Message

**From**: Weaver, Todd [tweaver1@fmi.com]
**Sent**: 3/31/2025 9:13:23 PM
**To**: AirAction [AirAction@epa.gov]
**CC**: Szabo, Aaron [Szabo.Aaron@epa.gov]; Tardif, Abigale (Abbie) [Tardif.Abigale@epa.gov]; Traylor, Patrick [ptraylor@velaw.com]
**Subject**: Clean Air Act Section 112 Presidential Exemption Request
**Attachments**: FMMI--Presidential Exemption Request (March 31 2025).pdf

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Please find the attached request for a two-year Presidential Exemption under Section 112(i)(4) of the Clean Air Act for Freeport-McMoRan Miami Inc.

If you have any questions or need any additional information, please let us know.

Thank you,

Todd Weaver

Senior Counsel – Environmental
Freeport-McMoRan Inc.
333 N. Central Ave.
Phoenix, AZ 85004
(602) 366-7818
Tweaver1@fmi.com

Message

**From:** AirAction [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=FA78B989233840789 95E04A73D258D83-AIRACTION]
**Sent:** 4/2/2025 3:28:20 PM
**To:** Weaver, Todd [tweaver1@fmi.com]
**Subject:** RE: Clean Air Act Section 112 Presidential Exemption Request

Thank you for emailing the AirAction mailbox to request a Presidential Exemption under section 112(i)(4) of the Clean Air Act and for engaging with EPA in advancing President Trump's Executive Orders and Powering the Great American Comeback. We have received your email and will be in contact soon. If you have Confidential Business Information (CBI) that you'd like to submit, please submit it in electronic version to the OAQPS_CBI@epa.gov inbox or in hardcopy to:

USEPA, OAQPS
CORE CBI Office
4930 Old Page Road
Durham, NC 27703

**From:** Weaver, Todd <tweaver1@fmi.com>
**Sent:** Monday, March 31, 2025 5:13 PM
**To:** AirAction <AirAction@epa.gov>
**Cc:** Szabo, Aaron <Szabo.Aaron@epa.gov>; Tardif, Abigale (Abbie) <Tardif.Abigale@epa.gov>; Traylor, Patrick <ptraylor@velaw.com>
**Subject:** Clean Air Act Section 112 Presidential Exemption Request



Please find the attached request for a two-year Presidential Exemption under Section 112(i)(4) of the Clean Air Act for Freeport-McMoRan Miami Inc.

If you have any questions or need any additional information, please let us know.

Thank you,

Todd Weaver

Senior Counsel – Environmental
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FREEPORT-McMoRan

Miami Operations
5701 New St., PO Box 4444, Claypool, AZ 85532-4444

March 31, 2025

**Via Email (airaction@epa.gov)**

The Honorable Lee Zeldin
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460

Re: Presidential Exemption: "National Emission Standards for Hazardous Air Pollutants: Primary Copper Smelting Residual Risk and Technology Review and Primary Copper Smelting Area Source Technology Review," 89 Fed. Reg. 41648 (May 13, 2024): Miami Smelter in Gila County, Arizona

Dear Administrator Zeldin:

Freeport-McMoRan Miami Inc. ("FMMI") writes to request a two-year Presidential Exemption under Section 112(i)(4) of the Clean Air Act for compliance deadlines applicable to FMMI's primary copper smelter located near Miami in Gila County, Arizona ("Miami Smelter"). This request applies to all the deadlines promulgated under the National Emission Standards for Hazardous Air Pollutants: Primary Copper Smelting Residual Risk and Technology Review and Primary Copper Smelting Area Source Technology Review, 89 Fed. Reg. 41648 (May 13, 2024) ("Copper Rule"). For the reasons set out in more detail below, the technology to implement the Copper Rule is not available, and it is in the national security interests of the United States for the President to grant a two-year exemption.

## I. The technology to implement the Copper Rule is so radically cost-ineffective that it is "not available" in a commonsense understanding of the term

Congress has committed the determination as to whether a technology is "available" to the President's discretion.[1] This discretion includes the consideration of costs when determining if a control technology is available.[2] Based on a sophisticated engineering and cost estimation process, FMMI

[1] The Supreme Court has recognized that where "the President acts pursuant to an express or implied authorization of Congress, his authority is at its maximum, for it includes all that he possesses in his own right plus all that Congress can delegate." *Youngstown Sheet & Tube Co. v. Sawyer*, 343 U.S. 579, 635 (1952) (Jackson, J., concurring).

[2] *Cf. Michigan v. EPA*, 576 U.S. 743, 755–57 (2015) (finding that the EPA unreasonably deemed cost irrelevant when it decided to regulate hazardous air pollutants from power plants).

estimates that the pollution controls required to comply with the main requirements of the Copper Rule will cost in the range of $237 million to $309 million or higher and will reduce only between 0.2 and 2.2 tons per year of metal hazardous air pollution ("HAP"). Using the annualized capital and operating cost approach under the EPA's Air Pollution Cost Control Manual, these controls will cost between $21 million and $164 million per ton of metal HAP removed. That figure is between 16 and 123 times higher than the EPA's long-established cost-effectiveness limit of $1.3 million per ton metal HAP.[3] Such radical cost-ineffectiveness renders the required technology "unavailable" under any commonsense understanding of the term. This radical cost ineffectiveness is compounded by the absolute cost of compliance, which will run into the hundreds of millions of dollars.[4] An inability to maintain or increase throughput at the Miami Smelter — a potential outcome given the Copper Rule's radical cost-ineffectiveness — would have significant impacts on the domestic copper supply chain to the detriment of national security interests of the United States.

