

Clean Air Task Force • Natural Resources Defense Council • Sierra Club • Environment America • Health Care Without Harm • Izaak Walton League of America • Clean Water Action • Green For All • League of Women Voters • League of Conservation Voters • Union of Concerned Scientists • National Parks Conservation Association • Greenpeace • Conservation Law Foundation • Environmental Law & Policy Center • GreenLaw • Southern Environmental Law Center • Energy Action Coalition • Interfaith Power & Light • Southern Alliance for Clean Energy • Valley Watch, Inc. • Southern Appalachian Mountain Stewards • Clean Air Council • Citizens for Pennsylvania's Future (PennFuture) • Michigan Environmental Council • Natural Resources Council of Maine • Clean Air Council • Great Lakes Environmental Law Center • Clean Water Action Michigan

August 4, 2011

By electronic mail

Ms. Lisa Jackson, Administrator
U.S. Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

EPA Docket Center (EPA/DC)
U.S. Environmental Protection Agency
Mailcode: 2822T
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460
Docket ID Nos. EPA-HQ-OAR-2011-0044; EPA-HQ-OAR-2009-0234

RE: Comments of Environmental and Public Health Groups, “National Emission Standards for Hazardous Air Pollutants From Coal- and Oil-Fired Electric Utility Generating Units and Standards of Performance for Fossil-Fuel-Fired Electric Utility, Industrial-Commercial-Institutional, and Small industrial-Commercial-Institutional Steam Generating Units; Proposed Rule, 76 Fed. Reg. 24976 (May 3, 2011)

Dear Ms. Jackson:

The undersigned public health and environmental organizations are pleased to have the opportunity to offer comments on your proposal to set nationally applicable air toxics standards for coal- and oil-fired electricity generating units (“EGUs”), and New Source Performance Standards (“NSPS”) for fossil-fuel-fired EGUs. We are pleased that the Agency is at last comprehensively regulating power plant air toxics, and updating new source standards for NO_x, SO₂ and PM emissions. We do have some concerns about the specifics of your proposal, as we outline below. These issues can be corrected on the record before you, before the final rule is issued. We encourage you to review and consider our comments, and to finalize the standards by the November 2011 deadline. Time is of the essence: the air pollutants regulated in these rules

cause and contribute to significant public health harms, which can be greatly reduced with the timely application of pollution controls. And these standards are by now long-overdue.

I. Hazardous Air Pollutants from Power Plants Cause Wide-ranging Health and Environmental 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. The hazardous air pollutants (“HAPs”) that harm human health include: corrosive substances (acid gases, such as chlorine, or “Cl₂,” hydrogen chloride, or “HCl,” hydrogen cyanide, or “HCN,” and hydrogen fluoride, or “HF”); carcinogens (formaldehyde, benzene, toluene, and other compounds); organic carbon-based toxins (formaldehyde, dioxins, furans); metals (such as arsenic, nickel, and beryllium); neurotoxins (such as mercury and lead); polycyclic aromatic hydrocarbons (PAH); and radioactive materials (such as radium and uranium).

Research has shown that these toxins are especially dangerous because of the harm they can cause to the circulatory, respiratory, nervous, endocrine, and other essential life systems within humans. Toxic emissions can even cause developmental disorders and premature death.

Some air pollutants, such as the acid gases and sulfur dioxide, have immediate impacts on people, neighborhoods, and towns within the immediate vicinity of power plants. Mercury deposition “hot-spots” also occur within 60 miles of power plants, and there fish tissue levels are highest, making freshwater fish even more dangerous for all people, but particularly for sensitive populations such as young children and women of child-bearing age. And other air toxic pollutants, such as dioxins and metals, can travel much farther from the pollution source. When they adhere to fine particles, these pollutants can remain in the air for more than a week and be carried by winds to distant locations. This makes toxic air pollution from coal- and oil-fired power plants a danger to public health nation-wide – not just in those areas surrounding the plants themselves.

We agree with the strong evidence the EPA provides both in its original listing decision and in the proposed rule as support for the determination that it is both appropriate and necessary to protect public health and the environment as required under Section 112 of the Clean Air Act. Not only is there clear evidence that the harm from mercury and methylmercury continues, but also that increased risk of cardiovascular, respiratory, and other acute and chronic systemic damage is caused by emissions from this industry of multiple air pollutants, including recognized carcinogens and other toxics.

a. Millions of People Face Higher Risk Due to Exposures to Air Toxics and Other Air Pollutants

Many people face greater risk because of their age, health conditions, or rate of exposure to the pollutants. 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.

