6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 63

[EPA-HQ-OAR-2020-0430; FRL-7522-04-OAR]

RIN 2060–AU63

National Emission Standards for Hazardous Air Pollutants: Primary Copper Smelting

AGENCY: Environmental Protection Agency (EPA).

ACTION: Supplemental notice of proposed rulemaking.

SUMMARY: This action supplements our proposed amendments to the national emission standards for hazardous air pollutants (NESHAP) for the Primary Copper Smelting source category published in the *Federal Register* on January 11, 2022. In that action, the Environmental Protection Agency (EPA) proposed amendments based on the residual risk and technology review (RTR) for the major source category and the technology review for the area source category. Although the proposal included the technology review for the area source category, this supplemental proposal does not include any changes for the area source category. In order to complete the required technology review for the major source category, the EPA is proposing additional hazardous air pollutant (HAP) standards for the following pollutants: benzene, toluene, hydrogen chloride (HCl), chlorine, polycyclic aromatic hydrocarbons (PAH), naphthalene and dioxin/furans (D/F). The EPA also evaluated the potential for changes to the previously proposed residual risk assessment and the decisions related to risk. Furthermore, in this action the EPA is also proposing revised standards for certain provisions initially proposed in the January 11, 2022, RTR proposal based on additional information gathered since the publication of the 2022 proposed rule.

DATES: 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-2020-0430, 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-2020-0430 in the subject line of the message.
- Fax: (202) 566-9744. Attention Docket ID No. EPA-HQ-OAR-2020-0430.
- Mail: U.S. Environmental Protection Agency, EPA Docket Center, Docket ID No. EPA-HQ-OAR-2020-0430, 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.

FOR FURTHER INFORMATION CONTACT: For questions about this proposed action, contact Tonisha Dawson, 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) 541-1454; and email address: *dawson.tonisha@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 11 a.m. Eastern Time (ET) and will conclude at 3 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/primary-copper-smelting-national-emissions-standards-hazardous-air*.

If a public hearing is requested, the EPA will begin pre-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/primary-copper-smelting-national-emissions-standards-hazardous-air* 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/primary-copper-smelting-national-emissions-standards-hazardous-air*.

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 *dawson.tonisha@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/primary-copper-smelting-national-emissions-standards-hazardous-air*. 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-2020-0430. 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-2020-0430. 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 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-2020-0430. 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:

ACI	activated carbon injection
ADEQ	Arizona Department of Environmental Quality
ADL	above detection limit
ANSI	American National Standards Institute
BDL	below detection limit
BTF	beyond-the-floor
CAA	Clean Air Act
CBI	Confidential Business Information
CFR	Code of Federal Regulations
D/F	dioxins and furans
DLL	detection level limited
DSI	dry sorbent injection
EPA	Environmental Protection Agency
GACT	generally available control technology
HAP	hazardous air pollutant(s)
HCl	hydrogen chloride
ICR	Information Collection Request
km	kilometers
lbs	pounds
lbs/hr	pounds per hour
lb/ton	pounds per ton
LEAN	Louisiana Environmental Action Network
MACT	maximum achievable control technology
MIR	maximum individual risk
mg/dscm	milligram per dry standard cubic meter
NAICS	North American Industry Classification System
NESHAP	national emission standards for hazardous air pollutants
ng TEQ/Mg	nanograms Toxic Equivalent per megagrams

NTTAA	National Technology Transfer and Advancement Act
OAQPS	Office of Air Quality Planning and Standards
OMB	Office of Management and Budget
PAH	polycyclic aromatic hydrocarbons
PM	particulate matter
PRA	Paperwork Reduction Act
RDL	representative detection level
RFA	Regulatory Flexibility Act
RTR	risk and technology review
SO_2	sulfur dioxide
SO_3	sulfur trioxide
SSM	startup, shutdown, and malfunction
TEF	toxicity equivalence factors
TEQ	toxic equivalency
THC	Total hydrocarbons
tpy	tons per year
ug/m^3	micrograms per cubic meter
UMRA	Unfunded Mandates Reform Act
UOM	unit of measure
UPL	upper predictive level
VCS	voluntary consensus standards
WESP	wet electrostatic precipitator

Organization of this document. The information in this preamble is organized as follows:

I. General Information

A. Does this action apply to me?

The source category that is the subject of this proposal is primary copper smelting major sources regulated under 40 CFR part 63, subpart QQQ. The North American Industry Classification System (NAICS) code for the primary copper smelting industry is 331410. This list of categories and NAICS codes 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 primary copper smelting source category is any major source facility engaged in the pyrometallurgical

process used for the extraction of copper from sulfur oxides, native ore concentrates, or other copper bearing minerals. As originally defined, the category includes, but is not limited to, the following smelting process units: roasters, smelting furnaces, and converters. Affected sources under the current major source NESHAP are concentrate dryers, smelting furnaces, slag cleaning vessels, converters, and fugitive emission sources.

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/primary-copper-smelting-national-emissions-standards-hazardous-air*. Following publication in the *Federal Register*, the EPA will post the *Federal Register* version of the proposal and key technical documents at this same website.

A memorandum showing the rule edits that would be necessary to incorporate the changes to 40 CFR part 63, subpart QQQ proposed in this action is available in the docket (Docket ID No. EPA-HQ-OAR-2020-0430). The EPA also will post a copy of this document to *https://www.epa.gov/stationary-sources-air-pollution/primary-copper-smelting-national-emissions-standards-hazardous-air.*

II. Background

A. What is the statutory authority for this action?

The statutory authority for this action is provided by sections 112 and 301 of the Clean Air Act (CAA), as amended (42 U.S.C. 7401 *et seq.*). Section 112 of the CAA establishes a two-stage regulatory process to develop standards for emissions of HAP from stationary sources. Generally, the first stage involves establishing technology-based standards and the second stage involves evaluating those standards that are based on maximum achievable control technology (MACT) to determine whether additional standards are needed to address any remaining risk

associated with HAP emissions. This second stage is commonly referred to as the "residual risk review." In addition to the residual risk review, the CAA also requires the EPA to review standards set under CAA section 112 every 8 years and revise the standards as necessary taking into account any "developments in practices, processes, or control technologies." This review is commonly referred to as the "technology review." The discussion that follows identifies the most relevant statutory sections and briefly explains the contours of the methodology used to implement these statutory requirements. A more comprehensive discussion appears in the document titled CAA *Section 112 Risk and Technology Reviews: Statutory Authority and Methodology*, in the docket for this rulemaking.

In the first stage of the CAA section 112 standard setting process, the EPA promulgates technology-based standards under CAA section 112(d) for categories of sources identified as emitting one or more of the HAP listed in CAA section 112(b). Sources of HAP emissions are either major sources or area sources, and CAA section 112 establishes different requirements for major source standards and area source standards. "Major sources" are those that emit or have the potential to emit 10 tons per year (tpy) or more of a single HAP or 25 tpy or more of any combination of HAP. All other sources are "area sources." For major sources, CAA section 112(d)(2) provides that the technology-based NESHAP must reflect the maximum degree of emission reductions of HAP achievable (after considering cost, energy requirements, and non-air quality health and environmental impacts). These standards are commonly referred to as MACT standards. CAA section 112(d)(3) also establishes a minimum control level for MACT standards, known as the MACT "floor." In certain instances, as provided in CAA section 112(h), the EPA may set work practice standards in lieu of numerical emission standards. The EPA must also consider control options that are more stringent than the floor. Standards more stringent than the floor are commonly referred to as beyond-the-floor (BTF) standards. For area sources, CAA section 112(d)(5) allows the EPA to set standards based on generally available control technologies or management practices (GACT standards) in lieu of MACT standards.

The second stage in standard-setting focuses on identifying and addressing any remaining (*i.e.*, ''residual'') risk pursuant to CAA section 112(f). For source categories subject to MACT standards, section 112(f)(2) of the CAA requires the EPA to determine whether promulgation of additional standards is needed to provide an ample margin of safety to protect public health or to prevent an adverse environmental effect. Section 112(d)(5) of the CAA provides that this residual risk review is not required for categories of area sources subject to GACT standards. Section 112(f)(2)(B) of the CAA further expressly preserves the EPA's use of the two-step approach for developing standards to address any residual risk and the Agency's interpretation of ''ample margin of safety'' developed in the *National Emissions Standards for Hazardous Air Pollutants: Benzene Emissions from Maleic Anhydride Plants, Ethylbenzene/Styrene Plants, Benzene Storage Vessels, Benzene Equipment Leaks, and Coke By-Product Recovery Plants* (Benzene NESHAP) (54 FR 38044; September 14, 1989). The EPA notified Congress in the Residual Risk Report that the Agency intended to use the Benzene NESHAP approach in making CAA section 112(f) residual risk determinations (EPA–453/R–99–001, p. ES–11). The EPA subsequently adopted this approach in its residual risk determinations, and the United States Court of Appeals for the District of Columbia Circuit upheld the EPA's interpretation that CAA section 112(f)(2) incorporates the approach established in the Benzene NESHAP. See *NRDC v. EPA*, 529 F.3d 1077, 1083 (D.C. Cir. 2008).

The approach incorporated into the CAA and used by the EPA to evaluate residual risk and to develop standards under CAA section 112(f)(2) is a two-step approach. In the first step, the EPA determines whether risks are acceptable. This determination ''considers all health information, including risk estimation uncertainty, and includes a presumptive limit on maximum individual lifetime [cancer] risk (MIR)[1] of approximately 1-in-10 thousand.'' (54 FR at 38045). If risk is unacceptable, the EPA must determine the emissions standards necessary to

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[1] Although defined as ''maximum individual risk,'' MIR refers only to cancer risk. MIR, one metric for assessing cancer risk, is the estimated risk if an individual were exposed to the maximum level of a pollutant for a lifetime.

reduce risks to an acceptable level without considering costs. In the second step of the approach, the EPA considers whether the emissions standards provide an ample margin of safety to protect public health ‘‘in consideration of all health information, including the number of persons at risk levels higher than approximately 1-in-1 million, as well as other relevant factors, including costs and economic impacts, technological feasibility, and other factors relevant to each particular decision.’’ *Id*. The EPA must promulgate emission standards necessary to provide an ample margin of safety to protect public health or determine that the standards being reviewed provide an ample margin of safety without any revisions. After conducting the ample margin of safety analysis, the Agency considers whether a more stringent standard is necessary to prevent, taking into consideration costs, energy, safety, and other relevant factors, an adverse environmental effect.

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. While conducting this review, which we call the “technology review,” the EPA is not required to recalculate the MACT floor. *Natural Resources Defense Council (NRDC) v. EPA*, 529 F.3d 1077, 1084 (D.C. Cir. 2008). *Association of Battery Recyclers, Inc. v. EPA*, 716 F.3d 667 (D.C. Cir. 2013). The EPA may consider cost in deciding whether to revise the standards pursuant to CAA section 112(d)(6). The EPA is also required to address regulatory gaps, such as missing standards for listed air toxics known to be emitted from the source category, and any new MACT standards must be established under CAA sections 112(d)(2) and (3), or, in specific circumstances, CAA sections 112(d)(4) or (h). *Louisiana Environmental Action Network (LEAN) v. EPA,* 955 F.3d 1088 (D.C. Cir. 2020).

As described in detail in section III of this preamble, pursuant to the authorities described above in this section, this supplemental proposed rule addresses additional currently unregulated emissions of HAP from the primary copper smelting major source category. In addition to the

unregulated HAP addressed in the 2022 RTR proposed rule (87 FR 1616; January 11, 2022), available data indicate the following unregulated pollutants are emitted from the source category: benzene, dioxins and furans, HCl, chlorine, PAH including naphthalene, and toluene. These pollutants are mainly emitted due to the combustion of natural gas and coke. Therefore, the EPA is proposing amendments establishing standards that reflect MACT for these pollutants emitted by the source category, pursuant to CAA sections 112(d)(2) and (3).

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

Consistent with the description in section II.A. of this preamble, this supplemental proposal is applicable to major sources in the primary copper smelting major source category. There is one area source which is regulated by the primary copper smelting area source NESHAP (40 CFR part 63, subpart EEEEEE), but the following description is limited to the major source facilities consistent with this supplemental proposed rule. The primary copper smelting major source category includes any facility that is a major source of HAP and uses a pyrometallurgical process to produce anode copper from copper ore concentrates. Primary copper smelting begins with copper mines supplying the ore concentrate (typically 30 percent copper). In most cases, the moisture is reduced from the ore concentrate in dryers, and the concentrate is then fed through a smelting furnace where it is melted and reacts to produce copper matte. One existing smelter is able to feed its copper concentrate directly to the smelting furnace without prior drying. Copper matte is a molten solution of copper sulfide mixed with iron sulfide and is about 60 percent copper. The solution is further refined using converters to make blister copper, which is approximately 98 percent copper. Converters use oxidation to remove sulfide as sulfur dioxide (SO_2) gas and the iron as a ferrous oxide slag. The majority of the SO_2 gases are sent to a sulfuric acid plant. The slag is removed, cooled, and often processed again to remove any residual copper. The blister copper is reduced in the anode refining furnace to remove impurities and oxygen, typically by injecting natural gas and steam, to produce a high

purity copper. The molten copper from the anode refining furnace is poured into molds and cooled to produce solid copper ingots called anodes. This process is known as casting. The anodes are sent to a copper refinery, either on-site or at an off-site location, for further purification using an electrolytic process to obtain high purity copper that is sold as a product. The processing units of interest at primary copper smelters, because of their potential to generate HAP emissions, are the following: dryers, smelting furnaces, copper converters, anode refining furnaces, and, if present, copper holding vessels, slag cleaning vessels, and matte drying and grinding plants. The smelting furnaces, converters and anode refining are sources of HAP emissions from point sources (*i.e.*, stacks, control devices) and process fugitive emissions from roof vents. In addition, the transfers of matte, converter slag, and blister copper are sources of process fugitive emissions.

