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VIA ELECTRONIC SUBMISSION

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Subject: Comments on 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. 24,976 (May 3, 2011)

Docket ID No. EPA-HQ-OAR-2011-0044 (NSPS action)

Docket ID No. EPA-HQ-OAR-2009-0234 (NESHAP action)

The Institute for Policy Integrity at New York University School of Law submits the following comments on the National Emission Standards for Hazardous Air Pollutants from Coal- and Oil-Fired Electric Utility Steam Generating Units (hereinafter "Utility MACT") and Standards of Performance for Fossil-Fuel-Fired Electric Utility, Industrial-Commercial-Institutional, and Small Industrial-Commercial-Institutional Steam Generating Units (hereinafter "Utility NSPS") released by the Environmental Protection Agency (EPA) on May 3, 2011.

Policy Integrity is a non-partisan think tank dedicated to improving the quality of government decisionmaking through advocacy and scholarship in the fields of administrative law, economics, and public policy. Environmental protection is one particular area of focus for Policy Integrity.

EPA's proposed Utility MACT and Utility NSPS will significantly advance the agency's efforts to reduce the emissions of both hazardous and criteria air pollutants from electric utility steam generating units, but the rules should be modified to improve efficiency, and various aspects of the rules' justification should be clarified and strengthened. Specifically, the agency should make the following changes:

- Revise the **interpretation of "appropriate"** under section 112(n)(1)(A) to include a consideration of both costs and benefits in assessing whether hazards to public health or the environment are reasonably anticipated to occur;
- Revisit the **determination of subcategories** of sources in the Utility MACT, and only propose subcategorizations that will increase net benefits;
- Issue any additional or different "beyond-the-floor" standards that **maximize net social benefits**, as allowed by Section 112(d)(2) of the Clean Air Act and directed by Executive Orders 12,866 and 13,563;
- In particular, consider establishing a **market mechanism**, such as a cap-and-trade system, as part of the "beyond-the-floor" standards, and further analyze the possible benefits of **fuel switching** as a beyond-the-floor compliance mechanism;

- Acknowledge the **grandfathering** issues raised by setting different standards for new and existing sources of hazardous air pollutants, and minimize inefficient grandfathering;
- Reconsider the use of **emissions averaging**;
- Clearly address the importance of **ancillary benefits** in hazardous air pollutant regulation;
- and, Reconsider the calculation of costs and benefits for the jointly issued NSPS update rule.

I. OVERVIEW OF THE PROPOSED STANDARDS

A. Proposed Utility MACT Rule

On May 3, 2011, EPA proposed national emission standards for hazardous air pollutants (NESHAP) from coal- and oil-fired electric utility steam generating units (EGUs) under Clean Air Act (CAA) section 112(d) (Utility MACT). Clean Air Act sections 112(c)–(d) generally direct EPA to issue technology-based emission standards, called Maximum Achievable Control Technology, or MACT, for certain listed source categories. Section 112(n)(1) instructs EPA to regulate electric utility steam generating units under section 112 if such regulation is “appropriate and necessary,” after considering the results of a required study.

In December 2000, EPA determined that it was appropriate and necessary to regulate coal- and oil-fired EGUs under CAA section 112, and therefore added that category of sources to the CAA section 112(c) list of sources that must be regulated. In 2005 it reversed that decision, as part of its Clean Air Mercury Rule. The current rulemaking is EPA’s response to the D.C. Circuit’s 2008 vacatur of the 2005 delisting action. The proposed Utility MACT confirms EPA’s December 2000 finding that it was appropriate and necessary to regulate coal- and oil-fired EGUs under section 112.¹

The Utility MACT would impose numerical emission rate limitations for five subcategories of both new and existing coal- and oil-fired EGUs.² The source subcategories are: (1) coal-fired units designed for coal greater than or equal to 8,300 Btu/lb; (2) coal-fired units designed for coal less than 8,300 Btu/lb, (3) integrated gasification combined cycle EGUs; (4) solid oil-derived fuel firing EGUs; and (5) liquid oil firing EGUs. There is no differentiation in standards between major sources and area sources.³

For all new and existing coal-fired EGUs, all new and existing integrated gasification combined cycle EGUs, and all new and existing solid oil-derived fuel firing EGUs, the proposed standards would establish numerical emission limits for mercury, particulate matter (as a surrogate for toxic non-mercury metals), and hydrogen chloride (as a surrogate for toxic acid gases). For all new and existing liquid oil-fired EGUs, the proposed toxics rule would establish numerical emission limits for total hazardous air pollutant (HAP) metals, hydrogen chloride, and hydrogen fluoride.⁴ These sources would comply with the total HAP metals standards through fuel testing.

¹ Utility MACT at 24,986 and 25,015.

² Utility MACT at 25,027.

³ EPA notes it is not required to issue separate standards for area sources, known as Generally Available Control Technology, or GACT, and that MACT standards are more appropriate anyway. Utility MACT at 25,021 (“In fact, because of the significant number of well-controlled EGUs of all sizes, we believe it would be difficult to make a distinction between MACT and GACT. Moreover, EPA believes the standards for area source EGUs should reflect MACT, rather than GACT, because there is no essential difference between area source and major source EGUs with respect to emissions of HAP.”).

⁴ The MACT floor standards for new and existing sources account for emissions variability. The standards also permit emissions averaging, though only for existing sources. EPA intends to apply a discount factor when emissions averaging is used. The standards do not include exceptions for startup or shutdown, though it may not be accurate to say that they apply at all times. EPA has not factored malfunctions into the standards, and proposes a malfunction affirmative defense for civil enforcement actions. Utility MACT at 25,028, 25,053.

The Utility MACT would also impose a work practice standard for organic HAP (such as dioxin and furan) pursuant to section 112(h)(1), in lieu of numerical emission rate limitations.⁵ The work practice standard includes some annual maintenance requirements.⁶ The Utility MACT would only impose “beyond the floor” standards for existing EGUs designed to burn coal less than 8,300 Btu/lb,⁷ and for new integrated gasification combined cycle EGUs.⁸ All other numerical emission rate limitations were set under the MACT floor.⁹

EPA proposes to set conventional MACT standards, rather than section 112(d)(4) health-based standards, for hydrogen chloride and other acid gas HAP.¹⁰ EPA bases this decision in part on the ancillary benefits that would accrue from setting the conventional MACT standards and thereby reducing sulfur dioxide, particular matter, and other non-HAP acid gases.¹¹

New sources must comply with the proposed rule immediately upon startup, and existing sources may be provided up to three years to comply with the final rule (though a permitting authority has the discretion to grant a source up to a one-year extension, on a case-by-case basis, if such additional time is necessary for the installation of controls).¹² The Utility MACT also proposes alternative standards for consideration. The alternative standards include sulfur dioxide limits as an alternative to hydrogen chloride, individual non-mercury metal air toxics as an alternative to PM, and total non-mercury metal HAP as an alternative to particulate matter for certain subcategories of power plants.¹³

B. Proposed Utility NSPS Rule

Section 111 of the Clean Air Act requires EPA to issue new source performance standards for source categories that EPA has determined cause, or contribute significantly to, air pollution that may reasonably be anticipated to endanger public health or welfare. EPA is also required to periodically review and, if appropriate, revise the NSPS to reflect improvements in emission reduction methods. In February 2006, EPA promulgated amendments to the NSPS for particulate matter (PM), sulfur dioxide (SO₂), and nitrogen oxides (NO_x) for EGUs. In *State of New York v. EPA*, numerous states and environmental organizations sued EPA in the D.C. Circuit over the amendments. In September 2009, the court granted EPA a voluntary remand, without vacatur, of the 2006 amendments. These proposed NSPS amendments are EPA’s response to that remand.

