysis of children's environmental health did we conduct?

In the July 28, 2020, final Taconite Iron Ore Processing RTR rule (85 FR 45476), the EPA conducted a residual risk assessment and determined that risk from the Taconite Iron Ore Processing source category was acceptable, and the standards provided an ample margin of safety to protect public health (see Docket Item No. EPA-HQ-OAR-2017-0664-0163). For this rule, we updated that risk analysis using new emissions data that the EPA received for some HAP emissions sources at the taconite facilities. We determined that these new HAP emissions estimates would not significantly change our previous estimates of the human health risk posed by the Taconite Iron Ore Processing source category (see section IV.F of this preamble). In addition, this action proposes first-time emissions standards for mercury and revised emissions standards for HCl and HF and would further reduce emissions. Specifically, we estimate that the installation of controls will reduce HCl and HF emissions by 713 tpy and 38 tpy, respectively, and will reduce mercury emissions by 497 pounds per year (0.25 tpy).

This action's health and risk assessments are protective of the most vulnerable populations, including children, due to how we determine exposure and through the health benchmarks that we use. Specifically, the risk assessments we perform assume a lifetime of

exposure, in which populations are conservatively presumed to be exposed to airborne concentrations at their residence continuously, 24 hours per day for a 70-year lifetime, including childhood. With regards to children's potentially greater susceptibility to noncancer toxicants, the assessments rely on the EPA's (or comparable) hazard identification and dose-response values that have been developed to be protective for all subgroups of the general population, including children. For more information on the risk assessment methods, see the risk report for the July 28, 2020, final Taconite RTR rule (85 FR 45476), which is available in the docket (Docket ID No. EPA-HQ-OAR-2017-0664).

VI. Request for Comments

We solicit comments on this proposed action. In addition to general comments on this proposed action, we request comment on our proposal to set mercury emission limits at the MACT floor level. We also request comment on whether to allow sources to comply with the mercury MACT standards through the proposed emissions averaging compliance alternative and on the appropriate adjustment factor to apply under the emissions averaging compliance alternative. In addition, we request comment and data on the variation of mercury content in taconite ore and whether and to what extent this variation should be considered in the development of the MACT standards for mercury from indurating furnaces. We also solicit comment on the data submitted by AISI and U.S. Steel concerning variation of mercury content in taconite ore (see discussion in section IV.A. of this preamble). In addition, we request comment on whether we should allow use of EPA Method 30B for affected facilities to demonstrate compliance with the proposed MACT standards for mercury. Further, we request comment on our proposal to change the way we regulate HCl and HF emissions from the source

category. Specifically, we request comment on our proposal to directly regulate HCl and HF emissions from the source category and the numerical emission limits proposed for HCl and HF.

VII. Submitting Data Corrections

The site-specific emissions data used in developing the proposed MACT standards for HCl, mercury, and HF, as emitted from the Taconite Iron Ore Processing source category, are provided in the docket for this action (Docket ID No. EPA-HQ-OAR-2017-0664).

If you believe that the data are not representative or are inaccurate, please identify the data in question, provide your reason for concern, and provide any “improved” data that you have, if available. When you submit data, we request that you provide documentation of the basis for the revised values to support your suggested changes.

For information on how to submit comments, including the submittal of data corrections, refer to the instructions provided in the introduction of this preamble.

VIII. Statutory and Executive Order Reviews

Additional information about these statutes and Executive Orders can be found at

<https://www.epa.gov/laws-regulations/laws-and-executive-orders>.

A. Executive Order 12866: Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review

This action is not a significant regulatory action and was therefore not submitted to the Office of Management and Budget (OMB) for review.

B. Paperwork Reduction Act (PRA)

The information collection activities in this proposed rule have been submitted for approval to the Office of Management and Budget (OMB) under the PRA. The Information Collection Request (ICR) document that the EPA prepared has been assigned EPA ICR number

2050.10. You can find a copy of the ICR in the docket for this action, and it is briefly summarized here.

We are proposing changes to the reporting and recordkeeping requirements for the Taconite Iron Ore Processing NESHAP by incorporating the reporting and recordkeeping requirements associated with the new and existing source MACT standards for mercury and revising the emission standards for HCl and HF.