There are two facilities (Asarco and Freeport—both located in Arizona) which are major sources of HAP emissions and are subject to 40 CFR part 63, subpart QQQ, the major source NESHAP. The Asarco facility uses an INCO brand flash smelting furnace. Flash smelting furnaces consist of blowing fine, dried copper sulfide concentrate and silica flux with air, oxygen-enriched air or oxygen into a hot hearth-type furnace. The sulfide minerals in the concentrate react with oxygen resulting in oxidation of the iron and sulfur, which produces heat and therefore melting of the solids. The molten matte and slag are removed separately from the furnace as they accumulate, and the matte is transferred via ladles to the copper converters. The Freeport facility uses an ISASMELT smelting furnace. The ISASMELT process involves dropping wet feed through a feed port, such that dryers are not needed. A mixture of air, oxygen, and natural gas is blown through a vertical lance in the center of the furnace, generating heat and melting the feed. The molten metal is then tapped from the bottom and sent to an electric furnace to separate the matte from slag. The slag is removed from the electric furnace through tapholes and is transferred to slag pots via ladles. The matte is also removed from the electric furnace through tapholes and transferred to the converter via ladles.

Molten blister copper is transferred from the converting vessel to an anode furnace for refining to further remove residual impurities and oxygen. The blister copper is reduced in the anode refining furnace to remove oxygen, typically by injecting natural gas and steam to produce a high purity copper. The molten copper from the anode refining furnace is poured into molds to produce solid copper ingots called anodes. The anode copper is sent to a copper refinery, either on-site or at another location, where it is further purified using an electrolytic process to obtain the high purity copper that is sold as a product. The copper refinery is not part of the primary copper smelting source category. The current NESHAP for major sources (40 CFR part 63, subpart QQQ) was proposed on April 20, 1998 (63 FR 19582), with a supplement to the proposed rulemaking published on June 26, 2000 (65 FR 39326). The final rule, promulgated on June 12, 2002 (67 FR 40478), established particulate matter (PM) standards as a surrogate for HAP metals for copper concentrate dryers, smelting furnaces, slag cleaning vessels, and existing converters. The major source NESHAP applies to major sources that use batch copper converters. Regarding new sources, the NESHAP prohibits batch converters for new sources, which indirectly means that any new source would need to install continuous converters or another technology. The reason for this prohibition for new sources is that continuous converters have lower process fugitive emissions than batch converters. Further explanation is provided in the 2002 NESHAP final rule preamble (67 FR 40478; June 12, 2002).

The converter building is subject to an opacity limit in the NESHAP that only applies during performance testing. A fugitive dust plan is required to minimize fugitive dust emissions. Subpart QQQ also establishes requirements to demonstrate initial and continuous compliance with all applicable emission limitations, work practice standards, and operation and maintenance requirements. Annual performance testing is required to demonstrate compliance with the PM and opacity standards contained in the current NESHAP.

C. What is the history of the Primary Copper Smelting Risk and Technology Review?

On January 11, 2022, the EPA proposed the risk and technology review required by CAA sections 112(d)(6) and 112(f)(2) for the NESHAP for Copper Smelting (hereafter referred to as the "2022 proposed RTR").[2] Since the issuance of the 2022 proposed RTR, the EPA has obtained additional information that impacts the decisions made for certain amendments in the 2022 proposed RTR and that indicates there are additional unregulated HAP for the source category. Therefore, based on this new information, the EPA is proposing supplemental amendments to the NESHAP to ensure that all emissions of HAP from sources in the source category are regulated. Additionally, based on this new information and as described in more detail in section III of this preamble, we are proposing revised standards for certain amendments that were initially included in the 2022 proposed RTR for the copper smelting major source category.

D. What was included in the 2022 proposed RTR affecting major sources in the primary copper smelting source category?

Consistent with the statutory requirements described in section II.A of this preamble, the 2022 proposed RTR included a risk review pursuant to CAA section 112(f)(2) and a technology review pursuant to CAA section 112(d)(6) for the major source category. Additionally, the Agency reviewed available data to determine whether there were any unregulated emissions of HAP within the source category and evaluated the data for use in developing new emission standards.

As described in the 2022 proposed RTR, as part of the technology review for the major source category, the EPA identified previously unregulated processes and pollutants and proposed to regulate them under CAA section 112(d)(2) and (3) for the major source NESHAP (40 CFR part 63, subpart QQQ), as follows:

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[2] 87 FR 1616; January 11, 2022.

- PM limits, as a surrogate for metal HAP, for anode refining point sources at existing and new sources.
- PM limits, as a surrogate for metal HAP, for process fugitive emissions from roofline vents of smelting furnaces at existing and new sources.
- PM limits, as a surrogate for metal HAP, for process fugitive emissions from converters at existing and new sources.
- PM limits, as a surrogate for metal HAP, for process fugitive emissions from roof vents at anode refining operations at existing and new sources.
- Mercury limits for any existing and new combination of stacks or other vents from the copper concentrate dryers, converting department, the anode refining department, and the smelting vessels affected sources.
- PM limits, as a surrogate for metal HAP, for new converters.

The Agency also completed a review of residual risk for the source category consistent with CAA section 112(f). Based on the results of the risk review, the EPA proposed that risks from emissions of air toxics from the major source category were unacceptable due to HAP metal (primarily lead and arsenic) emissions. The largest contributor to risk was the process fugitive emissions from roof vents at anode refining operations (constituting about 71 percent of the MIR) followed by the aisle scrubber (constituting about 23 percent of the MIR) at the Freeport facility. In the 2022 proposed RTR, the EPA concluded that the emission limits proposed under CAA section 112(d)(2) and (3) for the process fugitive emissions from roof vents at anode refining operations will require additional controls that are expected to provide enough emissions reduction to reduce risks to an acceptable level; therefore, they were also proposed pursuant to CAA section 112(f)(2). The Agency also considered proposing additional control requirements for the aisle scrubber as part of the Agency's ample margin of safety analysis. The EPA did not propose any control requirements for the aisle scrubber in the 2022 proposed RTR but did seek comment on its analysis (including the costs, costs effectiveness, and risk

reductions) and whether the EPA should establish more stringent standards to reduce HAP metal emissions from the aisle scrubber. Also, as part of the ample margin of safety analysis, the EPA evaluated additional work practices to reduce fugitive dust emissions, consistent with Asarco's current consent decree. The Agency found that the implementation of a more robust fugitive dust plan would result in an unquantified reduction of HAP, at minimal cost for implementation, and therefore proposed this requirement in the 2022 proposed RTR. In the 2022 proposed RTR, the EPA proposed that the combination of the standards for anode refining roof vents, fugitive dust plan and all other current standards in the NESHAP would ensure the NESHAP provides an ample margin of safety to protect public health.

The EPA did not identify developments in practices, processes, or control technologies pursuant to CAA section 112(d)(6) to achieve further emissions reductions beyond the controls and reductions proposed under the risk review for major sources.

The EPA also proposed to remove exemptions for periods of startup, shutdown, and malfunction (SSM) and specified that the emission standards apply at all times and proposed a requirement for electronic reporting of performance test results and notification of compliance reports.

Of central relevance to this supplemental proposal are the proposed emission limits for the process fugitive emissions from roof vents at anode refining operations at new and existing sources; the mercury limits for any existing and new combination of stacks or other vents from the copper concentrate dryers, converting department, the anode refining department, and the smelting vessels affected sources; the potential control options for metal HAP at the aisle scrubber; and the proposed MACT limits for additional unregulated HAP. As detailed in the next section II.E of this preamble, the EPA has obtained additional information relative to these processes and pollutants. As a result of evaluating this new information, we are proposing both revised and new requirements in this supplemental proposed rulemaking (compared to the proposed requirements in the 2022 proposed RTR) for these processes and pollutants. A detailed

discussion is provided in section III of this preamble, which covers what was proposed for these processes and pollutants in the 2022 proposed RTR, the evaluation of new information, and what we are proposing for these processes and pollutants in this supplemental proposed rulemaking.

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

The 2022 proposed RTR was published in the *Federal Register* on January 11, 2022 (87 FR 1616). The initial 45-day comment period was extended by 60 days and ended on April 26, 2022. During the comment period, the EPA received public comments from industry, tribal nations, two environmental groups, Arizona Department of Environmental Quality (ADEQ), and private citizens. Some of the comments on the proposed rulemaking claimed that there are additional unregulated HAP from the source category beyond those the EPA addressed in the 2022 proposed RTR. In response to these public comments, the EPA issued a CAA section 114 information request to collect further information. The section 114 information request was sent to the Freeport facility only, as the Asarco facility has been idled since October 2019. The section 114 information request was delivered to the Freeport facility on August 31, 2022. The key components of the response to the request included the following:

- Results of performance testing which was required to be conducted in two phases. Initially, performance tests were conducted at the vent fume and aisle scrubber stacks of the Freeport facility for the following compounds: benzene, 1,4-dichlorobenzene, formaldehyde, hexane, hydrogen fluoride, hydrochloric acid, toluene, total hydrocarbons, polycyclic aromatic hydrocarbons including naphthalene, and dioxins and furans. For compounds that were detected at the vent fume and aisle scrubber, additional performance testing and reporting were required to be conducted at the acid plant tail gas stack. The Agency did not request chlorine testing; however, chlorine test results were included in respective test reports.
- Data regarding the costs and feasibility of installing additional controls for the aisle scrubber. This included the evaluation of two options: (1) installing a wet electrostatic

precipitator (WESP) which would operate in series with the aisle scrubber to provide further emissions reductions, and (2) installing a baghouse which would control the secondary converter emissions before they enter the aisle scrubber.

- Detailed information regarding all input materials.

In addition to the information collected through the section 114 information request, the EPA also received information during and after the public comment period of the 2022 proposed RTR. This additional information included cost estimates for the control devices which would be required by the emission limits proposed in the 2022 proposed RTR (*e.g.*, for mercury, lead and arsenic). It also included additional performance testing results for the roofline vents, vent fume, aisle scrubber, and acid plant. Finally, Freeport also voluntarily performed an additional performance test for mercury in 2022 and submitted those results to the EPA. The data collected and used in this action are provided in the docket for this action.

Regarding the anode roofline vents, we received one additional stack test that resulted in a small increase to the annual emissions of lead, which we now estimate to be 4.47 tons/yr, relative to the estimate in the 2022 proposed rule, which was 4.09 tons/yr. For mercury, based on the additional mercury test, we now estimate mercury emissions from point and non-point sources at the Freeport facility to be 139 lb/yr, while the Asarco mercury emissions are unchanged from the 2022 Proposed RTR (10 lb/yr). Finally, we received two new stack tests for the aisle scrubber at the Freeport facility, and based on these new test data, the estimates of PM metals emissions from the aisle scrubber are slightly lower compared to the 2022 proposed RTR, but only have a small effect on the overall risk assessment results. Nevertheless, we updated our risk analysis based on the additional data and concluded that the new data would not change our proposed determination that risk is unacceptable at baseline. We did not revise or redo the demographic analysis. The 2022 risk assessment and demographics analyses conducted for this action are available in the preamble of the 2022 proposed rule (87 FR 1616; January 11, 2022) and associated technical documents cited in that 2022 preamble. These documents can also be

found in the docket of this supplemental proposal. Aspects of the updated risk review are summarized in sections III.C. and II.E of this preamble, and a more detailed discussion is provided in section III.F of this preamble.

III. Analytical Results and Proposed Decisions

In this section, the EPA describes the analytical results and proposed decisions for addressing the additional unregulated HAP for the major source category. Additionally, this section discusses analytical results and revised decisions for certain provisions of the 2022 proposed RTR. For more information regarding the types of analytical procedures used and the types of information the EPA evaluates for actions, see section III of the 2022 proposed rule (87 FR 1616; January 11, 2022). These revised decisions affect the proposed emission limits for the process fugitive emissions from roof vents at anode refining operations at new and existing sources; the mercury limits for any existing and new combination of stacks or other vents from the copper concentrate dryers, converting department, the anode refining department, and the smelting vessels affected sources; and the proposed regulatory options for the particulate metal HAP (*e.g.*, lead, arsenic) for the aisle scrubber at the Freeport facility. Finally, the EPA is proposing amendments to address the use of bypass stacks for major sources within the primary copper smelting category.

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

As mentioned in section II.E of this preamble, the EPA received comments on the 2022 proposed RTR concerning unregulated HAP from the major sources within the primary copper smelting category. In response, the EPA issued a CAA section 114 information request to the Freeport facility on August 31, 2022. The CAA section 114 information request required performance testing in two phases. Initially, performance testing was to be conducted for the required HAP at the vent fume and aisle scrubber. The acid plant stack was required to be tested for a required HAP only if the preliminary test results from the vent fume stack demonstrated

that the pollutant is emitted above detection levels (ADL) for at least one sample run. Any pollutant that was not ADL at the vent fume stack was not required to be tested at the acid plant stack because it was assumed that the pollutant would not be detected at the acid plant stack as well. A summary of the HAP tested, the EPA test method, and the results by stack by detection classification (*e.g.*, ADL; below detection levels (BDL); detection level limited (DLL)) are shown in Table 1. We note that while not required, the test report for the vent fume and aisle scrubber included results for chlorine. Complete copies of the stack test reports for the vent fume and aisle scrubber as well as the acid plant are available in the docket for this supplemental rule.[3]

Table 1. Summary of Unregulated HAP Performance Testing for the Major Source Copper Smelting Source Category in 2022-2023

HAP	Test Method	Vent Fume/Aisle Scrubber	Acid Plant
Benzene	EPA Method 18	DLL	BDL
1,4- dichlorobenzene	EPA Method 18	BDL	Not tested
Hexane	EPA Method 18	BDL	Not tested
Toluene	EPA Method 18	DLL	BDL
Formaldehyde	EPA Method 320	BDL	Not tested
THC	EPA Method 25A	N/A	N/A
HCl	EPA Method 26A	ADL	ADL
Chlorine	EPA Method 26A	ADL	Not tested
Hydrogen Fluoride	EPA Method 26A	BDL	Not tested
PAH (including Naphthalene)	EPA OTM 46	DLL	DLL
Dioxins and Furans	EPA OTM 46	DLL	DLL

*Revisions of Method 23 finalized March 20, 2023, is equivalent to OTM-46.