EPA is proposing to establish amended performance standards for PM, SO₂, and NO_x that would apply to owners and operators of all fossil fuel-fired steam generating units constructed, reconstructed, or modified at any time after publication of the proposed rule. The 2006 emission standards will continue to apply to affected facilities for which construction was commenced after February 28, 2005, but before publication of this proposed rule.

⁵ Utility MACT at 25,046.

⁶ Utility MACT at 25,051.

⁷ Utility MACT at 25,027 and 25,046 (in-depth discussion).

⁸ Utility MACT at 25,048.

⁹ Utility MACT at 25,040–41 (existing source MACT floor discussion) and 25,046 (new source MACT floor discussion). The proposed rule’s consideration of fuel switching as a beyond the floor regulatory option seems to be similar to the discussion of that topic in the Boiler MACT rulemaking. According to the Agency, the “Coal-to-Gas Conversion (C2G)” Technical Support Document in the docket supports the determination that fuel switching is not a viable regulatory option. Utility MACT at 25,046 and 25,048–49.

¹⁰ Utility MACT at 25,049.

¹¹ Utility MACT at 25,051.

¹² Utility MACT at 25,054.

¹³ Utility MACT at 25,058.

In setting the Utility NSPS, EPA has taken a “fuel and technology neutral approach,” which provides a single emission limit for steam generating units based on the application of the best demonstrated technology, without regard to the specific type of steam generating equipment or fuel being used. EPA concluded that this approach provides owners and operators of affected facilities “an incentive to carefully consider fuel use, boiler type, and control technology in planning for new units so as to use the most effective combination of add-on control technologies, clean fuels, and boiler design based on the circumstances to meet the emission standards.”¹⁴ EPA is proposing a total PM standard, rather than separate standards for filterable PM_{2.5} and condensable PM, an SO₂ standard, and two options for an amended NO_x standard (one of which is a combined CO and NO_x standard). EPA is not proposing to amend the SO₂ emission standard for modified EGUs.¹⁵ These standards are based on gross electrical energy output, rather than net output.¹⁶ EPA also states in the proposed rule that it does not consider integrated gasification combined cycle to qualify as NSPS.¹⁷

The proposed NSPS will apply during periods of startup and shutdown,¹⁸ but do not account for malfunctions.¹⁹ Owners and operators of innovative emerging technologies that apply for and are granted a commercial demonstration permit by the Administrator for an affected facility are exempt from the proposed amended standard. The 2006 standard applies to those sources, instead.²⁰

EPA has concluded that there are no costs or benefits associated with these amendments. The Agency predicts that no new, reconstructed, or modified steam generating units would become subject to the proposed amendments over the next five years. EPA also explains that the requirements of other CAA rulemakings, such as the Transport Rule, will likely require EGUs to employ emission controls beyond what is required by this proposed NSPS.²¹

II. “APPROPRIATE” DETERMINATION SHOULD WEIGH COSTS AND BENEFITS

The “appropriate and necessary” determination for regulating new and existing coal- and oil-fired EGUs, first made in 2000, should stand. These EGUs were properly listed under section 112(c)(1) and do not meet the delisting criteria in section 112(c)(9). The “necessary after imposition of the requirements of the CAA” prong of the “appropriate and necessary” determination raises the issue of the appropriate regulatory baseline to use in evaluating the effects of a regulation.²² In the context of regulating electric generating units under section 112, however, the benefits of regulation are so great that the regulatory baseline issue is not significant. The combined appropriate *and* necessary standard only occurs in subsections (m) (Great Lakes HAP deposition provision) and (n) (EGUs provision) of section 112. This determination does, however, highlight the importance of EPA’s interpretation of the statutory term “appropriate.” EPA should revise the way in which it makes this determination.

¹⁴ Utility MACT at 25,062.

¹⁵ Utility MACT at 25,061 (explaining that EPA is not proposing to amend the SO₂ emission standard for owners/operators of modified EGUs because of the incremental cost effectiveness and potential site specific limited water availability).

¹⁶ Utility MACT at 25,070.

¹⁷ Utility MACT at 25,061.

¹⁸ Utility MACT at 25,063.

¹⁹ Utility MACT at 25,063.

²⁰ Utility MACT at 25,061–62 and 25,068.

²¹ Utility MACT at 25,072.

²² Utility MACT at 24,990.

In the Utility MACT, EPA maintains that the term “appropriate” should not allow for the consideration of costs in assessing whether hazards to public health or the environment are reasonably anticipated to occur based on EGU emissions.²³ An agency’s interpretation of statutory terms that admit of multiple meanings is entitled to considerable deference, as long as it represents a reasonable reading of the statute.²⁴ And the D.C. Circuit has found that the agency’s authority to make “appropriate” modifications, under another section of the Clean Air Act, is “both explicit and extraordinarily broad.”²⁵ However, one of the factors that the agency uses in determining whether or not to regulate EGUs is the current availability of effective pollutant control technologies.²⁶ The consideration of this factor—available and effective control technologies—can be interpreted as a sort of threshold-based consideration of costs. EPA’s explanation for using this factor is not particularly extensive. The preamble states:

The approach of section 112, as amended in 1990, is based on the premise that, to the extent there are controls available to reduce HAP emissions, sources should be required to use them. Thus, it was reasonable to base the appropriate finding in part on the conclusion that controls currently available were expected to reduce HAP emissions from EGUs.²⁷

In short, this factor is based upon both the availability and the effectiveness of control technologies. Yet some control option will almost always exist for every source (for example, operational restrictions under the section 112(h) backstop), even if their cost makes such options seem not “available.” Thus, it is not clear that this part of the determination excludes the consideration of costs, at least at some level.

