



CHESAPEAKE BAY FOUNDATION
Saving a National Treasure

U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, D.C. 20460
Docket ID No. EPA-HQ-OAR-2018-0794

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Re: *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 (Feb. 7, 2019), Docket ID No. EPA-HQ-OAR-2018-0794

To Administrator Wheeler:

Chesapeake Bay Foundation, Inc. (“CBF”) submits the following comments on EPA’s proposal to reverse its earlier finding that it is “appropriate and necessary” to regulate emissions of mercury and other hazardous air pollutants from fossil fuel-fired power plants. 84 Fed. Reg. 2670 (Feb. 7, 2019) [hereinafter “EPA’s proposal”]. EPA’s proposal jeopardizes the already-implemented Mercury and Air Toxics Standards Rule and threatens human health and the environment. In particular, EPA’s proposal threatens to increase mercury emissions within the Chesapeake Bay airshed, thereby increasing the amount of mercury in watershed fisheries and the health risk to individuals who consume contaminated fish. CBF urges EPA to abandon the proposal and preserve the Mercury and Air Toxics Standards. CBF also joins, and incorporates here by reference, the Joint Comments of Environmental and Public Health Organizations filed in the above-referenced docket [hereinafter “Joint Env’tl. Comments”].

I. Introduction

CBF is a non-profit, non-partisan organization whose mission is to “Save the Bay” and keep it saved. CBF represents more than 275,000 members across the country and has offices in Easton and Annapolis, Maryland; Richmond and Virginia Beach, Virginia; Harrisburg, Pennsylvania; and the District of Columbia. For 50 years, CBF has been working to restore the Chesapeake Bay and its tributary rivers and streams through education, advocacy, litigation, and restoration. In recognition of the interconnection between healthy water and healthy communities, CBF works to make the watershed and its natural resources safe for the people who earn a living from the Bay and those who live and recreate in and around the Bay. In pursuit of that goal, CBF has worked for more than

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a decade to secure a rule that reduces mercury and other hazardous air pollutants from coal-fired power plants.¹

Mercury emissions from fossil fuel-fired power plants fall from the air into rivers, lakes, and other waterbodies where they are converted to methylmercury. Methylmercury is taken up by biota and increases in concentration as it moves up the food chain as wildlife, fish, and people consume contaminated food. For example, the amount of mercury in fish tissue can be more than a million times higher than in surrounding water.² Mercury is a neurotoxin that damages the developing nervous system and can cause IQ deficits in children. For this reason, fetuses, infants, children, and women of childbearing age are at greatest risk. Mercury exposure is also linked to negative cardiovascular and immune system impacts and is considered a “possible” human carcinogen.³ Deposition of mercury to waterbodies also impacts ecosystems and wildlife.⁴

In 2012, EPA published the Mercury and Air Toxics Standards for coal- and oil-fired power plants. 77 Fed. Reg. 9304 (Feb. 16, 2012) [hereinafter “MATS Rule”]. The MATS Rule was based on EPA’s finding that it is “appropriate and necessary” under the Clean Air Act § 112(n)(1)(A), 42 U.S.C. § 7412, to regulate mercury and toxic air emissions from fossil fuel-fired power plants because they pose a significant hazard to human health and the environment. *See* EPA Notice of Regulatory Finding, 65 Fed. Reg. 79,825 (Dec. 20, 2000); 77 Fed. Reg. 9304 (2012 MATS Rule confirming 2000 finding); 81 Fed. Reg. 24,420 (Apr. 25, 2016) (supplemental finding after Supreme Court decision in *Michigan v. EPA*, 135 S. Ct. 2699 (2015)). The MATS Rule was fully implemented at power plants and led to a 96-percent reduction in emissions of mercury and other hazardous air pollutants. 84 Fed. Reg. at 2689.

EPA now proposes to find that it is not “appropriate” to regulate these same emissions of mercury and other hazardous air pollutants from fossil fuel-fired power plants based on a new, misguided cost-benefit analysis that undervalues benefits to human health and the environment. 84 Fed. Reg. at 2670.