## II. A two-year compliance extension is in the national security interests of the United States because of the importance of domestically sourced copper

The Miami Smelter is one of only two primary copper smelters left in operation in the United States and is a key asset that supports Freeport-McMoRan Inc.'s production of some 70 percent of the nation's domestic copper. The President has recognized that copper is "a critical material essential to the national security, economic strength, and industrial resilience of the United States."[5] Copper plays a key role in national defense, energy production, building construction, transportation equipment, industrial machinery and equipment, advanced electronics, and emerging technologies like artificial intelligence. Independent analysts are reasonably concerned that as soon as 2035, global copper production may fall short of global demand by some 12 billion pounds annually.[6] At present, the nation's smelting and refining capacity is critically low, has long been in decline, and lags significantly behind that of global competitors. As a result, the United States

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[3] *See* 88 Fed. Reg. 55858, 55879 (Aug. 16, 2023) (coke oven proposed NESHAP revisions). These engineering-based cost estimates are much higher than the EPA anticipated during rule development.

[4] FMMI has expressed its longstanding objections to the Copper Rule — including its outlandish compliance costs — through its public comments, its petition for reconsideration, and its petition for judicial review of the final rule.

[5] Exec. Order No. 14,220, *Addressing the Threat to National Security from Imports of Copper*, 90 Fed. Reg. 11001 (Feb. 25, 2025); *see also* Exec. Order No. 14,241, *Immediate Measures to Increase American Mineral Production*, 90 Fed. Reg. 13673 (Mar. 20, 2025).

[6] S&P Global, *The Future of Copper: Will the Looming Supply Gap Short-Circuit the Energy Transition?* 46 (2022), https://perma.cc/FGD2-6KHH [hereinafter *Future of Copper*].

must import almost half of its copper demand each year.[7] This strategic vulnerability to, and increasing dependence on, foreign sources of smelting — particularly from a concentrated number of foreign supplier nations, including China — presents a national security risk.[8] Accordingly, a two-year compliance extension is in the national security interests of the United States.

We have attached to this letter additional support for this request. Please do not hesitate to contact Todd Weaver at tweaver1@fmi.com or (602) 366-7818 should you have any questions or need additional information.

Sincerely,

William E. Cobb
Vice President and Chief Sustainability Officer
Freeport-McMoRan Inc.

Enclosure (1)

cc: Aaron Szabo, Senior Advisor to the Administrator, Office of the Administrator
Abigale Tardif, Principal Deputy Assistant Administrator, Office of Air and Radiation

[7] U.S. Geological Survey, *Mineral Commodity Summary: Copper* 64 (2025), https://perma.cc/E3M4-BMBT.

[8] *See Future of Copper*, *supra* n.6 at 76 (noting "[t]he strategic rivalry between the United States and China—over a projected period in which China will remain the dominant global supplier of refined copper.").

# Additional Materials in Support of Request for Presidential Exemption

On March 12, 2025, the U.S. Environmental Protection Agency ("EPA" or the "Agency") announced that it will reconsider several National Emission Standards for Hazardous Air Pollutants ("NESHAP") rulemakings.[1] One NESHAP rulemaking identified by that announcement is the one applicable to primary copper smelting, entitled "National Emission Standards for Hazardous Air Pollutants: Primary Copper Smelting Residual Risk and Technology Review and Primary Copper Smelting Area Source Technology Review," published at 89 Fed. Reg. 41648 (May 13, 2024) ("Copper Rule").[2] The EPA also announced that "[t]he Trump Administration is considering a 2-year compliance exemption under Section 112(i)(4) of the Clean Air Act (the "Act") for affected facilities while EPA goes through the rulemaking process."

In response to the EPA's announcement, Freeport-McMoRan Miami Inc. ("FMMI") has submitted a request for an exemption pursuant to Section 112(i)(4) of the Act, for its primary copper smelter located in Gila County, Arizona, near the town of Miami ("Miami Smelter"). FMMI requests that the Section 112(i)(4) compliance exemption exempt the Miami Smelter from the new standards and limitations prescribed by the Copper Rule for the full initial two-year period authorized under the statute. As explained below, FMMI believes that the statutory criteria for a Section 112(i)(4) compliance exemption are met.

## I. Background

### A. FMMI and the Miami Smelter

FMMI owns and operates the Miami Smelter, a primary copper smelter[3] that was constructed and put into operation in 1915. By FMMI's estimate, the Miami Smelter was one of nineteen primary copper smelters operating in the United States in the 1970s, spread out across multiple states. Over time, however, most of those smelters have shuttered. As of today, only three primary copper smelters remain, with only two (one of which is the Miami Smelter) currently operating. And of those, the Miami Smelter is the only active facility regulated under the Copper Rule.[4]

Over the years, FMMI has made significant capital investments in the Miami Smelter, including the installation of an electric furnace, gas handling/cleaning systems and a double contact sulfuric

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[1] EPA Press Office, *Trump EPA Announces Reconsideration of Air Rules Regulating American Energy, Manufacturing, Chemical Sectors (NESHAPs)* (Mar. 12, 2025), https://perma.cc/89EN-VELB. FMMI incorporates all authorities cited herein by reference.