EPA should consider both costs and benefits more explicitly in the determination of appropriate. This would be a more reasonable understanding of this operative term. In *Entergy v. Riverkeeper*, the Supreme Court found that broad statutory language allows EPA to weigh the social costs and benefits of regulation unless doing so is directly contrary to the statute.²⁸

The statutory term “appropriate” is used extensively throughout section 112 and the rest of the Clean Air Act. The section 112(n) determination in this rulemaking provides EPA with an opportunity to employ a more rational interpretation of that term. The proposed Utility MACT is expected to provide very significant benefits, and an interpretation of “appropriate” that incorporates cost-benefit analysis would clearly demonstrate that the agency is following a reasonable regulatory path. To the extent that this preferable interpretation of “appropriate” is in any way inconsistent with the agency’s December 2000 “necessary and appropriate finding,” that variation would clearly be reasonable.²⁹ EPA has the legal authority to reinterpret “appropriate” to allow for the consideration of costs and benefits, and should do so to best adhere to the principles of Executive Orders 12,866 and 13,653, which instruct agencies to maximize net benefits unless a statute requires another regulatory approach.

²³ Utility MACT at 24,989 (“Had Congress intended to require the Agency to consider costs in assessing hazards to public health or the environment associated with EGU HAP emissions, it would have so stated. This interpretation is consistent with the overall structure of the CAA. Congress did not authorize the consideration of costs in listing any source categories for regulation under section 112.”).

²⁴ See *Chevron U.S.A. Inc. v. Natural Res. Def. Council, Inc.*, 467 U.S. 837, 843–44 (1984).

²⁵ *Nat’l Ass’n of Clean Air Act Agencies v. EPA*, 489 F.3d 1221, 1229 (D.C. Cir. 2007).

²⁶ Utility MACT at 24,997 and 25,013–14.

²⁷ Utility MACT at 24,997.

²⁸ *Entergy*, 129 S. Ct. 1498, 1509 (2009).

²⁹ See *Nat’l Cable & Telecommunications Ass’n v. Brand X Internet Servs.*, 545 U.S. 967, 981 (2005) (Discussing the deference provided to an Agency when changing interpretations the Court stated “change is not invalidating, since the whole point of Chevron deference is to leave the discretion provided by ambiguities of a statute with the implementing agency.”).

III. SUBCATEGORIES SHOULD BE CREATED ONLY IF THEY INCREASE NET BENEFITS

The Utility MACT would impose numerical emissions rate limitations for five subcategories of both new and existing coal- and oil-fired EGUs.³⁰ The source subcategories are: (1) coal-fired units designed for coal greater than or equal to 8,300 Btu/lb; (2) coal-fired units designed for coal less than 8,300 Btu/lb, (3) integrated gasification combined cycle EGUs; (4) solid oil-derived fuel firing EGUs; and (5) liquid oil firing EGUs.³¹

EPA explicitly seeks comment on its subcategorization determinations. The agency explains that in the December 2000 listing, only two subcategories of fossil fuel-fired EGUs—coal-fired and oil-fired—were established and listed. EPA now suggests that the design and operational differences between different types of EGUs within these two subcategories warrant further subcategorization, into the proposed five subcategories.³² EPA possesses significant discretion in setting subcategories based on size, type, or class of sources,³³ but there may be more rational ways in which EPA can undertake these subcategorization determinations.

As section 112 makes clear, because NESHAPs are established for each separate category or subcategory of sources, the MACT determination is essentially bounded by the categorization and subcategorization decisions. In the Utility MACT, EPA explains that it examined the results of its HAP emissions study to determine whether or not to subcategorize EGUs by unit design type. The agency concluded that distinguishable differences in performance and emission characteristics exist based on unit design type, that these differences may influence the feasibility or effectiveness of emission control, and that therefore these sources should be regulated separately.³⁴

In justifying these proposed subcategorizations, EPA emphasized that the Clean Air Act permits it to divide source categories into subcategories based on differences in class, type, or size. The D.C. Circuit has consistently affirmed EPA's authority under section 112 to create source subcategories, recently reiterating that "Congress specifically permitted the Administrator to 'distinguish among classes, types, and sizes of sources within a category or subcategory in establishing such standards.'"³⁵ The D.C. Circuit has also interpreted identical source categorization language in section 111 of the CAA to permit the creation of subcategories based on fuel type.³⁶

In a recent concurring opinion, however, Judge Williams cautioned that while section 112 "pervasively refers to standards for sources in each '*category or subcategory*,' . . . the authority to generate subcategories is obviously not unqualified; at the least it must be limited by the usual

³⁰ Utility MACT at 25,027.

³¹ EPA is also considering a limited-use subcategory to account for liquid oil-fired units that only operate a limited amount of time per year on oil and are inoperative the remainder of the year. Utility MACT at 25,027.

³² Utility MACT at 25,036.

³³ See 42 U.S.C. § 7412(d)(1).

³⁴ Utility MACT at 25,036–37. "[D]ifferences between given types of units can lead to corresponding differences in the nature of emissions and the technical feasibility of applying emission control techniques The design, operating, and emissions information that EPA has reviewed indicates that there are significant design and operational differences in unit design that distinguish different types of EGUs within these two subcategories, and, because of these differences, we have proposed to establish [the five subcategories]." *Id.*

³⁵ *Sierra Club v. EPA*, 551 F.3d 1019 (D.C. Cir. 2008), cert. denied by *Am. Chemistry Council v. Sierra Club*, 2010 U.S. LEXIS 2265 (2010) (citing 42 U.S.C. § 7412(d)(1); *NRDC v. EPA*, 489 F.3d 1364, 1375 (D.C. Cir. 2007) ("Because Congress has vested EPA with subcategorization authority under Section 112(c)(1), and its exercise of that authority involves an expert determination, [petitioner] carries a heavy burden to overcome deference to the agency's articulated rational connection between the facts found and the choices made.")).

³⁶ *Sierra Club v. Costle*, 657 F.2d 298, 318–319 (D.C. Cir. 1981) ("EPA is expressly authorized by section 111 to 'distinguish among classes, types and sizes within categories of new sources for the purpose of establishing . . . standards.' Thus, the statute provides on its face that EPA does not have to set a uniform percentage reduction requirement for an entire category of emission sources.").

ideas of reasonableness.”³⁷ In evaluating identical source categorization language in section 129 of the Clean Air Act, the D.C. Circuit has held that “class, type, and size” are ambiguous terms. The relevant inquiry is therefore whether it is reasonable for the agency to construe those terms as permitting subcategorization on the proposed basis.³⁸ Judicial review under the second step of *Chevron* is deferential to the agency, but EPA must still describe its rationale for subcategorizing.³⁹

The proposed source subcategorizations may not represent the groupings that would lead to the most efficient regulatory program. Subcategorizations should be made to the extent that they increase the rule’s net benefits. Setting separate standards for multiple different subcategories incurs administrative costs: collecting separate information, setting the different standards, and monitoring and enforcing different standards. Such costs are only warranted if different sources face sufficiently different costs or could generate sufficiently different benefits such that setting a unique standard would increase overall net benefits.