People with chronic diseases, including cardiovascular diseases, respiratory diseases and diabetes, regardless of age, face higher risk of exposures to these pollutants, particularly those borne on or associated with small particulates. Their diseases make them at much higher risk for harm. Current estimates from data being placed in the record for this rulemaking today by the American Lung Association, *et al.*, include these groups:

- Asthma – 24.6 million people, including 7.0 million under age 18;
- Cardiovascular diseases – 82.6 million people;
- Diabetes – 25.8 million people;
- Chronic Obstructive Pulmonary Disease (COPD) – 12.1 million adults age 18 and older.

Low income and/or people of color communities 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. Low income people who are subsistence fishermen and Native Americans who consume wild fish and mammals for cultural reasons are likely to be disproportionately exposed to methylmercury – the vast majority of U.S. freshwater streams, rivers, ponds, and lakes are now covered by fish consumption advisories due to mercury contamination.

b. EGU Air Toxics Emissions Also Significantly Harm Wildlife and the Ecosystems In Which They Live

We strongly support EPA’s assessment that mercury and the other toxic air pollutants covered by this proposed regulation have adverse impacts on wildlife and ecosystem health. The body of scientific evidence referenced in the proposed rule clearly supports the Agency’s assessment. However, it is important to note that there is more to the story.

Mercury is a highly toxic heavy metal that affects the function and development of the central nervous system not only of humans, but also of exposed wildlife, resulting in a broad range of adverse impacts such as reproductive problems, behavioral abnormalities, and compromised immune systems. Historically, scientists have focused on fish-eating wildlife as those most at risk of exposure to mercury. However there is a growing awareness among the scientific community that mercury is accumulating in far more habitats, and therefore far more species, than previously thought. It has become much clearer in recent years that significant exposure to mercury can actually lead to wildlife population declines. We now understand that there is literally no corner of the food web untouched by mercury.

We strongly support the proposed regulation’s reduction of acid gas emissions, both because the health threats from exposure to such gases, and the devastating impact that acid rain has on our forests, lakes, and streams. Acidified ecosystems leach calcium and magnesium from soil, which reduces the availability of invertebrates, a critical prey source for many species, and adversely impacts birds breeding success. Acidification has also been linked to fish and bird species declines, and a range of impacts on other wildlife. Our mercury contamination problems are exacerbated in acidified ecosystems. Studies have shown that highly acidic environments facilitate greater methylation of mercury, which lead to more significant uptake into the food

web. EPA's decision to finally regulate the other air toxics, including arsenic, cadmium, lead and selenium that cause significant adverse effects on wildlife also is supported by recent science. In addition, dioxins, which are highly toxic compounds linked to cancer and adverse reproductive impacts in people, are also now found to have severe effects on some highly exposed fish, including reduced reproductive success, slower growth rates, abnormal physiology, lesions, and mortality. EPA's decision not to regulate dioxin directly, despite having data to do so, therefore is of concern, and should be rectified in the final rule.

II. EPA's Decision that it is Appropriate and Necessary to Regulate this Industry, and the Decision to List Coal- and Oil-Fired EGUs Was Amply Supported in 2000, and More Recent Studies Show that Decision Is Even More Clearly Supported Now

Section 112(n)(1)(A) of the Clean Air Act requires that before subjecting such units to maximum achievable control technology ("MACT") emissions standards, EPA must find that regulation of coal- and oil-fired EGUs is appropriate and necessary. EPA made such a finding in December 2000 after correctly considering both the facts required to be studied by Section 112(n)(1)(A) and supplementary information. Although EPA's appropriate and necessary finding and simultaneous decision to list EGUs under Section 112(c) were fully justified in 2000, EPA has further supported and reaffirmed its finding in the Proposed Rule. As EGUs are the largest anthropogenic source of atmospheric mercury (and other air toxics) in the United States, a finding that regulation of hazardous air pollutants from EGUs is appropriate and necessary is well within EPA's authority. In fact, the state of the science regarding EGU HAPs demands such a result.

III. EPA Correctly Determines That It Must Set MACT Standards, not Section 112(d)(4) "Health-Based" Standards, for the Acid Gasses Emitted by EGUs

EPA correctly concludes that it does not have sufficient information to set section 112(d)(4) "health-based" standards for the acid gases HCl, Cl₂, HCN, HF, and selenium dioxide ("SeO₂") emitted by EGUs. The legal prerequisites for avoiding MACT limits for those air toxics are simply not met – for, while EPA continues to describe its authority to issue section 112(d)(4) standards as "discretionary" in the broadest terms, in fact the statute narrowly cabins EPA's ability to invoke section 112(d)(4) to those situations in which an appropriate health threshold has already been established at the time of the MACT standard setting process. That is not the case here.