II. EPA’s proposal is arbitrary, capricious, and unlawful.

A. EPA’s proposal is contrary to the Clean Air Act and arbitrary and capricious.

CBF incorporates by reference the Joint Environmental Comments for a complete discussion of the unlawful and arbitrary nature of EPA’s proposal. *See* Joint Env’tl. Comments.

¹ *See* CBF, “Mercury,” <https://www.cbf.org/issues/chemical-contamination/mercury.html>.

² EPA, Regulatory Impact Analysis for the Final Mercury and Air Toxics Standards, EPA-452/R-11-011, at 4–3 (Dec. 2011), *available at* <https://www3.epa.gov/ttnecas1/regdata/RIAs/matsriafinal.pdf>.

³ *Id.* at 4-4–5.

⁴ *Id.* at 4-6.

B. EPA’s proposal is contrary to the Clean Water Act and the goals of the Chesapeake Bay Agreements.

Beginning in 1983, the states of Virginia, Maryland, Pennsylvania, the District of Columbia, and the U.S. EPA have signed historic interstate compacts⁵—the Chesapeake Bay Watershed Agreements—to protect and restore the Chesapeake Bay’s ecosystem.⁶ In 2000, Congress codified the importance of the 2000 Chesapeake Bay Agreement by adding section 117(g) to the Clean Water Act, which directed the EPA Administrator to, among other things:

[E]nsure that management plans are developed and implementation is begun by signatories to the Chesapeake Bay Agreement *to achieve and maintain...*the Chesapeake Bay Basinwide Toxins Reduction and Prevention Strategy goal of reducing or eliminating the input of chemical contaminants from all controllable sources to levels that result in *no toxic or bioaccumulative impact* on the living resources of the Chesapeake Bay ecosystem or on human health.

33 U.S.C. § 1267(g)(C) (emphasis added). The 2014 Bay Agreement reaffirmed one of the 2000 Agreement’s goals to “[e]nsure that the Bay and its rivers are free of effects of toxic contaminants on living resources and human health,” including mercury contamination.⁷

The partners to the Chesapeake Bay Agreements also signed the Toxics 2000 Strategy, which in addition to reaffirming its commitment in the 2000 Agreement, specifically laid out goals related to identifying and engaging specific at-risk sub-populations in the watershed. The Toxics 2000 Strategy set a goal to “assess major fishing areas in the Bay watershed, complete risk screenings, identify specific sub-populations at risk where necessary, and issue consumption advisories where appropriate.”⁸ In pursuit of these goals, the Bay partners commissioned a study that interviewed anglers in three specific areas of the Chesapeake Bay watershed. “The overarching goal of this project [was] to identify groups of people who are [at] greatest risk for consuming unsafe amounts of contaminated fish within specific regions of the Chesapeake Bay

⁵ The Chesapeake Bay Agreements are interstate compacts as Congress developed and authorized the joint state action. See *Cuyler v. Adams*, 449 U.S. 433 (1981); *Seattle Master Builders Ass’n v. Pacific Northwest Electric Power & Conservation Planning Council*, 786 F.2d 1359 (9th Cir. 1986).

⁶ See Chesapeake Bay Program, Bay Program History, https://www.chesapeakebay.net/who/bay_program_history (describing 1983, 1987, and 2000 Agreements).

⁷ 2014 Chesapeake Bay Watershed Agreement, at 8 (2014), *available at* https://www.chesapeakebay.net/documents/FINAL_Ches_Bay_Watershed_Agreement.withsignatures-HIres.pdf.

⁸ Chesapeake Bay Executive Council, Toxics 2000 Strategy: A Chesapeake Bay Watershed Strategy for Chemical Contaminant Reduction, Prevention, and Assessment, at 5, (Dec. 2000), *available at* https://www.chesapeakebay.net/content/publications/cbp_12083.pdf.

watershed.”⁹ Thus, EPA and its Bay partners explicitly recognized the need to address the serious negative consequences to human health from mercury and other toxic pollutants, as well as the disproportionate risk posed to certain communities in the Bay watershed.