EPA should justify any subcategorizations it makes along these ground. Its current explanation for the subcategories begins to address the differing costs and benefits of regulating different existing sources. Retrofitting existing plants with control devices or process changes can be costly, and plants designed for different fuel types may face different retrofit costs and may be able to achieve different levels of emissions reductions. But EPA should be more explicit about the costs and benefits it is weighing in making these determinations, should try to quantify the costs and benefits to the extent possible, and should only propose subcategories for existing sources to the extent that different standards will enhance net benefits.

EPA should explore the justifications for subcategorization for new sources separately. Compared to existing sources, new sources do not face the same limitations on their design options. EPA must explain why for new, still-unconstructed sources, it would not be more efficient to set a single standard and let all new sources choose any fuel type and design option capable of meeting that standard—including natural gas-based designs. Given how few new coal- or oil-fired EGUs the agency is anticipating (essentially none over the next five years),⁴⁰ it is not clear how much force EPA’s concerns about supply limitations and the constraints of current technology should have on setting a standard that might only be achievable by switching to natural gas. (See below for more on fuel switching.)

IV. MARKET MECHANISMS AND FUEL SWITCHING AS BEYOND-THE-FLOOR STANDARDS

A. Beyond-the-Floor Standards Should Be Set to Maximize Net Social Benefits

Section 112(d)(2) requires emissions standards to reflect “the maximum degree of reductions in emissions . . . 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,

³⁷ *Sierra Club v. EPA*, 479 F.3d 875, 885 (D.C. Cir. 2007) (Williams, J., concurring) (“Section 112(d)(1) authorizes the Administrator to ‘distinguish among classes, types and sizes of sources within a category or subcategory,’ and the language of subsections 112(d)(2) and (3) pervasively refers to standards for sources in each ‘category or subcategory.’ The authority to generate subcategories is obviously not unqualified; at the least it must be limited by the usual ideas of reasonableness Nonetheless, one legitimate basis for creating additional subcategories must be the interest in keeping the relation between ‘achieved’ [in the MACT floor analysis] and ‘achievable’ [in the beyond-the-floor analysis] in accord with common sense and the reasonable meaning of the statute.”).

³⁸ *Northeast Md. Waste Disposal Auth. v. EPA*, 358 F.3d 936, 946–47 (D.C. Cir. 2004).

³⁹ *Id.* at 948–49 (“EPA at all times ‘retains a duty to examine key assumptions as part of its affirmative burden of promulgating and explaining a non-arbitrary, non-capricious rule.’”) (quoting *Appalachian Power Co. v. EPA*, 135 F.3d 791, 818 (D.C. Cir. 1998)).

⁴⁰ *Utility MACT* at 25,073.

determines is achievable.” The stringency of EPA’s beyond-the-floor regulations therefore depends on the definition of “achievable.” Statutory structure and legal precedent suggest that EPA has authority to define “achievable” in light of costs and benefits.

In the past, EPA has interpreted Section 112(d)(2) not to require consideration of the full range of benefits from curtailing HAP emissions. In *Sierra Club v. EPA* (2004), the D.C. Circuit accepted that interpretation, finding that the phrase “non-air quality health and environmental impact” did not require consideration of the negative social effects from the deposition of HAP emissions.⁴¹ But EPA’s past interpretations do not preclude rethinking the appropriate definition of “achievable.” The *Sierra Club* decision was largely based on deference to an agency interpretation of an ambiguous term. Under *Chevron*, courts will uphold any reasonable agency interpretation of an ambiguous term, regardless of whether it is the “best” interpretation.⁴² So long as the reinterpretation is neither arbitrary nor capricious, it is perfectly acceptable for EPA to issue another interpretation of Section 112(d)(2)⁴³—for example, one that balances costs and benefits.

The Court in *Sierra Club* also believed that the Clean Air Act’s statutory structure indicated that Section 112(d) required technology-based instead of risk-based regulations, but that framework is not inconsistent with defining “achievable” in light of costs and benefits. *Sierra Club* found:

[T]he 1990 Amendments established a two-phase approach to promulgating emission standards. The first phase . . . requires a technology-based approach. [CAA § 112(d).] The second phase occurs eight years later and involves a risk-based approach. [CAA § 112(f)(2)(A)] (“Emissions standards promulgated under this subsection shall provide an ample margin of safety to protect public health. . .”). That risk-based analysis requires EPA to consider, inter alia, public health and adverse environmental effects—precisely what *Sierra Club* contends EPA must consider now with respect to non-air quality impacts. *Sierra Club*’s interpretation would collapse the technology-based/risk-based distinction at the heart of the Act, undermining the central purpose of the 1990 Amendments—to facilitate the near-term implementation of emission standards through technology-based solutions. In doing so, that interpretation would reintroduce the very problem Congress sought to exorcize—that the pursuit of the perfect (risk-based standards) had defeated timely achievement of the good (technology-based standards). EPA’s reading of the statute is reasonable.⁴⁴

First, the distinction between *requiring* the consideration of direct health and environmental impacts and *allowing* their consideration should be emphasized. Section 112(f) requires the consideration of these impacts, but Section 112(d)(2) certainly allows them. Recently, in *Entergy v. Riverkeeper*, the Supreme Court affirmed that just because a statute does not require analysis of costs or benefits does not necessarily mean an agency cannot perform cost-benefit analysis.⁴⁵

Second, *Entergy* more generally supports the proposition that broad statutory language allows EPA to weigh the social costs and benefits of regulation unless doing so is directly contrary to the

⁴¹ 353 F.3d 976, 990 (D.C. Cir. 2004). Instead, “non-air quality health and environmental impacts” meant any negative social effects caused by industry compliance with potential regulation, not those effects caused by the original pollution.

⁴² *Chevron U.S.A. Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837, 843-844 (1984).

⁴³ See *Nat’l Cable & Telecomm. Assoc. v. Brand X Internet Services*, 545 U.S. 967 (2005) (explaining that *Chevron* review applies to agency changes of legal interpretations, quoting *Chevron*, 467 U.S. at 865-66); *id.* at 981-82 (Rehnquist, J., concurrent in part, dissent in part) (explaining that changes in administration are legitimate grounds for changing agency interpretations).

⁴⁴ 353 F.3d at 990.

⁴⁵ 129 S.Ct. 1498, 1509 (2009).

statute. The text of Section 112(d) explicitly requires the consideration of costs,⁴⁶ and no language in Section 112(d) prohibits the consideration of benefits. To the contrary, Section 112(d)(4) indicates that EPA is allowed to consider benefits: if a pollutant has an established health threshold, such that additional emissions reductions will not deliver additional health benefits, EPA may consider that benefits threshold when determining which standards are the “maximum . . . achievable” required under Section 112(d)(2).⁴⁷ In other words, the statute explicitly allows consideration of benefits when defining “achievable” in certain contexts. Given the broad statutory language, the lack of a prohibition, and the overall purpose of the statute, EPA likely has authority to interpret Section 112(d) to allow the consideration of costs and benefits.

