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April 17, 2019

The Honorable Andrew Wheeler, Administrator  
U.S. Environmental Protection Agency  
William J. Clinton Building  
1200 Pennsylvania Avenue, NW  
Washington, DC 20460

Sent via Regulations.gov.

Re: Comments on National Emissions Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units – Reconsideration of Supplemental Finding and Residual Risk and Technology Review, Docket ID: EPA-HQ-OAR-2018-0794

Dear Administrator Wheeler:

On behalf of our nation's public health and medical organizations, we would like to provide comments on the proposed reconsideration of the "appropriate and necessary finding" set forth in the 2016 Supplemental Finding. The Mercury and Air Toxics Standards (MATS) is one of the most important public health protections put in place by the U.S. Environmental Protection Agency to reduce these emissions of hazardous air pollutants (HAPs) in the communities we serve. Our organizations fully support the current standards and strongly disagree with EPA's determination that it "is not 'appropriate and

necessary' to regulate HAP emissions from power plants under Section 112 of the Clean Air Act." Fundamentally, our organizations believe that EPA has no authority to reverse the "appropriate and necessary" finding, and no authority to either to remove the coal- and oil-fired power plants from the Act's list of sources that must be regulated without satisfying the criteria in section 112(c)(9), or to rescind MATS.

Our organizations represent health and medical professionals who treat patients and work in communities impacted by lung, cardiovascular, and neurological impairments, and we are therefore keenly aware of the harmful health effects of air pollution. Research has shown that these toxics are especially dangerous because of the harm they can cause to the respiratory, cardiovascular, nervous, endocrine, and other essential life systems within humans. Toxic emissions can even cause developmental disorders and premature death.

EPA's fundamental argument is that the costs of the standards in place "grossly outweigh" the benefits from reducing these emissions. That rationale failed in the past and fails now. In our comments below, we provide some of the newer evidence that shows that EPA's artificially restricted view of the benefits results in ignoring the vast real-world positive impact that these fully-in-place standards have produced. We note that new evidence shows that EPA's estimate of the costs greatly exceed the actual costs to implement MATS. We also provide evidence that EPA's proposed approach for this analysis clearly violates existing EPA and OMB guidance.

This proposal to revoke the "appropriate and necessary" finding clearly seeks to undermine the MATS and other lifesaving standards being challenged in court or weakened or overturned by EPA. Anything less than the full continued enforcement of these standards could result in increased emissions of deadly pollutants, and health impacts and premature deaths that should have been prevented under these widely supported, fully implemented safeguards.

Our organizations continue to oppose any weakening of the standards, including the creation of a subcategory for bituminous coal use as a fuel in electric utilities. EPA's proposal to consider a subcategory for such fuels would allow the covered plants to emit greater quantities of acid gases instead of complying with the standards that already apply to these plants.

#### [MATS reduced hazardous air pollutants that caused wide-ranging health harms.](#)

During the process of burning coal and oil, power plants emit highly toxic chemicals that threaten human health through the air we breathe, the water we drink, and the food we eat. These hazardous air pollutants that harm human health include corrosive substances (acid gases, such as hydrogen chloride and hydrogen fluoride); carcinogens (formaldehyde, benzene, toluene, and other compounds); organic carbon-based toxics (formaldehyde, dioxins, furans); metals (such as arsenic, nickel, and beryllium); neurotoxins (such as mercury and lead); polycyclic aromatic hydrocarbons (PAHs); and radioactive materials (such as radium and uranium) (EPA 2007; ATSDR 2011a).

Attached is a copy of the letter many of our organizations sent to EPA in 2011 to describe the widespread, well-documented harm from these pollutants from these power plants. It details the evidence as it stood then on the well-documented harms from these pollutants.

Before the MATS rule was in place, EPA's own inventory of toxic emissions tallied the horrific load of HAPs from coal-fired power plants. In the 2007 inventory, more than 440 electric generating units in 46 states emitted more than 386,000 tons of 84 separate hazardous air pollutants (EPA, 2007). These plants produced 40 percent of all hazardous air pollutants released from industrial sources into the atmosphere, more than any other industrial pollution source. The combustion of coal to generate electricity also produced 76 percent of the total volume of acid gases, 60 percent of arsenic, and 46 percent of mercury released into the atmosphere (EPA 2007).