Despite EPA’s role as a signatory and Congress’s clear directive, the Agency’s current proposal conflicts with the toxics reduction goals of the Chesapeake Bay Agreements and section 117(g) of the Clean Water Act by jeopardizing the MATS Rule and risking an increase in toxic emissions from coal- and oil-fired power plants.

III. EPA’s proposal threatens public health in the Chesapeake Bay watershed, especially low-income and minority communities.

The most common metal pollutant found in the Chesapeake Bay watershed is mercury.¹⁰ As of 2012, the presence of mercury in fish tissue in concentrations exceeding state guidelines affected more than 600 river miles and approximately 20,000 impoundment acres in the Chesapeake Bay watershed.¹¹ These fish consumption advisories affect economically valuable commercial and recreational fisheries in the Bay watershed and throughout the United States.¹² EPA arbitrarily failed to account for this economic value in its revised cost-benefit analysis.

EPA’s proposal jeopardizes the MATS Rule’s reductions in hazardous air pollutant emissions from power plants. CBF commissioned Dr. Ranajit Sahu to conduct an analysis of coal-fired power plants within the Chesapeake Bay airshed¹³ to determine the increase in mercury emissions expected from Bay airshed utilities in the absence of the MATS Rule. *See* Attachment A. Dr. Sahu identified the coal-fired electric generating units operating in Bay airshed states in 2018 and eliminated units that have announced retirements in the near future. *Id.* at 1. Using data reported to EPA, Dr. Sahu determined each unit’s heat input and actual mercury emissions in 2018. Dr. Sahu then estimated the expected mercury emissions from each unit without the MATS Rule by calculating the emissions for a scenario in which each unit was

⁹ Joshua C. Gibson and Julie A. McClafferty, Virginia Polytechnic Institute and State University, *Chesapeake Bay Angler Interviews: Identifying Populations at Risk for Consuming Contaminated Fish in Three Regions of Concern*, CMI-HDD-05-01, at 17 (Mar. 29, 2005) [hereinafter, Angler Interviews Report], Attachment D.

¹⁰ EPA Chesapeake Bay Program, “Chemical Contaminants,” https://www.chesapeakebay.net/issues/chemical_contaminants.

¹¹ USGS, Technical Report: Toxic Contaminants in the Chesapeake Bay and its Watershed: Extent and Severity of Occurrence and Potential Biological Effects, at 90 (Dec. 2012), *available at* https://federalleadership.chesapeakebay.net/ChesBayToxics_finaldraft_11513b.pdf.

¹² *See, e.g.*, Industrial Economics, Inc., The Economic Benefits of Mercury and Air Toxics Standards (MATS) to the Commercial and Recreational Fishery Sectors of Northeast and Midwest States (April 17, 2019), Exh. A to Comments of the Attorneys General of Massachusetts *et al.*; *see also* Spencer Phillips and Beth McGee, The Economic Benefits of Cleaning Up the Chesapeake (Oct. 2014), *available at* <https://www.cbf.org/document-library/cbf-reports/the-economic-benefits-of-cleaning-up-the-chesapeake.pdf> (describing the economic benefits of Chesapeake Bay).

¹³ For purposes of Dr. Sahu’s analysis, the Chesapeake Bay airshed is defined as 300 km from the watershed boundary.

operating at 2018 heat input levels but emitting mercury at pre-MATS Rule rates. *Id.* This calculation provided a mercury emission estimate for the units in a scenario without the MATS Rule implemented. Attachment A, Table 1, Column 4.

Dr. Sahu’s analysis found that the 234 electric generating units in the Chesapeake Bay airshed could emit an additional 3,795 lbs/yr of mercury if the MATS Rule is not implemented. *See* Attachment A, Table 1, at 8.