Finally, some consideration of costs and benefits under Section 112(d) will not disrupt the structural distinctions found by the Court in *Sierra Club*. Section 112(f) remains a different, risk-based provision, in particular because its language on public health standards almost certainly excludes consideration of costs, under *Whitman v. American Trucking Association*. The operative language of Section 112(f) is:

Emission standards promulgated under this subsection shall provide an ample margin of safety to protect public health. . . unless the Administrator determines that a more stringent standard is necessary to prevent, taking into consideration costs, energy, safety, and other relevant factors, an adverse environmental effect.⁴⁸

Obviously, this subsection requires consideration of costs when determining whether a more stringent environment-based standard is required, but it does not require consideration of costs in determining the standard based on public health. In *American Trucking*, the Supreme Court ruled that Section 109 of the Clean Air Act (with language similar to Section 112(f)'s public health-based standard)⁴⁹ precluded the consideration of costs.⁵⁰ More generally, *American Trucking* stands for the proposition that, depending on statutory context unique to certain sections of the Clean Air Act, consideration of costs may be prohibited.⁵¹

The interpretation described above would maintain a four-part structure when applying Section 112(d) and Section 112(f) together. Section 112(d)(3) mandates a technology-based floor. Section 112(d)(2) gives EPA discretion to go beyond this floor, to achieve the “maximum degree of reduction . . . achievable” in light of costs and benefits. Section 112(f)(2)(A) then has two parts: first, a health-based standard where EPA is prohibited from considering costs; and second, an environmental risk-based standard where EPA must consider costs to determine whether to go

⁴⁶ Additionally, it should be noted that “non-air quality health and environmental impacts” are societal costs and are not experienced by the parties themselves.

⁴⁷ CAA § 112(d)(4) (“With respect to pollutants for which a health threshold has been established, the Administrator may consider such threshold level, with an ample margin of safety, when establishing emission standards under this subsection.”).

⁴⁸ CAA § 112(f)(2)(A).

⁴⁹ Compare CAA § 109(b)(1) (“National primary ambient air quality standards, prescribed under subsection (a) of this section shall be ambient air quality standards the attainment and maintenance of which in the judgment of the Administrator, based on such criteria and allowing an adequate margin of safety, are requisite to protect the public health.”).

⁵⁰ 531 U.S. 457 (2001).

⁵¹ In *Entergy v. Riverkeeper*, this more general proposition is explained: “In *American Trucking*, we held that the text of § 109 of the Clean Air Act, ‘interpreted in its statutory and historical context. . . unambiguously bars cost considerations’ in setting air quality standards under that provision. The relevant ‘statutory context’ included other provisions in the Clean Air Act that expressly authorized consideration of costs, whereas § 109 did not.” *Entergy*, 129 S.Ct. at 1508 (citation omitted).

beyond the health-based standard. This interpretation preserves *Sierra Club's* distinction between the two stages of the standard-setting process.

Where legally permissible, EPA should exercise its discretion to set standards in light of costs and benefits. The goal of maximizing net benefits is enshrined in administration-wide policy under Executive Orders 12,866 and 13,653. The Orders direct federal agencies to “assess all costs and benefits of available regulatory alternatives” in deciding how to regulate, and then “select those approaches that maximize net benefits . . . unless a statute requires another regulatory approach.”⁵² Since, as demonstrate above, EPA has statutory authority to consider net benefits under Section 112(d), the directives of Executive Orders apply.

B. EPA Should Utilize Market Mechanisms in Setting Beyond-the-Floor Standards

EPA should create a tradable emissions permit market for hazardous air pollutants as part of the section 112(d) beyond-the-floor standards. EPA has the legal authority to create a market mechanism to ensure efficient, welfare-maximizing reductions in hazardous air pollutants beyond those achieved under the MACT floor requirements, and a cap-and-trade system is the most rational approach to ensure these reductions.

EPA Has Legal Authority to Use Market Mechanisms Under § 112: EPA has legal authority to pursue welfare-maximizing section 112(d) standards, and to do so using a market mechanism.⁵³ While section 112(d) does not explicitly grant EPA the authority to pursue such a mechanism, a holistic reading of the Clean Air Act infers such authority. Describing the methods available to EPA to eliminate hazardous emissions, section 112(d)(2) states that this objective can be accomplished “through application of measures, processes, methods, systems or techniques.” The statute then lists some examples of these processes, including “reduc[ing] the volume of, or eliminat[ing] emissions of, such pollutants through process changes, substitution of materials or other modifications” or “enclos[ing] systems or processes to eliminate emissions.” However, while these specific examples are listed, the statute is careful to note that the options available to EPA include “but [are] not limited to” the ones mentioned in the statute.

More importantly, there is precedent within the Clear Air Act that a cap-and-trade system is not outside the bounds of section 112(d)'s reference to “measures, processes, methods, systems or techniques.” Under section 110(a)(2)(A), state governments are authorized to develop NAAQS implementation plans that include “control measures, means or techniques (*including economic incentives such as fees, marketable permits, and auctions of emissions rights*).” Because the “measures, means or techniques” of section 110(a)(2)(A) include market mechanisms, it is reasonable for EPA to interpret⁵⁴ the “measures, processes, methods systems, or techniques” language of section 112(d)(2) to include them as well. This is especially true because of section 112(d)(2)'s grant of discretion to EPA to choose an appropriate method for control.

Additionally, because EPA has the authority to implement beyond-the-floor standards, using a market mechanism to do so is a plausible option. Section 112(d)(2) requires EPA to set MACT standards that reflect “the maximum degree of reductions in emissions . . . 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.” A market mechanism can easily fit the criteria of this standard. In particular, EPA may determine that the emissions control measure most achievable after taking into consideration the costs is a market

⁵² Exec. Order No. 12,866 §1, 58 Fed. Reg. 51,735 (1993).

⁵³ Note that in striking down the final version of that rule, the D.C. Circuit Court of Appeals did not rule on the validity of a cap-and-trade program under either § 111 or § 112, *see* *New Jersey v. EPA*, 517 F.3d 574 (D.C. Cir. 2008).

⁵⁴ *See Chevron U.S.A. Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837, 843-844 (1984).

mechanism that utilizes economic incentives to promote efficient compliance. The range of market mechanisms available could include anything from tradable performance standards to a nationwide emissions budget with an allowance auction. The stringency of any market mechanism chosen would then turn on what EPA determines is the maximum degree of reductions achievable, which is a separate inquiry.

Market Mechanisms are Efficient Regulatory Tools to Control HAP Emissions: Cap-and-trade economic models provide significant advantages over other forms of regulation by offering flexibility and by achieving emissions reductions in the most cost-effective manner. EPA should undertake further analysis in order to determine the number of permit markets to create and the specific pollutants to be included. The agency should perform a cost-benefit analysis to determine where to set the cap on HAP emissions. The goal would be to set the cap so as to equalize the price of the tradable permit and the social cost of the pollution. Ancillary costs and benefits should be included in this calculation. The cap could then be drawn down over time to reflect the rate of technological development.

