



April 17, 2019

Mr. Andrew R. Wheeler
Administrator
U.S. Environmental Protection Agency
Air and Radiation Docket
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

Attn: Docket No. EPA–HQ–OAR–2018-0794

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 FR 2670 (February 7, 2019).

Dear Administrator Wheeler:

The Pennsylvania Department of Environmental Protection (DEP) submits the following comments in response to the notice of proposed rulemaking entitled “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” published by the U.S. Environmental Protection Agency (EPA) on February 7, 2019 (84 FR 2670).

Introduction

EPA is proposing a revision to its response to the U.S. Supreme Court decision in *Michigan v. EPA (Michigan)* which held that EPA erred by considering cost irrelevant in its determination that regulation under section 112 of the Clean Air Act (CAA) of hazardous air pollutant (HAP) emissions from coal- and oil-fired electric utility steam generating units (EGUs) is appropriate and necessary.¹ After reconsidering the cost of compliance relative to the HAP benefits of regulation, EPA now proposes to find that it is not “appropriate and necessary” to regulate HAP emissions from coal- and oil-fired EGUs, thereby reversing the Agency’s prior conclusion under CAA section 112(n)(1)(A) and correcting flaws in the Agency’s prior response to *Michigan*.

EPA further proposes that finalizing this new response to *Michigan* will not remove the coal- and oil-fired EGU source category from the CAA section 112(c) list of sources that must be regulated under CAA section 112(d) and will not affect the existing CAA section 112(d) emissions standards that regulate HAP emissions from coal- and oil-fired EGUs. EPA is soliciting comment, however, on whether they have the authority or obligation to delist EGUs from CAA section 112(c) and rescind (or to rescind without delisting) the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Coal- and Oil-Fired EGUs, commonly known as the Mercury and Air Toxics Standards (MATS).

¹ *Michigan v. EPA*, 135 S.Ct. 2699 (2015).

EPA is also proposing the results of the residual risk and technology review (RTR) of the NESHAP that the Agency is required to conduct in accordance with CAA section 112. The results of the residual risk analysis indicate that residual risks due to emissions of air toxics from this source category are acceptable and that the current standards provide an ample margin of safety to protect public health. No new developments in HAP emission controls to achieve further cost-effective emissions reductions were identified under their technology review. Therefore, based on the results of their analyses and reviews, EPA is proposing that no revisions to MATS are warranted.

Comments

While EPA proposes to find that it is not “appropriate and necessary” to regulate HAP emissions from coal- and oil-fired EGUs, DEP contends that the proposal to delist EGUs under CAA section 112(c) could have a detrimental impact on global climate. In addition, delisting under section 112(c) could lead to delisting under section 111(b) and section 111(d).

The CAA section 112(d) emissions standards for filterable particulate matter (FPM) results in less coal being burned, which in turn results in lower CO₂ emissions. As EPA proposes to potentially rescind the CAA section 112(d) emissions standards, the impacts on climate continue to accumulate as detailed by the analysis and findings of the U.S. Global Change Research Program (USGCRP) contained in the Fourth National Climate Assessment² released by the Trump Administration on November 23, 2018; a confident, scientific assessment of the national and regional impacts of natural and human-induced climate change. The Assessment represents the work of over 300 government and non-government experts, led by experts within EPA, the U.S. Department of Transportation and eleven other federal agencies.³

The scientific evidence of climate change caused predominantly by the burning of fossil fuels has only grown since EPA promulgated the MATS. Among other things, the Assessment notes:

- “Earth’s climate is now changing faster than at any point in the history of modern civilization, primarily as a result of human activities.”⁴
- “The impacts of global climate change are already being felt in the United States and are projected to intensify in the future.”⁵

² USGCRP, 2018: Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II [Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.)]. U.S. Global Change Research Program, Washington, DC, USA. doi: 10.7930/NCA4.2018, available at: <https://nca2018.globalchange.gov/>.

³ The other 11 federal agencies are the U.S. Departments of Agriculture, Commerce, Defense, Energy, Health & Human Services, Interior, and State, as well as the U.S. Agency for International Development, NASA, the National Science Foundation, and the Smithsonian Institution.

⁴ USGCRP, at 24.

⁵ *Id.*

- “Climate change is transforming where and how we live and presents growing challenges to human health and quality of life, the economy, and the natural systems that support us.”⁶
- “Increased atmospheric carbon dioxide levels change ocean conditions through three main factors: warming seas, ocean acidification, and deoxygenation. These factors are transforming ocean ecosystems, and these transformations are already impacting the U.S. economy and coastal communities, cultures, and businesses.”⁷
- “Climate-related changes in weather patterns and associated changes in air, water, food, and the environment are affecting the health and well-being of the American people, causing injuries, illnesses, and death.”⁸

C-1. Appropriate and Necessary Finding

EPA requests comment on whether it is “appropriate and necessary” to regulate HAP emissions from coal- and oil-fired EGUs and whether EPA has the authority or obligation to delist the source category and rescind the standards, or to rescind the standards without delisting.

