

**Statement of Jeffrey R. Holmstead**  
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**Review of Mercury Pollution's Impacts to Public Health and the Environment**  
**U.S. Senate Committee on Environment & Public Works**  
**Subcommittee on Clean Air and Nuclear Safety**  
**U.S. Senate**  
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Mr. Chairman and Members of the Subcommittee, thank you for giving me the opportunity to testify before you today. My name is Jeff Holmstead. I am testifying today as Counsel to the Electric Reliability Coordinating Council (ERCC). ERCC is a broad-based coalition of power companies that work to ensure that consumers across the United States continue to have access to reliable, affordable, and environmentally responsible power. I am also a partner in the law firm of Bracewell & Giuliani and the head of the firm's Environmental Strategies Group. I have worked on Clean Air Act issues since 1989, when I began a four-year appointment as an Associate Counsel to the President during the enactment and initial implementation of the 1990 Amendments to the Clean Air Act. I also served as the head of EPA's Air Office for more than four years, from 2001 to 2005. During the periods in which I have not worked on environmental issues in the federal government, I have worked as an environmental attorney in the private sector.

I appreciate the opportunity to testify today about the impacts of mercury on public health and the environment and the proper ways to address these harms. At the outset, it is important that we are clear about a couple of issues. *First*, irrespective of our differences in policy, everyone on this panel cares about the health and future of our nation's children, and these efforts are not advanced by having differences over policy portrayed as differences in caring about children. *Second*, the question is *not* whether society should address mercury, but rather, what is the best way to do so. While we can all agree about these general issues, there is a very real need for Congress to scrutinize how these general principles are integrated into actual policies. Currently, the focus of that effort is EPA's Mercury and Air Toxics ("MATS") rule, which was published in the Federal Register on February 16<sup>th</sup> of this year. I believe that while the goal of reducing mercury pollution is laudable, the MATS rule is unnecessarily broad and overreaching.

Although EPA's public relations campaign in support of the rule is mostly focused on mercury, the vast majority of the rule's costs come from requirements that have nothing to do with mercury. Unfortunately, the rule seems to be more about shutting down coal-fired power plants than regulating them effectively. Although the rule does provide benefits to human health and the environment, they are much smaller than EPA has claimed, and there are much more cost-effective ways of achieving these benefits.

I also feel compelled to point out that Congress had the opportunity more than a decade ago to address power plant emissions sensibly – in a way that would have been better for human health and the environment and better for anyone who has to pay an electric bill. Unfortunately, bipartisan legislative efforts that could have effectively regulated mercury and other emissions from power plants seem to have been sacrificed on the altar of climate change politics.

I understand that, just this week, 24 States filed legal challenges to EPA's MATS rule – the highest number of States ever to challenge an EPA air rule. Among these petitioners are included fully one-quarter of the nation's sitting Democratic Attorneys General. All these leaders in both parties recognize that the MATS rule will cost jobs and increase energy prices to an extent that is simply not warranted by good public policy.

### **The MATS Rule Delivers Few Real Benefits**

The generation of sufficient, affordable and reliable electric power is a complex business. In the past, regulators and policy makers have recognized this fact and pursued a reasonably balanced approach that fairly considered both the costs and benefits associated with regulating plants that produce our nation's power. This balanced approach has resulted in substantial reductions in critical air emissions.

By 2015, coal-fueled power plants in the U.S. will have invested as much as \$125 billion in advanced emission control technologies. Success to date is clear. The U.S. electric power sector has reduced air emissions substantially under existing programs. The industry cut sulfur dioxide (SO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>) by 57 percent between 1980 and 2008. The power sector also has cut emissions of mercury by about 40 percent through efforts to reduce other pollutants.

Electricity use increased 85 percent during this time period. While demand for electricity tripled the industry's coal use between 1970 and 2005, emissions have declined significantly and continue to decline thanks to carefully designed regulatory programs and the fact that electric companies have been able to comply with those programs – thankfully, without significantly increasing the cost of power generation.

EPA's sole basis for issuing MATS is a regulatory determination that then-EPA administrator Carol Browner made in December 2000 that it was "appropriate and necessary" to regulate certain HAPs from power plants. This determination was based almost entirely on the Administrator's concern about mercury emissions from coal-fired power plants.