Creating a tradable permit market for emissions of hazardous air pollutants may raise concerns that such a scheme will lead to the creation of hazardous air pollution “hotspots.” The Utility MACT itself acknowledges the danger of hotspots,⁵⁵ which exist even without the creation of a system for trading of HAP emission permits. If sources are not limited in their trading of emissions permits, a market system has the potential to lead to relatively high concentrations of particular pollutants in smaller areas within the larger pollution control region.⁵⁶ The problem of hotspots, however, can be addressed through market design that takes into account the local characteristics and concentrations of pollutants.⁵⁷

Implementing a market mechanism of the sort described here will certainly require further analysis and investments of time and resources. However, EPA already has experience in constructing these types of permit markets. Most importantly, the improved efficiency would provide additional benefits that would far outweigh the administrative costs involved in designing and operating the system.

C. Fuel Switching Should Be Reexamined As a Viable Beyond-the-Floor Option

EPA considered requiring fuel switching as a method of controlling HAP, but determined that fuel switching is not a viable regulatory option for any new or existing sources in any of the source subcategories.⁵⁸ However, fuel switching may in fact be an appropriate technology to consider in the “beyond-the-floor” inquiry. Only through a comprehensive cost-benefit analysis could EPA make this determination.

The Utility MACT’s discussion of fuel switching contains language that is very similar to that contained in the Boiler MACT Rule.⁵⁹ EPA identified several concerns that weighed against imposing requirements for fuel switching to natural gas: lack of availability of natural gas, failure to achieve significant lower HAP emissions, and the costs and difficulty in achieving fuel switching for

⁵⁵ Utility MACT at 25,013 (“Hg from U.S. EGUs is shown to deposit in higher quantities close to emission sources, and around some sources can be as high as 3 times the regional average deposition.”).

⁵⁶ RICHARD L. REVESZ, ENVIRONMENTAL LAW & POLICY 167 (2008).

⁵⁷ *Id.* at 573.

⁵⁸ Utility MACT at 25,046 and 25,048–9.

⁵⁹ In light of this similarity, see Policy Integrity’s detailed discussion of fuel switching in the previously submitted COMMENTS ON PROPOSED NATIONAL EMISSIONS STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR BOILERS AND PROCESS HEATERS AND COMMERCIAL/INDUSTRIAL SOLID WASTE INCINERATORS, at 16 (2010).

current EGUs compared to other regulatory options.⁶⁰ Specifically for new EGUs, EPA also explained that “even if we determined that natural gas supplies were available in all regions, we would still not adopt this fuel switching option because it would effectively prohibit new construction of coal-fired EGUs and we do not think that is a reasonable approach to regulating HAP emissions from EGUs.”⁶¹ There are flaws in all of these rationales for rejecting further consideration of fuel switching to natural gas.

First, EPA argues that the natural gas supply may be limited in some areas. In particular, the agency notes that natural gas supplies are constrained in some places and that, in some areas, during the heating season, natural gas supplies may not be adequate for EGU operation.⁶² These are the sorts of analyses that should be done on a more case-by-case basis. Every fuel source has its own risks (both in terms of price and availability), and it is not obvious that the theoretical possibility of supply shortages in some parts of the country should prevent an otherwise sound policy from going forward. EPA could even consider setting a standard that contained some regional variations, if there were verified and significant cost differences in different geographical areas.

Unlike the explanation in the Boiler MACT, the agency does not claim that fuel switching would be too technically difficult. EPA does argue, however, that it would be too costly for many sources to switch fuels. EPA’s analysis of its determination that coal-to-gas conversion is not an economically viable retrofit technology option is explained in the Coal-to-Gas Conversion (C2G) Technical Support Document (hereinafter “C2G TSD”) in the docket.⁶³ The C2G TSD explains that fuel switching from coal to natural gas, as a retrofit option for EGUs, was comprehensively modeled in EPA’s Integrated Planning Model, with explicit retrofit capital and operation and maintenance costs, pipeline extension costs, and heat rate penalties. The C2G option was not selected as an economic choice for EGU coal boilers to comply with the Utility MACT, the agency explains, because the incremental cost of electricity (COE) at a model plant that employed fuel-switching is higher compared to other retrofit options. The C2G TSD explains that “[t]he COE comparison allows consideration of the relative cost-effectiveness of using C2G to obtain beyond-the-floor reductions in the emission rates of toxic air pollutants.”⁶⁴ Furthermore,

“[W]hile the combined capital cost and O&M costs for a C2G retrofit could be less than that of a combined retrofit with [other control options], the greatly increased fuel costs of C2G cause its total incremental COE (\$44.5/MWh) to be between 4 to 22 times the COE impact of the other retrofit options available. The C2G option for this case is therefore uneconomic under the relative fuel cost projections in IPM modeling of the Toxics Rule.”⁶⁵

The agency then explains that fuel switching would result in greater emissions reductions for some HAPs than other retrofit options, and discusses those emissions reductions in percentage terms.⁶⁶

⁶⁰ Utility MACT at 25,046 and 25,048–9.

⁶¹ Utility MACT at 25,049.

⁶² “[N]atural gas supplies are not available in some areas. Natural gas pipelines are not available in all regions of the U.S., and natural gas may not be available as a fuel for many EGUs. Moreover, even where pipelines provide access to natural gas, supplies of natural gas may not be adequate, especially during peak demand (e.g., the heating season). Under such circumstances, there would be some units that could not comply with a requirement to switch to natural gas.” Utility MACT at 25,046.

⁶³ U.S. ENVIRONMENTAL PROTECTION AGENCY, OFFICE OF AIR AND RADIATION, COAL-TO-GAS CONVERSION (C2G) (March 4, 2011).

⁶⁴ *Id.* at 2.

⁶⁵ *Id.* at 2–3.

⁶⁶ “For example, DSI is assumed to achieve 90% reduction of HCl in the Toxics Rule modeling, whereas switching the boiler to gas-fired generation would effectively reduce 100% of previous HCl emissions. Therefore, for each 100 tons of uncontrolled HCl emissions, DSI would capture 90 while C2G would increase that capture further by 10 tons, which is about an 11% increase in capture – however, the COE impact increases by 724%. For a similar comparison on mercury,

The C2G concludes by stating, “For these reasons, EPA does not believe it is cost-effective to require beyond-the-floor emission reductions from coal-to-gas fuel switching in the Toxics Rule.”⁶⁷

EPA’s cost-effectiveness analysis is inadequate for setting the beyond-the-floor MACT standards. The emissions reductions that would result from fuel switching may not be cost-justified, but EPA has not yet shown this to be true. This is especially the case for new EGUs that would not experience the same costs of fuel switching that existing EGUs would face. Even if EPA argues that fuel switching would “effectively prohibit new construction of coal-fired EGUs,” this alone is insufficient: EPA must explain why a de facto bar on new coal-fired EGUs would be unreasonable; only if the value of preserving the coal-fired option is greater than the benefits of fuel switching would this be the case.