Fortunately, since the 2007 inventory, toxic air emissions from electric utilities have dropped by more than 80 percent (EPA, 2019a). Mercury air emissions from these utilities dropped by 89 percent from 2007 to 2017 (EPA, 2019b). Clearly, MATS is working to reduce toxic emissions from these sources.

### [EPA failed to update information on the direct benefits of reducing these emissions.](#)

In 2016, in response to the Supreme Court decision in *Michigan v. EPA*, EPA assessed the costs and benefits of the standards in its Supplemental Findings. EPA estimated, based on the projections in its 2011 Regulatory Impact Analysis, that the annual costs of compliance with MATS would total approximately \$9.6 billion, while the annual benefits totaled between \$33 to \$90 billion (EPA, 2016). Since then, updated information is available on both the costs and benefits of MATS rule, including additional studies of the benefits of reduced mercury that add several billion dollars annually to the direct benefits.

In its current proposal, EPA argues that only the direct benefits of reducing mercury and the other HAPs can be included in its assessment of the economic benefits of this rule. Our organizations disagree strongly with that approach and see this as a clear failure to follow long-established policy directives, as discussed below. However, even taking that argument at face value, EPA ignores growing evidence that reducing these HAPs provides additional direct benefits to human health. Recent studies have shown wider harms from these pollutants, as well as improved estimates of the harm to public health.

Mercury is a particularly good example. EPA failed to update its analysis in the proposal to account for newer scientific evidence that shows that reducing emissions provides larger public health and economic benefits than was thought previously. (Sunderland et al, 2016). Research on mercury has expanded beyond the impact to the central nervous system to its cardiovascular effects. A recent review of more than 90 studies identified multiple ways that mercury affects the cardiovascular system and found strong correlations with extensive cardiovascular risks, including high blood pressure, coronary heart disease, and heart attacks (Genchi et al., 2017). Another study looked at these cardiovascular impacts to assess the economic benefits of mercury controls from MATS and estimated \$43 billion in benefits in 2050 (Giang and Selin, 2016). EPA did not include any of these studies in its proposed analysis.

### [The updated benefits of MATS further outweigh the actual costs of implementation.](#)

In addition to new studies showing additional benefits of reducing HAPs, EPA's proposal also fails to incorporate updated information as to the cost of compliance. In its proposal, EPA ignores the fact that industry has now implemented MATS and that the actual cost of implementation has likely been much lower than the agency had estimated. For example, according to testimony filed in court in 2016, the

actual cost of complying with MATS is approximately \$2 billion annually, well below the \$7 billion EPA originally predicted. That testimony explained that much of the technology used to comply with MATS is far less expensive than originally estimated, and many facilities have switched fuels entirely as the price of natural gas declined. Both those and other reasons have kept the price of compliance, according to the expert witness, at “less than one-quarter of what EPA originally estimated.” (Staudt, 2015). This testimony shows that the benefits of the emission reductions provide even greater advantage over the actual costs of implementation.

### EPA’s proposal breaches established guidance for assessing costs and benefits.

Our organizations firmly oppose EPA’s refusal to recognize the benefits of the reductions in particulate matter in the assessment of the costs and benefits of the MATS rule. Despite the long-demonstrated reality of these impacts, the proposal fails to follow EPA’s own unambiguous guidance on assessing the costs and benefits of regulatory actions. The current EPA *Guidelines for Preparing Economic Analysis* specifically direct the agency to include the full range of benefits and costs, including ancillary co-benefits:

“An economic analysis of regulatory or policy options should present all identifiable costs and benefits that are incremental to the regulation or policy under consideration. **These should include directly intended effects and associated costs, as well as ancillary (or co-) benefits and costs** [bold added].” (EPA, 2010)

The *Guidelines* also references the OMB’s Circular A-4 guidelines, in place since 2003, that logically and clearly direct federal agencies to account for those ancillary benefits or co-benefits.

“Your analysis should look beyond the direct benefits and direct costs of your rulemaking and consider any important ancillary benefits and countervailing risks. **An ancillary benefit is a favorable impact of the rule that is typically unrelated or secondary to the statutory purpose of the rulemaking** [bold added].” (OMB, 2003)

In its draft 2017 report to Congress on costs and benefits of federal regulations, the Office of Management and Budget recognizes that these benefits have long been included as part of these estimates:

“The consideration of co-benefits, including the co-benefits associated with reduction of particulate matter, is consistent with standard accounting practices and has long been required under OMB Circular A-4.” (OMB, 2017).