The title of, and rhetoric surrounding, the MATS rule leads the public to believe that the vast majority of benefits claimed by EPA to justify the rule must be the result of reductions in mercury emissions. But EPA's cost-benefit analysis tells a very different story. According to EPA, the benefits to society of the mercury-reduction requirements are in the range of \$500,000 to a maximum of \$6.1 million in benefits. In other words, in a rule that EPA admits will cost about \$10 *billion* annually, the maximum benefit of reducing emissions of mercury—the emissions of which serve as the primary basis for the rule—is \$6.1 *million*. According to EPA, the rule is justified based on cost-benefit analysis because it will provide benefits of up to \$130 billion every year. Yet virtually all of the benefits come from reducing another pollutant known as fine particulate matter or PM2.5.

Much more troubling is that, based on EPA's own analysis, virtually all the benefits of MATS come from reducing PM2.5 concentrations in areas of the country that already meet national standards for PM2.5. In setting these standards (known as national ambient air quality standards or NAAQS), EPA says that public health in areas that meet the NAAQS is protected with an adequate margin of safety. Yet now, EPA claims that tens of thousands of people living in those areas are killed every year because of exposure to PM2.5. It is true that some advocates now argue that the annual PM2.5 NAAQS should be lowered from its current level of 15 ug per cubic meter. But more than 90 percent of the benefits that EPA claims under MATS come from areas where PM2.5 concentrations are below 12 ug.

Although mercury is the Agency's legal justification for the MATS rule, EPA argues that it must also regulate non-mercury HAPs such as certain metals (e.g. nickel, selenium, etc.) emitted in trace amounts and acid gases (e.g. hydrogen chloride and hydrogen fluoride) that, according to long-standing EPA studies, do not pose a meaningful risk to public health. While some health risks from emissions of non-mercury HAPs are discussed in the proposed rule and the RIA (presumably implying health benefits from reducing such emissions), EPA does not make any attempt to quantify the benefits that will be achieved by reducing these emissions. What is discussed at some length is that control technologies for non-mercury HAPs that companies will need to install because of the rule are expected to reduce concentrations of PM2.5. In fact, EPA's analysis admits that virtually all (i.e. 99+ percent) of the estimated \$53 to \$140 billion in annual benefits are due to reductions in PM2.5.

In the face of scores of lengthy and data-rich comments submitted to EPA, EPA's discussion of mercury in connection with the MATS rule has been very misleading. EPA dedicates thousands of words to mercury but avoids the key questions that might actually inform the public about exposure to mercury.

- How many people who are currently exposed to unsafe levels of mercury will be exposed to lower levels of mercury as a result of MATS?
- Which populations are currently consuming unsafe fish from lakes or rivers, and why have the EPA or local officials not taken action to prevent the consumption of this fish?
- In light of mercury in the environment from natural sources and industrial sources outside the U.S., will MATS make an appreciable difference in reducing mercury exposure in the U.S.?

These should not be difficult questions to answer, but EPA has chosen not to answer them. Perhaps that is why in a rule riddled with generous assumptions about health benefits, and in the face of all of the science regarding the harmful nature of mercury, the EPA can only tie .004% of the benefits under the MATS rule to mercury reductions.

### **The Costs of MATS Are Enormous**

Although the mercury-related benefits of the MATS rule are, by EPA's own admission, very small, the costs of the rule are enormous. In fact, in terms of direct cost, it is the most expensive rule ever adopted by EPA. EPA itself estimates that the cost will be roughly \$10 billion a year, but many experts believe the actual cost will be significantly higher. These costs will be borne by the society as a whole and will largely be shared among everyone who has to pay an electric bill.

Adaptation to the MATS rule constitutes a substantial threat to the power sector – particularly given that almost half of U.S. electricity comes from coal-fired generation. The industry is concerned about the ability to retrofit environmental controls or build replacement capacity required by the MATS rule. Construction timeframes are also expected to increase due to the logistics of simultaneous installations, industry-wide competition for materials and craft labor, and increasing permitting requirements. The North American Electric Reliability Corporation (NERC) report notes that the "overlapping compliance schedules for the air and solid waste regulations, along with required compliance for rule 316(b) following shortly thereafter, may trigger a large influx of environmental construction projects at the same time that new replacement generating capacity is needed. Such a large construction increase could cause potential bottlenecks and delays in engineering, permitting and construction."<sup>1</sup>

Some studies have found that, because of EPA's new rules for the power sector, US employment income is estimated to drop by an amount equivalent to the earnings of about 2-2.5 million full-time workers. This estimate includes an estimated increase in offsetting compliance-related employment income equivalent to about 0.2-1 million full-time workers limited to the early years of implementation. Without the offsets, the estimated reduction in worker income would be 2-3.5 million. Offset employment takes into account environmental retrofitting, new power plant construction and energy efficiency improvements.