Respondents/affected entities: Owners or operators of taconite iron ore plants that are major sources, or that are located at, or are part of, major sources of HAP emissions.

Respondent's obligation to respond: Mandatory (40 CFR part 63, subpart RRRRR)

Estimated number of respondents: On average over the next 3 years, approximately seven existing major sources will be subject to these standards. It is also estimated that no additional respondent will become subject to the emission standards over the 3-year period.

Frequency of response: The frequency of responses varies depending on the burden item.

Total estimated burden: The average annual burden to industry over the next 3 years from the proposed recordkeeping and reporting requirements is estimated to be 1,580 hours per year. Burden is defined at 5 CFR 1320.3(b).

Total estimated cost: The annual recordkeeping and reporting cost for all facilities to comply with all the requirements in the NESHAP is estimated to be \$177,000 per year. The average annual recordkeeping and reporting cost for this rule is estimated to be \$25,000 per facility per year.

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for the EPA's regulations in 40 CFR are listed in 40 CFR part 9.

Submit your comments on the Agency's need for this information, the accuracy of the provided burden estimates and any suggested methods for minimizing respondent burden to the EPA using the docket identified at the beginning of this rule. The EPA will respond to any ICR-related comments in the final rule. You may also send your ICR-related comments to OMB's Office of Information and Regulatory Affairs using the interface at www.reginfo.gov/public/do/PRAMain. Find this particular information collection by selecting "Currently under Review - Open for Public Comments" or by using the search function. OMB must receive comments no later than **[INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

C. Regulatory Flexibility Act (RFA)

I certify that this action will not have a significant economic impact on a substantial number of small entities under the RFA. This action will not impose any requirements on small entities. The Agency confirmed through responses to a CAA section 114 information request that there are only seven taconite iron ore processing plants currently operating in the United States and that these plants are owned by two parent companies that do not meet the definition of small businesses, as defined by the U.S. Small Business Administration.

D. Unfunded Mandates Reform Act (UMRA)

This action does not contain an unfunded mandate of \$100 million or more as described in UMRA, 2 U.S.C. 1531–1538, and does not significantly or uniquely affect small governments. This action imposes no enforceable duty on any state, local, or tribal governments or the private sector.

E. Executive Order 13132: Federalism

This action does not have federalism implications. It will not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government.

F. Executive Order 13175: Consultation and Coordination with Indian Tribal Governments

This action does not have tribal implications as specified in Executive Order 13175. None of the taconite iron ore processing plants are owned or operated by Indian tribal governments. Thus, Executive Order 13175 does not apply to this action.

Consistent with the EPA Policy on Consultation and Coordination with Indian Tribes, the EPA consulted with tribal officials during the development of this action. On January 12, 2022, the EPA's Office of Air and Radiation held a Tribal consultation meeting with representatives from the Fond du Lac Band of Lake Superior Chippewa Reservation and the Leech Lake Band of Ojibwe Reservation to discuss the EPA's CAA section 114 information request, and the general plans for this proposed rulemaking and related issues. A summary of that consultation is provided in the document *Consultation with the Fond du Lac Band of Lake Superior Chippewa and the Leech Lake Band of Ojibwe regarding Notice of Proposed Rulemaking for the National Emission Standards for Hazardous Air Pollutants for Taconite Iron Ore Processing Amendments on January 12, 2022*, which is available in the docket for this action. Furthermore, EPA staff attended several meetings hosted by the Minnesota Pollution Control Agency (MPCA), along with representatives from Tribal Nations, MPCA, the Michigan Attorney General's Office, the Minnesota Attorney General's Office, EarthJustice, and the Michigan Department of Environment, Great Lakes, and Energy, to discuss concerns related to HAP emissions from taconite iron ore processing facilities. In addition, the EPA received letters from representatives of the Leech Lake Band of Ojibwe and the Fond du Lac Band of Lake Superior Chippewa

expressing concerns of these Tribal Nations due to HAP emissions from the taconite iron ore processing facilities. These letters, and responses from the EPA, are provided in the docket for this action (Docket ID No. EPA-HQ-OAR-2017-0664).