IV. EPA Correctly Directs Existing EGU Sources to Comply With MACT Standards Within the Statute's Mandatory Three Year Time Period – That Schedule Need Not and Will Not Cause Electricity System Reliability Problems

The Clean Air Act requires new sources to comply with MACT standards upon start-up, or on the effective date of the standards (whichever is later), and existing sources to comply as expeditiously as practicable, but no later than three years from the standards' effective date. EPA's proposed standards correctly require that existing sources comply within three years of the standards' effective date. Recent studies in the record show that in most cases, the required controls can be put in place in less than three years, many plants have already installed the required controls, and the pollution-control industry has ample labor and manufacturing capacity

to produce the required controls. Reserve margins are sufficient to permit compliance within three years without casting any doubt on grid reliability.

V. Area Sources Do Not Differ Significantly from Major Sources for Purposes of HAP Emissions and Control

EPA's proposal properly sets MACT emission standards for all coal- and oil-fired EGUs greater than 25 megawatts, without further distinguishing between "major" sources and "area" sources. The Agency correctly refuses to exercise its discretion under CAA § 112(d)(5) to set alternative generally available control technology ("GACT") standards for area source EGUs. EPA's data show that similar HAP emissions and control technologies are found on both major and area sources greater than 25 MW, and there is no essential difference between area and major source EGUs with respect to emissions of HAP. EPA's decision to establish MACT emission limits for both major and area source EGUs is well-grounded in fact and is necessary to implement the Act's HAP control requirements for EGUs.

VI. EPA's MACT Proposal Includes An Inadequately Supported MACT Subcategory For "Junk Fuels" Which Can and Must Be Corrected In the Final Rule

EPA is permitted to distinguish among classes, types, and sizes of sources within a category or subcategory in establishing MACT standards, but is not *required* to subcategorize an industry when in standard setting. Where EPA does set MACT standards based on industrial subcategories, the Agency's action must be reasonable, and well-supported. EPA cannot use subcategories in such a way as to avoid the requirements of the statute, or as part of an effort to allow existing sources to *avoid* controls or standards.

EPA's proposal appears at first glance not to devolve this standard setting process into one based on multiple fuel-based subcategories, as it proposed to do in 2004 with its unjustified "coal-rank" based scheme. Unfortunately however, a deeper look shows that the proposal does include an inadequately justified subcategory, which seems clearly designed to allow lignite burning plants to avoid more stringent MACT standards applicable to other coal-fired EGUs. This defect in the rule can easily be – and must be – corrected in the final rule, based on data EPA has in the record.

VII. EPA's Proposal To Regulate Some HAPs Through Surrogate Pollutants Is Not Universally Supported On the Record –EPA Can and Must Correct This Defect In the Final Rule

Rather than proposing HAP-specific emissions limits for this industry for all HAPs and all subcategories, EPA proposes surrogate-pollutant based floors, with pollutant-specific emissions limits only for mercury, and for some toxic metals and some acid gases from some industry subcategories. Acid gas emissions from the solid fuel subcategories are regulated using HCl as a surrogate for all the acid gas emissions, *or* SO₂ as a surrogate only where some form of flue gas desulfurization controls are installed. EPA asserts such surrogacy-based limits are justified and further that technologies for removing acid gases are primarily those that are also used for removing sulfur dioxide or in the case of metallic HAPs, particulate matter controls.

Unfortunately, EPA has not in the proposal adequately demonstrated that its assumptions regarding surrogacy are supported by the data it has collected, sufficient to satisfy the legal requirements for surrogacy – and EPA’s authority to issue surrogacy-based standards is not unlimited. EPA may set MACT emissions standards based on “surrogate” pollutants in lieu of emissions limits addressing each HAP only where the surrogate pollutant reasonably “stands in the shoes” of the listed HAP, and is invariably present with it and where controls for the surrogate indiscriminately control the listed HAP. EPA has not adequately demonstrated that the three pre-conditions supporting surrogacy-based limits are met for all of the HAPs that the Agency proposes to regulate through surrogate limits. Where the use of surrogates is not supported by the record, pollutant specific emissions limits are required. EPA has the data it needs to set pollutant-specific limits – indeed has proposed to do so in the alternative – and must do so in the final rule.

VIII. EPA’s Proposed MACT Floors Do Not Represent The Best Performing Sources In the Industry and This Flaw Can and Must Be Corrected In the Final Rule

EPA’s limits are well in excess – in many cases more than ten to fifty times above – the average test emissions data of the best-performing sources. That inflation is the result of a series of statistical and mathematical manipulations, the sum effect of which is to establish standards that substantially diverge from the statutory standard. First, with the exception of particulate matter, EPA has used inconsistent measures of plants’ “actual” emissions to assess the floor. For example, when *selecting* its best-performing sources, EPA defines their emissions according to their lowest test, but when *establishing the floor*, EPA defines plants’ emissions as the variability-adjusted average of all of EPA’s data for that plant (even where the data reflect a different test method). Second, EPA has applied an extreme 99% “upper prediction limit,” without accompanying that prediction with any assessment as to whether the claimed variation could be feasibly reduced, or justifying its assumption of a normal distribution; in combination, those decisions eviscerate the statutory standard. Third, EPA has failed to consistently apply the statutory – or any – standard in refusing to consider whether reductions beyond the statutory floor are achievable. EPA must, in its final rule, correct this statistical problem, set floors consistent with the statutory directive to reflect the actual performance of the best performers in this industry, and conduct a beyond-the-floor analysis sufficient to ensure that the standards demand the maximum achievable reduction in hazardous air pollution.

