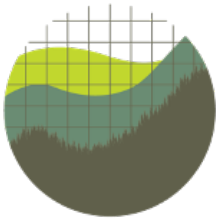

Institute *for*
Policy Integrity
NEW YORK UNIVERSITY SCHOOL OF LAW

June 23, 2023

To: Environmental Protection Agency

Re: National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units Review of the Residual Risk and Technology Review, 88 Fed. Reg. 24854 (April 24, 2023)

The Institute for Policy Integrity at New York University School of Law (Policy Integrity)[1] respectfully submits the following comments to the Environmental Protection Agency (EPA) regarding its recent proposal to amend the Mercury and Air Toxics Standards (MATS) for coal- and oil-fired power plants.[2] Policy Integrity is a non-partisan think tank dedicated to improving the quality of government decision-making through advocacy and scholarship in the fields of administrative law, economics, and public policy.

Policy Integrity makes the following observations and recommendations:

- **EPA explains its reliance on the statutory factors to strengthen the emissions standards on the basis of the revised technology review.** EPA considers the quantified emissions reductions of hazardous air pollutants (HAPs) as well as their surrogates and properly contextualizes costs as a small fraction of industry revenue. EPA should consider the latest information submitted to the record on the availability and cost of HAP pollution controls.
- **EPA should further discuss the benefits of reducing HAP emissions in its regulatory analysis.** EPA should also discuss any meaningful incremental benefits of reduced HAP pollution below the currently accepted risk threshold—even if they are difficult to quantify or cannot be quantified. EPA should consider multipathway exposures and the cumulative pollution burden to better weigh the benefits of these reductions.
- **EPA should examine whether its demographic analysis obscures meaningful differences between the alternatives by averaging the populations within a 10 km radius of all affected facilities or not examining populations closest to the facilities separately. EPA should note any incremental distributional differences between alternatives even if they are small relative to national disproportionate pollution burden.**

[1] This document does not purport to represent the views, if any, of New York University School of Law.
[2] National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units Review of the Residual Risk and Technology Review, 88 Fed. Reg. 24854, 24866–67 (proposed Apr. 24, 2023) [hereinafter Proposal].

- **EPA properly includes the benefits of reducing criteria pollutants that harm public health and climate damages in its 12,866 analysis.** EPA's approach is consistent with the law, best principles of economics, and EPA's longstanding practice.
- **If EPA grants the existing petition for reconsideration and revisits the residual risk analysis, it should more fully consider the incremental benefits of risk reduction below the currently accepted threshold.**

These recommendations are each discussed in further detail in the following comments.

I. Background

As EPA explains in the Proposal, the Clean Air Act (CAA) Section 112 requires EPA to set standards that reduce human exposure to HAP (which includes mercury (Hg), non-Hg metal, acid gas, and organic HAPs), sometimes known as toxic air pollution, which can cause a range of adverse health effects. Under Section 112, EPA must set standards for major sources of HAP that "require the maximum degree of reduction in emissions of the hazardous air pollutants . . . (including a prohibition on such emissions, where achievable) that the Administrator, taking into consideration the cost of achieving such emission reduction, and any non-air quality health and environmental impacts and energy requirements, determines is achievable."[3] These are known as MACT or maximum achievable control technology standards. These standards were first set for the category of coal- and oil-fired power plants in 2012 and are known as the Mercury & Air Toxics Standards (MATS).[4]

EPA issued the MATS after making the determination that they were "appropriate and necessary." Congress required EPA to make this one-time finding for this specific source category. EPA supplemented the finding in 2016 with confirmation that EPA still found the regulation appropriate upon consideration of costs.[5] This finding was revoked in 2020[6] and subsequently restored and affirmed in April 2023.[7]

Eight years after setting a MACT standard under Section 112, EPA must assess and address any remaining risks to public health (residual risk review).[8] At least every eight years, EPA must also conduct a review to determine whether the MACT standard should be updated in light of

[3] 42 U.S.C. § 7412(d)(2).
[4] *See* National Emission Standards for Hazardous Air Pollutants from Coal- and Oil-Fired Electric Utility Steam Generating Units and Standards of Performance for Fossil-Fuel-Fired Electric Utility, Industrial-Commercial-Institutional, and Small Industrial-Commercial-Institutional Steam Generating Units, 77 Fed. Reg. 9303 (Feb. 16, 2012) [hereinafter MATS Rule].
[5] *See* Supplemental Finding that it Is Appropriate and Necessary to Regulate Hazardous Air Pollutants from Coal- and Oil-Fired Electric Utility Steam Generating Units, 81 Fed. Reg. 24420, 24420 (Apr. 25, 2016) [hereinafter 2016 Supplemental Finding].
[6] *See* National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units—Reconsideration of Supplemental Finding and Residual Risk and Technology Review, 85 Fed. Reg. 31286 (May 22, 2020) [hereinafter 2020 Action].
[7] *See* National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units—Revocation of the 2020 Reconsideration and Affirmation of the Appropriate and Necessary Supplemental Finding, 88 Fed. Reg. 13956 (Mar. 6, 2023) [hereinafter 2023 Affirmation Finding].
[8] 42 U.S.C. § 7412(f)(2); *see also* National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units—Reconsideration of Supplemental Finding and Residual Risk and Technology Review, 84 Fed. Reg. 2670, 2680 (Fed. 7, 2019) [hereinafter 2019 RTR Reconsideration].

"developments in practices, processes, and control technologies," (technology review).[9] In 2020, EPA conducted technology and residual risk reviews for MATS and determined not to update the standard (the 2020 Final Action).[10] This determination was challenged in court, and EPA was petitioned for administrative reconsideration.

After assuming office, President Biden issued Executive Order 13,990, "Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis," which directed EPA "to consider publishing a notice of proposed rulemaking suspending, revising, or rescinding" the 2020 Final Action (which includes a 2020 Residual Risk Review and 2020 Technology Review).[11] In the current action, EPA has proposed to retain the 2020 Residual Risk review but has updated the technology review in light of new information that control technologies have been cheaper and more effective than predicted in 2012, leading the vast majority of sources to outperform the existing standards.