Our organizations urge EPA to follow these established guidelines in this and future assessments.

### EPA’s distorted approach in assessing benefits threatens other health protections.

In addition to ignoring long-followed assessment guidelines, EPA resorts to flawed arguments that have been raised and dismissed under previous administrations. This raises concerns among our organizations that EPA plans to use similar “logic” to undermine other protections to public health by improperly ignoring co-benefits. Our organizations oppose all efforts to reverse or weaken standards and procedures that protect the lives and health of our patients and our communities.

EPA must recognize that meeting the limits for toxic air emissions set under MATS has provided a crucial ancillary benefit: reduced PM<sub>2.5</sub>, especially sulfates and nitrates. In fact, the so-called co-benefits are directly attributable to reductions in HAP emissions. The measures that reduced acid gases also reduced sulfur dioxide and consequently reduced the burden of sulfate particles across the nation. The combined pollution control technologies that reduced mercury emissions also reduced oxides of nitrogen and, consequently, nitrates. Controlling mercury emissions particulate matter encompasses controlling particulate-bound mercury and non-mercury metal HAPs. The control technologies needed to reduce HAP emissions necessarily results in reduction of PM. In other words, one cannot control these HAPs *without* reducing particulate matter.

EPA has additional evidence since 2011 documenting the benefits of reduced particulate matter on human health, especially on saving lives. Extended studies of large populations have repeatedly found that lower levels of particulate matter reduces the risk of premature deaths (Correia et al., 2013; Lepeule et al., 2012).

One of the most surprising of EPA's arguments for not counting the monetized health benefits from reducing these PM<sub>2.5</sub> emissions is that they will be addressed by the NAAQS. Of all agencies, EPA should know the true role of the NAAQS and the steps to estimate the benefits from other rules. For example, the NAAQS set limits on particulate matter; the NAAQS do not reflect, set or predict the measures that will be adopted to meet the standards. States often must depend on national measures such as MATS to assist them in meeting the NAAQS, as they have no ability to control emissions coming into their state from other sources.

Ultimately, it should be a strong argument in favor of keeping MATS in place that the standards have reduced not only the targeted pollutants, but also slashed emissions of other deadly pollution at the same time. Arguing that the efficiency of these standards undermines their existence is an absurd premise, particularly coming from an agency whose mission is to protect human health and the environment.

### [MATS protects the most vulnerable Americans from these pollutants.](#)

EPA argues in its review that MATS fails to meet the "appropriate and necessary" requirements of Section 112 of the Clean Air Act. We have cited evidence above demonstrating overt flaws in that argument. However, as organizations representing patients and communities that would face the greatest harm if EPA revokes or undercuts MATS, we also want to remind the agency of the impacts to these patients and communities.

EPA should fundamentally prioritize protecting public health, as the Clean Air Act requires. As EPA originally estimated, each year, MATS prevents:

- Up to 11,000 premature deaths;
- 130,000 asthma attacks;
- 4,700 heart attacks;
- 5,700 hospital and emergency room visits; and
- 3.2 million days when people must restrict their activities (EPA, 2011).

Looking at those estimates, it is hard for our organizations to see how EPA could now state that saving the lives of 11,000 Americans is not “appropriate and necessary.” Preventing 11,000 premature deaths meets the essential, explicit responsibility the Clean Air Act gave EPA in Section 112.

Millions of Americans, including our patients and our communities, face special risk should EPA decide that this narrowed approach is acceptable. Their age, health conditions, or rate of exposure to these pollutants make them more vulnerable, and consequently, make these measures even more “appropriate and necessary.” They include infants, children and teenagers; older adults; pregnant women; people with asthma and other lung diseases; people with cardiovascular diseases; diabetics; people with low incomes; and people who work or exercise outdoors. The discussion below highlights special concerns for several of these groups.

Children are more vulnerable to the adverse health effects of air pollution than adults. Children grow eighty percent of their lungs between birth and adolescence. The early postnatal period is when these delicate, growing tissues are at greatest risk. Children also breathe more rapidly, and tend to spend more time outdoors than adults, which exposes them to more pollutants (American Academy of Pediatrics, 2004).