As a further frame of reference for what the overlapping regulations place at risk, consider the contribution likely to be made by the affected part of the power sector if allowed to continue and

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<sup>1</sup> NERC, *2010 Special Reliability Scenario Assessment: Resource Adequacy Impacts of Potential U.S. Environmental Regulations*, October 2010.

to innovate. Adam Rose and Dan Wei of Penn State University set out to estimate the total economic footprint of coal-fueled electric generation by 2015. They found that coal-fueled generation will contribute:

- \$1.05 trillion (2005 \$) in gross economic output;
- \$362 billion in annual household incomes, and
- 6.8 million jobs.<sup>2</sup>

Aside from direct economic impacts to industry and manufacturers, the impact of increased costs on retail and business consumers is particularly troubling. Again, using the same study referenced above and subjecting it to appropriate further analyses yield the following results:

- Retail electricity price is estimated to increase by 10 to 20% to cover the costs of complying with the new environmental requirements. Costs include installing emission control equipment, constructing new generating units, shifting more generation away from less-expensive plants to more-expensive ones and retiring existing coal units.
- The average US household is estimated to lose buying power of \$400 to \$500 per year. This reflects higher prices for energy-intensive goods, fuel shifting, and reduced household income due to both reduced employment income and reduced investment income.

Consumer energy cost impacts are likely to be regressive. Bills paid by the consumers with significant coal resources "will rapidly become the most expensive. Electric bills make up the majority of low-income household expenditures today." In a recent study on Public Opinion on Poverty, it was reported that one-quarter of Americans report having problems paying for several basic necessities. In this study, currently 23% have difficulty in paying their utilities - that is, one out of four Americans."<sup>3</sup> Further, African-American and Hispanic families will pay almost twice the amount of after-tax income on energy compared to the average and when viewed as a

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<sup>2</sup> Adam Z. Rose and Dan Wei, *The Economics of Coal Utilization and Displacement in the Continental United States, 2015* (July 2006).

<sup>3</sup> Statement of Daryl Bassett, Director, Empower Consumers, Panel on Allocation Policies to Assist and Benefit Consumers, Subcomm. on Energy and the Environment, House Comm. on Energy and Commerce, April 23, 2009.

percentage of total household income.<sup>4</sup> Likewise, elderly households use less per capita energy but still "spend a higher share of their income on energy-related expenditures."<sup>5</sup>

Certain sectors of the economy have become increasingly sensitive to minor changes in the cost of electricity. For example, the health care sector finds that almost all provisions of services are related to energy costs, with hospitals using twice as much electricity per square foot than other entities using comparable office space. One recent study found that "electricity used exclusively for medical records is rapidly increasing, by 400-800% in the past four years."<sup>6</sup>

### **The MATS Rule May Actually Harm Public Health**

The MATS rule is likely to adversely affect public health in three ways: by increasing the cost of medical care and treatment; by imposing real threats on human health by suppressing economic growth and the improved health it brings; and by focusing on expensive rulemakings with little incremental benefits when those resources, if more sensibly deployed, could save many times more lives.

With respect to treatment costs, it is important to note that U.S. hospitals spend \$8.5 billion annually on energy, often equaling between one and three percent of a hospital's operating budget. Additionally, EPA estimates in the U.S. that the health sector is the second most energy-intensive commercial sector. The average cost of power per square foot for hospitals is approximately \$2.84. Under the EPA's power sector rules, energy costs are estimated to increase as much as 23.5% over the next decade. Hospital administrators will have no choice but to pay attention to the cost of energy as these surging energy costs will squeeze hospital budgets like never before. Without adequate power supply, built upon a foundation of stable and cost-

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<sup>4</sup> Rising energy costs disproportionately impacting minority households, Louisiana Weekly, Aug. 29, 2008, available at <http://www.louisianaweekly.com/news.php?viewStory=271>.

<sup>5</sup> Janemarie Mulvey, Impact of rising energy costs on older Americans, CRS Report for Congress No. RS22826 (Mar. 4, 2008), at [http://assets.opencrs.com/rpts/RS22826\\_20080304.pdf](http://assets.opencrs.com/rpts/RS22826_20080304.pdf).

<sup>6</sup> Dan Bednarz, Rising energy costs and the future of hospital work, Energy Bulletin, Apr. 29, 2008, available at <http://www.energybulletin.net/node/43514>.

effective coal-fired generation, the healthcare sector and the American public can expect rapidly increasing costs that consumers can ill-afford.