IX. EPA’s Proposal For Monitoring, Averaging and Low Emitting EGUs Should be Strengthened

EPA’s final rule should make requirements for the use of continuous emissions monitors (“CEMS”) mandatory in order to determine continuous compliance with all the standards. Such CEMS are available and effective, and are the only reliable method of ensuring compliance with the specified limits. EPA proposes, furthermore, that acid gas and mercury emissions be met (in most cases) only on a thirty-day average – even though its standards reflect the extreme worst-case emissions over three one-hour tests, rather than over thirty days. As a result of that divergence, its standards do not require reductions equivalent to those achieved by the best-performing similar source or sources; worst-case one-hour average emissions are significantly worse than worst-case thirty-day average emissions, as the latter are much less variable. Finally,

we urge the Agency to either discard its “Low Emitting EGU” provisions, or to substantially revise them; if the emissions variability asserted by the Agency exists, the threshold conditions required for qualification as a “low emitting” unit provide no significant assurance that emissions will remain below the proposed standards.

X. EPA’s Proposed Companion New Source Performance Standards for NO_x, SO₂, and Total Particulates Do Not Meet The Statutory Requirement to Set Forward-Looking Protective Emissions Limits Based on the Best Demonstrated System for Emissions Control and Can and Must Be Strengthened In the Final Rule

While EPA’s proposed revisions to the existing EGU NSPS for SO₂, NO_x, and PM emissions are an improvement over the standards they replace, they are at best disappointing in several respects, and unlawful in others. Rather than engaging in a serious review of the levels of control reflecting the “best” demonstrated technologies, or looking forward to what can be achieved over the 8-year regulated period with the application of new strategies, EPA proposes standards based on emissions levels that are achieved already by many sources in the existing fleet, using controls that in many instances have been available for over a decade. EPA does so despite the fact that the record includes information about emerging control options, including some multipollutant technologies that reportedly offer the potential for significant controls not only of SO₂, NO_x, and PM, but also of carbon dioxide. EPA should shore up and tighten its new source standards in the final rule, so that they truly reflect the application of emerging technologies, and so the final standards actually have the Congressionally intended effect of stimulating the innovative character of industry in reaching for more effective less costly systems to control air pollution.

In addition to proposing less protective standards than the Act and court precedents support, and that are less technology-forcing than Congress intended, EPA also offers up a suite of unlawful provisions further weakening the standards, including “exemptions” from the NSPS for “commercial demonstration permits” and units burning coal refuse, and also less stringent “modified source” standards intended to preserve the use of a specific technology. These unlawful exemptions must not be finalized as proposed.

XI Conclusion

In conclusion, we thank you again for proposing these rules by the deadline reached in the agreement between EPA and environmental groups. While we have identified places in our comments where the proposed rules can and must be strengthened before they are finalized, we are confident that the Agency has the information it needs in the record to do so, and to issue robust final MACT and NSPS standards for this industry in November 2011.

Respectfully submitted on behalf of:

Sierra Club
San Francisco, CA

Clean Air Task Force
Boston, MA

Natural Resources Defense Council
Washington, DC

Health Care without Harm
Reston, VA

Izaak Walton League of America,
Gaithersburg, MD

Clean Water Action
Washington, DC

League of Conservation Voters
Washington, DC

League of Women Voters
Washington, DC

Environment America
Washington, DC

Union of Concerned Scientists
Cambridge, MA

National Parks Conservation Association
Washington, DC

Greenpeace
Washington, DC

Conservation Law Foundation
Boston, MA

Environmental Law & Policy Center
Chicago, IL

GreenLaw
Atlanta, GA

Southern Environmental Law Center
Charlottesville, VA

Green For All
Oakland, CA

Energy Action Coalition
Washington, DC

Interfaith Power & Light
San Francisco, CA

Valley Watch, Inc.
Evansville, IN

Southern Appalachian Mountain Stewards
Appalachia, Virginia

Southern Alliance for Clean Energy
Knoxville, TN

Great Lakes Environmental Law Center
Detroit, MI

Michigan Environmental Council
Lansing, MI

Citizens for Pennsylvania's Future (PennFuture)
Harrisburg, PA

Clean Air Council
Philadelphia, PA

Natural Resources Council of Maine
Augusta, Maine

Clean Water Action Michigan
Lansing, MI