Even before birth, children face increased risk. As noted earlier, fetuses, infants, and children face impaired neurological development and cognitive abilities, memory, and language skills because of the toxic effects of methylmercury exposure. Dioxins and furans threaten the developing systems, including the nervous system, and these toxics and others may increase the risk of cancer in children. Furthermore, estimates for children may understate the risks from toxics because of limited monitoring, limited information on toxicity and use of models that do not consider the potential for increased risk for children (American Academy of Pediatrics, 2004).

People with chronic diseases, including cardiovascular diseases, respiratory diseases and diabetes, face higher risk regardless of age. Their diseases make them at much higher risk for harm. Current estimates include millions of people in these groups:

- Asthma – 25.2 million people, including 6.2 million under age 18
- Cardiovascular diseases – 28.2 million people
- Diabetes – 27.0 million people
- Chronic Obstructive Pulmonary Disease (COPD)—15.3 million adults age 18 and older  
--(CDC, 2017a; CDC, 2017b)

As adults age, their physiological processes decline naturally, placing even healthy older adults at risk from airborne pollutants. In addition, many older adults also have one or more chronic diseases that increase their susceptibility (EPA, 2009).

People who have low incomes or are members of racial or ethnic minorities bear a disproportionate burden of the health effects of air pollution. Because they are more likely to live closer to industrial facilities and high traffic areas, low-income and minority populations are at much higher risk of exposure to the most harmful pollutants (O’Neill et al., 2003). One study found that 68 percent of African Americans lived within 30 miles of a coal-fired power plant (Georgia Coalition for the Peoples’ Agenda et

al., 2002). Another study of five power plants in the Washington, DC area found that African Americans and those with less than a high school education were among the groups hardest hit by pollution from the power plants. Almost half of the risks for premature death due to power plant pollution-related exposures were borne by the 25 percent of the population with less than a high school education (Levy et al., 2002).

These vulnerable people and communities deserve the protections the Clean Air Act requires EPA to provide.

## Conclusion

For more than 20 years, electric utilities avoided requirements to clean up toxic pollutants as set in the Clean Air Act Amendments of 1990. Thanks to the MATS, which were the first-ever federal limits on air toxics from power plants, their facilities now emit nearly 90 percent less of these notoriously harmful pollutants that endanger human health. Putting in place these safeguards against toxic air pollution from electric utilities, as required under the Clean Air Act, has provided long-needed protection to our patients and communities from life-threatening pollution. These measures have prevented tens of thousands of cases of illness and even premature death, clear evidence that they are both “appropriate and necessary.”

Our organizations call on EPA to withdraw the proposal and instead retain the “appropriate and necessary” finding, to fully maintain the Mercury and Air Toxics Standards. These actions are essential to continue to protect the health of our patients and our communities. Our organizations further call on EPA to recognize the full range of benefits from cleaner air in its ongoing reviews.

Sincerely,

**Allergy & Asthma Network**

**Alliance of Nurses for Healthy Environments**

**American Lung Association**

**American Public Health Association**

**American Thoracic Society**

**Association of Schools & Programs of Public Health**

**Asthma and Allergy Foundation of America**

**Center for Climate Change & Health**

**Children’s Environmental Health Network**

**Health Care Without Harm**

**March of Dimes**

**National Association of County & City Health Officials**

**National Medical Association**

**Physicians for Social Responsibility**

**Public Health Institute**

## References cited

Agency for Toxic Substances and Disease Registry (ATSDR). 2019. [Toxic Substances Portal: Toxicological Profiles](#). Washington, DC, USA: ATSDR.

Agency for Toxic Substances and Disease Registry (ATSDR). 2003. Toxicological profile for Hydrogen Fluoride. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service. Web link: <http://www.atsdr.cdc.gov/ToxProfiles/tp11-c3.pdf>

Agency for Toxic Substances and Disease Registry (ATSDR). 2010. *Medical Management Guidelines for Hydrogen Chloride (HCl)*. Updated September 1, 2010. Accessed February 27, 2011. <http://www.atsdr.cdc.gov/MHMI/mmg173.pdf>.

American Academy of Pediatrics, Committee on Environmental Health. 2004. Ambient Air Pollution: Health Hazards to Children. *Pediatrics* 114: 1699-1707. Reaffirmed in 2010.