[2] *Id.* (identifying the "NESHAP[] for . . . copper smelting"); EPA, *National Hazardous Standards for Hazardous Air Pollutants (NESHAP): Powering the Great American Comeback Fact Sheet*, https://perma.cc/3CCW-3MQF (last visited Mar. 18, 2025) (specifically identifying the Copper Rule).

[3] Primary copper smelting entails extracting copper directly from copper-bearing mined ore. It is distinct from secondary copper smelting, which recycles copper from scrap and other "waste" sources.

[4] *See* 40 C.F.R. Part 63, Subpart QQQ.

acid plant in 1972, the installation of a more energy-efficient IsaSmelt® vessel in 1992, and upgrades to the facility's particulate matter ("PM") and sulfur dioxide ("$SO_2$") emission control systems from 2013 to 2017. The Miami Smelter, moreover, is certified according to multiple International Organization for Standardization ("ISO") standards, including ISO 14001 (Environmental Certification) and ISO 45001 (Health & Safety Certification), as well as according to Copper Mark, a comprehensive industry assurance framework designed to demonstrate responsible production practices.

FMMI's operations generate substantial benefits locally (nearly $100 million for Gila County) and for the State of Arizona (almost $300 million) in the form of tax revenues and spending by employees. In 2022, FMMI employed 830 people and created nearly 3,000 additional jobs in Arizona, through the effects of wages, taxes, and services purchased.

FMMI is a subsidiary of Freeport-McMoRan Inc. ("FCX"), one of the world's largest publicly traded copper producers (NYSE: FCX). FCX, headquartered in Phoenix, Arizona, is also the largest copper mining company in the United States, operating seven open-pit copper mines in Arizona (including the large-scale Morenci minerals district in Arizona) and New Mexico, as well as copper processing facilities in Arizona and Texas. All told, FCX's domestic operations annually produce approximately 1.4 billion pounds of copper, accounting for a third of its global production.

FCX recognizes that mining and metal processing impacts the natural environment, and FCX's goal is to conduct mining and processing operations in a manner that minimizes adverse impacts on the environment and supports the protection of ecosystems through responsible environmental stewardship. To that end, FCX understands that environmental protection and stewardship are key to ensuring the long-term viability of its business, including maintaining the necessary support from host communities and governments. FCX's policy objectives include minimizing environmental impacts  including those from hazardous air pollutants ("HAP") regulated under the NESHAP program  using risk management strategies based on valid data and sound science. Over the years, FMMI has worked collaboratively with the EPA and its technical team to develop effective and workable NESHAP standards applicable to the Miami Smelter.

## B. The copper production process

The copper value chain includes more than simply the mining of copper-bearing ore, which itself contains minimal copper by concentration. Copper-bearing ore must be processed to remove its impurities, ultimately resulting in a key intermediary product of copper production  copper "anode." Copper anode is traditionally produced by milling sulfide copper ore to create a copper concentrate that is then converted into copper anode through smelting. That is the production process used by the Miami Smelter. The smelting process also produces sulfuric acid, which is then reintegrated upstream into the value chain to be used in mining operations. The Miami Smelter transports its copper anode to an electrorefining facility in El Paso, Texas to produce copper "cathode," which is a very pure form of copper (typically of at least 99.95 percent purity). Copper cathode is the principal form of copper traded on global markets, and it is the product that is further processed for downstream industrial, commercial, and consumer purposes.

FCX's U.S. operations accounted for approximately 70 percent of the total production of U.S. refined copper in 2024. All the anodes manufactured at the Miami Smelter are refined at the El Paso, Texas facility. The vertical integration of FCX's operations allows it to retain the overwhelming majority of its copper production domestically and minimize the amount of copper concentrates that must be exported for smelting and, if necessary, refining.

## C. The Copper Rule and subsequent developments

After concluding its periodic residual risk and technology review ("RTR") for the NESHAP for major source Primary Copper Smelters, and its technology review for the Primary Copper Smelting area source NESHAP, the EPA issued a notice of proposed rulemaking,[5] followed later by a supplemental notice of proposed rulemaking.[6] During the rulemaking process, FMMI provided robust comments and technical analyses in response to those notices, as well as responses to follow-on information requests from the Agency. FMMI's comments highlighted, among other things, problems with the EPA's residual risk analysis, the feasibility and cost effectiveness of certain numerical emission limits, and the workability of certain proposed work practice standards. The EPA issued the Copper Rule on May 13, 2024.[7]

Following promulgation of the Copper Rule, FMMI determined—as a result of early-stage engineering studies undertaken as part of FMMI's efforts to implement the final rule—that certain aspects of the Rule would make compliance extremely difficult to achieve, and potentially even cost prohibitive from the standpoint of maintaining economically viable smelter operations.

FMMI submitted to the EPA a petition for reconsideration of the Copper Rule on July 12, 2024. To date, and to FMMI's present knowledge, the EPA has not formally acted upon FMMI's petition for reconsideration, aside from the EPA's March 12 press release announcing the Agency's intent to reconsider the Copper Rule, among other NESHAP rules. On the same day it submitted the petition for reconsideration, FMMI also filed a petition for review of the Copper Rule in the U.S. Court of Appeals for the District of Columbia Circuit. FMMI's petition for review was consolidated with that filed by the San Carlos Apache Tribe and Sierra Club. *See San Carlos Apache Tribe, et al. v. EPA, et al.*, No. 24-1241 (D.C. Cir.) (consolidated with No. 24-1245). On October 24, 2024, the parties filed a joint motion to hold the matter in abeyance pending the EPA's resolution of the petitions for reconsideration. The motion was granted on November 4, 2024. In a joint status report filed with the court on February 3, 2025, the EPA represented that it is continuing to consider the petitions for reconsideration before it.