As EPA notes, its "proposed revisions would ensure that the EPA's standards continue to fulfill Congress's direction to require the maximum degree of reduction of HAP while taking into account the statutory factors."[12] Specifically, EPA has proposed new standards based on the technology review for filterable particulate matter, or fPM standards, (as a surrogate for non-Hg metal HAP pollution) and the standard for mercury from EGUs that burn lignite coal. EPA has not revised the 2020 Residual Risk Review, but "acknowledges that it received a petition for reconsideration" of that review, which the EPA continues to review and will respond to in a separate action."[13]

II. EPA Explains Its Reliance on the Statutory Factors to Strengthen the Emissions Standards on the Basis of Their Revised Technology Review

Consistent with Subsection (d)(6), EPA focuses its technology review "on the identification and evaluation of developments in practices, processes, and control technologies that have occurred since the MACT standards were promulgated."[14] Where EPA identifies relevant developments, EPA analyzes "the technical feasibility, estimated costs, energy implications, non-air environmental impacts, and potential emissions reductions of more stringent standards."[15] Upon evaluation of these statutorily mandated factors, EPA proposes to revise the standards for fPM (as a surrogate for non-Hg metals), and the standard for mercury from EGUs that burn lignite coal.[16] Specifically EPA finds "that developments since 2012—and in particular the fact that the majority of sources are vastly outperforming the MACT standards with control technologies that

[9] 42 U.S.C. § 7412(d)(6); *see also* 2019 RTR Reconsideration, 84 Fed. Reg. at 2680.
[10] *See* 2020 Action, 85 Fed. Reg. 31286.
[11] 86 Fed. Reg. 7037 (Jan. 25, 2021).
[12] Proposal, 88 Fed. Reg. at 24856.
[13] *Id.* at 24866.
[14] *Id*. at 24862.
[15] *Id*. at 24862–63. This approach provides EPA with the requisite information to make recommendations on whether to strengthen the standard since (d)(2) requires that EPA set an emission standard that achieves "maximum degree of reduction in emissions of the hazardous air pollutants" after considering "cost of achieving such emission reduction, and any non-air quality health and environmental impacts and energy requirements."
[16] *Id*. at 24856.

are cheaper and more effective than the EPA forecast while a smaller number of sources' performance lags behind."[17]

To support its assessment that its proposed "standard appropriately balances CAA Section 112's direction to achieve the maximum degree of emissions reductions while taking into account the statutory factors, including cost,"[18] EPA assesses cost in a variety of ways consistent with its approach in other Section 112 rulemakings including cost-effectiveness, the total capital costs of proposed measures, annual costs, and costs compared to total revenues (e.g., cost to revenue ratios).[19] As EPA properly considers, the Proposal's costs are a very small fraction of the sector's available capital or revenue (0.2 percent of sector sales at their lowest over the 2000 to 2019 period).[20]

EPA also explains how its cost-effectiveness findings are skewed by the reductions being concentrated from a relatively small portion of the fleet.[21] EPA can find even high cost-effectiveness ratios reasonable for some plants because it is consistent with Section 112's statutory design to bring the laggards up to speed with the latest developments.[22] The D.C. Circuit grants EPA discretion in weighing cost, energy, and environmental impacts, recognizing the agency's authority to take these factors into account "in the broadest sense at the national and regional levels and over time as opposed to simply at the plant level in the immediate present."[23] While EPA's does not assess the current proposal to create such an issue, when assessing more stringent alternatives, it should keep in mind that it can set costs that are reasonable for the industry even if they are not reasonable for every facility.

EPA also confirms that it "evaluated reductions of the 10 individual non-Hg metal HAP, total non-Hg metal HAP, and fPM and the associated costs for each unit to achieve each of the three fPM emission limits [it considered]"[24] even though it largely discusses the reduction of fPM which serve as a surrogate for the non-Hg metals in the Preamble. While regulated entities can demonstrate compliance by reporting fPM reduction levels, it is helpful for EPA to note these

[17] *Id*. at 24856.
[18] *Id*. at 24871.
[19] *Id*. at 24870 (citing previous rulemakings).
[20] *Id*.
[21] *Id*. at 24870 (explaining that under an alternative approach EPA found lower cost-effectiveness numbers when it considered the "emission reductions achieved if all evaluated EGUs emit the maximum allowable amount of fPM (i.e., at the current standard of 3.0E–02 lb/MMBtu), and the associated costs for EGUs to comply with the three potential fPM standards").
[22] *See* 42 U.S.C. § 7412(d)(3) (specifying that the limit for existing sources should be no less stringent than "the average emission limitation achieved by the best performing 12 percent of the existing sources" if there are more than 30 such sources in the category or subcategory or best performing 5 similar sources if there are fewer than 30 sources). While the technology review does not require resetting these MACT "floors," it is an update on this effort.
[23] Sierra Club v. Costle, 657 F.2d 298, 330 (D.C. Cir. 1981); *see also*, Lignite Energy Council v. EPA, 198 F.3d 930, 933 (D.C. Cir. 1999) (finding with regard to CAA Section 111, under which EPA must similarly set a an emissions limit that is cost-reasonable based on technology and other factors, courts have repeatedly granted EPA a great deal of discretion in considering costs). Case law also recognizes that standards under additional provisions of the CAA do not necessarily need to be cost feasible for all regulated entities. *See generally* Small Refiner Lead Phase-Down Task Force v. EPA, 705 F.2d 506 (D.C. Cir. 1983).
[24] Proposal, 88 Fed. Reg. at 24868; *see also* ENV'T PROT. AGENCY, EPA-HQ-OAR-2018-0794-5789, 2023 TECHNOLOGY REVIEW FOR THE COAL- AND OIL-FIRED EGU SOURCE CATEGORY, 11 (2023).

reductions of the HAP emissions explicitly since achieving the maximum reduction of HAP emissions is a key component of the statutory directive.

EPA solicited comment on lower fPM emission standards of "6.0E–03 lb/MMBtu or lower (for example 2.4E–03 lb/MMBtu, which is the average emission of the best performing 50 percent of units evaluated)"[25] and on developments that could warrant more protective limits on mercury emissions from non-lignite coal-firing units.[26] Consistent with its obligation to consider maximum achievable HAP emissions reduction and costs, EPA should review the latest data to ensure it is selecting the appropriate level of stringency for its standards.

Andover Technology Partners (ATP) recently completed analysis on the feasibility and costs of complying with lower emission limits, which found "the potential for compliance with lower PM, Hg, and hydrochloric acid (HCl) emission standards than in the proposed rule."[27] ATP found that the cost to comply with an emission standard of 0.006 lb/MMBtu, (the more stringent alternative considered by EPA in the Proposal), on a fleetwide basis is significantly less than the cost estimated by EPA.[28] ATP attributes this difference "to the assumptions EPA made regarding the potential emission reductions from ESP upgrades, which result in a much higher estimate of baghouse retrofits in EPA's analysis for an emission rate of 0.006 lb/MMBtu."[29] ATP also found that lower mercury emission limits are achievable for both lignite (low rank) and non-lignite (not low rank) coal units[30] and that significant reductions in HCl emissions are also achievable.[31]

EPA should consider this new information and adjust its final standards as needed for fPM and also determine whether additional mercury limits for non-lignite coal-firing units and acid gas limits are merited. If it finds that additional mercury or acid gas limits are merited, EPA should propose them in a future action.