Centers for Disease Control and Prevention. (CDC). 2017a. Behavioral Risk Factor Surveillance System.

Centers for Disease Control and Prevention. (CDC). 2017b. National Center for Health Statistics: [Heart Disease](#).

Correia AW, Pope CA III, Dockery DW, Wang Y, Ezzati M, Domenici F. (Correia) 2013. Effect of air pollution control on life expectancy in the United States: An analysis of 545 U.S. Counties for the period from 2000 to 2007. *Epidemiology*. 24(1): 23-31

Genchi G, Sinicropi M, Carocci A, Lauroia G, and Catalano A. (Genchi). 2017. [Review: Mercury Exposure and Heart Disease](#). *Int. J. Environ. Res. Public Health*. 14, 74. doi:10.3390/ijerph14010074

Georgia Coalition for the Peoples' Agenda, Black Leadership Forum, the Southern Organizing Committee for Economic and Social Justice and Clear the Air. 2002. *Air of Injustice*. Access at [http://www.catf.us/resources/publications/files/Air\\_of\\_Injustice.pdf](http://www.catf.us/resources/publications/files/Air_of_Injustice.pdf).

Lepeule J, Laden F, Dockery D, Schwartz J. (Lepeule). 2012. Chronic exposure to fine particles and mortality: An extended follow-up of the Harvard Six Cities Study from 1974 to 2009. *Environ Health Perspect*. 120: 965-970

Levy JI, Greco SL, Spengler JD. 2002. The importance of population susceptibility for air pollution risk assessment: a case study of power plants near Washington, DC. *Environmental Health Perspectives* 110(12):1253-60.

Office of Management and Budget (OMB), 2003. [Circular A-4: Regulatory Analysis](#). P. 26.

Office of Management and Budget (OMB), 2017. [Draft Report to Congress on the Benefits and Costs of Federal Regulations and Agency Compliance with the Unfunded Mandates Reform Act](#), p. 13.

O'Neill MS, Jerrett M, Kawachi I, Levy JI, Cohen AJ, Gouveia N, et al. 2003. Health, Wealth, and Air Pollution: Advancing Theory and Methods. *Environmental Health Perspectives* 111:1861-1870

Sunderland EM, Driscoll CT, Hammitt JK, et al. (Sunderland et al.) 2016. Benefits of Regulating Hazardous Air Pollutants from Coal and Oil-fired Utilities in the United States. *Environ. Sci. Technol*. 50, 2117-2120.



Staudt, James E. (Staudt), 2015. Declaration of James E. Staudt, PhD, CFA. White Stallion Energy Center, et al., v. United States Environmental Protection Agency, [Case No. 12-1100](#) and [Summary plus cases, Exhibit 1 Declaration of James E. Staudt, Ph.D., CFA](#), U.S. Court of Appeals for the District of Columbia,

U.S. Environmental Protection Agency (EPA). 2007. National Emissions Inventory (NEI) 2002: Inventory Data: Point Sector Data – ALLNEI HAP Annual 01232008. [Accessed 11 January 2011].

U.S. Environmental Protection Agency (EPA), 2009. *Integrated Science Assessment for Particulate Matter*, EPA 600/R-08/139F. Available at <http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=216546>.

U.S. Environmental Protection Agency (EPA), 2010. *Guidelines for Preparing Economic Analyses*, Chapter 11, page 2.

U.S. Environmental Protection Agency (EPA), 2011. Mercury and Air Toxics Standards: [Healthier Americans](#).

U.S. Environmental Protection Agency (EPA). 2016. 40 CFR Part 63. Supplemental Finding That It Is Appropriate and Necessary To Regulate Hazardous Air Pollutants From Coal- and Oil-Fired Electric Utility Steam Generating Units; Final Rule. 81 Federal Register 24420.

U.S. Environmental Protection Agency (EPA). 2017. [Integrated Science Assessment for Sulfur Oxides - Health Criteria](#). EPA/600/R-17/451.

U.S. Environmental Protection Agency (EPA). 2019a. [2017 Toxic Release Inventory National Analysis: Industry Sectors Data File](#). March 2019.

U.S. Environmental Protection Agency (EPA). 2019b. Tri National Analysis. [Mercury Air Releases Trend](#).