As described in more detail in the following sections III.A.1 through III.A.5 of this preamble, the EPA is proposing a source category MACT emission limit pursuant to CAA section 112(d)(2) and (3) for each unregulated HAP that was found to be emitted through these

[3] The vent fume and aisle scrubber test report was initially submitted to the EPA on November 25, 2022. The EPA sent Freeport several questions on the test report and Freeport submitted a revised version of the test report on February 10, 2023. All versions of the test report and related EPA correspondence are available in the docket EPA-HQ-OAR-2020-0430.

performance tests. The EPA contemplated using the total hydrocarbons (THC) results as a surrogate for some of the organics (*e.g.*, benzene, toluene) but has decided to not propose THC as a surrogate, since the THC test was not conducted in accordance with all of the requirements of the EPA test method.

The "MACT floor" for existing sources is calculated based on the average performance of the best-performing units in each category or subcategory and on a consideration of the variability of HAP emissions from these units. The MACT floor for new sources is based on the single best-performing source, with a similar consideration of variability. 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. Also as described in section II.E of this preamble, the section 114 request was issued to the only currently operating major source copper smelting facility, Freeport. Therefore, the proposed MACT floor for existing and new sources will be determined using these data (*i.e.*, the proposed MACT emission limits are the same for existing and new sources). To account for variability in the copper smelting operations and resulting emissions, we calculated the MACT floors using the 99 percent Upper Predictive Limit (UPL) using all available stack test data.[4] We are proposing MACT floor limits in units of mass of emissions allowed per mass of concentrate feed (for example, a proposed emissions limit of 0.0017 lbs of benzene per ton concentrated ore fed).

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

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[4] For more information regarding the general use of the UPL and why it is appropriate for calculating MACT floors, see *Use of Upper Prediction Limit for Calculating MACT Floors* (UPL Memo), which is available in the docket for this action.

many environmental science applications. As explained in more detail in the UPL Memo cited above, the EPA uses the UPL approach to reasonably estimate the emissions performance of the best-performing source or sources to establish MACT floor standards.

Additionally, we reviewed the December 13, 2011, memorandum from Peter Westlin and Ray Merrill titled *Data and procedure for handling below detection level data in analyzing various pollutant emissions databases for MACT and RTR emissions limits* (Docket ID No. EPA-HQ-OAR-2017-0015), which describes the procedure for handling BDL data and developing representative detection level (RDL) data when setting MACT emission limits. In accordance with these guidance documents, the proposed new and existing UPL emission standards for each applicable compound (*i.e.*, benzene, toluene, HCl, chlorine, PAH (excluding naphthalene), naphthalene, and D/F) were compared to the emission limit value determined to be equivalent to 3 times the RDL (3xRDL)[5] of the test method. If the 3xRDL value was larger than the MACT Floor 99 percent UPL value, then the proposed MACT floor limit is proposed as the 3xRDLvalue of the test method.

Further information on the development of the 99 percent UPL and 3xRDL values for compounds for which emission standards are being proposed is included in a memorandum entitled, *Proposed Maximum Achievable Control Technology (MACT) Floor Analysis for Unregulated HAP for the Primary Copper Smelting Major Source Category* which is available in the docket for this rulemaking (Docket ID EPA-HQ-OAR-2020-0430).

In addition, the EPA must examine more stringent BTF regulatory options to determine MACT. Unlike the floor minimum stringency requirements, the EPA must consider various

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[5] The factor of three used in the 3xRDL calculation is based on a scientifically accepted definition of level of quantitation – simply stated, the level where a test method performs with acceptable precision. The level of quantitation has been defined as ten times the standard deviation of seven replicate analyses of a sample at a concentration level close to the MDL units of the emission standard is then compared to the MACT floor value to ensure that the resulting emission limit is in a range that can be measured with reasonable precision. In other words, if the 3xRDL value were less than the calculated floor (*e.g.*, calculated from the UPL), we would conclude that measurement variability has been adequately addressed; if it were greater than the calculated floor, we would adjust the emissions limit to comport with the 3xRDL value to address measurement variability.

impacts (such as costs and cost effectiveness) of the more stringent regulatory options in determining whether MACT standards should reflect beyond-the-floor requirements. If the EPA concludes that the more stringent regulatory options have unreasonable impacts, the EPA selects the MACT floor as MACT. However, if the EPA concludes that impacts associated with beyond-the-floor levels of control are reasonable in light of additional emissions reductions achieved, the EPA selects those BTF levels as MACT.

1. Benzene

The performance testing conducted at Freeport included the results of stack testing for benzene using EPA Method 18. The proposed MACT floor emissions limit was calculated by summing the emission rates from the vent fume, aisle scrubber and acid plant combined, accounting for variability using the 99 percent UPL. Using this approach, we calculated a source category MACT floor emissions limit of 0.0017 lbs benzene/ton concentrated ore fed for new and existing sources. Based on the available data, the Agency concludes that both facilities in the major source copper smelting source category would be able to meet the MACT floor emissions limit with no additional controls.

We then evaluated and considered a BTF option to further reduce emissions of benzene from new and existing sources. Based on the available test data, the Agency estimates that the aisle scrubber is the largest source of benzene emissions at Freeport, accounting for 87 percent of the total, with an estimated 414 lbs/yr of benzene emissions. The BTF option for existing sources would require Freeport to install and operate an activated carbon injection (ACI) system with the existing air pollution control device (*i.e.*, aisle scrubber). The Agency estimates the ACI system would achieve approximately 60 percent reduction of benzene from the aisle scrubber (*i.e.*, 248 lbs/yr reduction of benzene). The EPA estimates $0.6 million for capital costs, and annualized costs are $2.7 million. This results in a cost effectiveness of approximately $22 million per ton of benzene reduced. We do not find costs associated with this BTF option to be reasonable and are therefore not proposing a BTF emission limit for benzene. Instead, we are proposing the source

category MACT floor emissions limit of 0.0017 lbs benzene/ton concentrated ore fed for new and existing sources. A detailed description of the analysis of benzene emissions, the controls necessary to reduce benzene emissions, and the cost of these controls is included in the document, *Estimated Cost for Beyond-the-floor Controls for HAP Emissions from Primary Copper Smelting Facilities*, located in the docket (Docket ID No. EPA-HQ-OAR-2020-0430).

2. Toluene

The performance testing conducted at Freeport included the results of stack testing for toluene using EPA Method 18. The proposed MACT floor emissions limit was calculated by summing the emission rates from the vent fume, aisle scrubber and acid plant combined, accounting for variability using the 99 percent UPL. Using this approach, we calculated a source category MACT floor emissions limit of 0.00084 lbs toluene/ton concentrated ore fed for new and existing sources. Based on the available data, the Agency concludes that both facilities in the major source copper smelting source category would be able to meet the MACT floor emissions limit with no additional controls.

We then evaluated and considered a BTF option to further reduce emissions of toluene from new and existing sources. Based on the available test data, the Agency estimates that the aisle scrubber is the largest source of toluene emissions at Freeport, accounting for 66 percent of the total, with an estimated 187 lbs/yr of toluene emissions. The BTF option for existing sources would require Freeport to install and operate an ACI system with the existing air pollution control device (*i.e.*, aisle scrubber). The Agency estimates the ACI system would achieve approximately 60 percent reduction of toluene from the aisle scrubber (*i.e.*, 112 lbs/yr reduction of toluene). The EPA estimates $0.6 million for capital costs, and annualized costs are $2.7 million. This results in a cost effectiveness of approximately $48 million per ton of toluene reduced. We do not find costs associated with this BTF option to be reasonable and are therefore not proposing a BTF emission limit for toluene. Instead, we are proposing the source category MACT floor emissions limit of 0.00084 lbs toluene/ton concentrated ore fed for new and

existing sources. A detailed description of the analysis of toluene emissions, the controls necessary to reduce toluene emissions, and the cost of these controls is included in the document, *Estimated Cost for Beyond-the-floor Controls for HAP Emissions from Primary Copper Smelting Facilities*, located in the docket (Docket ID No. EPA-HQ-OAR-2020-0430).

3. HCl

The performance testing conducted at Freeport included the results of stack testing for HCl using EPA Method 26A. The proposed MACT floor emissions limit was calculated by summing the emission rates from the vent fume, aisle scrubber and acid plant combined, accounting for variability using the 99 percent UPL. The 99 percent UPL value HCl was 0.0013. The 3xRDL was found to be slightly larger, 0.0015 pounds per ton (lb/ton) concentrated ore fed, so consistent with EPA guidelines, we have determined that the 3xRDL value (0.0015 lb/ton) represents the MACT floor emissions limit for new and existing sources. Based on the available data, the Agency concludes that both facilities in the major source copper smelting source category would be able to meet the emissions limit with no additional controls.

We then evaluated and considered a BTF option to further reduce emissions of HCl from new and existing sources. Based on the available test data, the Agency estimates that the aisle scrubber is the largest source of HCl emissions at Freeport, accounting for 55 percent of the total, with an estimated 682 lbs/yr of HCl emissions. The BTF option for existing sources would require Freeport to install and operate a dry sorbent injection (DSI) system with the existing air pollution control device (*i.e.*, aisle scrubber). The Agency estimates the DSI system would achieve approximately 98 percent reduction of HCl from the aisle scrubber (*i.e.*, 668 lbs/yr reduction of HCl). The EPA estimates $0.6 million for capital costs, and annualized costs are $0.5 million. This results in a cost effectiveness of approximately $1.5 million per ton of HCl reduced. We do not find costs associated with this BTF option to be reasonable and are therefore not proposing a BTF emission limit for HCl. Instead, we are proposing the source category MACT floor emissions limit of 0.0015 lb/ton concentrated ore fed for HCl for new and existing

sources. A detailed description of the analysis of HCl emissions, the controls necessary to reduce HCl emissions, and the cost of these controls is included in the document, *Estimated Cost for Beyond-the-floor Controls for HAP Emissions from Primary Copper Smelting Facilities*, located in the docket (Docket ID No. EPA-HQ-OAR-2020-0430).

4. Chlorine

The EPA did not require facilities to test for chlorine, however the performance testing conducted at Freeport included the results of stack testing for chlorine using EPA Method 26A. Because the acid plant had no data for chlorine, a percentage was calculated from the ratio of HCl to chlorine at the aisle scrubber and vent fume stack. The highest average ratio was used to estimate the chlorine emissions for the acid plant. The proposed MACT floor emissions limit was calculated by summing the emission rates from the vent fume and aisle scrubber and the estimated emission rate from the acid plant, accounting for variability using the 99 percent UPL. Using this approach, we calculated a source category MACT floor emissions limit of 0.0054 lbs chlorine/ton concentrated ore fed for new and existing sources. Based on the available data, the Agency concludes that both facilities in the major source copper smelting source category would be able to meet the emissions limit with no additional controls.

We then evaluated and considered a BTF option to further reduce emissions of chlorine from new and existing sources. Based on the available test data, the Agency estimates that the aisle scrubber is the largest source of chlorine emissions at Freeport, accounting for 53 percent of the total, with an estimated 2,490 lbs/yr of chlorine emissions. The BTF option for existing sources would require Freeport to install and operate a DSI system with the existing air pollution control device (*i.e.*, aisle scrubber). The Agency estimates the DSI system would achieve approximately 98 percent reduction of chlorine from the aisle scrubber (*i.e.*, 2,440 lbs/yr reduction of chlorine). The EPA estimates $0.6 million for capital costs, and annualized costs are $0.5 million. This results in a cost effectiveness of approximately $0.4 million per ton of chlorine reduced. We do not find costs associated with BTF options to be reasonable and are therefore not

proposing a BTF emission limit for chlorine. Instead, we are proposing the source category MACT floor emissions limit of 0.0054 lbs chlorine/ton concentrated ore fed for new and existing sources. A detailed description of the analysis of chlorine emissions, the controls necessary to reduce chlorine emissions, and the cost of these controls is included in the document, *Estimated Cost for Beyond-the-floor Controls for HAP Emissions from Primary Copper Smelting Facilities*, located in the docket (Docket ID No. EPA-HQ-OAR-2020-0430).

5. PAH

The performance testing conducted at Freeport included the results of stack testing for PAH using EPA OTM-46. EPA OTM-46 is nearly identical to the updated EPA Method 23, for which revisions were promulgated on March 20, 2023 (88 FR 16732). In reviewing the test results, we found that approximately 70 percent of the PAH measured was naphthalene; therefore, we are proposing a PAH MACT floor emissions limit excluding naphthalene and a separate naphthalene MACT floor emissions limit. These proposed MACT floor emissions limits were calculated by summing the emission rates from the vent fume, aisle scrubber and acid plant combined, accounting for variability using the 99 percent UPL. We are proposing a source category MACT floor emissions limit for PAH excluding naphthalene of 0.0001 lbs PAH excluding naphthalene/ton concentrated ore fed for new and existing sources. We are proposing a source category MACT floor emissions limit for naphthalene of 0.00028 lbs naphthalene/ton concentrated ore fed for new and existing sources. Based on the available data, the Agency concludes that both facilities in the major source copper smelting source category would be able to meet these MACT floor emissions limits with no additional controls.

We also evaluated and considered a BTF option to further reduce emissions of PAH and naphthalene from new and existing sources. Based on the available test data, the Agency estimates that the aisle scrubber is the largest source of PAH and naphthalene emissions at Freeport, accounting for 77 percent of the total, with an estimated 97 lbs/yr of PAH emissions. The BTF option for existing sources would require Freeport to install and operate an ACI system

with the existing air pollution control device (*i.e.*, aisle scrubber). The Agency estimates the ACI system would achieve approximately 60 percent reduction of PAH from the aisle scrubber (*i.e.*, 58 lbs/yr reduction of PAH). The EPA estimates $0.6 million for capital costs, and annualized costs are $2.7 million. This results in a cost effectiveness of approximately $92 million per ton of PAH reduced. We do not find costs associated with BTF options to be reasonable and are therefore not proposing a BTF emission limit for PAH. Because it was not cost effective to propose further control of PAH, and since naphthalene is one compound in this group, we conclude it is also not cost effective to require BTF controls for naphthalene. Therefore, we are proposing the MACT floor limits for PAHs and naphthalene described previously in this section. A detailed description of the analysis of PAH emissions, the controls necessary to reduce PAH emissions, and the cost of these controls is included in the document, *Estimated Cost for Beyond-the-floor Controls for HAP Emissions from Primary Copper Smelting Facilities*, located in the docket (Docket ID No. EPA-HQ-OAR-2020-0430).