III. The Proposal Should More Fully Discuss the Benefits of Reducing HAP Emissions in the Regulatory Analysis

In according with Executive Orders 12,866, 13,563, and 14,094, EPA has prepared an assessment of the costs and benefits of the Proposal and two regulatory alternatives (RIA).[32] While EPA appropriately relies on its analysis of statutory factors rather than its RIA to determine the Proposal's stringency, the RIA nevertheless provides useful information for policymakers and the public on the Proposal's likely effects and could be strengthened with more detail on the Proposal's health and welfare benefits.

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[25] *Id*. at 24871.
[26] *Id*. at 24879.
[27] ANDOVER TECH. PARTNERS, ASSESSMENT OF POTENTIAL REVISIONS TO THE MERCURY AND AIR TOXICS STANDARDS 1 (2023), https://www.andovertechnology.com/wp-content/uploads/2023/06/C_23_CAELP_Final.pdf.
[28] *Id*. at 2.
[29] *Id*.
[30] *Id*. at 4.
[31] *Id*. at 5.
[32] ENV'T PROT. AGENCY, DRAFT REGULATORY IMPACT ANALYSIS FOR NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS: COAL- AND OIL-FIRED ELECTRIC UTILITY STEAM GENERATING UNITS REVIEW OF THE RESIDUAL RISK AND TECHNOLOGY REVIEW (2023) [hereinafter RIA].

While EPA appropriately recognizes the HAP emission reduction benefits in its analysis,[33] given the importance of these benefits to the statutory goals, EPA could elaborate and update its qualitative discussion. In the RIA, EPA cites the 2011 proposed MATS rule for further explanation of benefits of reducing individual non-Hg metal HAP emissions.[34] If EPA receives new information from the comment process, EPA could update this more than decade-old discussion.

EPA could also enhance its discussion of the benefits of reducing HAP emissions in or alongside its tables comparing the monetized effects of the alternatives. EPA's comparison tables for the costs and benefits of the regulatory options feature the monetized effects, and EPA clarifies that "[t]he results presented in this section provide an incomplete overview of the effects of the proposal, because important categories of benefits, including benefits from reducing mercury and non-Hg metal HAP emissions, were not monetized and are therefore not directly reflected in the quantified benefit-cost comparisons."[35] EPA "anticipate[s] that taking non-monetized effects into account would show the proposal to be more net beneficial than the tables . . . reflect."[36] Even if EPA cannot monetize these benefits, EPA could add a row quantifying HAP emissions reductions to the table itself or a qualitative note about the HAP benefits to the table. Additionally, in the accompanying discussion of HAP reduction benefits, EPA focuses on the benefits of reducing mercury even though there are significant non-Hg metal reductions, too. EPA could add further discussion of these benefits to this section to clarify their relevance.

Even if EPA cannot monetize the benefits of HAP emissions reductions, it is widely recognized that a cost-benefit analysis should give "due consideration to factors that defy quantification but are thought to be important" and that extends to factors that are not fully monetized.[37] The mere fact that a benefit cannot *currently* be monetized says little about the magnitude of its value. In fact, some of the most substantial categories of monetized benefits of environmental regulation were once considered unquantifiable, let alone translatable into dollar terms.[38] Recognizing the potential significance of effects that cannot be fully monetized or quantified, executive orders

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[33] In the Preamble's discussion of the benefits of the Proposal, EPA also notes the unquantified benefits from reductions of mercury and non-Hg metal HAPs as well as the benefits of increased transparency from use of CEMS. Proposal, 88 Fed. Reg. at 24889. EPA further recognizes the significance of these benefits in a footnote to its tables summarizing the monetized costs and benefits of the Proposal and its alternatives in the Preamble. *Id*. at 24890–91 ("Several categories of benefits remain unmonetized and are thus not directly reflected in the quantified benefit estimates in the table. Nonmonetized benefits include benefits from reductions in Hg and non-Hg metal HAP emissions and from the increased transparency and accelerated identification of anomalous emission anticipated from requiring CEMS."); *see also* RIA, *supra* note 32, at 7-4. In the RIA, EPA further discusses the benefits of reducing both mercury and non-Hg metal HAP emissions and cites additional information from earlier MATS actions. RIA, *supra* note 32, at 4-3 to 4-8.

[34] RIA, *supra* note 32, at 4-6 (citing National Emission Standards for Hazardous Air Pollutants From Coal- and Oil-Fired Electric Utility Steam Generating Units and Standards of Performance for Fossil-Fuel-Fired Electric Utility, Industrial-Commercial- Institutional, and Small Industrial- Commercial-Institutional Steam Generating Units, 76 Fed. Reg. 24976, 25003–05 (proposed May 3, 2011)).

[35] *Id*. at 7-7.

[36] *Id*.

[37] KENNETH J. ARROW ET AL., AM. ENTER. INST., ANNAPOLIS CTR & RES. FOR THE FUTURE, BENEFIT-COST ANALYSIS IN ENVIRONMENTAL, HEALTH, AND SAFETY REGULATION: A STATEMENT OF PRINCIPLES 8 (1996) (recognizing that "[n]ot all impacts of a decision can be quantified or expressed in dollar terms," but these impacts can be important nonetheless).