G. Executive Order 13045: Protection of Children from Environmental Health Risks and Safety Risks

Executive Order 13045 (62 FR 19885; April 23, 1997) directs Federal agencies to include an evaluation of the health and safety effects of the planned regulation on children in Federal health and safety standards and explain why the regulation is preferable to potentially effective and reasonably feasible alternatives. This action is not subject to Executive Order 13045 because it is not economically significant as defined in Executive Order 12866, and because the EPA does not believe the environmental health or safety risks addressed by this action present a disproportionate risk to children. In this action the EPA proposes emission standards for one previously unregulated pollutant (mercury) and revised emissions standards for two currently regulated pollutants (HCl and HF). Therefore, the rule proposes health benefits to children by reducing the level of HAP emissions emitted from taconite iron ore processing plants.

However, the EPA's *Policy on Children's Health* applies to this action. This action is subject to the EPA's Policy on Children's Health ¹⁴ because the proposed rule has considerations for human health. Information on how the policy was applied is available in section V.F "What analysis of children's environmental health did we conduct" of this preamble.

H. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use

¹⁴ <https://www.epa.gov/children/childrens-health-policy-and-plan>

This document is a prepublication version, signed by EPA Administrator, Michael S. Regan on 5/5/2023. We have taken steps to ensure the accuracy of this version, but it is not the official version.

This action is not a “significant energy action” because it is not likely to have a significant adverse effect on the supply, distribution, or use of energy. In this action, the EPA is proposing to set emission standards for one previously unregulated pollutant (mercury) and to revise emission standards for two currently regulated pollutants (HCl and HF). This does not impact energy supply, distribution, or use.

I. National Technology Transfer and Advancement Act (NTTAA) and 1 CFR Part 51

This action involves technical standards. Therefore, the EPA conducted searches for the Taconite Iron Ore Processing NESHAP through the Enhanced National Standards Systems Network (NSSN) Database managed by the American National Standards Institute (ANSI). We also conducted a review of voluntary consensus standards (VCS) organizations and accessed and searched their databases. We conducted searches for EPA Methods 1, 1A, 2, 2A, 2C, 2D, 2F, 2G, 3, 3A, 3B, 4, 5, 5D, 17, 26A and 29. During the EPA’s VCS search, if the title or abstract (if provided) of the VCS described technical sampling and analytical procedures that are similar to the EPA’s reference method, the EPA ordered a copy of the standard and reviewed it as a potential equivalent method. We reviewed all potential standards to determine the practicality of the VCS for this rule. This review requires significant method validation data that meet the requirements of EPA Method 301 for accepting alternative methods or scientific, engineering, and policy equivalence to procedures in the EPA referenced methods. The EPA may reconsider determinations of impracticality when additional information is available for any particular VCS.

No voluntary consensus standards were identified for EPA Methods 1, 1A, 2, 2A, 2C, 2D, 2F, 2G, 3, 3A, 4, 5, 5D, 17 or 26A. Two voluntary consensus standards were identified as acceptable alternatives to EPA Methods 3B and 29.

The EPA proposes to allow use of the VCS ANSI/ASME PTC 19-10-1981 Part 10 (2010), “Flue and Exhaust Gas Analyses” as an acceptable alternative to EPA Method 3B for the manual procedures only and not the instrumental procedures. The ANSI/ASME PTC 19-10-1981-Part 10 method incorporates both manual and instrumental methodologies for the determination of oxygen content. The manual method segment of the oxygen determination is performed through the absorption of oxygen. This method is available at the American National Standards Institute (ANSI), 1899 L Street NW, 11th Floor, Washington, DC 20036 and the American Society of Mechanical Engineers (ASME), Three Park Avenue, New York, NY 10016-5990. See <https://www.ansi.org> and <https://www.asme.org>. The standard is available to everyone at a cost determined by ANSI/ASME (\$96). The cost of obtaining this method is not a significant financial burden, making the methods reasonably available.