6. D/F

The performance testing conducted at Freeport included the results of stack testing for congeners of D/F using EPA OTM-46. The proposed MACT floor emissions limit was calculated by summing the emission rates from the vent fume, aisle scrubber and acid plant combined, accounting for variability using the 99 percent UPL. We are proposing a source category MACT floor emissions limit of 60 nanograms D/F Toxic Equivalent (TEQ) / Mg concentrated ore fed for new and existing sources. Based on the available data, the Agency concludes that both facilities in the major source copper smelting source category would be able to meet the MACT floor emissions limit with no additional controls.

We also evaluated and considered a BTF option to further reduce emissions of D/F from new and existing sources. Based on the available test data, the Agency estimates that the aisle scrubber is the largest source of D/F emissions at Freeport, accounting for 83 percent of the total, with an estimated 0.04 grams/yr of D/F TEQ emissions. The BTF option for existing sources

would require Freeport to install and operate an ACI system with the existing air pollution control device (*i.e.*, aisle scrubber). The Agency estimates the ACI system would achieve approximately 85 percent reduction of D/F from the aisle scrubber (*i.e.*, 0.03 grams/yr reduction of D/F TEQ). The EPA estimates $0.6 million for capital costs, and annualized costs are $2.7 million. This results in a cost effectiveness of approximately $83 million per gram of D/F TEQ reduced. We do not find costs associated with the BTF option to be reasonable and are therefore not proposing a BTF emission limit for D/F. Therefore, we are proposing the MACT floor limit described previously in this section. A detailed description of the analysis of D/F emissions, the controls necessary to reduce D/F emissions, and the cost of these controls is included in the document, *Estimated Cost for Beyond-the-floor Controls for HAP Emissions from Primary Copper Smelting Facilities*, located in the docket (Docket ID No. EPA-HQ-OAR-2020-0430).

7. Summary of Proposed New and Existing Source Limits for Copper Smelting

The proposed emission limits for new and existing sources in the major source copper smelting source category are summarized in Table 2.

Table 2. Summary of Proposed New and Existing Source MACT Emission Limits for the Major Source Copper Smelting Source Category

HAP	Existing Source		New Source	
	Limit	Unit of Measure (UOM)	Limit	UOM
Benzene	1.7E-03	lb/ton concentrated ore fed	1.7E-03	lb/ton concentrated ore fed
Toluene	8.4E-04	lb/ton concentrated ore fed	8.4E-04	lb/ton concentrated ore fed
HCl	1.5E-03	lb/ton concentrated ore fed	1.5E-03	lb/ton concentrated ore fed
Chlorine	5.4E-03	lb/ton concentrated ore fed	5.4E-03	lb/ton concentrated ore fed
PAH (excluding Naphthalene)	1.0E-04	lb/ton concentrated ore fed	1.0E-04	lb/ton concentrated ore fed
Naphthalene	2.8E-04	lb/ton concentrated ore fed	2.8E-04	lb/ton concentrated ore fed
Dioxins and Furans	60	ng TEQ/Mg concentrated ore fed	60	ng TEQ/Mg concentrated ore fed

B. What performance testing, monitoring, and recordkeeping and reporting are we proposing relative to the unregulated HAP emission limits?

We are proposing, based on the new and existing source emissions limits for copper smelting, that new sources demonstrate initial compliance upon start-up, and existing sources demonstrate initial compliance within 1 year after the promulgation of the final rule. We are proposing that the initial performance tests to demonstrate compliance with the MACT standards of Table 2 of this preamble are conducted using the methods identified in Table 3.

Table 3. Summary of Proposed Test Methods

Pollutant	EPA Method
Benzene	EPA Method 18
Toluene	EPA Method 18
HCl	EPA Method 26A
Chlorine	EPA Method 26A
PAH (excluding Naphthalene)	EPA Method 23
Naphthalene	EPA Method 23
Dioxins and Furans	EPA Method 23

Additionally, we are proposing that subsequent performance testing will be required every five years, using the methods identified in Table 3.

Under this proposal, and consistent with existing requirements in the Primary Copper Smelting NESHAP, a source owner will be required to submit semiannual compliance summary reports which document both compliance with the requirements of the Primary Copper Smelting NESHAP and any deviations from compliance with any of those requirements.

Owners and operators would be required to maintain the records specified by 40 CFR 63.10 and, in addition, would be required to maintain records of all inspection and monitoring data, in accordance with the Primary Copper Smelting NESHAP (40 CFR 63.1456).

We considered the possibility of proposing a fenceline monitoring requirement. However, we determined that fenceline monitoring is not appropriate for this source category primarily because the main emissions of interest for this source category are process fugitive emissions

that are released from roofline vents that are at about 100 feet elevation (*i.e.,* not "ground level" like the source categories where we have required or proposed fenceline monitoring). Due to the elevation of the fugitive release points, the emissions would pass over the fenceline monitors and would not be effectively measured. In addition, EPA has determined that there are effective technologies for capturing these process fugitive emissions and routing them to control devices, and is proposing to require the use of such approaches in this rulemaking. Unlike many other source categories, it is also feasible to measure the process fugitive emissions at these facilities. These characteristics suggest that fenceline monitoring – which is typically used to detect emissions that can be difficult to control or measure at the points where they are emitted, and to identify the need for follow-up investigation and corrective action – would have relatively limited value in the context of this source category.

C. What revisions are we proposing specific to the emission limit for process fugitive emissions from roof vents at the anode refining operations from the 2022 proposed RTR?

As described in the 2022 proposed RTR, the current NESHAP does not include standards for process fugitive emissions from the rooflines of smelting furnaces, converters, or anode refining operations, except for an opacity limit for converter roof vents that applies during testing. During the development of the 2022 proposed RTR, the EPA determined that risk for the major source category was unacceptable. One of the main risk drivers was metal HAP emissions (mainly lead and arsenic) from the anode refining roofline at the Freeport facility, which comprised 71 percent of the MIR. Therefore, in the 2022 proposed RTR, pursuant to CAA sections 112(d)(2) and (3) for new and existing major sources, PM limits were proposed for process fugitive emissions from the rooflines of the converters and smelting furnaces. Pursuant to CAA sections 112(d)(2), (d)(3), and (f)(2) PM limits were proposed for process fugitive emissions for new and existing major sources' anode refining operations roofline vents.

In the 2022 proposed RTR for converter and smelting furnace rooflines, we developed MACT floor emissions limits for PM, as a surrogate for particulate HAP metals, which include

antimony, arsenic, beryllium, cadmium, chromium, cobalt, lead, manganese, nickel, and selenium compounds, based on the available test data. The use of PM as a surrogate for particulate metal HAP is consistent with the approach used to limit particulate metal HAP emissions from other copper smelting processes in the current NESHAP and for many other source categories (*i.e.*, Ferroalloys Production, Integrated Iron and Steel Manufacturing, and Integrated Iron and Steel Foundries). The data used in the MACT floor emission limit development was from the Freeport facility. The Agency used the UPL methodology to develop the emission limits. The development of the MACT floor limits included in the 2022 proposed RTR is described in detail in the memorandum entitled, *Draft MACT Floor Analyses for the Primary Copper Smelting Source Category* (Docket Item No. EPA-HQ-OAR-2020-0430-0055), which is available in the docket. Based on these analyses, the proposed MACT floor emission limits included in the 2022 proposed RTR were 1.7 pounds per hour (lbs/hr) PM for process fugitive emissions for existing and new converter rooflines and 4.3 lbs/hr PM for existing and new smelting furnace rooflines. We also evaluated BTF PM limits for smelting furnace and converter rooflines based on the potential addition of capture and control equipment designed to achieve approximately 90 percent reduction in process fugitive emissions. Based on the results of these analyses, the Agency did not propose BTF limits in the 2022 proposed RTR for converters or smelting furnaces because of the high costs and poor cost effectiveness and uncertainties in the estimates of emissions, emissions reductions and costs. Further details of these BTF analyses included in the 2022 proposed RTR are provided in the technical memo, *Evaluation of Beyond-the-floor and Ample Margin of Safety Control Options and Costs for Process Fugitive Emissions from Smelting Furnaces and Converters, and for Point Source Emissions from Anode Refining Furnaces and for the Combined Emissions Stream Emitted from the Freeport Aisle Scrubber* (Docket Item No. EPA-HQ-OAR-2020-0430-0060).

In the 2022 proposed RTR for the roofline vents of anode refining operations, we initially developed a MACT floor emissions PM limit of 15.2 lbs/hr using the available test data and

application of the UPL methodology. For this standard, PM also serves as a surrogate for particulate metal HAP similar to the other PM limits in the NESHAP. Subsequently, we evaluated a BTF emission limit for the anode refining operation roofline vents. The BTF emission limit was set at 90 percent lower than the MACT floor, or 1.6 lb PM/hr. As described in the 2022 proposed RTR, in order to comply with the proposed anode refining operation BTF limit, the EPA expected that Freeport would need to install improved capture systems, including hoods, ductwork, and fans, and one additional baghouse. These improved capture systems would need to be applied to four units including the two-anode refining furnace pouring operations, the anode casting wheel, and the holding vessel. In the January 2022 proposed RTR, we estimated a total capital cost of $5,887,000 (2019 dollars), a total O&M cost of $1,002,000 (2019 dollars) and total annualized costs of $1,558,000 (2019 dollars). The expected emission reductions were 4.25 tpy of lead and arsenic. The resulting cost effectiveness was $367,000/ton (2019 dollars). We concluded that this option was cost effective and proposed the BTF PM emission limit for the anode refining roofline vents. The same emission limit proposed pursuant to CAA 112(d)(2) and (3) for the anode refining operation roofline vent was also proposed to reduce risks to an acceptable level pursuant to CAA section 112(f)(2). Further information on the development of the proposed emission limit and the related cost estimates for control equipment are included in the record for the 2022 proposed RTR in the memorandums entitled, *Draft MACT Floor Analyses for the Primary Copper Smelting Source Category* (Docket Item No. EPA-HQ-OAR-2020-0430-0055) and *Development of Estimated Costs for Enhanced Capture and Control of Process Fugitive Emissions form from Anode Refining Operations at Freeport* (Docket Item No. EPA-HQ-OAR-2020-0430-0061).

During the public comment period for the 2022 proposed RTR, the EPA received comments from industry stakeholders that a combined limit would be preferred over individual limits. Commenters noted several reasons for this:

- Increased flexibility with respect to compliance options resulting in lower costs to comply;
- Lack of physical separation between departments and potential for emissions transfer; and
- Variability of department-specific emissions driven by the type of material being processed rather than by lack of emissions prevention measures.

The Freeport facility also provided additional test data for the roofline vents for all three process areas in Appendices H1 and H2 of their public comment letter (Docket Item No. EPA-HQ-OAR-2020-0430-0134). In reviewing these additional test data, we note that for completeness they should be included in the calculation of emission limits for these emission sources.

In their comment letter, Freeport noted that the emission rates from the test data underlying the MACT floor emission limits from each smelter (electric and ISASMELT) should be added together rather than averaged since they are two distinct emission points. In reviewing the test data, we agree that the emission rates for the smelters should be added rather than averaged. This change is incorporated in our revised analyses included in this supplemental proposal for these emission sources.

In response to the comments the EPA received on combining the three proposed roofline emission limits (*i.e.*, from the smelters, converters, and anode refining rooflines) into a single combined emission limit, we performed an evaluation of the approach used in the 2022 proposed RTR and an evaluation of combining the emissions data to develop the emissions limit. The evaluations use all test data now available and incorporate the change to the processing of the smelter test data (*i.e.*, adding the emission rates from each smelter rather than averaging them). Our evaluation of separate emission limits for filterable PM from the converter, smelter, and anode refining rooflines using the methodology in the 2022 proposed RTR, results in PM MACT floor emission limits of 2.4 lbs/hr for the converter roofline and 5.7 lbs/hr for the smelting

roofline, and a BTF emission limit (assuming 90 percent control) of 1.6 lbs/hr for the anode refining roofline.

We also evaluated the development of a combined emission limit for all the rooflines. This new emission limit is also calculated using the 99 percent UPL methodology. Specifically, for calculating the combined emission limit, we first determined the 99 percent UPL of the combined emission rates based on all test data now available for filterable PM. We then determined the average fraction of emissions which are attributable to the anode refining roof vent (72 percent). Then we adjusted the anode refining roof vent's portion of the 99 percent UPL by reducing that portion of the value by 90 percent. This results in a combined filterable PM emission limit of 6.3 lbs/hr. We note that this emission limit is still expected to require 90 percent control of the anode refining roofline vent at the Freeport facility, and we expect the Freeport facility will still have to apply controls at this emission source. Therefore, despite the emission limit changing in format (*i.e.*, becoming a single limit as opposed to three separate limits), we expect slightly higher emission reductions (*i.e.*, 4.59 tpy of lead and arsenic). While we expect the Freeport facility will need to apply some control of the anode refining source, a combined limit would provide the facility with options to determine which source or combination of sources to control and to what level to achieve the overall needed emission reductions to comply with the combined emission limit. Because the option is expected to provide the same emission reductions as separate emission limits while also providing some flexibility for subject facilities, we are proposing a single combined emission limit for the converter, smelting, and anode refining roofline vents in this supplemental proposed rulemaking. Further information on our evaluation of separate and combined emission limits using all test data are available in the memorandum entitled *Revised MACT Floor Analysis for the Fugitive Process Emission Sources* in the docket for this rulemaking (Docket ID EPA-HQ-OAR-2020-0430).

The EPA also received comments from the Freeport facility concerning its cost estimates for the anode refining process fugitive roofline emissions controls. In their public comment letter on the 2022 proposed RTR, the Freeport facility suggested that the EPA had underestimated costs for controlling the anode refining operations' process fugitive emissions. They provided their own cost assessment data in Attachment F of their comment letter (Docket Item No. EPA-HQ-OAR-2020-0430-0134).