[38] *See* Richard L. Revesz, *Quantifying Environmental Benefits*, 102 CAL. L. REV. 1423, 1436 (2014).

governing regulatory impact analysis explicitly instruct agencies to consider such effects when analyzing proposed rules.[39] Similarly, Circular A-4 cautions agencies against ignoring the potential magnitude of direct unmonetized benefits, emphasizing that "the fact that benefits, costs, and transfers often are uncertain, or difficult to monetize or quantify, does not necessarily make them either highly speculative or minor."[40]

In discussing the significance of the benefits from HAP emissions reductions, EPA could emphasize the incremental benefits of reducing HAP emissions even below the current acceptable risk and health thresholds. Specifically, EPA could note the benefits of reducing HAP non-Hg metals below the "presumptive acceptable cancer risk threshold and noncancer health-based thresholds." Even if it is true that existing risks levels are low, it would not necessarily follow that further reductions in those risks are not economically justified (taking into account the full benefits, quantified and unquantified, of those reductions).[41]

EPA could also contextualize HAP emissions reduction benefits within the context of cumulative pollution burdens which could make incremental emissions reductions lead to more significant risk reductions.[42] For example, HAP emissions from these power plants alone may not exceed EPA's "acceptable" risk thresholds, but they might exceed the threshold when combined with cumulative burden from other sources. Additionally, if EPA revisits its environmental justice analysis, as discussed below, and finds that certain affected facilities are surrounded by environmental justice communities that bear a disproportionate burden of environmental harms,[43] EPA could consider the distribution of HAP emissions reductions, even if it believes that existing emission levels from affected facilities are below acceptable risk thresholds, since further reductions below these thresholds could still potentially yield benefits.[44]

IV. EPA Should Examine Whether its Demographic Analysis Obscures Meaningful Differences Between the Alternatives and Note Any Incremental Distributional Differences Between Alternatives Even if They Are Small Relative to National Disproportionate Pollution Burden

EPA performs an environmental justice analysis and finds that the Proposal and its alternatives will not meaningfully exacerbate or mitigate a disproportionate impact.[45] EPA should consider whether any of the suggestions below shift that conclusion and the distributional differences between statutorily permissible alternatives. Such differences could be relevant to Section 112's "particular focus on reducing HAP related risks to the most exposed and most sensitive members

[39] *Accord* Exec. Order No. 12,866, § 1(a), 58 Fed. Reg. 51735, 51735 (Oct. 4, 1993) ("Costs and benefits shall be understood to include both quantifiable measures (to the fullest extent that these can be usefully estimated) and qualitative measures of costs and benefits that are difficult to quantify, but nevertheless essential to consider."); *see* Exec. Order No. 13,563, § 1, 76 Fed. Reg. 3821, 3821 (Jan. 21, 2011) (affirming Exec. Order No. 12,866).
[40] OFF. OF MGMT. & BUDGET, CIRCULAR A-4: DRAFT FOR PUBLIC REVIEW 28 (Apr. 6, 2023).
[41] *See* discussion *infra* Section VI.A.
[42] *See* discussion *infra* Section VI.B.
[43] *See infra* Part IV.
[44] EPA says it does not assess the distribution of HAP reduction benefits because they are below the risk thresholds. *See infra* Section IV.B.
[45] RIA, *supra* note 32, 6-1 to 6-30.

of the public"[46] and worth evaluating against other considerations in the RIA. However, as noted above, EPA appropriately relies on its analysis of statutory factors rather than its RIA to determine the Proposal's stringency.

A. EPA should consider further explaining or supplementing its demographic proximity analyses of existing facilities

EPA conducts a demographic proximity analysis for affected facilities and finds that on average "the percentage of the population living within 10 km of these units that is African American, Hispanic/Latino, and Other/Multiracial is significantly lower than the national average."[47] It notes one exception to this finding: within 10 km of the lignite plants, the percent of the population that is Native American (0.9 percent) is above the national average (0.6 percent). The agency further explains that this exception "is driven by four facilities that have a percent Native American population living within 10 km ranging from 1.3 percent up to 5.9 percent."[48] It also finds that "on average, the populations living within 10 km of the units subject to the proposed or alternate filterable PM standards have a higher percentage of people living below two times the poverty level than the national average (30 to 33 percent versus 29 percent)."[49]

EPA should evaluate all relevant impacts at the level most appropriate to capture those impacts and tailor the demographic analysis appropriately to understand who is most impacted. This level can depend on the dispersal pattern and distance traveled by the pollutant at issue. EPA should conduct demographic analysis at the appropriate level for the pollutants studied in order to best analyze impacts on the most-affected communities. Accordingly, EPA should explain why averaging population within a 10 km radius is the appropriate analysis for the pollutants covered by this rule.

The Southern Environmental Law Center has previously submitted comments to EPA that included air dispersion modeling of emissions from three southeast facilities for SO_2 (an acid gas surrogate for all generating units at the modeled plants except Barry unit 4), PM_{10} (a non-Hg metals surrogate for all generating units at the modeled plants), and mercury.[50] This study indicated that "for each pollutant and year, the maximum impacts from the plants emissions were predicted to be around 5 km or less distant from the plant, with potential impacts on those living near the plants."[51]

If EPA is averaging demographics across a ten-kilometer radius, it could be obscuring important demographic trends within five or fewer kilometers from the facility. Additionally, averaging the

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[46] 2020 A&N Proposal, 87 Fed. Reg. 7645 (citing CAA §§ 112(c)(9)(B), 112(f)(2)(B) & 112(n)(1)(C)).
[47] RIA, *supra* note 32, at 6-8.
[48] *Id*.
[49] *Id*.
[50] *See* Comments of the Southern Environmental Law Center, In re: Notice of Proposed Rulemaking, National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units—Revocation of the 2020 Reconsideration, and Affirmation of the Appropriate and Necessary Supplemental Finding, Ex. C, Dr. Ranajit Sahu, Technical Analysis in Support of SELC's Comments on EPA's Proposed Reaffirmation of the MATS Appropriate and Necessary Finding (11 Apr. 2022) [hereinafter SELC Comments]. Dr. Sahu and Dr. Gray also modeled emissions from Plant Scherer in Georgia.
[51] *Id*. at 9.

demographics of a large set of facilities could obscure significant demographic differences at individual facilities. To illustrate, consider the demographics for the southeast power plants in the study discussed above, which the Southern Environmental Law Center discusses in its comments. Within ten kilometers of Plant Barry in Alabama, people of color and Black people accounted for a larger population share than they did statewide and that share increased when looking within five kilometers of the plant.[52] The study discusses additional facilities in North Carolina and South Carolina where people of color and Black people comprise significantly higher percentage of the population near these facilities than they do statewide.[53]

By examining the demographic profiles of individual facilities and looking at the demographics within a narrower centroid radius to understand the communities potentially most heavily impacted by pollution, EPA could determine if emissions reductions at specific facilities would affect environmental justice communities of interest. EPA could then evaluate how each statutorily permissible alternative affects emissions reductions at facilities near these communities and better understand the alternatives' respective distributional impacts.

