Summary of Testimony of Michael J. Bradley, President, M.J. Bradley & Associates LLC and Executive Director of the Clean Energy Group before the U.S. House of Representatives Committee on Energy and Commerce Subcommittee on Energy and Power

April 15, 2011

On behalf of the Clean Energy Group's Clean Air Policy Initiative members, I appreciate the opportunity to addresses the National Emission Standards for Hazardous Air Pollutants from Coal- and Oil-fired Electric Utility Steam Generating Units (the "Utility Toxics Rule") released by EPA on March 16, 2011. The rule will establish, for the first time, federal limits on emissions of mercury and other hazardous air pollutants from power plants. I will offer comment on the following four issues:

- The Utility Toxics Rule provides the business certainty the electric sector needs to move forward with capital investment decisions;
- While not perfect, the proposal is reasonable and consistent with the requirements of the Clean Air Act;
- The electric sector is well positioned to comply; and
- The Clean Air Act provides sufficient time to comply as well as the authority to accommodate special circumstances where additional time is necessary.

The Clean Air Act requires EPA to implement regulations to control the emissions of hazardous air pollutants from the electric sector. In 2000, EPA took the first step toward regulating those emissions, and over a decade later, EPA is now under a court-ordered deadline to finalize the rule by November 2011. While complying with these obligations will take planning and significant resources by the electric sector, many companies are well on their way toward compliance and, based on the proposed rule, we anticipate that the electric sector can comply with the Act's requirements. There is no reason to delay the implementation of the Utility Toxics Rule.

Testimony of Michael J. Bradley, President, M.J. Bradley & Associates LLC
Executive Director of the Clean Energy Group

before the

U.S. House of Representatives Committee on Energy and Commerce
Subcommittee on Energy and Power

Hearing on
"The American Energy Initiative"
regarding
Recent EPA Rulemakings Relating to Boilers, Cement Manufacturing Plants, and Utilities

April 15, 2011

Good morning, Chairman Whitfield, Ranking Member Rush, and Members of the Subcommittee. My name is Michael Bradley, and I am the President of M.J. Bradley & Associates LLC and the Executive Director of the Clean Energy Group.

The Clean Energy Group's Clean Air Policy Initiative is a coalition of electric power companies dedicated to responsible energy and environmental stewardship. The member companies are some of the nation's largest generators of electricity, with over 200,000 megawatts (MW) of electric generating capacity, including 105,000 MW of fossil fuel fired capacity, throughout the U.S. Our members serve nearly a fifth of all U.S. electric customers. The members include Austin Energy, Avista Corporation, Calpine Corporation, Constellation Energy, Exelon Corporation, National Grid, New York Power Authority, NextEra Energy, PG&E Corporation, Public Service Enterprise Group, Inc., and Seattle City Light.

On behalf of our member companies, I appreciate the opportunity to address the National Emission Standards for Hazardous Air Pollutants from Coal- and Oil-fired Electric Utility Steam Generating Units (the "Utility Toxics Rule") released by EPA on March 16, 2011. The rule will establish, for the first time, federal limits on emissions of mercury and other hazardous air pollutants from power plants. I will offer comment on the following four issues:

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Proposed Utility Toxics Rule Provides Needed Business Certainty for Long-Term Investments and Advanced Planning

Overall, the Utility Toxics Rule proposal is balanced and reasonable, and individual companies are continuing to work with EPA on specific aspects of the rule. Importantly, the rule provides the business certainty needed for companies' long-term investment decisions – something for which the industry has collectively advocated. This proposal, combined with the Transport Rule, provides the electric sector a road map for long-term investment decisions related to the Clean Air Act.

It is no surprise that EPA has issued this rule. Since 2000, the electric industry has been anticipating that EPA would regulate hazardous air pollutant emissions. In 2005, EPA finalized the Clean Air Mercury Rule, but legal challenges were quickly filed, and the D.C. Circuit ultimately vacated the rule in 2008. In 2009, EPA entered into a consent decree that requires the Agency to finalize a rule by November 16, 2011, regulating all hazardous air pollutants emitted by coal- and oil-fired generating units.

In developing the proposed rule, EPA conducted an extensive data collection effort with the cooperation of industry. More than 300 coal-fired generating units conducted stack emissions testing in support of the rule. The Clean Air Act requires that the standards be based on the best performing power plants in the industry. Thus, the proposal is based on standards of performance that are already being achieved by existing power plants.

Now that the proposal has been released, companies can begin, if they have not done so already, the planning and preliminary engineering studies to identify the necessary control technologies. In fact, as I will explain later in my testimony, many companies, even before the rule was proposed, have been installing advanced controls, developing compliance strategies, testing alternative control options, conducting preliminary engineering studies, establishing capital budgets, and signing contracts with pollution control vendors. For example, the Institute of Clean Air Companies (ICAC), a national

association of companies providing pollution control systems for power plants and other stationary sources, has reported about 55,000 MW of new bookings for advanced mercury controls.[1]

Proposed Standards are Reasonable

The proposed standards are not as burdensome as some in the electric sector had anticipated. About 50 percent of coal-fired generating units that submitted data to EPA are already achieving the proposed mercury standard, and about 70 percent of coal-fired units in that same database are already achieving the proposed particulate standard.