After evaluating the comment letter and associated documents provided by Freeport, we determined that it is appropriate to update certain data input parameters in the cost estimates to reflect design requirements at the Freeport facility primarily by increasing the baghouse flowrate, lowering the air to cloth ratio, and adding a lime injection system to treat any acid gases in the exhaust stream. Additionally, the cost estimates have been updated to reflect 2022 dollars and using an updated bank prime interest rate. The Agency now estimates that the BTF standard for the process fugitive emissions from the roofline at the Freeport facility would have capital costs of $10,239,666 and annualized costs of $2,143,972 and achieve about 4.59 tpy reduction of lead and arsenic, with cost effectiveness of $467,000/ton lead and arsenic, which is a level that, while higher than the cost effectiveness in the 2022 proposed RTR, we consider to be cost effective for these pollutants. Further information on our revised cost estimates can be found in the memorandum entitled, *Cost Estimates for Enhanced Capture and Control of Process Fugitive Emissions from the Anode Refining Operations at Freeport* in the docket for this rulemaking (Docket ID EPA-HQ-OAR-2020-0430). As described above, we are maintaining a proposed BTF emission limit for the roof vents in this supplemental proposal because it is cost effective and feasible to achieve. We also note that this BTF limit would ensure that risks are acceptable. We estimate that this BTF limit would reduce the cancer MIR near Freeport from 70-in-1 million to 20-in-1 million, ensure 3-month rolling average ambient lead concentrations remain well below the lead NAAQS near Freeport, and reduce the maximum noncancer acute HQ (for arsenic) from 7 to 2. Furthermore, this BTF limit would reduce the number of people with an

estimated increased risk of cancer of greater than or equal to 1-in-1 million from 22,900 people (at baseline) to 17,400 (post-control) and decrease the estimated cancer incidence from 0.002 cases per year to 0.001 cases per year. The cancer MIR for Asarco would remain at 60-in-1 million.

Consistent with the analysis provided in the 2022 proposed RTR, we expect the costs for the other major source copper smelting facility, Asarco, to be limited to emissions compliance testing and recordkeeping and reporting requirements. Also, consistent with the analysis provided in the 2022 proposed RTR, the EPA estimates the costs for the Asarco facility are $107,581 per year (after adjusting to 2022 dollars) to comply with the proposed testing and recordkeeping and reporting requirements for process fugitive lead emissions from its three roofline vents (*i.e.*, for the anode, converter, and smelting furnace rooflines). While we are proposing a combined roofline emissions limit in this supplemental proposal, instead of separate limits for each department, we expect the testing costs to remain the same as those estimated in the 2022 proposed RTR since all three sources will have to be tested to compare to the proposed combined emission limit included in this supplemental proposal. This estimate is based on the EPA's experience and knowledge of typical costs associated with these types of testing requirements. We also note that the Freeport facility already performs the emissions testing that is required by the emissions limit in this supplemental proposal, thus this proposed rule does not impose any additional costs related to emissions testing and recordkeeping and reporting on the Freeport facility because these costs would be incurred in the absence of the supplemental proposed rule.

We are proposing that existing facilities would need to comply within two years after promulgation of the final rule and that compliance would be demonstrated through an initial performance test followed by a compliance test once per year. Moreover, facilities would need to monitor control parameters (*e.g.*, fan speed, amperage, pressure drops, and/or damper positioning), as applicable, on a continuous basis to ensure the control systems are working

properly. All new or reconstructed facilities must comply with all requirements in the final rule upon startup.

D. What revisions are we proposing specific to the emission limit for mercury from the 2022 proposed RTR?

As described in the 2022 proposed RTR, the current NESHAP does not include standards for mercury. Using the test data available during the development of the 2022 proposed RTR, the source category was estimated to emit 55 pounds per year of mercury with 45 pounds per year emitted from the Freeport facility. Because of the temperatures of the exhaust gas streams encountered at primary copper smelting operations, much of the mercury emitted is in vapor form, not in particulate form. The vapor form of mercury is not captured by the controls used to reduce PM emission. Therefore, the PM limits in the NESHAP do not serve as a surrogate for mercury. Therefore, in the 2022 proposed RTR, pursuant to CAA sections 112(d)(2) and (3) for new and existing major sources, mercury limits were proposed. In the 2022 proposed RTR, the Agency used the available test data from Asarco and Freeport to develop the mercury standards for new and existing sources (details can be found in *Draft MACT Floor Analyses for the Primary Copper Smelting Source Category* (Docket Item No. EPA-HQ-OAR-2020-0430-0055)).

In the 2022 proposed RTR, the new source standard was based on the best performer, Asarco. The Agency evaluated proposing a BTF emission standard for new sources based on Asarco data in the 2022 proposed RTR but rejected this option based on the cost effectiveness, uncertainty in the quantity of emission reductions, and the fact that the new source MACT floor standard is significantly lower than the limit for existing sources. The proposed emission standard for new sources in the 2022 proposed RTR was 0.00097 lbs/hr. The Agency has not received any new information relative to the new source standard included in the 2022 proposed RTR and, therefore, maintains this proposed MACT floor emission limit for new sources.

In the 2022 proposed RTR, the MACT floor emissions limit for existing sources was calculated based on the average of all the emissions tests from both facilities, accounting for

variability using the 99 percent UPL. A MACT floor based on the 99 percent UPL for the combined facility-wide sources was 0.01 lbs/hr. The Agency also evaluated a BTF emission standard for existing sources, a value of 0.0043 lbs/hr. The BTF standard was based on the addition of controls at the Freeport facility's acid plant which was identified as the largest source of mercury emissions at the Freeport facility using data available at the time. The additional controls were expected to include the installation of a polishing baghouse with activated carbon injection. The expected emission reductions were 26 lb/yr, based on 90 percent control of the emissions from Freeport's acid plant. The estimated capital costs for the polishing baghouse with activated carbon injection were $1.5 million (2019 dollars), and the estimated annualized costs were $714,000 (2019 dollars), for a cost effectiveness of $27,500 (2019 dollars) per pound of mercury reduced. In the 2022 proposed RTR, the Agency proposed the BTF standard of 0.0043 lbs/hr for existing sources. The development of this beyond-the-floor limit is described in detail in the memorandum entitled, *Estimated Costs for Beyond-the-floor Controls for Mercury Emissions from Primary Copper Smelting Facilities* (Docket Item No. EPA-HQ-OAR-2020-0430-0059).

Since the 2022 proposed RTR, the EPA received comments on the proposed existing source mercury standard and new information from the Freeport facility through the CAA section 114 information request described in II.E of this preamble. Freeport provided additional mercury performance test reports with results for the vent fume, aisle scrubber and acid plant covering calendar years 2019-2021. The Freeport facility noted that these test reports used a variation of EPA Method 29 that may result in mercury emissions measurements that are biased low. These mercury tests conducted in 2019-21 were not done according to the EPA method. The facility voluntarily completed an additional mercury performance test at the vent fume, aisle scrubber, and acid plant in 2022 which fully followed EPA Method 29. These test reports are available in the docket for this rulemaking (Docket ID EPA-HQ-OAR-2020-0430).

In their public comment letter, Freeport provided comments specifically on controlling emissions from the acid plant. The facility questioned the technical feasibility of these controls, stating that they are unaware of a polishing baghouse with ACI operating downstream of a wet scrubber on an acid plant. They explained that the conditions of the acid plant exhaust streams are unsuited for ACI since the stream has a high moisture content, low mercury concentrations, and high concentrations of SO_2/SO_3 which inhibit mercury removal.

Freeport argued that even if it was technically feasible, the EPA had underestimated costs and overstated reductions. Freeport submitted their own cost estimates for ACI plus a polishing baghouse on the acid plant as part of their comment letter on the 2022 proposed RTR (see Attachment I of Docket Item No. EPA-HQ-OAR-2020-0430-0134). The facility subsequently revised and resubmitted their evaluation of the baghouse with activated carbon injection control option for the acid plant to the EPA on March 12, 2023 (Docket ID EPA-HQ-OAR-2020-0430). In this evaluation, the Freeport facility estimated the emission reductions of mercury to be between 50 and 75 percent using a polishing baghouse with ACI, or about 15 to 22 lbs of mercury. The cost estimate from Freeport provided capital costs of $16.4M, annualized costs of $4.4 million and a cost effectiveness of about $169,000 per pound.

The EPA has performed a review of all available mercury test data from Freeport and the cost estimate provided by Freeport. In reviewing the test data, we decided that only the test which was fully compliant with EPA Method 29 should be used to calculate emission limits and to estimate the quantity of potential emissions reductions. Using the data from this test report, the point and non-point source emissions from Freeport are estimated to be 139 lbs/yr which, when combined with the test report from Asarco which indicates that 10 lbs/yr are estimated to be emitted from that facility, results in an estimated total of 149 lbs/yr mercury emitted from the source category. In Freeport's 2022 mercury test which complied fully with EPA Method 29, the emissions were more evenly distributed between the three stacks at the facility with an estimated

45 lbs/yr from the vent fume stack, an estimated 49.3 lbs/yr estimated from the aisle scrubber and an estimated 38.5 lbs/yr from the acid plant.

Using the 2022 mercury test from Freeport and the performance test from Asarco, we calculated the MACT floor limit for existing sources by averaging all the test results from both facilities, accounting for variability using the 99 percent UPL. A MACT floor based on the 99 percent UPL for the combined facility-wide limit for existing sources is 0.033 lbs/hr. Based on the available data, we conclude that both facilities would be able to meet the MACT floor limit with no additional controls. For new sources, we are maintaining the MACT floor limit of 0.00097 lbs/hr provided in the 2022 proposed RTR which was based on data from the best performer, Asarco. We have no new data with which to update this value. A detailed analysis and documentation of the revised MACT floor calculations for existing sources can be found in the technical document, *Revised MACT Floor Analysis for Mercury*, available in the docket (Docket ID EPA-HQ-2020-0430).

As discussed previously, the Freeport facility submitted comments indicating several technical reasons that control of mercury from the acid plant would be difficult. In reviewing the 2022 mercury test from Freeport, we find that the mercury emissions were distributed more evenly among the facility's three stacks when compared to the other test reports which included mercury from 2018-2021. We have evaluated the technical aspects of Freeport's comment letter regarding mercury control from the acid plant and agree characteristics of the exhaust stream and equipment configuration may inhibit mercury control (*e.g.*, moisture content, acid gas content, mercury concentration). Considering this, and the emissions distribution from the 2022 mercury test, we examined other control options to determine whether there is a more technically suitable and cost-effective option for controlling mercury emissions at Freeport. When reviewing the stack characteristics, we find that the aisle scrubber has a high flowrate, typically in excess of one million cubic feet per minute, and a very similar quantity of mercury emissions compared to the other two stacks based on the 2022 test. The aisle scrubber also combines streams which are

currently uncontrolled (*i.e.*, secondary converter) with streams that are controlled (*i.e.*, primary anode refining baghouse emissions). On the other hand, the vent fume stack handles emissions from the secondary capture system for the furnaces and has a lower flowrate than the aisle scrubber. Often, a higher flowrate and the complexity of combining multiple streams increase control costs. When evaluating beyond-the-floor options for controlling mercury, we estimated costs and emissions reductions for controlling the vent fume exhaust stream because we expect the more simplistic exhaust stream configuration, lower flowrate, and similar quantity of expected reductions to be more favorable for controlling mercury than the aisle scrubber. For the BTF option, we estimated costs and emissions reductions associated with a baghouse with lime injection and activated carbon injection with an expected control efficiency of 90 percent for mercury from the vent fume. The estimated reduction would be 40.5 lbs of mercury from the vent fume stack. The overall reduction of mercury emissions that would occur from the Freeport facility with this BTF option is estimated to be 30 percent (*i.e.*, the facility-wide total emissions of 139 lbs mercury would be reduced by 40.5 lbs mercury). The capital costs of the baghouse with lime injection and activated carbon injection are estimated to be $6.04M, with annualized costs of $1.91M and a cost effectiveness of $47,000/lb mercury reduced. We do not find costs associated with the BTF option to be reasonable and are therefore not proposing a BTF emission limit for existing sources for mercury. We also considered other BTF options, but all other options were less cost effective than the option presented in this section. The EPA is requesting comment on the BTF options evaluated for mercury and whether the EPA should determine in this case that $47,000/lb mercury is cost-effective for mercury control and include a BTF limit in the final rule. A detailed description of the BTF analysis of mercury emissions, the controls necessary to reduce mercury emissions, and the cost of these BTF controls are included in the document, *Estimated Cost for Beyond-the-floor Controls for Mercury Emissions from Primary Copper Smelting Facilities*, located in the docket (Docket ID No. EPA-HQ-OAR-2020-0430).

Since we have not identified a cost-effective BTF option, we are proposing the MACT floor limit for the combined facility-wide limit for mercury of 0.033 lbs/hr for existing sources.

The EPA is proposing that compliance with the mercury emissions limits for existing sources will be demonstrated through an initial compliance test for each of the affected sources (*e.g.*, furnaces, converters, anode refining) within 1 year of publication of the rule followed by a compliance test at least once every year. We estimate that Freeport and Asarco will incur performance testing costs for mercury of $49,940 per facility per year. For newly affected facilities, compliance is to be achieved no later than the effective date of the final rule or upon startup, whichever is later.

E. What emissions standards are we proposing for the Aisle Scrubber in this supplemental proposed rule that are different than decisions proposed in the 2022 proposed RTR?

As discussed in the preamble of the 2022 proposed RTR, we proposed that the risks for the major source category were unacceptable. The EPA identified controls to reduce risk to an acceptable level, which were proposed to be achieved by controlling the anode refining roofline vents (as described in section III.C. of this preamble). Then, the EPA considered whether additional measures were required to provide an ample margin of safety to protect public health. An aisle scrubber located at one of the two major source facilities (Freeport) was estimated to emit 9.2 tpy metal HAP (mostly lead and arsenic) and was identified as an emission source that contributed significantly to risk at the Freeport facility (*e.g.*, 23 percent of the cancer MIR). Therefore, the EPA evaluated the cost, the emissions reductions and risk reductions that could be achieved by additional controls for the aisle scrubber as part of the ample margin of safety analysis.