[5] 87 Fed. Reg. 1616 (Jan. 11, 2022).

[6] 88 Fed. Reg. 47415 (July 24, 2023).

[7] 89 Fed. Reg. 41648 (May 13, 2024).

## II. FMMI's request for a Presidential Exemption meets the statutory requirements under Section 112(i)(4)

Section 112(i)(4) of the Act provides that "[t]he President may exempt any stationary source from compliance with *any standard or limitation under this section* for a period of not more than 2 years if the President determines that *the technology to implement such standard is not available* and that *it is in the national security interests of the United States to do so*."[8]

As initial matters, the Miami Smelter is a stationary source subject to the Copper Rule's standards and limitations. The Copper Rule was promulgated by the EPA pursuant to Section 112(d) and 112(f) of the Act.[9] The language "any standard or limitation under this section" in Section 112(i)(4) means that the President may exempt a stationary source from any type of standard or limitation promulgated pursuant to Section 112, regardless of the particular subdivision relied upon by the EPA.[10] It is thus of no consequence, for purposes of the Presidential Exemption, that the EPA relied upon both Section 112(d) and 112(f) to promulgate the Copper Rule.

Section 112(i)(4) calls for two predicate determinations. First, the President must determine that "the technology to implement [the exempted standard or limitation] is not available." Second, the President must determine that "it is in the national security interests of the United States" to exempt the stationary source from compliance. Below, FMMI explains why both predicate determinations are met with respect to the Copper Rule.

### A. The technology to implement the Copper Rule is so radically cost-ineffective that it is "not available" in a commonsense understanding of the term

The President must "determine[]" that "the technology to implement" the exempted standard or limitation "is not available."[11] As detailed below, Congress did not specify under what circumstances the President should find a technology "not available" and instead committed this determination to the President's discretion. Here, the radical cost ineffectiveness of the requisite control technology strongly supports finding it "not available."

Based on a sophisticated engineering and cost estimation process, FMMI estimates that the pollution controls required to comply with the main requirements of the Copper Rule will cost in the range of $237 million to $309 million or higher and will reduce only between 0.2 and 2.2 tons per year of metal HAP. Using the annualized capital and operating cost approach under the EPA's Air Pollution Cost Control Manual, these controls will cost between $21 million and $164 million per

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[8] 42 U.S.C. § 7412(i)(4) (emphases added).

[9] 89 Fed. Reg. at 41651, 41653.

[10] *Cf. Babb v. Wilkie*, 140 S. Ct. 1168, 1173 n.2 (2020) ("We have repeatedly explained that the word 'any' has an expansive meaning." (internal quotation marks and citation omitted)); *accord New York v. EPA*, 443 F.3d 880, 885 86 (D.C. Cir. 2006) (giving the word "any," as used in the Clean Air Act, an "expansive meaning" (citations omitted)).

[11] 42 U.S.C. § 7412(i)(4).

ton of metal HAP removed. That figure is between 16 and 123 times higher than the EPA's long-established cost-effectiveness limit of $1.3 million per ton metal HAP.[12]

### *1. Congress committed the determination of whether a technology is "available" under Section 112(i)(4) to the President's discretion*

The Act does not specify when a technology should be determined "available" for purposes of Section 112(i)(4).[13] Instead, Congress has committed such determination to the President's discretion. This is clear from the text of Section 112(i)(4), which authorizes an exemption "if the President determines" the requisite criteria are met, without provision for judicial second-guessing of that determination.[14]

The Supreme Court has recognized that where "the President acts pursuant to an express or implied authorization of Congress, his authority is at its maximum, for it includes all that he possesses in his own right plus all that Congress can delegate."[15] Such is the case here, where Congress explicitly authorized the President to determine whether a technology is "available," at his discretion and only with the added requirement that "[t]he President shall report to Congress with respect to each exemption (or extension thereof)."[16]

### *2. The radical cost ineffectiveness of the requisite controls warrants a finding of technological unavailability*

Here, the radical cost ineffectiveness of the requisite controls supports a finding of technological unavailability. As leading scholars of administrative and regulatory law have long observed, common sense dictates that a technology is not "available" if it is radically cost-ineffective:

[12] *See* 88 Fed. Reg. 55858, 55879 (Aug. 16, 2023) (coke oven proposed NESHAP revisions). These engineering-based cost estimates are much higher than the EPA anticipated during rule development.

[13] Nor to FMMI's knowledge has any court meaningfully interpreted the scope of "available" under Section 112(i)(4).

[14] It is clear from the statute, moreover, that to the extent Congress contemplated a check on the President's authority, the relevant check was its own (i.e., Congress's) ongoing oversight, not judicial review. *See* 42 U.S.C. § 7412(i)(4) (providing that the President "shall report to Congress" on each exemption).