The EPA proposes to allow use of the VCS ASTM D6784-16, “Standard Test Method for Elemental, Oxidized, Particle-Bound and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method)” as an acceptable alternative to EPA Method 29 (mercury portion only) as a method for measuring mercury concentrations ranging from approximately 0.5 to 100 micrograms per normal cubic meter ($\mu\text{g}/\text{Nm}^3$). This test method describes equipment and procedures for obtaining samples from effluent ducts and stacks, equipment and procedures for laboratory analysis, and procedures for calculating results. VCS ASTM D6784-16 allows for additional flexibility in the sampling and analytical procedures from the earlier version of the same standard VCS ASTM D6784-02 (Reapproved 2008). VCS ASTM D6784-16 allows for the use of either an EPA Method 17 sampling configuration with a fixed (single) point where the flue gas is not stratified, or an EPA Method 5 sampling configuration with a multi-point traverse. For this action, only the EPA Method 5 sampling configuration with

a multi-point traverse can be used. This method is available at ASTM International, 1850 M Street NW, Suite 1030, Washington, DC 20036. See <https://www.astm.org/>. The standard is available to everyone at a cost determined by ASTM (\$82). The cost of obtaining this method is not a significant financial burden, making the method reasonably available.

Additional detailed information on the VCS search and determination can be found in the memorandum, *Voluntary Consensus Standard Results for National Emission Standards for Hazardous Air Pollutants: Taconite Iron Ore Processing*, which is available in the docket for this action (Docket ID No. EPA-HQ-OAR-2017-0664). The EPA welcomes comments on this aspect of the proposed rulemaking and, specifically, invites the public to identify potentially applicable VCS and to explain why such standards should be used in this regulation.

The EPA is incorporating by reference the VCS ANSI/ASME PTC 19-10-1981 Part 10 (2010), “*Flue and Exhaust Gas Analyses*” as an acceptable alternative to EPA Method 3B for the determination of oxygen content (manual procedures only) and the VCS ASTM D6784-16, “*Standard Test Method for Elemental, Oxidized, Particle-Bound and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method)*,” as an acceptable alternative to EPA Method 29 (mercury portion only) as a method for measuring elemental, oxidized, particle-bound, and total mercury.

J. Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations

Executive Order 12898 (59 FR 7629; February 16, 1994) directs Federal agencies, to the greatest extent practicable and permitted by law, to make environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse

human health or environmental effects of their programs, policies, and activities on minority populations (people of color and/or Indigenous peoples) and low-income populations.

The EPA anticipates that the human health or environmental conditions that exist prior to this action result in or have the potential to result in disproportionate and adverse human health or environmental effects on low-income populations and/or Indigenous peoples. The assessment of populations in close proximity of taconite iron ore processing plants shows Native American and low-income populations are higher than the national average (see section V.F. of this preamble). The higher percentages are driven by two of the eight facilities in the source category. The EPA anticipates that this action is likely to reduce existing disproportionate and adverse effects on low-income populations and/or Indigenous peoples. The EPA is proposing new MACT standards for mercury and revised standards for HCl and HF. The EPA expects that five facilities would have to implement control measures to reduce emissions to comply with the new and revised MACT standards and that HAP exposures for Indigenous peoples and low-income individuals living near these five facilities would decrease. The information supporting this Executive Order review is contained in section V.E of this preamble.

List of Subjects in 40 CFR Part 63

Environmental protection, Air pollution control, Hazardous substances, Incorporation by reference, Reporting and recordkeeping requirements.

Michael S. Regan,

Administrator.

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