Specifically. In the 2022 proposed RTR the EPA evaluated the cost and emission reductions of adding a WESP to the combined emissions stream from the aisle scrubber. The evaluation is described in the memorandum entitled *Evaluation of Beyond-the-floor and Ample Margin of Safety Control Options and Costs for Process Fugitive Emissions from Smelting*

Furnaces and Converters, and for Point Source Emissions from Anode Refining Furnaces and for the Combined Emissions Stream Emitted from the Freeport Aisle Scrubber – REVISED (Docket Item No. EPA-HQ-OAR-0430-0108). Based on the analysis included in the 2022 Proposed RTR, the estimated capital costs were $67 million (2019 dollars), and the estimated annualized costs were $17 million (2019 dollars). The associated emissions reduction achieved were estimated to be 8.7 tpy total metal HAP of which 7.6 tpy were estimated to be lead and arsenic resulting in a cost effectiveness of $2 million/ton (2019 dollars).

The aisle scrubber at the Freeport facility is used to control the combined secondary emissions from the converter plus the emissions exiting the baghouse used to control primary anode refining point source emissions. Currently, there are emission limits for secondary capture systems from existing converter departments in 40 CFR 63.1444(d)(6). Furthermore, the EPA proposed emissions limits for new and existing anode refining departments in the 2022 proposed RTR (*i.e.*, proposed limits for 40 CFR 63.1444(i)(1)). In this supplemental proposal, the EPA is co-proposing regulatory options for additional control of either the secondary capture system for the converter department or additional control of the combined emissions stream of the secondary capture system for the converter department and the point source emissions from the anode refining department. These control options would result in more stringent emissions standards for these emission sources than what is currently required by the Primary Copper Smelting NESHAP as discussed more below. These standards are being proposed as technology developments pursuant to CAA section 112(d)(6) and to provide an ample margin of safety to protect public health pursuant to CAA section 112(f)(2).

In order to best inform these options for additional controls, after the January 2022 proposal the EPA issued a CAA section 114 information request to the Freeport facility as described in section II.E of this preamble. The CAA section 114 information request requested that Freeport perform a feasibility analysis of whether Freeport could further reduce the HAP metal emissions either from the secondary capture system for the converter department or from

the combined emissions stream entering the aisle scrubber (*i.e.*, the emissions stream from the secondary capture system for the converter department and the anode refining department).

The Freeport facility subsequently provided the EPA with an evaluation of control options for the aisle scrubber, including:

- Option 1 – Addition of a WESP downstream of the aisle scrubber to provide additional control of the combined emissions stream from the secondary capture system for the converter department and the anode refining department (*i.e.*, the same option evaluated by the EPA in the ample margin of safety analysis included in the January 2022 proposal);
- Option 2 – Addition of a baghouse upstream of the aisle scrubber to provide additional control of the secondary capture system for the converter department.

The Freeport facility regularly conducts performance testing of its aisle scrubber for filterable PM and metals. The EPA has obtained copies of the performance test results from 2018, 2019, 2020, 2021 and 2022 for the aisle scrubber, which are available in the docket for this rulemaking (Docket ID No. EPA-HQ-OAR-2020-0430). We used these performance tests to estimate the baseline emissions and subsequently estimate the quantity of emissions reductions for the options for controlling the aisle scrubber at the Freeport facility. Using these test data, we now estimate the annual emissions of metal HAP to be 6.63 tpy, of which more than 90 percent is lead and arsenic, on average. We also used the test reports to inform the development of potential emissions standards. Initially we developed a limit that represents current emissions from the aisle scrubber, accounting for variability using the 99 percent UPL. The resulting limit based on the 99 percent UPL for the combined emissions stream from the secondary capture system for the converter department and the anode refining department is 7.48 milligram per dry cubic standard meter (mg/dscm). This UPL served as the baseline for the development of the two control options described in this section. A detailed discussion of the option-specific control

equipment, expected emission reductions, associated emissions standard, and control costs are described in the following paragraphs.

For Option 1, as described previously, the WESP would be located downstream of the aisle scrubber and therefore further control the combined emissions stream from the secondary capture system for the converter department and the anode refining department. The expected control efficiency for the WESP is 95 percent, thus expected emission reductions from this option are 95 percent of the baseline emissions (6.63 tpy metal HAP) or 6.3 tpy metal HAP. The EPA updated the expected flowrate for the WESP in its cost estimates from the value used in the cost estimate we provided in the 2022 proposed RTR based on comments from Freeport. We also updated the cost estimate to reflect 2022 dollars and updated the bank prime interest rate. Based on our analysis, the estimated capital costs for the WESP are $98.5 million, the annualized costs are $25.2 million, and estimated reductions are 6.3 tpy reduction of metal HAP, with cost effectiveness of $4.0 million/ton metal HAP. The emission limit for this option would be 0.374 mg/dscm, which is based on applying the expected control of 95 percent to the 99 percent UPL for the combined emissions stream from the secondary capture system for the converter department and the anode refining department.

As described in the previous section III.C. of this preamble, we estimate the reductions of process fugitive emissions from the roof vents would reduce the MIR at Freeport from 70-in-1 million to 20-in-1 million; reduce the number of people with cancer risk greater than 1-in-1 million from 22,900 to 17,400; reduce ambient lead exposures below the lead NAAQS; and reduce the maximum HQ (due to arsenic emissions) from 7 to 2. We estimate that the proposed limit of 0.374 mg/dscm for the aisle scrubber (option 1) would reduce the incremental cancer risk of an additional 1,900 people below 1-in-1 million (from 17,400 to 15,500). Furthermore, the maximum acute HQ due to arsenic emissions would be reduced from 2 to 1. Option 1 would result in a small additional reduction in the MIR at Freeport, but after rounding up (to 1 significant figure) the MIR remains at 20-in-1 million. However, we note that the estimated

cancer MIR for the source category would be 60-in-1 million, which is the maximum cancer risk near the Asarco facility.

Option 2, as described previously, would require a baghouse upstream of the aisle scrubber which would be designed to control the secondary capture system for the converter department. Currently, the uncontrolled emissions from the secondary capture system for the converter department combine with the baghouse-controlled primary anode refining point source emissions and route to the aisle scrubber. Unlike the aisle scrubber which is routinely tested for particulate matter and lead emissions, the secondary converter duct is not sampled at any regular frequency. However, in an engineering evaluation submitted by Freeport as part of the CAA section 114 information request in which the converter duct was sampled, the facility explained that approximately 75 percent of the emissions from the aisle scrubber are attributable to the secondary capture system for the converter department. Therefore, we estimate that average annual metal HAP emissions from the secondary capture system for the converter department are 4.97 tpy (75 percent of the estimated total average annual metal HAP emissions from the aisle scrubber, which is 6.63 tpy). To estimate the expected reductions from this option, we applied the expected control efficiency of the baghouse (90 percent) to the emissions which are estimated to be from the secondary capture system for the converter department (4.97 tpy). This results in an estimated emissions reduction of 4.5 tpy metal HAP from the aisle scrubber, which is about a 68 percent reduction of emissions from the aisle scrubber. We estimate these controls (*i.e.*, baghouse) will have capital costs of $37M, annualized costs of $6.2 million and achieve about a 4.5 tpy reduction in metal HAP with cost effectiveness of $1.38 million/ton metal HAP. The emission standard for this option was calculated by first determining the fraction of the 99 percent UPL that is estimated to be from the secondary capture system for the converter department, 5.61 mg/dscm, and then applying the expected control efficiency of the baghouse (*i.e.*, 90 percent) to determine the reduction in the emission limit (5.09 mg/dscm). The resulting

emissions limit under option 2 would be 2.43 mg/dscm for additional controls on the secondary capture system for the converter department.

As described in the previous section III.C. of this preamble, we estimate the reductions of process fugitive emissions from the roof vents would reduce the MIR at Freeport from 70-in-1 million to 20-in-1 million; reduce the number of people with cancer risk greater than 1-in-1 million from 22,900 to 17,400; reduce ambient lead exposures below the lead NAAQS; and reduce the maximum HQ (due to arsenic emissions) from 7 to 2. We estimate that the proposed limit of 2.43 mg/dscm (based on addition of a baghouse on the secondary capture system for the converter department - option 2) would reduce the incremental cancer risk of an additional 700 people to below 1-in-1 million (from 17,400 to 16,700). Furthermore, the maximum acute HQ due to arsenic emissions would be reduced from 2 to 1. Option 2 would also result in a small additional reduction in the maximum cancer risk at Freeport, but after rounding up (to 1 significant figure) the maximum risk would remain at 20-in-1 million. The estimated cancer MIR for the source category would be 60-in-1 million, which is the maximum cancer risk near the Asarco facility.

As discussed below, based on consideration and evaluation of both options, the EPA is proposing both options pursuant to CAA section 112(d)(6) and CAA section 112(f). We propose that both options are feasible, achieve significant reductions of the HAP metals and risk reduction, and that the cost impacts are reasonable. Therefore, both options represent cost-effective developments in control technology pursuant to CAA section 112(d)(6) and ensure the NESHAP will provide an ample margin of safety to protect public health pursuant to CAA section 112(f). We expect that the Asarco facility can comply with either option without the need to install additional controls. We are proposing that facilities would need to comply within two years after promulgation of the final rule and that compliance would be demonstrated through an initial performance test followed by a compliance test once per year. Moreover, facilities would need to monitor control parameters (*e.g.*, fan speed, amperage, pressure drops, and/or damper

positioning), as applicable, on a continuous basis to ensure the control systems are working properly.

Further information regarding our estimated control costs, associated emission reductions, and estimated cost effectiveness can be found in the memorandum entitled, *Cost Estimates for Additional Controls of Freeport's Aisle Scrubber* which is available in the docket for this rulemaking (Docket ID No. EPA-HQ-OAR-2020-0430). Further information regarding the development of the proposed emission standards for each option can be found in the memorandum entitled, *Emission Standard Development for the Options to Provide Additional Controls for the Secondary Capture System for the Converter Department and Anode Refining Department* which is available in the docket for this rulemaking (Docket ID No. EPA-HQ-OAR-2020-0430).

The EPA is presenting both options (described in this section) in this supplemental proposal as potential regulatory options that we may finalize for this source category under CAA section 112(d)(6) and/or CAA section 112(f) after consideration of public comments. Under CAA section 112(d)(6) we propose that both options represent cost-effective developments in control technology and that it is necessary to revise the standards to reduce emissions from the aisle scrubber. In addition to the controls described above, we note that in the 2022 RTR Proposed Rule we also proposed a requirement that facilities develop and operate according to a fugitive dust minimization plan, which would provide some additional unquantified health protection. We are not proposing any changes to that proposed fugitive dust minimization requirement in this action.

Noting that in setting standards to provide ample margin of safety to protect public health EPA strives to provide protection to the greatest number of persons possible to an individual lifetime risk level no higher than approximately 1-in-1 million (54 FR 38044; September 14, 1989), and after considering the risk reduction achieved under both options as well as the cost and feasibility of controls, along with the fugitive dust plan, we propose that either option

provides an ample margin of safety to protect public health under CAA section 112(f). We are seeking comments on the technical feasibility, costs, expected emission reductions, and risk reductions achieved and whether one option is preferable over the other and why.

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

In the January 11, 2022, proposed amendments to the Primary Copper Smelting RTR rule (87 FR 1616; January 11, 2022), the EPA conducted a residual risk assessment and determined that risks from the primary copper smelting source category were unacceptable due to HAP metal (primarily lead and arsenic) emissions and proposed standards to reduce risk to an acceptable level and provide an ample margin of safety to protect public health. The risk analysis supporting the proposed rule indicated exceedances of the lead NAAQS at the baseline (i.e., based on current HAP emissions). That risk analysis also indicated that the cancer risk for the individual most exposed could be up to 80-in-1 million based on actual emissions and up to 90-in-1 million based on allowable emissions. In addition to the noncancer risk from lead, the analysis also indicated a chronic HI of 1 due to arsenic and a maximum acute HQ of 7 for arsenic (see Docket No. EPA-HQ-OAR-2020-0430). Since issuance of the proposal, the EPA has received new facility operation and HAP emissions data from the Freeport facility through the public comments and issuance of a 2022 CAA section 114 information request. Detailed information on the new data is provided in the memorandum *Updated Stack/Emissions Data Collected for 2023 Primary Copper Smelting Risk Review*, which is available in the docket for this action (Docket ID No. EPA-HQ-OAR-2020-0430).

Based on the updated stack and performance tests submitted by Freeport as part of the section 114 request, we updated the baseline risk assessment for this supplemental proposal. The new assessment reflects emissions changes to the known risk drivers (arsenic and lead) and a potential risk driver (mercury) at Freeport. Since this supplemental proposal only reflects emissions changes for the Freeport facility, we only updated the risk assessment for this facility.

Also, this supplemental proposal includes an updated control option 1 and a new control option 2 that affect the Freeport facility only, as described in Table 4. Because of these changes, we conducted for this supplemental proposal an updated assessment of post-control risk for both of these emission control scenarios for Freeport. The risk results for the Asarco facility have not changed since the 2022 proposal. The details of the risk assessment for Asarco are described in the 2022 proposal *Federal Register* publication (87 FR 1616; January 11, 2022) for details and the 2022 risk report, which is available in the docket for this proposed rule.