[15] *Youngstown Sheet & Tube Co. v. Sawyer*, 343 U.S. 579, 635 (1952) (Jackson, J., concurring); *see Haig v. Agee*, 453 U.S. 280, 294 (1981) (concluding that on the matter of passport controls, "Congress endorsed not only the underlying premise of Executive authority in the areas of foreign policy and national security, but also its specific application to the subject" through authorizing legislation); *see also Franklin v. Massachusetts*, 505 U.S. 788, 801 (1992) ("Although the President's actions may still be reviewed for constitutionality, we hold that they are not reviewable for abuse of discretion under the APA.") (internal quotation marks and citation omitted); *Am. Int'l Grp., Inc. v. Islamic Republic of Iran*, 657 F.2d 430, 440–41 (D.C. Cir. 1981) (applying Justice Jackson's tripartite *Youngstown* framework and determining that the President was "acting pursuant to an unequivocal statutory grant of authority"; "we perceive no erosion of the constitutional principle of the separation of powers in upholding the actions").

[16] 42 U.S.C. § 7412(i)(4).

> "Available technology" is an elastic concept. In many instances . . . technology is available in an engineering sense to eliminate pollution entirely. If we were willing to spend hundreds of billions of dollars, we could have drinking water flowing from industrial waste discharge pipes (although disposing of the pollutants removed from waste streams could present serious problems). *Accordingly, most decisions about "available" technology must implicitly or explicitly take costs into account.*[17]

The same commonsense understanding has also guided courts reviewing the EPA's authority to find that consideration of regulatory costs is an essential prerequisite for reasoned decision making and to find that controls imposing "possibly disabling costs upon the regulated industry" should not be deemed "available."[18] The radically cost-ineffective controls imposed by the Copper Rule may be "possibly disabling" to maintaining economically viable operations at the Miami Smelter, which creates the risk that curtailed domestic production will make the United States strategically vulnerable.

As discussed below, consideration of (i) the cost of the requisite controls on a dollars per ton of emissions reduced basis and (ii) EPA policy acknowledging that extraordinarily expensive controls are not "available" under the Act's New Source Review program further support a finding that the requisite controls are not available.

Using the annualized capital and operating cost approach under the EPA's Air Pollution Cost Control Manual, these controls will cost between $21 million and $164 million per ton of metal HAP removed. That figure is between 16 and 123 times higher than the EPA's long-established cost-effectiveness limit of $1.3 million per ton metal HAP. Such radical cost-ineffectiveness renders the control technology "not available."

EPA guidance interpreting the term "best available control technology" under the Act further supports a finding that the extraordinarily expensive requisite controls are "not available." Even when the Act tasks the EPA with determining the "best" control technology "available," the Act requires

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[17] Bruce A. Ackerman & Richard B. Stewart, *Reforming Environmental Law*, 37 Stan. L. Rev. 1333, 1359 n.60 (1985) (emphasis added).

[18] *Am. Petroleum Inst. v. EPA*, 787 F.2d 965, 972 (5th Cir. 1986) (evaluating "best available technology economically achievable" (BAT) limitations under the Clean Water Act in offshore drilling-related permits and explaining, "EPA would disserve its mandate were it to tilt at windmills by imposing BAT limitations which removed de minimis amounts of polluting agents from our nation's waters, while imposing possibly disabling costs upon the regulated industry" (citations omitted)); *id.* ("We agree with the Ninth Circuit's comment that, 'at some point[] extremely costly more refined treatment will have a de minimis effect on the receiving waters.'" (quoting *Ass'n of Pac. Fisheries v. EPA*, 615 F.2d 794, 818 (9th Cir. 1980))); *see also Michigan v. EPA*, 576 U.S. 743, 755–57 (2015) (finding that EPA unreasonably deemed cost irrelevant when it decided to regulate HAPs from power plants under the Act); *Riverkeeper, Inc. v. EPA*, 358 F.3d 174, 181–83 (2d Cir. 2004) (evaluating BAT limitations and recognizing that "EPA is permitted to consider a *technology's cost* in determining whether it is practicable, economically achievable, *or available*") (emphasis added) (internal quotation marks and citation omitted).

consideration of "economic impacts and other costs."[19] And EPA guidance recognizes that unreasonably expensive controls are *not* "best available control technology."

Accordingly, consistent with the EPA's own recognition of the commonsense principle that radically cost ineffective controls are not "available," the President would be justified in using his discretion to find that the controls here are not available.

## B. A two-year compliance extension is in the national security interests of the United States because of the importance of domestically sourced copper

The President must also "determine[]" that a compliance exemption "is in the national security interests of the United States."[20] There is ample evidence that it is in the United States' national security interests to exempt FMMI's Miami Smelter from compliance with the Copper Rule. In short, the Miami Smelter is one of only two primary copper smelters currently operating in the United States, and the facility generates a significant portion of the nation's domestically produced copper. If, as a result of the unavailability of technology to meet the Copper Rule, FMMI cannot maintain economically viable smelter operations at the facility, the curtailment of that domestic production risks making the United States strategically vulnerable to, and increasingly dependent upon, foreign suppliers of copper (particularly China). That outcome would be problematic because global copper demand is forecasted to significantly increase—and likely outstrip global supply in the coming decades.

### *1. The scope of "national security interests of the United States" under Section 112(i)(4) of the Act is broad*

The Clean Air Act does not define the scope of "national security interests of the United States" for purposes of Section 112(i)(4), and to FMMI's knowledge, no court has meaningfully interpreted its scope. Broadly speaking, "national security" is a capacious term without a single controlling definition.[21] However, the principle, especially following the close of the Cold War, has been understood to go beyond military defense and protection from interstate conflict, and instead to encompass a wider range of threats to the safety, welfare, and values of the nation, such as resource or energy scarcity, disruption of economic activities, and trade restrictions or barriers.[22]

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[19] 42 U.S.C. § 7479(3) ("The term 'best available control technology' means an emission limitation . . . which the permitting authority . . . taking into account . . . economic impacts and other costs, determines is achievable . . . .").