Next, in the rule’s preamble, the agency seems to suggest that no form of fuel switching would provide a meaningful reduction of HAP beyond those achieved by the MACT floors.⁶⁸ However, EPA does not explicitly mention the emissions reductions that would result from fuel switching when justifying the agency’s decision to forego fuel switching requirements. Additionally, the benefits of emission reductions from fuel switching have not been quantified in either the Regulatory Impact Analysis, or in the C2G TSD. The presentation of the “relative cost-effectiveness” of fuel switching compared to other regulatory options would only be relevant if all regulatory options provided the same level of social benefits.⁶⁹ The Agency concedes in the C2G TSD that the various retrofit options will lead to different emissions outcomes.⁷⁰

EPA is indeed capable of measuring and quantifying the benefits of fuel switching compared to other regulatory options. EPA has not properly considered the option of fuel switching until these additional benefits have been quantified, and incorporated into a more comprehensive evaluation of the costs and benefits of that regulatory option. Even if requiring *all* sources to switch to natural gas is not justified by the incremental costs, such a requirement may still be cost-benefit justified for particular types of EGUs or in particular regions. EPA should compare the incremental costs and benefits of fuel switching for each subcategory of EGUs, and improve its explanation for not requiring any fuel switching if it reaches that decision after further analysis. EPA should perform further analysis of fuel switching as a beyond-the-floor regulatory option, in order to determine whether or not the proposed Utility MACT is truly welfare-maximizing. EPA must also carefully consider how fuel switching might facilitate compliance with other rules (like the Transport Rule), and how to factor that into its baseline and benefits assessment.

V. GRANDFATHERING AND EMISSIONS AVERAGING

A. EPA Should Minimize the Potential for Inefficient Grandfathering

The Clean Air Act’s MACT floor provisions require EPA to perform distinct inquiries for existing and new sources. For existing sources, the MACT floor standard is the average of the top 12% of existing sources if there are more than 30 sources in the subcategory, or the average of the top 5 performing sources otherwise. The floor standard for new sources is “the emission control that is

ACI is assumed to capture 90% while C2G would effectively capture 100%, and this 11% increase in capture would be coupled with a 2,125% increase in that unit’s COE impact.” *Id.* at 3.

⁶⁷ *Id.*

⁶⁸ Utility MACT at 25,047.

⁶⁹ U.S. ENVIRONMENTAL PROTECTION AGENCY, NATIONAL CENTER FOR ENVIRONMENTAL ECONOMICS, GUIDELINES FOR PREPARING ECONOMIC ANALYSES, EXTERNAL REVIEW DRAFT at 10-8 (2008).

⁷⁰ C2G TSD at 3.

achieved in practice by the best controlled similar source.”⁷¹ Under these formulae, in the Utility MACT, most floor standards are less stringent for existing sources than for new sources.⁷²

The imposition of requirements that are less stringent for existing pollution sources than for new pollution sources is often referred to as “grandfathering.” Grandfathering is essentially a form of transition relief, in that existing sources are shielded, at least in part, from a new legal regime.⁷³ This differential regulation of new and existing pollution sources, such as EGUs, may create or contribute to a phenomenon known as the “Old Plant Effect.” Different regulatory standards for old and new plants distort the economic incentives facing existing plant owners when deciding whether to modernize or replace a plant. Stricter standards for new and substantially modified plants make building a new plant or substantially modifying an old plant more expensive propositions than they otherwise would be. Older plants may therefore be maintained in operation longer than is economically efficient.⁷⁴

There is extensive debate in the academic literature about the scope of the grandfathering problem and the threats to environmental quality and social welfare that may result from imposing stricter controls on new sources than on existing sources.⁷⁵ It may be the case that failing to provide some sort of relief to existing sources would be so costly as to be socially undesirable from a welfare maximization standpoint. It may also be the case, however, that this type of advantage for existing sources will discourage regulated entities from anticipating socially optimal changes to EPA’s regulatory program, and will discourage the construction of new plants and leave existing plants in operation over a longer period of time.⁷⁶ At the very least, EPA should explore the grandfathering implications of the Utility MACT, and grapple with these issues more extensively and explicitly. After undertaking a more thorough analysis, the Agency should also consider ways in which the Utility MACT could be improved to combat grandfathering’s negative impacts.

The differential treatment for new and existing EGUs may be appropriate for determining the emissions reductions floor, to the extent that the standards are precisely required by the statute. However, EPA can still combat the negative effects of grandfathering in the beyond-the-floor standards. After setting the MACT floor, EPA must determine whether or not to promulgate standards more stringent than those actually achieved by the best performing sources. The proposed Utility MACT only imposes beyond-the-floor requirements for a minority of sources.⁷⁷ As discussed above, EPA must perform further analysis of potential beyond-the-floor regulatory options, such as fuel switching. When setting such beyond-the-floor controls, EPA should adopt standards designed to minimize the potential for inefficient grandfathering.

⁷¹ 42 U.S.C. § 7412(d)(3).

⁷² Utility MACT at 25,027 tbl.10.

⁷³ Louis Kaplow, *An Economic Analysis of Legal Transitions*, 99 HARV. L. REV. 509, 584 (1986).

⁷⁴ Jonathan Remy Nash & Richard L. Revesz, *Grandfathering & Environmental Regulation: The Law and Economics of New Source Review*, 101 NW. U. L. REV. 1677 (2007).

⁷⁵ See, e.g., Louis Kaplow, *An Economic Analysis of Legal Transitions*, 99 HARV. L. REV. 509 (1986); Steven Shavell, *On Optimal Legal Change, Past Behavior, and Grandfathering*, 37 J. LEGAL STUD. 37 (2008).

⁷⁶ See generally Richard L. Revesz & Allison Westfahl Kong, *Regulatory Change and Optimal Transition Relief* (New York University School of Law Public Law & Legal Theory Research Paper Series Working Paper No. 10-62, Law & Economics Research Paper Series Working Paper No. 10-41, 2011).

⁷⁷ “We are proposing a beyond-the-floor standard for Hg only for all existing coal-fired units designed for coal less than 8,300 Btu/lb based on the use of ACI for Hg control, as described elsewhere in this preamble. We are proposing a beyond-the-floor standard for all pollutants for new integrated gasification combined cycle units based on the new-source limits for coal-fired units designed for coal greater than or equal to 8,300 Btu/lb as described elsewhere in this preamble.” Utility MACT at 25,027.