Table 4. Comparison of the Primary Copper Smelting Baseline Inhalation Risk Assessment Results for Freeport with Post-Control Risk Estimates for Two 2023 Proposed Supplemental Control Options

Estimated Risks Based on Actual Emissions							
Risk Assessment Scenario[1]	**Maximum Individual Cancer Risk (in-1 million)**	**Population at Increased Risk of Cancer ≥ 1-in-1 million**	**Annual Cancer Incidence (cases per year)**	**Maximum Chronic Noncancer TOSHI[2]**	**Maximum Residential Annual Pb Conc. (ug/m^3)[3]**	**Max Predicted 3-month Modeled Pb Conc. (ug/m^3)[4]**	**Acute HQ (REL)[5]**
Proposed Rule (original baseline)	80 (As)	24,400	0.002	1 (As)	0.12	0.17 (Pb)	7 (As)
Supplemental Proposal (revised baseline)	70 (As)	22,900	0.002	1 (As)	0.12	0.17 (Pb)	7 (As)
Supplemental Proposal Post-Control for Anode Roofline	20 (As)	17,400	0.001	0.3 (As)	0.041	0.06 (Pb)	2 (As)
Supplemental Proposal Post-Control Option 1 for Aisle Scrubber[6]	20 (As)	15,500	0.0006	0.3 (As)	0.026	0.04 (Pb)	1 (As)
Supplemental Proposal Post-Control Option 2 for Aisle Scrubber[7]	20 (As)	16,700	0.0006	0.3 (As)	0.028	0.04 (Pb)	1 (As)

[1.] All values provided in this table are based upon only arsenic and lead emissions from Freeport (Miami, AZ).
[2.] TOSHI value for developmental effects does not include contribution from lead.
[3.] The maximum annual concentration for lead is based upon the MIR location which is also the maximum off-site exposure location for Freeport.
[4.] The maximum predicted 3-month Pb (lead) conc based on actual emissions at the time of proposal was based on AERMOD modeling with LEAD_POST, while the maximum predicted 3-month Pb conc for the supplemental proposal are based upon extrapolations of the HEM-4 annual Pb concentrations using the annual and 3-month modeled results from proposal.
[5.] The HQ values are based upon the lowest 1-hour acute health benchmark, the reference exposure level (REL) for arsenic. Arsenic also has an AEGL-2 value (irreversible or escape-impairing effects) which resulted in a maximum HQ value of 0.0006 based upon actual emissions estimated in this supplemental proposal.
[6.] Option 1 represents controls on anode roofline (described in section III.C of this preamble) +WESP on aisle scrubber (described in section III.E of this preamble).
[7.] Option 2 represents controls on anode roofline (described in section III.C of this preamble) + baghouse upstream of aisle scrubber (described in section III.E of this preamble).

The methodologies used for the updated baseline risk analysis are described in section III.C. of the preamble to the January 11, 2022, proposed rule *National Emission Standards for Hazardous Air Pollutants: Primary Copper Smelting Residual Risk and Technology Review* (87 FR 1616; January 11, 2022). We present the results of the updated baseline risk analysis for Freeport and the analysis of the proposed control options in Table 4 of this preamble (rows labeled "Supplemental Proposal Post-Control Option 1" and "Supplemental Proposal Post-Control Option 2") and in more detail in the document: *Revised Residual Risk Assessment for the Freeport Smelter (Miami, AZ) in Support of the 2023 Supplemental Proposal for the Primary Copper Smelting Source Category*, available in the docket for this action (Docket No. EPA-HQ-OAR-2020-0430). For more detail on the proposed control options, refer to sections III.C and III.E. of this preamble.

The updated baseline risk assessment did not result in a significant change to the estimated cancer or non-cancer impacts at the Freeport facility. The updated cancer MIR for Freeport changed from 80-in-1 million to 70-in-1 million with cancer incidence remaining the same at 0.002 excess cancer cases per year, or one excess case every 500 years. These results are summarized in Table 4 of this preamble. The maximum individual cancer risk at Freeport is driven mostly by process fugitive emissions of arsenic from the anode refining roofline (about 70% of the MIR), and to a lesser degree the anode furnaces and secondary converter point source emissions that are emitted through the aisle scrubber (about 20% of the MIR). The arsenic

emissions represent more than 97 percent of the cancer risk at the MIR location for the Freeport facility. The population exposed to excess cancer risks greater than or equal to 1-in-1 million are approximately 23,000 people for the baseline scenario. The chronic non-cancer risk remained the same with an HI equal to 1, driven by arsenic exposure. The acute noncancer risks from arsenic emissions remained the same with an HQ (based on the Reference Exposure Level) of 7. More detail is provided in the revised risk assessment document cited previously in this section. When applying the acute exposure guideline levels-2 (AEGL-2) value for arsenic for the supplemental proposal, the acute HQ results in a HQ (AEGL-2) less than 1 (0.0006).

There was no change to the risk results for lead. The emissions update resulted in the same estimated ambient annual concentration of 0.12 ug/m^3. This concentration results in a maximum ambient concentration of lead for 3-month intervals of 0.17 ug/m^3 based on actual emissions, which is the same result as in the 2022 proposal and which still exceeds the lead NAAQS of 0.15 ug/m^3.

Regarding multipathway risk, in the Primary Copper Smelting RTR proposed rule (87 FR 1616; January 11, 2022), we concluded that there was "no significant potential for multipathway health effects." This determination was based on applying site-specific multipathway assessments conducted for other source categories with multipathway Tier 2 and Tier 3 screening estimates for the Freeport facility. The multipathway risk screening results for arsenic are now estimated to be lower than presented in the 2022 proposal based upon the reduced arsenic emissions in the revised baseline (described previously in this section). The new stack test data for mercury provided by Freeport resulted in an increase in emissions by a factor of 3, with annual emissions increasing to 139 pounds per year. This increase in baseline emissions would still result in an estimated mercury HQ less than 1 (0.2) for the fisher scenario.

Based on the results of the *Updated Stack/Emissions Data Collected for 2023 Primary Copper Smelting Risk Review,* the EPA proposes that the risks for this source category under the current MACT provisions remain unacceptable. The updated risk analysis still indicates

exceedances of the lead NAAQS and a HI of 1 based on exposure to arsenic. The noncancer risk from lead is not included in the cumulative noncancer HI calculation. However, the health benchmarks for lead and arsenic are based on adverse neurocognitive effects, and the two chemicals may have combined effects on neurodevelopment. In addition, the updated risk analysis indicates a maximum acute HQ of 7 for arsenic for the baseline scenario. The risk analysis also indicates that the estimated inhalation cancer risk to the individual most exposed is 70-in-1 million based on actual emissions, which is approaching the presumptive level of unacceptability of 100-in-1 million.

The details of the risk assessment for allowable emissions for the baseline have not changed since the 2022 proposed rule. The estimated risks based on allowable emissions are described in the 2022 proposal *Federal Register* publication (87 FR 1616; January 11, 2022), and the 2022 risk report, which is available in the docket for this proposed rule.

With regard to the risk assessment we conducted for the updated control option 1 (*i.e.,* the BTF limit for process fugitive emissions from roof vents discussed in section III.C of this preamble, plus a WESP on the aisle scrubber described in section III.E of this preamble) and the new control option 2 (*i.e.,* the BTF limit for roof vents discussed in section III.C of this preamble, plus a baghouse upstream of the aisle scrubber described in section III.E of this preamble), we estimate the controls from option 1 would reduce the maximum risk at Freeport from 70-in-1 million to 20-in-1 million and would also reduce the population with cancer risks greater than or equal to 1-in-1 million from 22,900 to 15,500 people. Cancer incidence would also decrease from 0.002 to 0.0006, or from 1 excess cancer case every 500 years to every 1,600 years with additional reductions in potential noncancer developmental risks from arsenic and lead emissions. The maximum acute risk at public locations from arsenic emissions would also be reduced from an HQ of 7 to 1. Both control options 1 and 2 (as described in this section) would reduce the estimated maximum 3-month lead concentration from 0.17 ug/m^3 to 0.04 ug/m^3. The expected controls for option 2 (shown in Table 4 of this preamble) provide almost the

same level of risk reduction as option 1, except the post-control population with cancer risks greater than or equal to 1-in-1 million is slightly higher at 16,700 people.

Refer to the document titled: *Revised Residual Risk Assessment for the Freeport Smelter (Miami, AZ) in Support of the 2023 Supplemental Proposal for the Primary Copper Smelting Source Category*, in the docket for this rulemaking for more details regarding the updated risk assessment.

G. What other actions are we proposing, and what is the rationale for those actions?

In addition to the proposed actions described above, we are proposing an additional revision to the NESHAP. We are proposing revisions to the startup, shutdown, and malfunction (SSM) provisions of the NESHAP in order to ensure that they are consistent with the decision in *Sierra Club v. EPA*, 551 F. 3d 1019 (D.C. Cir. 2008), in which the court vacated two provisions that exempted sources from the requirement to comply with otherwise applicable CAA section 112(d) emission standards during periods of SSM. Specifically, we are proposing to prohibit the use of a bypass stack. We are proposing to define the term "bypass stack" in 40 CFR 63.1459 and are also proposing that use of a bypass stack will result in a violation of the numerical emission standards contained in the Primary Copper Smelting NESHAP in 40 CFR 63.1448. We are also proposing that the use of a bypass stack during a performance test will invalidate the test. These proposed conditions are consistent with the EPA's interpretation of the application of the court's decision in *Sierra Club v. EPA*, 551 F. 3d 1019 (D.C. Cir. 2008) and consistent with the treatment of bypass stacks other rules (*e.g.*, 40 CFR part 60 subpart Ec).

H. What compliance dates are we proposing and what is the rationale for the proposed compliance dates?

For the additional MACT floor emission limits (mercury, HCl, chlorine, D/F, benzene, toluene, PAHs excluding naphthalene, and naphthalene), the EPA proposes that existing facilities must comply with MACT floor limits within 1 year after promulgation of the final rule, because the EPA estimated that both facilities can meet MACT floor limits without having to install new

controls. For affected facilities that commence construction or reconstruction after **[INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER]**, owners or operators must comply with all requirements of the subpart, including all the amendments being proposed, no later than the effective date of the final rule or upon startup, whichever is later.

The EPA is proposing a single combined PM roofline emissions limit for converters, anode refining and smelting furnace roof vents due to plant configurations and comingling of process fugitive emissions. The Agency maintains the proposed requirement that existing facilities must comply with the limit within 2 years after promulgation of the final rule.

The EPA is also proposing that existing facilities must comply with the applicable emissions limit that the EPA promulgates for secondary converter emissions and anode baghouse emissions, which will apply to the emissions from the aisle scrubber at Freeport, as described in section III.E of this preamble, within 2 years after promulgation of the final rule.

The EPA is proposing that facilities must comply with the PM roofline emissions limit and the PM limit that applies to the aisle scrubber within 2 years after promulgation of the final rule because we expect the facility will need up to 2 years to design, construct and operate the necessary capture and control equipment to meet these limits. The reason the Agency is not proposing to allow more than 2 years for compliance is because the controls on the roofline are required to achieve acceptable risk pursuant to CAA section 112(f), the additional controls on the aisle scrubber are required to provide an ample margin of safety to protect public health pursuant to CAA section 112(f), and section 112(f) only allows up to 2 years to comply with standards promulgated pursuant section 112(f). For affected facilities that commence construction or reconstruction after **[INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER]**, owners or operators must comply with all requirements of the subpart, including all the amendments being proposed, no later than the effective date of the final rule or upon startup, whichever is later.

IV. Summary of Cost, Environmental, and Economic Impacts

A. What are the affected sources?

The Primary Copper Smelting major source category includes any major source facility that uses a pyrometallurgical process to extract copper from copper sulfide ore concentrates, native ore concentrates, or other copper bearing minerals. There are currently two major source copper smelting facilities in the United States. No new copper smelting facilities are currently being constructed or are planned in the near future.

The affected sources subject to 40 CFR part 63, subpart QQQ, the major source NESHAP, are copper concentrate dryers, smelting furnaces, slag cleaning vessels, copper converter departments, and fugitive emission sources.

B. What are the air quality impacts?

The proposed amendments in this action would achieve estimated emissions reductions of 4.59 tpy of HAP metals (primarily lead, arsenic and cadmium) from the roof vents at the anode refining operations. Additionally, depending on the option chosen for additional controls of either: the secondary capture system for the converter department; or the combined emissions stream of the secondary capture system for the converter department and the point source emissions from the anode refining department, as described in section III.E of this preamble, additional emission reductions from the updated baseline of 4.5 or 6.3 tpy of metal HAP are expected. Therefore, the total expected estimated reductions from the updated baseline are either 9.1 tpy or 11.1 tpy of metal HAP (primarily lead and arsenic) for the source category. The proposed amendments also include removal of the SSM exemptions relative to the use of a bypass stack which will result in an unquantified reduction of episodic emissions.

C. What are the cost impacts?

As described above, the proposed BTF standard for the combined emissions from roofline vents, which we expect will mainly require reductions from the anode refining process fugitive emissions roof vents, would require estimated capital costs of $10.2 million and annualized costs of $2.1 million for the Freeport facility (2022 dollars). Additionally, depending

on the option chosen for additional controls of either: (1) the secondary capture system for the converter department; or (2) the combined emissions stream of the secondary capture system for the converter department and the point source emissions from the anode refining department, as described in section III.E. of this preamble, the estimated capital costs are $37 million or $98 million, respectively, and the estimated annualized costs are $6.2 million or $25.2 million, respectively, for the Freeport facility (2022 dollars). The total estimated capital costs are $47.2 million or $108.7 million. The Asarco facility is not expected to require controls for any standard in this supplemental proposal, so no capital costs or annualized costs related to control options are included for Asarco.

This supplemental proposal also includes performance testing requirements for unregulated HAP which are expected to be incurred by both facilities, including testing requirements for benzene, toluene, chlorine, HCl, PAH excluding naphthalene, naphthalene, D/F, and mercury. The Freeport facility has three units (vent fume, aisle scrubber, acid plant) which will require testing, and the Asarco facility has five units (vent gas baghouse, secondary hood baghouse, tertiary hoods, anode baghouse, and acid plant). The estimated costs for performance testing of these unregulated HAP are $240,140 (2022 dollars) for the Freeport facility and $366,940 (2022 dollars) for the Asarco facility on each occurrence (once every five years). The annualized testing costs for unregulated HAP (assuming mercury testing is performed annually, and all other performance testing related to the new standards occurs once every five years) are $87,980 for Freeport and $113,340 for Asarco. Additionally, the Asarco facility will incur estimated costs of about $107,581 (2022 dollars) per year to complete compliance testing for the process fugitive rooflines emission standards. Freeport already conducts annual testing of these roofline vents pursuant to state ADEQ requirements; therefore, the Agency does not expect Freeport to incur new testing costs related to the BTF standard.