[20] *Id.* § 7412(i)(4).

[21] *See* James E. Baker, *In the Common Defense: National Security Law for Perilous Times* 18 (2007) ("[N]o single definition of national security is recognized in law or as policy predicate.").

[22] *See* David A. Baldwin, *The Concept of Security*, 23 Rev. Int'l Stud. 5, 23 (1997), https://perma.cc/QPM8-BD65; *see also* Baker, *supra* n.21, at 19 (taking a narrower view of "national security" but nevertheless acknowledging that the concept centers on "preservation of a value system," especially from more "immediate" and "human threats"); Inv. Div., Directorate for Fin. and Enter. Affairs, Org. for Econ. Coop. and Dev., *Security-Related Terms in International Investment Law and in National Security Strategies* 11 (2009), https://perma.cc/DN99-J5T7 (study of states' national security policies finding that

In fact, recent presidential administrations, regardless of party affiliation, have identified certain transnational and domestic economic and natural resource matters as potential national security interests or threats: energy market disruptions; promotion of domestic research, development, and manufacturing in emerging technologies; and restricted access to international markets.[23]

The Supreme Court, for its part, has afforded the political branches substantial deference with respect to national security matters, including with respect to the factual findings and policy decisions of the Executive Branch.[24] As noted above, courts have also recognized that where "the President acts pursuant to an express or implied authorization of Congress, his authority is at its maximum, for it includes all that he possesses in his own right plus all that Congress can delegate."[25] Such is the case here, where Congress explicitly authorized the President to make national security determinations, at his discretion and only with the added requirement that "[t]he President shall report to Congress with respect to each exemption (or extension thereof)."[26]

### 2. *President Trump, Congress, and the previous administration have all recognized the critical importance of copper to the national security of the United States*

President Trump has recognized that "the United States has ample copper reserves, yet our smelting and refining capacity lags significantly behind global competitors," finding that foreign "dominance" of copper smelting and refining "poses a direct threat to United States national security

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"national security . . . refers to protecting nations and citizens," and that states "aspire to a broad and integrated management of risks, often including all threats to public safety that require coordinated, nationwide responses," including threats like "energy security," "global pandemics," and "man-made emergencies").

[23] *See* The White House, *National Security Strategy of the United States of America* 17–23 (2017), https://perma.cc/D9MV-FQSJ; The White House, *National Security Strategy* 2, 15, 16–17 (2015), https://perma.cc/2NMM-QYH5; The White House, *A National Security Strategy of Engagement and Enlargement* 7, 8 (1995), https://perma.cc/4QCK-4QMN (explaining that the United States' "security requirements . . . start with our physical defense and economic well-being" while also identifying that "[a]n emerging class of transnational environmental and natural resource issues is increasing affecting international stability").

[24] *See Holder v. Humanitarian Law Project*, 561 U.S. 1, 34 (2010) ("But when it comes to collecting evidence and drawing factual inferences in" the areas of national security and foreign relations, "the lack of competence on the part of the court is marked, and respect for the Government's conclusions is appropriate." (internal quotation marks and citation omitted)); *id.* at 34–35 (recognizing that "[i]n th[e] context" of national security and foreign relations, "conclusions must often be based on informed judgment rather than concrete evidence, and that reality affects what we may reasonably insist on from the Government"); *Winter v. Nat. Def. Res. Council*, 555 U.S. 7 (2008) (deference to the President after explicit finding: "The President determined that continuation of the exercises as limited by the Navy was 'essential to national security.'"); *see also Dep't of Navy v. Egan*, 484 U.S. 518, 530 (1988) ("[C]ourts traditionally have been reluctant to intrude upon the authority of the Executive in military and national security affairs.").

[25] *See supra* n.15.

[26] 42 U.S.C. § 7412(i)(4).

and economic stability."[27] President Trump has also described the criticality of copper by recently recognizing the mineral's importance "to the national security, economic strength, and industrial resilience of the United States," as well as the "significant vulnerabilities in the copper supply chain, with increasing reliance on foreign sources for mined, smelted, and refined copper."[28] Indeed, the United States' "increasing dependence on foreign sources of copper, particularly from a concentrated number of supplier nations, along with the risk of foreign market manipulation," introduces trade concerns that threaten national security.[29] Likewise, FMMI notes that the Administration has reiterated that domestic mineral production, including of copper, is a strategic national interest, especially as a means to "reduce . . . reliance on foreign nations" and generate "a secure, predictable, and affordable supply of minerals."[30]

This Administration's actions fit within a broader federal policy to ensure reliable, secure, and resilient domestic supply chains for key minerals and materials. As part of the Energy Act of 2020, Congress set forth its findings that:

- "the availability of materials[31] is essential for national security, economic well-being, and industrial production";
- "the availability of materials is affected by the stability of foreign sources of essential industrial materials, instability of materials markets, international competition and demand for materials, the need for energy and materials conservation, and the enhancement of environmental quality"; and
- "extraction, production, processing, use, recycling, and disposal of materials are closely linked with national concerns for energy and the environment."[32]

Congress also set forth its policy "to promote an adequate and stable supply of materials necessary to maintain national security, economic well-being and industrial production" in order to "assure the availability of materials critical to commerce, the economy, and national security" and to

[27] Exec. Order No. 14,220, *Addressing the Threat to National Security from Imports of Copper*, 90 Fed. Reg. 11001 (Feb. 25, 2025).