B. EPA Should Reconsider Its Approach to Emissions Averaging, Especially the Discount Rate

The MACT standards also permit the owners or operators of regulated sources to comply with emissions limitations by averaging the emissions of multiple units at a single regulated source within the same subcategory. EPA proposes to allow this emissions averaging option solely for existing sources. This allowance for emissions averaging is described as an “alternative compliance provision.”⁷⁸ EPA proposes to use a discount factor in order “to ensure that the environmental benefit was being achieved.”⁷⁹

The proposed allowance for emissions averaging—but only for existing sources—raises grandfathering issues similar to those described above. In justifying the use of selective emissions averaging, EPA explains that “the emissions averaging provisions in this proposed rule are based in part on the emissions averaging provisions in the Hazardous Organic NESHAP (HON). The legal basis and rationale for the HON emissions averaging provisions were provided in the preamble to the final HON.”⁸⁰ The Hazardous Organic NESHAP was promulgated in 1994, and the agency therefore did not have the benefit of the last fifteen years of research into the problems associated with grandfathering. The rationale provided in the Hazardous Organic NESHAP, which the agency incorporates by reference into the Utility MACT, seems to demonstrate a disregard for potential grandfathering problems. In that final rulemaking, EPA contended that “new sources have historically been held to a stricter standard than existing sources, because it is most cost-effective to integrate state-of-the-art controls into equipment design and to install the technology during construction of new sources.”⁸¹ Allowing averaging “permit[s] existing sources flexibility to achieve compliance at diverse points with varying degrees of control already in place in the most economically and technically reasonable fashion.”

As discussed above, there is serious debate about the wisdom of imposing stricter controls on new polluting sources than on existing sources. It may be the case that failing to provide some sort of relief to existing sources, such as the potential for averaging, would be costly and socially undesirable. It may also be the case, however, that this type of advantage for existing sources will discourage regulated entities from anticipating socially optimal changes to EPA’s regulatory program, and will discourage the construction of new plants and leave existing plants in operation over a longer period of time. At the very least, EPA should grapple with this debate more extensively and explicitly. Simply citing the justification for an emissions averaging decision that was provided in a sixteen year-old rulemaking is insufficient.

EPA seeks comment on whether or not to apply a discount factor to the use of emissions averaging, and on the appropriate value of that discount factor.⁸² EPA explains that “Such discount factors (e.g., 10 percent) have been used in previous NESHAP . . . to ensure that the environmental benefit was being achieved.”⁸³ Using a discount factor would have several effects. First, applying a discount factor would essentially penalize averaging and disincentivize sources from using this option. Therefore, fewer cost savings—which are the ultimate goal of allowing averaging—would be obtained. It is also possible, however, that averaging may lead to fewer reductions in emissions and thus fewer benefits to the general public. The net effect of this is ultimately an empirical one. EPA should independently justify any discounting provision. The proper discount factor can only

⁷⁸ Utility MACT at 25,053.

⁷⁹ Utility MACT at 25,053–54.

⁸⁰ Utility MACT at 25054. The Hazardous Organic NESHAP can be found at 59 Fed. Reg. 19,402 (April 22, 1994).

⁸¹ 59 Fed. Reg. at 19,425

⁸² Utility MACT at 25,053–54.

⁸³ Utility MACT at 25,054.

be determined in light of the provision's purpose.⁸⁴

VI. COUNTING THE BENEFITS

A. The Rule is Justified by Its Large Ancillary Benefits

Large ancillary benefits, sometimes referred to as co-benefits, may represent an important component of the cost-benefit analyses performed in support of rulemakings. This is most certainly the case in the Utility MACT. The ancillary benefits of this rule stem largely from reductions in particulate matter, and represent the vast majority of total quantified and monetized benefits.⁸⁵ There is no reason to disregard benefits flowing from the Utility MACT simply because they accrue from the reduction of air pollution that is not specifically required under the hazardous air pollutant provisions of the Clean Air Act. Indeed, section 101 broadly characterizes the purpose of the Clean Air Act as to “protect and enhance the quality of the Nation’s air resources so as to promote the public health and welfare.” Reducing particulate matter through the Utility MACT serves this purpose. Ancillary benefits that can be reliably monetized are particularly valuable in helping to understand the overall impact of a regulatory action on social welfare.

The importance of accounting for the ancillary benefits of agency regulations becomes especially clear in light of the recent history of the use of cost-benefit analysis in analyzing and justifying agency regulation. The consideration of the collateral consequences of regulation has historically focused on the countervailing risks—and neglected the ancillary benefits—of regulation.⁸⁶ This focus on the unintended risks of regulation is not justifiable. There is simply no reason to believe that ancillary benefits are less common or less significant than countervailing risks.⁸⁷ EPA’s internal guidelines support the use of ancillary benefits in providing cost-benefit justification of Agency regulatory actions.⁸⁸

B. EPA Should Reconsider Counting the Benefits of the NSPS Rule

EPA suggests that the costs and benefits of the proposed NSPS update are zero, in part because “the proposed EGU NESHAP PM and SO₂ standards for new EGUs are as stringent or more stringent than the proposed NSPS amendments” (and also because other rules, like the Transport Rule and NSR, are more stringent, and at any rate EPA expects no new coal- or oil-fired EGUs over the next five years).⁸⁹ EPA should reconsider this determination. Typically, when proposing a joint rulemaking, costs and benefits are attributed to both separate rules—see, for example, the joint rulemakings between NHTSA and EPA on greenhouse gas standards for motor vehicles.⁹⁰ In this case, since the NESHAP rule has not yet been finalized and is not guaranteed to have the intended effect (for example, it could be delayed or blocked by legal challenge), it may be more appropriate to calculate and present the costs and benefits of the NSPS amendments as if they were to take effect

⁸⁴ The proper use of emissions averaging and discount factors was discussed in detail in Policy Integrity’s previously submitted COMMENTS ON PROPOSED NATIONAL EMISSIONS STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR BOILERS AND PROCESS HEATERS AND COMMERCIAL/INDUSTRIAL SOLID WASTE INCINERATORS, at 15 (2010).

⁸⁵ Utility MACT at 25,078.

⁸⁶ See generally RICHARD L. REVEZS MICHAEL A. LIVERMORE, RETAKING RATIONALITY: HOW COST-BENEFIT ANALYSIS CAN BETTER PROTECT THE ENVIRONMENT AND OUR HEALTH (2008).

⁸⁷ *Id.* at 55–59.

⁸⁸ U.S. ENVIRONMENTAL PROTECTION AGENCY, NATIONAL CENTER FOR ENVIRONMENTAL ECONOMICS, GUIDELINES FOR PREPARING ECONOMIC ANALYSES, EXTERNAL REVIEW DRAFT at 7-1 (2008).

⁸⁹ Utility MACT at 25,072-73.

⁹⁰ Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards, 75 Fed. Reg. 25,324 (May 7, 2010).

independently (already finalized and separate rules, like the Transport Rule, should still enter into the baseline of the calculation). This approach better aligns with EPA's approach to joint rulemakings in other contexts.

Sincerely,

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