The total annual costs of the requirements in the supplemental proposal (*i.e.*, annualized capital, annual operating and maintenance, and annual emissions testing costs) are estimated to

be about $9 million if the baghouse regulatory control option is applied to the Freeport aisle scrubber and about $28 million if the WESP regulatory control option is applied to the aisle scrubber.

D. What are the economic impacts?

The net present value (NPV) of the estimated cost impacts of this proposed rule, discounted at a 7 percent rate over an eight-year period from 2024 to 2031, is $75 million in 2022 dollars for the baghouse upstream of the aisle scrubber option. The equivalent annualized value (EAV) is $13 million at a 7 percent discount rate. At a 3 percent discount rate, the NPV and EAV of the cost impacts (baghouse upstream of aisle scrubber) are estimated to be $78 million and $11.8 million, respectively. When applying the WESP controls for the aisle scrubber, the NPV of the estimated cost impacts of this proposed rule, discounted at a 7 percent rate over the 2024 to 2031 period, is $219 million in 2022 dollars. The EAV is $37 million at a 7 percent discount rate. At a 3 percent discount rate, the NPV and EAV of the cost impacts (WESP for aisle scrubber) are estimated to be $233 million and $33 million, respectively.

This proposed rule does not affect any small businesses. Nonetheless, neither of the ultimate owners of the two affected facilities are expected to incur annualized costs greater than one percent of company-wide annual revenues. This supplemental proposal is not expected to have market impacts, so the EPA does not expect effects on primary copper smelter production or prices.

E. What are the benefits?

As described above, the supplemental proposed amendments would result in reductions in emissions of HAP metals, especially lead and arsenic, with corresponding reductions in human health risk. The proposed amendments also revise the standards such that they apply at all times and prohibit the use of a bypass stack.

F. What analysis of environmental justice did we conduct?

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."[6] 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." In recognizing that people of color and low-income populations often bear an unequal burden of environmental harms and risks, the EPA continues to consider ways of protecting them from adverse public health and environmental effects of air pollution. For purposes of analyzing regulatory impacts, the EPA relies upon its June 2016 "Technical Guidance for Assessing Environmental Justice in Regulatory Analysis,"[7] which provides recommendations that encourage analysts to conduct the highest quality analysis feasible, recognizing that data limitations, time, resource constraints, and analytical challenges will vary by media and circumstance. The Technical Guidance states that a regulatory action may involve potential EJ concerns if it could: (1) create new disproportionate impacts on minority populations, low-income populations, and/or Indigenous peoples; (2) exacerbate existing disproportionate impacts on minority populations, low-income populations, and/or Indigenous

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[6] *https://www.epa.gov/environmentaljustice.*

[7] See *https://www.epa.gov/environmentaljustice/technical-guidance-assessing-environmental-justice-regulatory-analysis.*

peoples; or (3) present opportunities to address existing disproportionate impacts on minority populations, low-income populations, and/or Indigenous peoples through the promulgation of these actions.

We did not conduct any additional demographics analyses for this supplemental proposed rule. EPA performed a risk-based demographic analysis for the 2022 proposed rule to identify the demographics of the populations with cancer risks greater than or equal to 1-in-1 million living within 5 kilometers (km) and within 50 km of the two major source primary copper facilities. The estimated baseline population with cancer risks greater than or equal to 1-in-1 million due to emissions from primary copper major sources has not changed significantly since proposal.

In the 2022 proposal, the EPA determined that elevated cancer risks associated with emissions from the major source facilities disproportionately affect Native Americans, Hispanics, those living Below the Poverty Level and those Over 25 without High School Diploma living near primary copper major sources. For one facility, Asarco, the proposed baseline demographic analysis indicated that of the population with risks at or above 1-in-1 million, 73 percent are Hispanic, which is significantly greater than the nationwide percentage, 19 percent,

As indicated in Section III.F. of this preamble, this proposed action is projected to reduce the number of individuals with cancer risks equal to or greater than 1-in-1 million associated with emissions from the Freeport facility. See Section III.F. of this preamble for more details.

The methodology and the results of the demographic analysis presented in the 2022 proposal are presented in the preamble of the 2022 proposed rule (87 FR 1616; January 11, 2022) and in the technical report, *Risk and Technology Review – Analysis of Demographic Factors for Populations Living Near Primary Copper Smelting Source Category Operations* (Docket Item No. EPA-HQ-OAR-2020-0430-0052).

V. 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 14094: Modernizing Regulatory Review

This action is not a significant regulatory action as defined in Executive Order 12866, as amended by Executive Order 14094, and was therefore not subject to a requirement for Executive Order 12866 review.

The EPA prepared an economic analysis of the proposed action. This analysis, *Economic Impact Analysis for the Supplemental Proposed Residual Risk and Technology Review of the National Emission Standards for Hazardous Air Pollutants for Primary Copper Smelting Sources, Residual Risk and Technology Review*, is available in the docket EPA-HQ-OAR-2020-0430.

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 1850.10. You can find a copy of the ICR in the docket for this rule, and it is briefly summarized here.

The EPA is proposing amendments that affect reporting and recordkeeping requirements for primary copper smelting facilities, such as requirements to submit new performance test reports and to maintain new operating parameter records to demonstrate compliance with new standards. This information would be collected to assure compliance with 40 CFR part 63, subpart QQQ.

Respondents/affected entities: Owners or operators of primary copper smelting facilities.

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

Estimated number of respondents: Two (total).

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

Total estimated burden: The annual recordkeeping and reporting burden for facilities from the proposed recordkeeping and reporting requirements is estimated to be 5,500 hours (per year). Burden is defined at 5 CFR 1320.3(b).

Total estimated cost: The annual recordkeeping and reporting burden for facilities to comply with all of the requirements in the NESHAP is estimated to be $1,020,000 (per year), of which $331,000 is for this rule, and $685,000 is for the other costs related to continued compliance with the NESHAP. There are no annualized capital or operation & maintenance costs.

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 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

C. Regulatory Flexibility Act (RFA)

We 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. Based on the Small Business Administration size category for this source category, no small entities are subject to this action.

D. Unfunded Mandates Reform Act (UMRA)

This action does not contain any unfunded mandate as described in UMRA, 2 U.S.C. 1531–1538, and does not significantly or uniquely affect small governments. The 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. Thus, Executive Order 13175 does not apply to this action. However, consistent with the EPA policy on coordination and consultation with Indian tribes, the EPA will offer government-to-government consultation with tribes as requested.

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 the EPA does not believe the environmental health or safety risks addressed by this action present a disproportionate risk to children. This action proposes emission standards for six previously unregulated pollutants and emissions limits for the anode refining process fugitive emissions and the aisle scrubber, which will achieve reductions of HAP metals (as described previously in section III of this preamble); therefore, the proposed rule would provide health benefits to children by reducing the level of HAP emissions (*e.g.*, lead and arsenic) emitted from

the copper smelting process. This action's health and risk assessments are contained in sections III and IV of the 2022 RTR proposed rule (87 FR 1616; January 11, 2022), and in section III.F of this preamble, and also in the document titled *Residual Risk Assessment for the Primary Copper Smelting Major Source Category in Support of the 2021 Risk and Technology Review Proposed Rule*, which is available in the docket for this proposed rule (Docket ID No. EPA-HQ-OAR-2020-0430-0051).

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

This action is not subject to Executive Order 13211, because it is not a significant regulatory action as defined in Executive Order 12866 and as amended by Executive Order 14094.

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 Primary Copper Smelting 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. Searches were conducted for EPA Methods 1, 1A, 2, 2A, 2C, 2D, 2F, 2G, 3, 3A, 3B, 4, 5, 5B, 5D, 9, 17, 18, 22, 23, 26A, 29, 30A, 30B of 40 CFR part 60, appendix A. 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 referenced 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. No applicable voluntary consensus standards were identified for EPA Methods 1A, 2A, 2D, 2F, 2G, 5B, 5D, 22, 30A and 30B.

Four voluntary consensus standards were identified as an acceptable alternative to EPA test methods for the purposes of this rule.

The EPA proposes to incorporate by reference the VCS ANSI/ASME PTC 19-10-1981 Part 10 (2010), "Flue and Exhaust Gas Analyses" as an acceptable alternative to EPA Methods 3B, manual portion only and not the instrumental portion. This standard is acceptable as an alternative to EPA Method 3B and is available from ASME at *http://www.asme.org*; by mail at Three Park Avenue, New York, NY 10016-5990; or by telephone at (800) 843-2763. This method determines quantitatively the gaseous constituents of exhausts resulting from stationary combustion sources. The gases covered in ANSI/ASME PTC 19.10–1981 are oxygen, carbon dioxide, carbon monoxide, nitrogen, sulfur dioxide, sulfur trioxide, nitric oxide, nitrogen dioxide, hydrogen sulfide, and hydrocarbons; however, the use in this rule is only applicable to oxygen and carbon dioxide.

The EPA proposes to incorporate by reference the VCS ASTM D7520-16, "Standard Test Method for Determining the Opacity of a Plume in the Outdoor Ambient Atmosphere" as an acceptable alternative to EPA Method 9 only if the following conditions are followed:

- During the digital camera opacity technique (DCOT) certification procedure outlined in Section 9.2 of ASTM D7520-16, you or the DCOT vendor must present the plumes in front of various backgrounds of color and contrast representing conditions anticipated during field use such as blue sky, trees, and mixed backgrounds (clouds and/or a sparse tree stand).
- You must also have standard operating procedures in place including daily or other frequency quality checks to ensure the equipment is within manufacturing specifications as outlined in Section 8.1 of ASTM D7520-16.
- You must follow the record keeping procedures outlined in 40 CFR 63.10(b)(1) for the DCOT certification, compliance report, data sheets, and all raw unaltered JPEGs used for opacity and certification determination.
- You or the DCOT vendor must have a minimum of four (4) independent technology users apply the software to determine the visible opacity of the 300 certification plumes. For

each set of 25 plumes, the user may not exceed 15 percent opacity of anyone reading and the average error must not exceed 7.5 percent opacity.)

This approval does not provide or imply a certification or validation of any vendor's hardware or software. The onus to maintain and verify the certification and/or training of the DCOT camera, software and operator in accordance with ASTM D7520-16 and this letter is on the facility, DCOT operator, and DCOT vendor. The EPA proposes to incorporate by reference the VCS ASTM D6420-99 (2010), "Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography/Mass Spectrometry." This ASTM procedure has been approved by the EPA as an alternative to EPA Method 18 only when the target compounds are all known and the target compounds are all listed in ASTM D6420 as measurable. This alternative should not be used for methane and ethane because atomic mass is less than 35. ASTM D6420 should never be specified as a total VOC method.

The EPA proposes to incorporate by reference the VCS ASTM D6784-16, "Standard Test Method for Elemental, Oxidized, Particle-Bound and Total Mercury Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method)" (D6784-16 was reapproved in 2016 to include better quality control than earlier 2008 version) as an acceptable alternative to EPA Method 29 (portion for mercury only) as a method for measuring mercury. [Note: Applies to concentrations approximately 0.5 – 100 μg/Nm^3].

The ASTM D7520-16; D6420-99 (2010); and D6784-16 documents are available from ASTM at https://www.astm.org or l100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, telephone number: (610) 832-9500, fax number: (610) 8329555 at *service@astm.org*.

The EPA proposes to incorporate by reference "Recommended Toxicity Equivalence Factors (TEFs) for Human Health Risk Assessments of 2, 3, 7, 8-Tetrachlorodibenzo-p-dioxin and Dioxin-Like Compounds" (EPA/100/R-10/005 December 2010), which is the source of the toxicity equivalent factors for dioxins and furans used in calculating the toxic equivalence quotient of the proposed dioxin and furan standard. This document can be found at

https://www.epa.gov/risk/documents-recommended-toxicity-equivalency-factors-human-health-risk-assessments-dioxin-and.

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: Copper Smelting Supplemental Proposal*, which is available in the docket for this action (Docket ID No. EPA-HQ-OAR-2020-0430).

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 believes 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 people of color, low-income populations and/or Indigenous peoples. In In the 2022 proposal, the evaluated the demographic characteristics of communities located near the major source facilities and determined that elevated cancer risks associated with emissions from these facilities disproportionately affect Native American, Hispanic, Below Poverty Level and Over 25 without High School Diploma individuals living nearby.

The EPA believes that this action is likely to reduce existing disproportionate and adverse effects on people of color, low-income populations and/or Indigenous peoples living near the Freeport facility. To support the 2022 proposal, EPA determined that the population living within 5 km of the Freeport facility is 1.5 percent Native American (versus 0.7 percent nationwide); 45 percent Hispanic or Latino (versus 19 percent nationwide); 23 percent Below Poverty Level (versus 13 percent nationwide); and 23 percent Over 25 without a High School

Diploma (versus 12 percent nationwide). The standards proposed in this supplemental proposal are estimated to reduce metal HAP emissions, primarily lead and arsenic, from the Freeport facility by either 9.1 tpy or 11.1 tpy and are projected to reduce the number of individuals with cancer risks equal to or greater than 1-in-1 million associated with emissions from the Freeport facility. EPA does not anticipate that this action will reduce emissions from the Asarco facility.

The methodology and the results of the demographic analysis are presented in the preamble of the 2022 proposed rule (87 FR 1616; January 11, 2022) and in the technical report, *Risk and Technology Review – Analysis of Demographic Factors for Populations Living Near Primary Copper Smelting Source Category Operations* (Docket Item No. EPA-HQ-OAR-2020-0430-0052). The information supporting this Executive Order review is contained in section V.E. of the 2022 proposed RTR preamble (87 FR 1616; January 11, 2022). We did not conduct any additional demographics analyses for this supplemental proposed rule.

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.

[FR Doc. 2023-15303 Filed: 7/21/2023 8:45 am; Publication Date: 7/24/2023]