CBF next commissioned air modeling expert Andrew Gray to use the data from Dr. Sahu’s analysis to conduct air deposition modeling for five power plants in Pennsylvania that could increase mercury emissions in the absence of the MATS Rule: Bruce Mansfield (three units), Cheswick (one unit), Conemaugh (two units), Homer City (three units), and Keystone (two units). *See* Attachment B. Using the CALPUFF modeling system, Gray modeled the potential increase in mercury deposition to the land and water of specific watersheds. For example, the model estimated that the increased emissions from the Sahu analysis would lead to an additional 3.7 kg of mercury deposited each year within the Chesapeake Bay watershed. Attachment B. This is a dramatic and harmful increase; as little as 0.3 *grams* of mercury deposition per year is sufficient to cause methylmercury contamination of a 25-acre lake.¹⁴

The following table includes five of the analyzed power plants, all located in Pennsylvania, a Bay watershed state. The fourth column shows the emissions increase estimates from Dr. Sahu’s analysis. The fifth column shows how these emissions translate into increased mercury deposition to the land and water within the Chesapeake Bay watershed, per the Gray modeling.

| Source | 2018 Mercury Emissions (lb/yr) | Mercury Emissions without MATS Rule (lb/yr) | Increase in Annual Mercury Emissions without MATS Rule (lb/yr) | Mercury Deposition to Chesapeake Bay Watershed (kg/yr) |
|------------------------|--------------------------------|---|--|--|
| Bruce Mansfield Unit 1 | 0.08 | 1.57 | 1.48 | 0.05215 |
| Bruce Mansfield Unit 2 | 1.04 | 1.80 | 0.76 | |
| Bruce Mansfield Unit 3 | 31.80 | 40.26 | 8.45 | |
| Cheswick Unit 1 | 6.18 | 78.67 | 72.49 | 0.62838 |
| Conemaugh Unit 1 | 12.90 | 64.44 | 51.54 | 1.295 |
| Conemaugh Unit 2 | 15.64 | 78.73 | 63.08 | |
| Homer City Unit 1 | 6.90 | <u>6.90</u> | 0.00 | 0.71126 |
| Homer City Unit 2 | 4.56 | <u>4.56</u> | 0.00 | |
| Homer City Unit 3 | 5.94 | 25.71 | 19.77 | |
| Keystone Unit 1 | 29.42 | 80.94 | 51.52 | 1.03180 |
| Keystone Unit 2 | 15.98 | 73.71 | 57.74 | |

Gray’s modeling estimated the expected increase in mercury deposition to specific sub-watersheds with existing fish consumption advisories and subsistence fishing communities. In

¹⁴ Janet Raloff, *Mercurial Risks from Acid's Reign*, 139 *Sci. News*, at 152-156 (March 9, 1991).

other words, watersheds where existing health risks from mercury will be further exacerbated in the absence of the MATS Rule.

For example, Gray's modeling estimates the expected increase in deposition from increased emissions from the five plants to the Anacostia River watershed as 5.57 grams per year. Attachment B, Table 3. The State of Maryland has issued a fish consumption advisory for mercury contamination of sunfish in the Anacostia River¹⁵ and local communities engage in subsistence fishing in and around the River. *See* Angler Interviews Report, Attachment D, at 53, 76 ("most anglers in the District of Columbia region did not eat the fish they caught (63%), but those who did often surpassed limits in advisories").

Increased deposition of mercury leads to a measurable increase in levels of mercury in fish tissue and resulting human health risk from consuming those fish, as documented in a 2006 report by Dr. Robert Mason at the University of Connecticut. *See* Robert Mason, Analysis of Mercury Impacts from Changing Local Sources within the Chesapeake Bay Airshed, at 13-19 (Dec. 17, 2012), Attachment C (describing methodology). Relying on previously conducted deposition modeling conducted by Andrew Gray, Mason's report tracked the increase of mercury emissions to the increase in deposition in nearby watersheds and the resulting increase in bioaccumulated mercury in fish tissue. *Id.* Next, Mason used fish catch and consumption data to estimate the increase in daily consumption of mercury-contaminated fish. *Id.* at 34. Mason summarized his findings as follows:

In summary, the overall results of the study are that the construction of the [proposed] power plant would have a measurable impact on the concentration of methylmercury in fish in the waters of the nearby rivers and as these are fished, would have a resultant impact on the people consuming fish from these waters. The increase concentrations in fish would also increase impacts on wildlife. As there are already fish advisories for many of these waters, the construction of the power plant would further exacerbate the situation and make the mitigation of these waters more difficult.