B. EPA can consider distributional effects that are below the residual risk threshold or a small portion of a larger problem

In the RIA, EPA explains it did not do a quantitative environmental justice assessment of HAP risk given its finding that "HAP exposure results generated as part of the 2020 Residual Risk analysis were below both the presumptive acceptable cancer risk threshold and the noncancer health benchmarks, and this proposed regulation should further reduce exposure to HAP, there are no 'disproportionate and adverse effects' of potential concern."[54] But as discussed *infra* in Section VI.A risk reductions below the residual risk threshold for mercury and non-Hg metals can still carry incremental health and welfare benefits. EPA can discuss those benefits qualitatively even if it is unable to quantify them, as it at least partially does for mercury emissions in this section. EPA should also qualitatively discuss the incremental benefits of non-Hg metal HAP emissions reductions, since these emissions reductions are a significant component of HAP emissions reductions under the Proposal. Lastly, even if the total benefits of each alternative are small, it is still possible that the benefits of one alternative are more highly concentrated in an overburdened community, which is relevant to assessing the distributional desirability of that alternative.

EPA concludes that "due to the very small differences in the magnitude of post-policy ozone and PM2.5 exposure impacts across demographic populations, we do not find evidence that potential EJ concerns related to ozone or PM2.5 exposures will be meaningfully exacerbated or mitigated

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[52] *Id*.

[53] *Id*. "Finally, two plants in South Carolina—the Winyah Generating Station and Wateree Station—are particularly striking examples. The population of South Carolina is 37% people of color and 27% Black people, and the state poverty rate is 15%. But within 10 kilometers of the Winyah plant, the population is 54% people of color and 47% Black people, and the poverty rate is 21%. Within 1 kilometer of the Winyah plant, the population is 69% people of color and 68% Black people. With respect to the Wateree plant, the population within 10 kilometers of the plant is 85% people of color and 82% Black people—both percentages more than double the statewide percentage—and the poverty rate is 23% compared to the state-wide poverty rate of 15%."

[54] RIA, *supra* note 32, at 6-4. EPA explains that, "[t]herefore, we did not perform a quantitative EJ assessment of HAP risk." *Id*.

in the regulatory alternatives under consideration, compared to the baseline."[55] However, EPA also acknowledges that "the action described in this rule is expected to lower ozone and PM2.5 in many areas, including those areas that struggle to attain or maintain the NAAQS [National Ambient Air Quality Standards], and thus mitigate some pre-existing health risks across all populations evaluated."[56] Even if the effects of the Proposal and its alternatives are small in absolute terms, their distribution can still be meaningful.

V. EPA Properly Considers the Benefits of Reducing Criteria and Greenhouse Gas Pollutants in the 12,866 Review

In its regulatory analysis, EPA estimates that the Proposal will generate $1.9 billion in health benefits from reduced $PM_{2.5}$ and ozone concentrations and $1.4 billion in health and welfare benefits from reduced greenhouse gas emissions over 2028 through 2037 as well as other unmonetized benefits including from HAP emission reductions.[57] As discussed earlier, EPA makes clear that "[i]n selecting a proposed standard, . . . EPA considered the statutory direction and factors laid out by Congress in CAA section 112," and "[s]eparately, pursuant to E.O. 12,866, the EPA prepared an analysis of the potential costs and benefits associated with this action."[58] In its Executive Order 12,866 analysis, EPA appropriately includes significant costs and benefits of the Proposal beyond the statutory factors, including reductions of particulate matter, ozone, and greenhouse gas emissions, even though these factors did not inform EPA's selection of regulatory stringency. Such inclusion is consistent with longstanding executive guidance, basic economic principles, and agency practice. EPA's approach is also consistent with its recent restoration of the appropriate and necessary finding in which it recognized that a "true examination of all of the 'advantages and disadvantages of [our] decision[],' would include such non-HAP beneficial impacts."[59]

A. EPA's approach in the 12,866 review is consistent with longstanding executive guidance and basic economic principles

The executive orders governing regulatory review call for agencies to accurately measure the "actual results of regulatory requirements," thereby implicitly requiring analysis of all costs and benefits.[60] Additionally, the Draft Update to Circular A-4, a guidance document on regulatory analysis issued by the Office of Management and Budget, instructs agencies to consider not just the obvious costs and benefits of a regulation, but also all important additional costs and benefits.[61] The Draft Update defines an additional benefit as "a favorable impact . . . that is typically unrelated to the main purpose of the regulation," and defines an additional cost as "an adverse impact . . . that occurs due to a regulation and is not already accounted for in the direct

[55] RIA, *supra* note 32, 6-30
[56] *Id*.
[57] Present value assuming a 3% discount rate.
[58] Proposal, 88 Fed. Reg. at 24858.
[59] 88 Fed. Reg. 13958 (citing Michigan v. EPA, 576 U.S. 743, 753) (emphasis in original).
[60] Exec. Order No. 13,563, § 1, 76 Fed. Reg. 3821, 3821 (Jan. 21, 2011) (affirming Exec. Order No. 12,866); *accord* Exec. Order No. 12,866, § 6(a)(3)(C), 58 Fed. Reg. 51,735, 51,741 (Oct. 4, 1993) (detailing requirements for cost-benefit analysis).
[61] OFF. OF MGMT. & BUDGET, CIRCULAR A-4: DRAFT FOR PUBLIC REVIEW 39 (2023).

cost of the regulation."[62] The Draft Update further states that "[t]he same standards of information and analysis quality that apply to direct benefits, costs, and transfers should be applied to additional benefits, costs, and transfers."[63] EPA's Economic Guidelines likewise instruct the agency to assess "all identifiable costs and benefits," including direct effects "as well as ancillary benefits and costs."[64]

These directives to take into account all anticipated regulatory effects are in keeping with fundamental principles of economic analysis. As EPA's Economic Guidelines explain, the categorization of costs as direct or indirect (and, by logical extension, the categorization of benefits as primary or ancillary) is "only descriptive" and is not "derived from economic theory."[65] The fundamental goal of cost-benefit analysis is "to consider all of the costs and benefits to society as a whole" that will result from a policy and thus determine whether that policy has "net social benefits."[66] In making this determination, it is irrelevant whether policymakers intended to confer a particular benefit or impose a particular cost. What matters is the policy's ultimate impact on social welfare.[67]

In 2020, the Science Advisory Board (SAB) submitted an evaluation of the technical basis underlying EPA's 2020 MATS Residual Risk and Technology Review and Cost Review.[68] The SAB specifically noted that the categorical exclusion of co-benefits in that analysis "depart[ed] the Agency's long-standing practice and is contrary to both the Agency's guidance document on economic analysis and to the recommendations of the Office of Management and Budget."[69] It further noted that "[a]s the agency's guidance has been previously reviewed by the SAB, excluding co-benefits is a departure from the Board's recommended practice."[70]