In fact, if there was any surprise, it was the degree of compliance flexibility proposed by the rule. The proposal includes "work practice standards" rather than emissions performance standards for dioxins and furans, and uses "surrogates" for certain hazardous air pollutants. EPA also proposes a 30 day averaging period in demonstrating compliance with the standard for coal-fired power plants. Finally, EPA has proposed to allow averaging among units at a facility. The Clean Energy Group and other companies are in the process of evaluating specific challenging technical issues, but we anticipate that continued engagement with the industry by EPA will lead to a final rule that is balanced and flexible, allowing the industry to comply.

Technologies to Comply with the Proposed Rule are Available and Cost Effective

The technologies to control emissions from coal-fired power plants, including mercury and acid gases, are available and cost-effective. There are a range of control technology options that are commercially available to comply with the rule, and the industry has extensive experience with the installation and operation of these control systems.[2] In fact, as I mentioned, many companies have

[1] Northeast States for Coordinated Air Use Management, *Control Technologies to Reduce Conventional and Hazardous Air Pollutants from Coal-Fired Power Plants*, March 31, 2011, at p.2.
[2] Id.

already taken steps to install control technologies that will allow them to comply with requirements of the rule on time.

Several of the Clean Energy Group companies have already installed, or are in the process of installing advanced controls, that they anticipate will allow them to comply with the Utility Toxics Rule. For example, Constellation Energy, a member of the Clean Energy Group, recently installed a major air quality control system, including scrubbers, a baghouse, and other equipment at its Brandon Shores facility in Maryland. Construction was completed in 26 months and employed nearly 1,400 skilled workers.

Experiences similar to Constellation's indicate that, on the whole, the industry can comply with the proposed rule in a timely and cost-effective manner. The costs associated with compliance are important to recognize, but it is equally important to put those costs into perspective. The U.S. electricity industry is one of the most capital-intensive industries in the U.S. – traditionally investing between $80 and $110 billion per year on capital infrastructure projects.[3] The costs to comply with the Utility Toxics Rule will comprise only a fraction of this amount. Moreover, as the installed equipment is then depreciated over 25 to 40 years, the impact for utility customers associated with these investments is spread over a long period of time, and are not incurred in a single year.

Additionally, compliance with the Utility Toxics Rule comes at a time of low natural gas prices, and investment in load management alternatives such as energy efficiency and demand response can further lower the cost of compliance. Most experts agree that natural gas prices will likely remain low for many years; therefore, any rate increases from compliance with the Utility Toxics Rule will occur while lower fuel costs continue to place downward pressure on utility rates.

[3] See, e.g., Credit Suisse Report, *Growth from Subtraction*, September 23, 2010, at p.42; EEI, *Construction: Q2 2010 Financial Update*, 2009, at p.1; U.S. Census, *Annual Capital Expenditures Survey*, 2009 (Available at: http://www.census.gov/econ/aces/xls/2009/summary_of_findings.html).

The Clean Air Act Provides the Necessary Time to Comply with the Act

In general, companies will have three years to comply with the Utility Toxics Rule. We believe that the vast majority of generating units can meet this schedule for several reasons.[4]

First, to their credit, many companies have already installed major components of the pollution control systems that will be required to comply with the standards proposed by the rule. For example, 60 percent of the nation's coal capacity has already been retrofit with scrubber controls. Among large coal-fired generating units – primarily baseload coal units greater than 400 MW– more than 70 percent have scrubbers installed. Additionally, many coal plants have already installed advanced mercury controls, high efficiency particulate controls, and other control systems that will facilitate their compliance with the rule. Thus, the generating fleet as a whole is well on its way to being in a position to meet the requirements of the Utility Toxics Rule. We are not starting from scratch.

Second, EPA allows compliance flexibility in the rule by allowing power plant owners to average their emissions across all of the boilers at a facility. A company can over-control at some of its units and under-control at others, but still comply with the rule. Almost 20 percent of coal capacity that currently lacks scrubber controls is co-located at plants with existing scrubbers. These units can potentially benefit from the averaging provisions of the rule, resulting in lower capital investments, and in some cases those investments will be substantially lower.