Id. at 4. Although the Mason Report focused on a single proposed power plant, its methodology and conclusions are applicable here: *increases in mercury emissions to areas where people fish will increase the risk of human consumption of mercury-contaminated fish and seafood.*

By jeopardizing the MATS Rule and risking an increase in mercury emissions, EPA's proposal especially threatens low-income and minority communities, including those located within the Bay watershed who engage in subsistence fishing. *See, e.g.*, 76 Fed. Reg. 24,976, 25,018 (May 3, 2011) ("Children are at greatest risk of adverse health effects from exposure to

¹⁵ *See* Maryland Dep't of Env't., Fish Consumption Advisories Map, <https://mdewin64.mde.state.md.us/WSA/FCA/index.html>.

Hg, and this risk is amplified for children in minority and low-income communities who subsist on locally-caught fish.”).

The 2005 Angler Interviews Report by researchers at Virginia Tech—designed to support the toxics reduction goals of the 2000 Chesapeake Bay Watershed Agreement — “identifie[d] the populations of anglers in three selected areas of the Chesapeake Bay watershed that are at the greatest risk of consuming contaminated fish based on their race, education, income, and other demographic information.” Attachment D, at 1. The following are excerpts of key demographic findings from the report:

Baltimore, Maryland Area:

- “More African-Americans in the Baltimore region consumed self-caught fish than Whites, and considerably more reported that they also provided these fish to other family members. African-American anglers also considered providing fresh fish to their families to be a more important motivation for fishing, and they considered a reduction in food expenses to be considerably more important than did White anglers...*Each of these findings leads to the conclusion that African-Americans are at a greater risk of exposure to the negative effects of contaminants in fish.*” *Id.* at 43 (emphasis added).
- “Anglers with low incomes are just as, if not more, aware of fish consumption advisories as higher income anglers, but they are not heeding the recommendations in those advisories with respect to many items....” *Id.* at 45.

Washington, D.C. Area:

- “A greater proportion of Hispanic and Asian anglers in the Washington, DC region consumed self-caught fish than other races, and a greater proportion of anglers in these races also reported that they also provided these fish to other family members. Hispanic anglers also considered...reducing food expenses to be a more important motivation for fishing, than other races, indicating an economic reliance on self-caught fish. Asians, on the other hand placed a high importance on obtaining a fresh fish dinner, but little importance in reducing food expenses, which suggest more of a cultural reliance on self-caught fish. Finally, African-Americans, Hispanics, and Asians were less likely than Whites to prepare their fish using risk reduction techniques (e.g., removing skin and fat, avoiding frying). Each of these findings leads to the conclusion that *non-White anglers are at a greater risk of exposure to the negative effects of contaminants in fish*, although all races participated to some degree in risky behaviors.” *Id.* at 71 (emphasis added).

EPA’s proposal fails to account for the disproportionate negative impact to low-income and minority communities throughout the country that will result if mercury and hazardous air pollutant emissions increase. *See also* Joint Env’tl. Comments.

IV. Conclusion

The 2012 MATS Rule has led to significant reductions in mercury and hazardous air pollutant emissions. In addition to the reasons identified in the Joint Environmental Comments, because EPA failed to adequately consider the impacts to human health in the absence of the MATS Rule, EPA's proposal to reverse the underlying "appropriate and necessary" finding is unlawful and arbitrary. Moreover, such a decision threatens human health and the environment, including in the Chesapeake Bay watershed. EPA should abandon its misguided proposal and maintain the MATS Rule and its associated human health protections.

Sincerely,

A handwritten signature in cursive script that reads "Lisa Feldt".

Lisa Feldt
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