[28] *Id.*

[29] *Id.*

[30] Exec. Order No. 14,241, *Immediate Measures to Increase American Mineral Production*, 90 Fed. Reg. 13673 (Mar. 20, 2025).

[31] Defined as "substances, including minerals, of current or potential use that will be needed to supply the industrial, military, and essential civilian needs of the United States in the production of goods or services, including those which are primarily imported or for which there is a prospect of shortages or uncertain supply, or which present opportunities in terms of new physical properties, use, recycling, disposal or substitution, with the exclusion of food and of energy fuels used as such." 30 U.S.C. § 1601(b)(2).

[32] *Id.* § 1601(a)(1)–(3).

"avoid supply shortages, mitigate price volatility, and prepare for demand growth and other market shifts."[33]

The Energy Act of 2020 identified a need to secure continued access to critical materials, defined as "any non-fuel mineral, element, substance, or material that the Secretary of Energy determines . . . has high risk of a supply chain disruption[] and serves an essential function in 1 or more energy technologies, including technologies that produce, transmit, store, and conserve energy."[34] Relevant here, the Department of Energy, in its 2023 *Critical Materials Assessment*, projects that copper will be a "near-critical" material in the medium term (2025 to 2035).[35] DOE, moreover, identified copper as a "critical material for energy" in its Final Critical Materials List.[36]

### *3. Non-governmental experts have concluded that the United States will need more copper in the coming decades, likely outstripping supply*

There is broad public acknowledgment that copper is and will continue to be an essential mineral, and that current levels of copper production are likely insufficient to meet global demand in the face of those growing demand pressures from the energy transition. S&P Global, in its *Future of Copper* study, outlined its demand projections for copper as the United States and other nations pivot towards electrification and clean energy policies. The report predicts a doubling of global copper demand by 2035—from about 25 million metric tons ("MMt") annually to about 50 MMt annually driven in large part by the increased adoption of electric vehicles (and the development of charging infrastructure) and the construction, deployment, and integration of renewable energy projects.[37] S&P Global also forecasts that global demand increases will remain resilient at approximately 50 MMt annually, well into 2050.[38]

S&P Global's forecasts generally accord with those of other entities. McKinsey & Company estimates that annual global copper demand will reach 36.6 MMt by 2031.[39] Wood Mackenzie, a leading energy consultant, forecasts that the annual demand for copper will grow to 56 MMt by 2050, an increase of about 75 percent.[40] The Department of Energy likewise observes that "[t]he

[33] *Id.* § 1602(a)(1), (3).

[34] *Id.* § 1606(a)(2)(A).

[35] U.S. Dep't of Energy, *Critical Materials Assessment* 106 (2023), https://perma.cc/3JVX-67PR [hereinafter DOE *Critical Materials Assessment*].

[36] Notice of Final Determination on 2023 DOE Critical Materials List, 88 Fed. Reg. 51792, 51792 (Aug. 4, 2023).

[37] S&P Global, *The Future of Copper: Will the Looming Supply Gap Short-Circuit the Energy Transition?* 9, 11 (2022), https://perma.cc/FGD2-6KHH [hereinafter *Future of Copper*].

[38] *Id.* at 11.

[39] Scott Crooks et al., *Bridging the Copper Supply Gap*, McKinsey & Co. (Feb. 17, 2023), https://perma.cc/DHV2-PUB9 [hereinafter *Bridging the Copper Supply Gap*].

[40] Nick Pickens et al., Wood Mackenzie, *Securing Copper Supply: No China, No Energy Transition* 2 (2024), https://perma.cc/9QKD-SDV2 [hereinafter *Securing Copper Supply*].

demand for [copper] is increasing significantly."[41] There is thus little indication that global copper demand will do anything but increase in the coming decades.

Copper has unique properties—namely, its ability to efficiently conduct electricity and withstand high temperatures, as well as its ductility and recyclability — that make it an essential commodity. Copper is critical to the production of electric vehicles, batteries, renewable energy projects, conventional energy projects like hydroelectric, thermal, and nuclear power, and electrification infrastructure (e.g., transmission, distribution, charging).[42] Electric vehicles, in particular, require roughly 2.5 times as much copper as an internal combustion engine vehicle.[43] Copper is used in every major component of an electric vehicle, such as motors and inverters, such that an electric vehicle can use up to a mile of copper wire.[44] Similarly, solar and offshore wind will need, respectively, two and five times more copper per megawatt of installed capacity as compared to power generated using natural gas or coal.[45]

Importantly, the demand pressures arising from the global energy transition are in addition to non-energy transition needs. According to the United States Geologic Survey ("USGS"), in 2024, a little over 40 percent of copper and copper alloy products in the United States was used for building construction, while another 18 percent was used for transportation equipment, and another 7 percent for industrial machinery and equipment.[46] And S&P Global projects that demand from non-energy transition end markets — such as building construction, appliances, electrical equipment, and brass hardware and cell phones, as well as expanding applications in communications, data processing, and storage—is also expected to continue to grow, rising at a compounded annual rate of 2.4 percent between 2020 and 2050.[47]

Of course, demand does not exist in a vacuum. On the supply side, there are growing concerns that global copper production will not be sufficient to meet growing demands. In the present term,

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[41] *See* DOE *Critical Materials Assessment*, *supra* n.35, at 148.