[4] See, e.g., URS Corporation, *Assessment of Technology Options Available to Achieve Reductions of Hazardous Air Pollutants*, April 5, 2011; Northeast States for Coordinated Air Use Management, *Control Technologies to Reduce Conventional and Hazardous Air Pollutants from Coal-Fired Power Plants*, Press Release, March 31, 2011 (quoting Dr. James Staudt of Andover Technology Partners, who concludes that "[t]he owners of coal-fired power plants have a range of technologies available to them to meet the demands of air pollution control regulations. Over the last ten years the industry has demonstrated tremendous skill in installing advanced pollution controls on existing units, and this was in part due to good planning by utilities in anticipation of those regulations. With this in mind, I am confident that the industry is capable of meeting the requirements of the Air Toxics Rule in the three year time frame required by the Clean Air Act." See also, Letter from David Foerter Executive Director, ICAC to Senator Carper, November 3, 2010 (available at: http://www.icac.com/files/public/ICAC_Carper_Response_110310.pdf) (highlighting that "labor availability has never jeopardized overall industry compliance requirements, nor is there any reason to assume that it would prevent the power generation industry from effectively complying in a timely way with requirements.")

Third, historic experience shows that the electric power sector has the capacity to install a large number of pollution control systems in a relatively short period of time. Between 2008 and 2010, the industry installed about 60 gigawatts (GW) of scrubbers and 20 GW of advanced NOx controls.[5]

Fourth, most of the control technologies that will be required to comply with the Utility Toxics Rule – like activated carbon injection and dry sorbent injection – can be installed in less than two years.

Again, we believe the vast majority of power plants can meet the three year compliance schedule. However, if a company is unable to comply in time, the Clean Air Act allows up to one additional year to install the necessary control technologies. In fact, this authority is highlighted in the proposed rule, and we expect that the Clean Energy Group companies and others will offer recommendations to EPA that should determine when companies are eligible for additional time. The option of requesting an additional year for compliance is an important tool for companies to manage multiple control installations and avoid any potential reliability concerns. Clear and consistent criteria that reflect a good faith effort to comply within three years along with a specific compliance schedule is a reasonable approach for the limited number of special cases that need additional time. In the end, if this process proves insufficient for a specific unit, EPA has the authority to enter into a consent decree with that company for additional time. This process has been effective in the past when needed, but more often than not industries have been able to comply with the requirements set forth in the Clean Air Act.

Questions about whether there is sufficient time to comply have also been raised in the context of reliability concerns. However, we do not believe compliance with the rule will compromise the reliability of the electric system.[6] The U.S. bulk power system, at an aggregate level, has adequate spare

[5] Letter from David Foerter Executive Director, ICAC to Senator Carper, November 3, 2010 (available at: http://www.icac.com/files/public/ICAC_Carper_Response_110310.pdf)

[6] See, e.g., M. J. Bradley & Associates, LLC and Analysis Group., *Ensuring a Clean, Modern Electric Generating Fleet while Maintaining Electric System Reliability*, 2010 (Available at: http://www.mjbradley.com/documents/MJBAandAnalysisGroupReliabilityReportAugust2010.pdf); Ira Shavel and

capacity to absorb potential retirements. The U.S. electric sector is expected to have more than 100 GW of surplus generating capacity over target reserve margins – one of several important indicators of electric system reliability. This surplus is almost three times the 25 to 40 GW of retirements projected by industry analysts. Moreover, many of the uncontrolled units, which are most likely to retire, are smaller, inefficient units and companies are already making retirement decisions independent of the Utility Toxics Rule due to fundamental economics.

Further, the electric industry has a proven track record of adding additional generating capacity and transmission solutions when and where needed and of coordinating effectively to address reliability concerns. In the three years between 2001 and 2003, the electric industry built over 160 GW of new generation—about three to four times what analysts project will retire over the next five years. Existing gas units also have significant untapped power production potential, which can be utilized without constructing new generation. This underutilized capacity can also assist in managing power plant outages required to install pollution control systems. For example, natural gas facilities in the Midwest and Southeast – with average capacity factors of only 20 percent – have significant potential to increase their output. These are the regions that are likely to see the most retirements.

In the end, if there are specific local reliability concerns, state and federal regulators have an array of tools to moderate impacts on the electric system, where necessary. We released a report last August with the Analysis Group aimed at starting the discussions needed among EPA, the industry, and other agencies to ensure advanced planning occurs. Tools that have been deployed successfully in the past include reliability-must-run contracts, adjusting unit maintenance schedules, signing up additional interruptible supply contracts, and coordinating closely with neighboring power systems to maximize power purchases.

Barclay Gibbs, Charles River Associates, *A Reliability Assessment of EPA's Proposed Transport Rule and Forthcoming Utility MACT*, 2010 (Available at: http://crai.com/uploadedFiles/Publications/CRA-Reliability-Assessment-of-EPA%27s-Proposed-Transport-Rule.pdf).

Conclusion

To conclude, the Clean Air Act requires EPA to implement regulations to control the emissions of hazardous air pollutants from the electric sector. In 2000, EPA took the first step toward regulating those emissions, and over a decade later, EPA is now under a court-ordered deadline to finalize the rule by November 2011. While complying with these obligations will take planning and significant resources by the electric sector, many companies are well on their way toward compliance and, based on the proposed rule, we anticipate that the electric sector can comply with the Act's requirements. There is no reason to delay the implementation of the Utility Toxics Rule.

Thank you for your time. I have attached the reports cited in my testimony, and I would welcome any questions you may have.