DEP’s Comment: DEP maintains that it is appropriate and necessary to regulate HAP emissions from coal- and oil-fired EGUs under CAA section 112 since the benefits vastly outweigh the cost. EPA has already determined on three occasions that it is appropriate and necessary to regulate HAP emissions from coal- and oil-fired EGUs. On December 20, 2000, EPA determined, pursuant to CAA section 112(n)(1)(A), that it was appropriate and necessary to regulate coal- and oil-fired EGUs under CAA section 112(d) and added such units to the CAA section 112(c) List of Categories of Major and Area Sources.⁹ On May 3, 2011, EPA proposed to reaffirm the 2000 appropriate and necessary finding and proposed NESHAP for coal- and oil-fired EGUs, known as MATS.¹⁰ On April 25, 2016, after public notice and comment, EPA finalized a supplemental finding (2016 Supplemental Finding) concluding that its consideration of cost did not change its previous determination that regulation of HAP emissions from coal- and oil-fired EGUs is appropriate and necessary.¹¹ DEP sees no reason to reconsider the 2016 Supplemental Finding. If anything, the benefits of regulating HAP emissions outweigh the cost by even a greater extent than in 2016, especially considering the findings of the Fourth National Climate Assessment.

EPA previously projected that the co-benefits associated with reducing non-HAP pollutants would be substantial. EPA’s projected co-benefits comprised the overwhelming majority (approximately 99.9 percent) of the monetized benefits of MATS reflected in the EPA’s RIA (\$36 billion to \$89 billion). According to Chapter 5, “HEALTH AND WELFARE CO-BENEFITS” of the RIA for MATS, HAP emissions controls are expected to have ancillary co-

⁶ *Id.* at 26.

⁷ *Id.* at 86.

⁸ *Id.* at 102.

⁹ 65 FR 79825.

¹⁰ 76 FR 24976.

¹¹ 82 FR 24420.

benefits, including lower overall ambient concentrations of SO₂, NO₂, PM_{2.5} and ozone across the country. Pollutants such as SO₂, NO_x, and direct PM_{2.5} contribute to ambient PM_{2.5} levels in the atmosphere, and NO_x contributes to ambient ozone concentrations. EPA also projected that the rule would reduce CO₂ emissions affecting climate change.

By comparison, compliance costs of the final MATS rule were projected by EPA to be \$9.6 billion in 2015, and \$8.6 billion and \$7.4 billion in 2020 and 2030, respectively. These compliance costs are an estimate of the increased expenditures in capital, fuel, and other inputs by the entire power sector to comply with EPA’s requirements, while continuing to provide a given level of electricity demand. In the 2016 Supplemental Finding, EPA found that the power sector could continue to perform its primary function—the generation, transmission, and distribution of reliable electricity at reasonable cost—after imposition of the MATS rule and concluded that the costs of the rule were “reasonable.” Furthermore, since the MATS rule has been in place for several years, the power sector has already implemented control measures and expended much of the costs necessary to comply.

C-2. Cost-Benefit Analysis

EPA is taking comment on its proposal that direct comparison of the rule’s costs and benefits is a reasonable approach, if not the only permissible approach, to considering costs in response to *Michigan*, and, further, that such a comparison performed under CAA section 112(n)(1)(A) should focus primarily on benefits associated with reduction of HAP.

DEP’s Comment: DEP disagrees with EPA’s proposal to directly compare the cost of compliance with MATS with the benefits specifically associated with reducing HAP emissions. The proposal is not a reasonable approach or the only permissible approach to considering costs in response to *Michigan*. The Supreme Court’s ruling does not prohibit the consideration of co-benefits (referred to as “ancillary benefits”) or instruct EPA how to consider costs. The Court stated that it did not need to address whether EPA could have considered ancillary benefits when deciding if regulating HAP emissions from power plants is appropriate and necessary, because EPA did not consider ancillary benefits in its decision.¹² The Court rejected EPA’s co-benefits-driven regulatory impact analysis as a basis for MATS not because the agency cannot consider co-benefits, but because EPA did not make a co-benefits argument when it decided to regulate power plants under Section 112. The Court treated the issue of including or excluding co-benefits as entirely irrelevant to the case. Since the Court did not even address the consideration of co-benefits, EPA cannot correctly imply that the Court does not want co-benefits to be considered.

The proposed rule gives the impression that EPA is singularly fixated on costs, and not fully addressing the public health benefits of regulating HAP emissions. Balanced consideration of both costs and benefits is necessary. Systematically overlooking known benefits in cost-benefit analyses deviates from basic accounting principles and overemphasizes program costs to regulated industries while profoundly understating the health benefits for the public. In the case of clean air programs, the costs of regulations are often easier to identify and estimate than the

¹² *Michigan*, at 2711.

resulting public health benefits. EPA and its co-regulators at state and local air agencies have examined and relied on the co-benefits of air pollution regulations for decades.