The economic impacts cited earlier will also directly impact public health. Placing unnecessary economic constraints on the U.S. economy, especially during a time of economic weakness, is detrimental to sound public health policy. Decades of research has shown that continuously-employed individuals experienced, on average, an additional life expectancy of four to five years due to their employment status. In contrast, additional unemployment may significantly harm public health. A report to Congress' Joint Economic Committee by Dr. Harvey Brenner showed the impacts of unemployment on public health. Brenner found that a one percent increase in the unemployment rate was associated with a two percent increase in premature deaths. In 2004, Brenner used his econometric models to estimate the public health results from reducing coal-generated electricity. For example, with a substantial reduction in coal-fired power, Brenner found the result would be between 170,000 and 300,000 premature deaths in the U.S.

Placing EPA regulations in a broader public health perspective, it is clear that the MATS rule is not among the wisest of societal investments in addressing premature mortality. President Obama himself has recognized the need to keep cost-effectiveness in mind when he ordered EPA to protect public health and the environment "while promoting economic growth, innovation, competitiveness, and job creation." Failure to allocate resources based on cost-effectiveness quite literally costs lives. Experts at the Harvard School for Public Health have estimated that expensive environmental rules literally save 100 times fewer lives than when the federal government redeployed those assets addressing higher risks. This tremendous differential in health impacts explains why EPA should not be so cavalier in its benefits analysis.

### **What Can Be Done? The MATS Rule is Not Necessary to Control Mercury**

All too often, rules like the MATS are discussed in a vacuum with little appreciation for the history of the rulemakings or how the rule actually works. Such an effort does not advance Congressional oversight and risks misleading the public with simplistic claims that lead a lay

audience to believe that because a rule is styled as a mercury rule, it means that the rule will solve any problems with mercury.

It is important to note that the MATS rule is not necessary to regulate mercury pollution. Irrespective of the MATS rule, other power plants rules already are reducing mercury emissions substantially. Power plants must obtain and comply with state and federal permits and multiple federal and state regulations; they dedicate significant budgets to environmental compliance. Companies themselves, and the state and federal regulators who oversee them, take the current requirements seriously. As a result of these efforts, mercury emissions have long been on the decline—even without the MATS rule. The most recent report to reflect this fact was just issued on March 15 of this year by the Commission for Environmental Cooperation – a joint Commission between the governments of the US and Canada – and found that air releases of mercury and its compounds from the North American electricity generation sector fell another 26 percent between 2006 and 2009. They had already fallen about 40 percent over several years prior to that.<sup>7</sup>

If EPA wants to further regulate mercury, it does not need to use anything as sweeping as the MATS rule. In fact, even if a Congressional Review Act (CRA) petition were adopted by Congress regarding the MATS rule, it would not prevent EPA from addressing mercury emissions. While a CRA petition would send EPA back to the drawing board for five years on the specific MATS rule, EPA would be free to draft a narrower-gauge mercury rule that actually addresses the issues at hand without clouding the rule with all the extras and add-on's that have made the MATS rule the most costly rule in the history of the EPA.

The CRA says “substantially similar” rules cannot be adopted for five years after a CRA petition is adopted—but a mercury-only rule wouldn't be substantially similar. The statutory authority for regulating mercury emissions from under section 112(d) of the Clean Air Act is sufficiently broad to allow EPA to adopt a replacement rule that is substantially different from the MATS rule. The Clean Air Act provides the EPA with considerable discretion on how the Agency may subcategorize coal-fired and oil-fired power plants, as well as significant discretion regarding emissions standards for each regulated pollutant. As such, EPA could promulgate and adopt a

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<sup>7</sup> <http://www.power-eng.com/articles/2012/03/report-mercury-emissions-reduced-by-26-in-recent-years.html>

replacement mercury rule that is not “substantially the same” as the MATS rule. This would allow EPA to address mercury concerns without imposing the unnecessary burdens found in the MATS rule.

It is important and necessary for Congress to continue to ensure that EPA does not implement the MATS rule until concerns about how the benefits and the costs of the rule are addressed. EPA has significant flexibility to craft a more narrowly targeted rule that avoids unnecessary costs.

Where EPA has the capacity for flexibility – such as in the control of non-mercury HAPs, sub-categorization, determination of the MACT floor, and other areas – EPA should do so, particularly in light of the high costs and weak incremental benefit analysis. The Agency has a long distance to travel from the options suggested by the current proposal.

I thank the committee for holding this hearing today and inviting me to testify, and am now happy to answer any questions you may have.