B. EPA's approach in the 12,866 review is consistent with longstanding administrative practice

EPA has long discussed the benefits of reducing non-HAP emissions under technology-based NESHAP limits. For example, in 1998, when establishing standards to address HAP emissions from pulp and paper producers, EPA analyzed additional benefits from reductions of non-HAP

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[62] *Id*.
[63] *Id*. at 40.
[64] ENV'T PROT. AGENCY, GUIDELINES FOR PREPARING ECONOMIC ANALYSES 11-2 (2010), https://www.epa.gov/environmentaleconomics/guidelines-preparing-economic-analyses [hereinafter EPA ECONOMIC GUIDELINES].
[65] *Id*. at 8-7.
[66] ANTHONY E. BOARDMAN ET. AL., COST-BENEFIT ANALYSIS: CONCEPTS AND PRACTICE 2 (4th ed. 2018) (emphasis omitted).
[67] *See* INST. FOR POL'Y INTEGRITY, STRENGTHENING REGULATORY CONCEPTS AND PRACTICE REVIEW: RECOMMENDATIONS FOR THE TRUMP ADMINISTRATION FROM FORMER OIRA LEADERS 6 (2016), https://policyintegrity.org/documents/RegulatoryReview_Nov2016.pdf ("[T]he goal of cost-benefit analysis is to maximize net benefits for society, which requires . . . consideration of all reasonable regulatory alternatives and all significant social welfare effects, including any indirect or difficult-to-quantify costs or benefits.").
[68] Letter from EPA's Scientific Advisory Board to Andrew Wheeler, EPA Administrator, Re: Science Advisory Board (SAB) Consideration of the Scientific and Technical Basis of EPA's Proposed *Mercury and Air Toxics Standards for Power Plants Residual Risk and Technology Review and Cost Review* (Apr. 9, 2020), Docket ID EPA-HQ-OAR-2018-0794-4572.
[69] *Id*. at 2 (internal citations omitted).
[70] *Id*.

pollutants like volatile organic compounds, particulate matter, and carbon monoxide.[71] In 2010, EPA also considered the additional benefits from reducing carbon monoxide, volatile organic compounds, and nitrogen oxides in its analysis of regulating HAP emissions from combustion engines[72] and issued a 2010 NESHAP for Portland cement manufacturing that considered the monetized benefits of reduced particulate matter exposure.[73] In 2015, EPA also discussed the benefits of reduced particulate matter in its NESAP for aluminum.[74] Taking a similar, but inverse situation to the NESHAP process, when setting NAAQS standards, EPA must set the standards without considering cost but then consider costs in the 12,866 review.[75]

Courts have also more broadly recognized the appropriateness of an agency analysis that accounts for these additional costs and benefits. In *Michigan v. EPA*, the Supreme Court reviewed EPA's appropriate and necessary finding for MATS and explicitly told EPA that "[n]o regulation is 'appropriate' if it does significantly more harm than good." Recognizing the relevance of "established administrative practice," the Court noted agencies' longstanding recognition that "reasonable regulation ordinarily requires paying attention to the advantages and the disadvantages of [their] decisions."[76] The Court further stated that "an agency may not 'entirely fai[l] to consider an important aspect of the problem' when deciding whether regulation is appropriate."[77] It is consistent with *Michigan v. EPA* for EPA to include the non-HAP health and climate benefits in its analysis, which are an important aspect of the problem with billions of dollars in value, so that it can properly assess whether the rule will do more good than harm.

C. It is proper for EPA to consider the benefits of reducing the criteria pollutants below the NAAQS thresholds

For years, EPA has recognized health risks associated with particulate matter and ozone exposure at concentrations below the ambient standards.[78] Reducing these risks provides real, incremental health benefits that are relevant to a determination of the appropriate level of regulatory stringency. In the RIA, EPA relies on the "Health Benefits TSD" for its methodology

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[71] *See* National Emissions Standards for Hazardous Air Pollutants for Source Category: Pulp and Paper Production; Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards: Pulp, Paper, and Paperboard Category, 63 Fed. Reg. 18504, 18585–86 (Apr. 15, 1998).

[72] *See* National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines, 75 Fed. Reg. 51570, 51578 (Aug. 20, 2010).

[73] ENV'T PROT. AGENCY, REGULATORY IMPACT ANALYSIS: AMENDMENTS TO THE NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS AND NEW SOURCE PERFORMANCE STANDARDS (NSPS) FOR THE PORTLAND CEMENT MANUFACTURING INDUSTRY 1-4 (2010), https://www3.epa.gov/ttnecas1/regdata/RIAs/portlandcementfinalria.pdf.

[74] National Emission Standards for Hazardous Air Pollutants for Primary Aluminum Reduction Plants, 80 Fed. Reg. 62390, 62411–12 (Oct. 15, 2015).

[75] *See, e.g.*, ENV'T PROT. AGENCY, EPA-HQ-OAR-2018-0794-4467, REGULATORY IMPACT ANALYSIS FOR THE FINAL REVISIONS TO THE NATIONAL AMBIENT AIR QUALITY STANDARDS FOR PARTICULATE MATTER, at ES-14 (2012).

[76] Michigan *v.* EPA*,* 576 U.S. 752, 753–54 (2015).

[77] Michigan *v.* EPA*,* 576 U.S. 752 (2015) (quoting *Motor Vehicle Mfrs. Ass'n of U.S., Inc.* v. *State Farm Mut. Auto. Ins. Co.,* 463 U.S. 29, 43 (1983)).

[78] For discussion of these benefits, EPA's past practice regarding these benefits and explanation of why EPA is not "double-counting" the benefits of further particulate matter reduction, see Kimberly M. Castle & Richard L. Revesz, *Environmental Standards, Thresholds, and the Next Battleground of Climate Change Regulations*, 103 MINN L. REV. 1349 (2019).

on how EPA selected $PM_{2.5}$ and ozone-related health endpoints to monetize these benefits. In the Health Benefits TSD, EPA recognizes that both PM and ozone do not have safe thresholds below which there are no adverse human health effects.[79] Given that reductions in emissions of criteria pollutants below the NAAQS thresholds can lead to significant health benefits,[80] it is appropriate for EPA to consider the benefits associated with these reductions in its regulatory analysis for the Proposal. These benefits are especially important for the elderly and asthmatic children, "who are particularly sensitive to the adverse health effects caused by particulate matter at levels below the NAAQS."[81]

For discussion of these benefits, EPA's past practice regarding these benefits, and explanation of why EPA is not "double-counting" the benefits of further particulate matter reduction, see *Environmental Standards, Thresholds, and the Next Battleground of Climate Change Regulations* by Kimberly M. Castle & Richard L. Revesz.