[42] *See Future of Copper*, *supra* n.37, at 10, 27 – 35; Int'l Energy Agency, *The Role of Critical Minerals in Clean Energy Transitions* 5 – 8 (2021), https://perma.cc/TM48-BV8W; Jon Lynch, *Copper's Role in Growing Electric Vehicle Production*, CME Group (April 20, 2021), https://perma.cc/N72L-FJJH.

[43] *Future of Copper*, *supra* n.37, at 28.

[44] *See Powering Up the Electric Vehicle*, Wood Mackenzie (Aug. 13, 2019), https://perma.cc/E73G-G8HX; *see also* DOE *Critical Materials Assessment*, *supra* n.35, at 15 (explaining how and why copper is a prevalent material in electric vehicles).

[45] *Future of Copper*, *supra* n.37, at 33; *see also* DOE *Critical Materials Assessment*, *supra* n.35, at 36, 42 – 45 (discussion of prevalence of copper in wind energy components and electric grid technologies and components).

[46] U.S. Geological Survey, *Mineral Commodity Summary: Copper* 64 (2025), https://perma.cc/E3M4-BMBT [hereinafter *Mineral Commodity Summary*]; *Copper Statistics and Information*, U.S. Geological Survey, https://perma.cc/H2UF-HL8Y (last visited Mar. 27, 2025).

[47] *Future of Copper*, *supra* n.37, at 11.

growth in global copper production has been described as "sluggish."[48] Longer term, S&P Global projects that under its most ambitious outlook for supply (i.e., one that contemplates expansions in mining capacity, improved mining and production efficiencies, and increased recycling), there is still an expected shortfall of 1.6 MMt in 2035.[49] Its much less optimistic outlook, moreover, expects a shortfall close to 10 MMt in 2035.[50] S&P Global's findings align with those of others.[51] With respect to copper cathodes, recycling and the addition of secondary copper smelting capacity is unlikely to close expected shortfalls — recycling provides only about 32 percent of current and likely future cathode supply.[52]

Ensuring and expanding efficient production of copper is critical for national security and the U.S. economy. Primary copper smelting capacity in the United States is critically low and has long been in decline. As noted previously, the Miami Smelter is one of only two primary copper smelters left in operation in the United States and is a key asset that supports Freeport-McMoRan Inc.'s production of some 70 percent of the nation's domestic copper. ***An inability to maintain or increase throughput at the Miami Smelter—a potential outcome given the Copper Rule's radical cost ineffectiveness, see supra Section II.A—would have significant impacts on the domestic copper supply chain to the detriment of the national security interests of the United States.***

Domestically, the United States produces some fifty percent of the refined copper it consumes each year.[53] The remaining amount is imported, largely from Chile, Canada, and Peru. Notably, however, the U.S. copper supply chain typically results in significant quantities of copper-bearing ores and copper concentrates from domestic mining operations being exported for processing at foreign smelters, typically located in China. Refined copper is then imported back into the United States.[54] This reflects the reality that while copper mining is often geographically concentrated in a manner that favors the United States, the subsequent stages in the copper production process (i.e., smelting, refining, fabrication, and manufacture of finished goods) are presently, and increasingly, concentrated outside the United States, particularly in China.[55] A Wood Mackenzie report on the topic confirms that "China has continued to dominate investment in the [copper] supply

[48] *See* Int'l Energy Forum, *How Copper Shortages Threaten the Energy Transition* (Jan. 10, 2024), https://perma.cc/8ZHV-C9AA; *see also* Yusuf Khan, *Copper Shortages Threatens Green Transition*, Wall St. J. (Apr. 18, 2023), https://tinyurl.com/2sm3zh8n (reporting from industry professionals that the global copper market "is pretty tight" and that "there's no slack in the system, no buffer").

[49] *Future of Copper*, *supra* n.37, at 46.

[50] *Id.*

[51] *See Bridging the Copper Supply Gap*, *supra* n.39; *see also* Dr. Kwasi Ampofo, *Copper Prices May Jump 20% by 2027 as Supply Deficit Rises*, BloombergNEF (Oct. 12, 2023), https://perma.cc/NTY6-7F4P.

[52] Int'l Copper Study Grp., *The World Copper Factbook 2024*, at 53 (2024), *available at* https://tinyurl.com/ysz47jau.

[53] *Mineral Commodity Summary*, *supra* n.46, at 64.

[54] *Id.*

[55] *See Securing Copper Supply*, *supra* n.40, at 3.

chain," and that "China has accounted for 75 percent of all global smelter capacity growth."[56] The United States, for its part, "has tilted towards the secondary market and scrap."[57] This import-export relationship also reduces the availability of domestic sulfuric acid, which as noted previously, is a byproduct of primary copper smelting and is often re-inserted upstream for mining activities.

In sum, the global copper market is likely approaching an inflection point, where global demand outstrips global supply. The Miami Smelter represents a critical component of the United States' ability to produce copper domestically. The Copper Rule, however, presents a material threat to the continued operation of and the ability to expand production at the Miami Smelter, given its radical cost ineffectiveness. *See supra* Section II.A.

[56] *Id.* at 5.

[57] *Id.* at 8.