EPA identified benefits associated with HAP emissions reductions that could not be quantified or monetized. Those benefits include health and ecological co-benefits from reducing exposure to ozone, ecosystem co-benefits from reducing nitrogen and sulfate deposition, and direct health co-benefits from reducing exposure to ozone, SO₂ and NO₂. Mercury HAP emissions can also cause neurologic, cardiovascular, genotoxic, and immunotoxic effects, while exposure to certain non-mercury HAP emissions can lead to cancer, and chronic and acute health disorders that implicate multiple organ systems such as the lungs and kidneys. And yet, EPA proposes to conclude that these nonmonetized benefits are not sufficient to overcome the significant difference between the monetized benefits and costs of this rule. In only considering monetized benefits, EPA is putting the public at serious risk of adverse health impacts.

In the proposed rule, EPA states “although an analysis of all benefits and costs in accordance with generally recognized benefit-cost analysis practices is appropriate for informing the public about the potential effects of any regulatory action, as well as for complying with the requirements of Executive Order 12866, this does not mean that equal consideration of all benefits and costs, including co-benefits, is appropriate for the specific statutory appropriate and necessary finding called for under CAA section 112(n)(1)(A).” DEP strongly disagrees with that argument. The public should not only be informed but protected by regulatory action. Instead of diminishing the consideration of co-benefits, EPA should focus on improving the agency’s ability to comprehensively identify and assess public health benefits.

C-11, C-12. Consideration of Separate Subcategory and Acid Gas Standard for Existing EGUs That Fire Eastern Bituminous Coal Refuse

EPA is considering establishing a subcategory for emissions of acid gas HAP from existing EGUs firing eastern bituminous coal refuse. In this action, EPA is soliciting comment on whether establishment of such a subcategory is needed and on the acid gas HAP emission standards that would be established if EPA creates this subcategory.

DEP’s Comment: Given that eastern bituminous coal refuse has such a high sulfur content, DEP agrees that EPA should create a separate subcategory and supports the proposed acid gas emission standards found in Table - 8 for Existing Eastern Bituminous Coal Refuse-Fired EGUs. However, for HCl standards, the 0.60 lb/MWh MACT floor standard should be 0.90 lb/MWh, and the 0.040 lb/MMBtu and 0.40 lb/MWh beyond-the-floor standard should be 0.036 lb/MMBtu and 0.54 lb/MWh, respectively.

DEP offers the following in support of this comment:

Provided by EPA: 1.0 lb SO₂/MMBtu and 0.060 lb HCl/MMBtu and 40% reduction beyond the MACT floor.

$$\text{lb SO}_2/\text{MWh} = (1.0 \text{ lb SO}_2/\text{MMBtu}) (3.412 \text{ MMBtu/MWh}) (1/0.2276) = 15 \text{ lb SO}_2/\text{MWh}$$

$$\text{lb HCl/MWh} = (0.060 \text{ lb HCl/MMBtu}) (3.412 \text{ MMBtu/MWh}) (1/0.2276) = 0.90 \text{ lb HCl/MWh}$$

The coal refuse-fired units typically run about 20 – 23% efficient. So, for 15 lb SO₂/MWh, the efficiency worked out to be 22.76 %, which is in the range. However, for 0.60 lb HCl/MWh, the efficiency would be 34.12%, which is outside the range. It is important to use the same efficiency for both pollutants because both pollutants are being emitted simultaneously. DEP is not averse to setting the standard at 0.60 lb HCl/MWh but believes that the standard must be supported by science.

EPA's other discrepancies lie in rounding techniques:

$(0.060 \text{ lb HCl/MMBtu}) (1.0 - 0.40) = 0.036 \text{ lb HCl/MMBtu}$ **versus** $0.040 \text{ lb HCl/MMBtu}$

$(0.90 \text{ lb HCl/MWh}) (1.0 - 0.40) = 0.54 \text{ lb HCl/MWh}$ **versus** 0.40 lb HCl/MWh

Conclusion

DEP maintains that EPA's 2016 Supplemental Finding was not flawed and correctly weighed the cost and benefits. EPA should continue to account for the monetized and non-monetized benefits of MATS, including HAP-related benefits that cannot be quantified or monetized, as well as the monetized co-benefits of reducing pollutants other than HAP. As EPA has previously stated, regulating HAP emissions from coal- and oil-fired EGUs is appropriate because HAP emissions pose risks to human health and the environment and there are controls capable of reducing HAP emissions. It is also necessary because other CAA requirements do not eliminate the risks.¹³ Thus, EPA should uphold its prior conclusion under CAA section 112(n)(1)(A).

Thank you for your consideration in this matter. Should you have questions or need additional information, please contact Krishnan Ramamurthy, Director of the Bureau of Air Quality, by e-mail at kramamurth@pa.gov or by phone at 717.787.9702.

Sincerely,



Patrick McDonnell
Secretary

¹³ 77 FR 9304.