D. EPA appropriately accounts for climate benefits in the RIA

EPA appropriately monetizes climate benefits using the social cost of carbon. Specifically, EPA relies on the interim estimates of the social cost of carbon from the Interagency Working Group on the Social Cost of Greenhouse Gases ("IWG") in the RIA.[82]

By adopting the IWG's climate-damage estimate, EPA properly adopts a global framework for valuing climate impacts, rejects a 7% discount rate, and makes other methodological choices based on the best-available and most widely-cited models for monetizing climate damages that existed at the time of the IWG's analysis.[83] However, in part because they do not include the most recent evidence, the IWG's climate-damage valuations are widely considered to be conservative underestimates.[84] EPA could additionally perform a sensitivity analysis to reflect the revised climate-damage valuations from EPA's Draft SC-GHG Update which would indicate even larger climate benefits.[85]

VI. EPA Should Conduct Further Review the 2020 Residual Risk Review in a Future Proceeding

In the Proposal, EPA does not suggest any revisions to the 2020 Residual Risk Review,[86] but EPA "acknowledges that it received a petition for reconsideration from environmental organizations that, in relevant part, sought the EPA's reconsideration of certain aspects of the

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[79] ENV'T PROT. AGENCY, ESTIMATING $PM_{2.5}$- AND OZONE-ATTRIBUTABLE HEALTH BENEFITS 134-35, https://www.regulations.gov/document/EPA-HQ-OAR-2018-0794-4616 [hereinafter Health Benefits TSD].
[80] Castle & Revesz, *supra* note 78, at 1353.
[81] *Id*. at 1354.
[82] INTERAGENCY WORKING GRP. ON THE SOCIAL COST OF GREENHOUSE GASES, TECHNICAL SUPPORT DOCUMENT: SOCIAL COST OF CARBON, METHANE, AND NITROUS OXIDE — INTERIM ESTIMATES UNDER EXECUTIVE ORDER 13,990 (2021) [hereinafter 2021 TSD].
[83] *See* Ctr. for Climate & Energy Solutions et al., Comment Letter on the Consideration of the Social Cost of Greenhouse Gases in Greenhouse Gas Emissions Standards for Heavy-Duty Vehicles (June 16, 2023).
[84] *E.g.* 2021 TSD, *supra* note 82, at 4.
[85] ENV'T PROT. AGENCY, EPA-HQ-OAR-2021-0317, EXTERNAL REVIEW DRAFT OF REPORT ON THE SOCIAL COST OF GREENHOUSE GASES (2022).
[86] A component of the 2020 Action, *supra* note 6.

2020 Residual Risk Review, which the EPA continues to review and will respond to in a separate action."[87] The Institute for Policy Integrity previously submitted comments advising EPA to improve the 2020 Residual Risk Review, including by considering the benefits of incremental risk reductions below the current threshold. EPA should consider this additional recommendation if reviewing the 2020 Residual Risk Review or its approach to residual risk analysis more broadly in the future.

Under CAA Section 112(f) residual risk reviews, EPA follows the approach it first laid out in its 1989 National Emission 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).[88] The D.C. Circuit affirmed the reasonableness of the Benzene NESHAP in 2008.[89]

Under the Benzene NESHAP approach, EPA uses a two-stage process to evaluate residual risk. First, EPA determines whether, under the MACT standard already in place, current risk levels are "acceptable," a judgment for which there is no bright-line rule. Instead, EPA operates from the *presumption* that a maximum individual lifetime cancer risk (MIR) of 100 in 1 million is acceptable, where MIR is "the estimated risk that a person living near a plant would have if . . . exposed to the maximum pollutant concentrations for 70 years."[90] In addition to MIR, EPA looks at various other health measures, including non-cancer risk metrics.[91] If EPA finds that the residual risks are unacceptable, then the agency cannot consider costs in determining the emission standards necessary to reduce risk to an acceptable level.[92]

Second, EPA determines whether the MACT standard provides an "ample margin of safety to protect public health."[93] As part of this analysis, EPA considers "the incremental risk reduction associated with standards more stringent than the MACT standard or a more stringent standard that the EPA has determined is necessary to ensure risk is acceptable," as well as "costs and economic impacts of controls, technological feasibility, uncertainties, and any other relevant

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[87] Proposal, 88 Fed. Reg. at 24866.
[88] National Emission 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, 54 Fed. Reg. 38044 (Sept. 14, 1989) [hereinafter Benzene NESHAP].
[89] *See* NRDC v. EPA, 529 F.3d 1077, 1080 (2008) (finding that EPA could interpret Subsection 112(f)(2)(B) as incorporating by reference the Benzene NESHAP approach). EPA reaffirmed its commitment to the Benzene NESHAP approach in December 2017. ENV'T PROT. AGENCY, CAA SECTION 112 RISK AND TECHNOLOGY REVIEWS: STATUTORY AUTHORITY AND METHODOLOGY (2017), https://www.regulations.gov/document/EPA-HQ-OAR-2018-0794-0013 [hereinafter CAA SECTION 112 RTR METHODOLOGY].
[90] Benzene NESHAP, 54 Fed. Reg. at 38045.
[91] *Id.* Other measures include "the overall incidence of cancer or other serious health effects within the exposed population, the numbers of persons exposed within each individual lifetime risk range and associated incidence within, typically, a 50 km exposure radius around facilities, the science policy assumptions and estimation uncertainties associated with the risk measures, weight of the scientific evidence for human health effects, other quantified or unquantified health effects, effects due to co-location of facilities, and co-emission of pollutants." *Id.*
[92] National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units—Reconsideration of Supplemental Finding and Residual Risk and Technology Review, 84 Fed. Reg. 2670, 2681 (proposed Feb. 7, 2019).
[93] *Id.*

factors."[94] In other words, EPA considers the benefits and costs of reducing risk beyond the maximally acceptable level.

A. EPA should consider the incremental benefits of reducing HAP emissions even below the current acceptable risk and health thresholds

In prior comments, Policy Integrity recommended that EPA consider the incremental risk reductions and costs associated with more stringent standards under the second step of the analysis. In the 2020 Residual Risk Review, EPA made inappropriate assumptions that low risks could not be economically justified. EPA contended that its "analysis indicate[s] the risks from the source category are low for both cancer and noncancer health effects, and, therefore, any risk reductions from further available control options would result in minimal health benefits."[95] In other words, EPA suggested that, regardless of the availability of additional control options, current control technologies are "good enough" at reducing human health and environmental risks, rendering it unnecessary to consider a more stringent standard.

But even if it were true that existing risks levels are low, it would not necessarily follow that further reductions in those risks are not economically justified (taking into account the full benefits, quantified and unquantified, of those reductions). To make this determination, EPA must weigh the "incremental risks reduction" associated with more stringent standards against the costs of those more stringent standards, something the agency did in the Benzene NESHAP but failed to do in the 2020 Residual Risk Review, despite purporting to apply the Benzene NESHAP approach.[96] To properly fulfill the second step of the analysis, EPA should consider the incremental risk reductions below the MIR and other thresholds.

EPA already notes that there are risks of mercury exposure at levels below the reference dose (RfD) for methylmercury neurodevelopmental toxicity or IQ loss.[97] It is consistent with cost-benefit analysis to weigh these incremental benefits of further risk reduction for mercury and the non-Hg metal HAPs, which EPA notes include pollutants that are persistent, bioaccumulative, and/or have the potential to cause cancer.

Scientific studies have demonstrated that there is no threshold below which carcinogens pose no risk, and the same is true for many other types of noncarcinogenic pollutants.[98] Because these

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[94] CAA SECTION 112 RTR METHODOLOGY, *supra* note 89, at 6–7.
[95] Proposal, 88 Fed. Reg. at 24865.
[96] CAA SECTION 112 RTR METHODOLOGY, *supra* note 89, at 6–7. The D.C. Circuit affirmed the reasonableness of the Benzene NESHAP in 2008. *See* NRDC v. EPA, 529 F.3d 1077, 1080 (2008) (finding that EPA could interpret Subsection 112(f)(2)(B) as incorporating by reference the Benzene NESHAP approach).
[97] RIA, *supra* note 32, at 4-4 ("However, no RfD defines an exposure level corresponding to zero risk; moreover, the RfD does not represent a bright line above which individuals are at risk of adverse effects. In addition, there was no evidence of a threshold for methylmercury-related neurotoxicity within the range of exposures in the Faroe Islands study which served as the primary basis for the RfD (U.S. EPA, 2001).").
[98] NAT'L RESEARCH COUNCIL, SCIENCE AND DECISIONS: ADVANCING RISK ASSESSMENT 8, 177 (2009) (discussing the scientific evidence that there is no safe threshold for carcinogenic and noncarcinogenic compounds, and recommending that EPA should model the benefits of pollution reductions accordingly); Castle & Revesz, *supra* note 78, at 1372; Al McGartland et al., *Estimating the Health Benefits of Environmental Regulations*, 357 SCI. 457 (2017) (agreeing with the National Academy of Sciences conclusion that "the default assumption of a population threshold built into the RfD [reference dose] is questionable for most environmental contaminants").

substances cause harm even at low doses of exposure, EPA should value the benefits of reducing risk below the "acceptable" risk level set during the residual risk analysis. EPA acknowledges that among the non-Hg metal HAPs, some are carcinogenic and others pose potential harm even below the acceptable risk thresholds. EPA could explicitly acknowledge the benefits of these reductions below the acceptable risk thresholds and their distribution.

In particular, EPA should assess the additional risks posed by lead emissions. In the 2020 Residual Risk Review, EPA compared maximum estimated chronic inhalation exposure concentrations to the level of the current NAAQS for lead and concluded that there was not unacceptable residual risk because the levels were below the NAAQS.[99] In a petition for reconsideration of the 2020 Rule, petitioners explained the significant risks of lead exposure that occur below the NAAQS threshold.[100] As they note, the CDC has found no safe level of lead exposure in children's blood,[101] and the Children's Health Protection Advisory Committee has advised EPA that it should strengthen the Lead NAAQS by an order of magnitude (to 0.02 μg/m^3 or below, require better monitoring, and base the measurements on a one-month period) because it "is insufficient to protect children's health."[102]

B. EPA should consider multipathway and cumulative pollution exposure

EPA should consider not only the incremental benefits of reducing HAP emissions through inhalation, but also the multipathway exposure of communities and whether the cumulative burden of exposures from power plants and other sources collectively exceed acceptable risk or health thresholds. In the petition to EPA for reconsideration of the 2020 Residual Risk Review, petitioners discuss how at least some multipathway risks were not fully captured by EPA's 2020 analysis.[103] These risks could potentially be further reduced by the Proposal or more stringent alternatives. Furthermore, in assessing whether residual risk levels are acceptable and whether there is an ample margin of public safety, EPA does not consider how below-threshold risks may combine with exposures from other sources to form a cumulative pollution burden that potentially exceeds the thresholds. EPA should consider how toxic air pollution from power plants contributes to cumulative pollution burden, particularly in "hot spot" communities, and weigh the benefits from those risk reductions accordingly. The SAB has long recommended that risk characterizations under this review process "put the results in the broader context of

[99] Proposal, 88 Fed. Reg. at 24864.
[100] Petition for Reconsideration submitted by Robyn Winz, Litigation Paralegal, Earth Justice on behalf of Air Alliance Houston, et al., Docket ID EPA-HQ-OAR-2018-0794-4565,28–34 (2020) [hereinafter Reconsideration Petition].
[101] *See, e.g.*, *Blood Level Reference Value*, CDC, https://www.cdc.gov/nceh/lead/acclpp/blood_lead_levels.htm (last visited June 16, 2023) ("no safe blood lead level in children has been identified"); *Basic Information about Lead in Drinking Water*, ENV'T PROT. AGENCY, https://www.epa.gov/ground-water-and-drinking-water/basic-information-about-lead-drinking-water (last visited June 16, 2023) ("EPA and the Centers for Disease Control and Prevention (CDC) agree that there is no known safe level of lead in a child's blood. Lead is harmful to health, especially for children.")
[102] Letter from Sheela Sathyanarayana, CHPAC to Gina McCarthy, EPA (Jan. 8, 2015), https://www.epa.gov/sites/production/files/2015- 01/documents/naaqs_for_lead_letter.pdf.
[103] Reconsideration Petition, *supra* note 100, at 34–35, 37–40.

aggregate and cumulative risks, including background concentrations and contributions from other sources in the area."[104]

Sincerely,

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[104] *See* Letter from EPA's SAB to Lisa Jackson, EPA Administrator, Re: Review of EPA's draft entitled, "Risk and Technology Review (RTR) Risk Assessment Methodologies: For Review by the EPA's Science Advisory Board with Case Studies – MACT I Petroleum Refining Sources and Portland Cement Manufacturing," 10 (2010), https://www.epa.gov/stationary-sources-air-pollution/risk-and-technology-review-national-emissions-standards-hazardous.