

Testimony of Robert M. Summers, Ph.D.
Secretary of the Maryland Department of the Environment
Before the United States Senate
Committee on Environment and Public Works
Subcommittee on Clean Air and Nuclear Safety
Tuesday, March 20, 2012

“Review of the Environmental Protection Agency’s Mercury and Air Toxics
Standards (MATS) for Power Plants”

Chairman Carper, Ranking member Barrasso and honorable members of the Committee, thank you for the opportunity to share Maryland's positive experience with the early installation of air pollution control technologies under the 2006 Maryland Healthy Air Act—technologies that will now be required on many of the nation’s coal-fired power plants by the recently finalized federal Mercury and Air Toxics Standards or “MATS.” For the reasons explained below, Maryland strongly supports the new federal regulations adopted by the Environmental Protection Agency. This past Friday, Maryland, along with 12 other states, moved to intervene in support of EPA in the federal appeal brought by industry groups challenging the MATS rule. Based on Maryland’s experience, we believe that implementation of the air toxic rule will generate positive economic benefits and can be achieved without risk to the country’s electricity supply.

Background

Achieving compliance with federal ambient air quality standards and reducing levels of mercury and other air pollutants has been particularly

challenging for Maryland because so much of our air pollution is the result of transport from upwind out-of-state sources over which we have no control. Maryland has undisputed monitoring data showing that on the worst air quality days, up to 70% of Maryland's ozone pollution is the result of transport. The Chesapeake Bay Program estimates that up to one-third of the nitrogen that pollutes the Bay and its rivers comes from the air. While the past 10 years have brought significant improvements in Maryland's air quality because of the adoption of aggressive air pollution controls on our own sources, without similar reductions from upwind sources, Maryland will not achieve compliance with federal ambient air quality standards for ozone, or with future more stringent fine particle standards that are needed to protect public health.

The same is true for mercury deposition in our State. Most of Maryland's lakes and reservoirs are subject to fish consumption advisories for mercury. Mercury emissions from upwind sources account for more than 70 percent of mercury deposition in Maryland. This is why federal regulatory initiatives to reduce regional emissions—in particular, the MATS utility rule—are vitally important to improving Maryland's air and water quality.

We are confident that the MATS rule can be implemented without risk to the reliability of our electricity supply. The reason for our confidence—Maryland successfully implemented a state regulatory initiative—the Healthy Air Act—that required steep cuts in emissions of nitrogen oxides (NO_x), sulfur dioxides (SO₂) and mercury from our coal-fired power plants through the installation of the same controls that will be required to achieve compliance with MATS.

Maryland's Experience With the Healthy Air Act

Maryland continues to be heavily reliant on coal-fired power plants for its electricity supply. Coal-fired plants produce approximately 60% of the electricity generated in Maryland. Uncontrolled, coal-fired plants remain the single largest source category of NO_x, SO₂ and mercury emissions. Recognizing the need for steep cuts in power plant emissions, in 2006, Maryland's legislature enacted the Healthy Air Act, a multi-pollutant approach to reducing emissions from the power sector. The Healthy Air Act required significant reductions in three key pollutants from the State's largest coal-fired power plants: NO_x, SO₂ and mercury. The pollution controls required to reduce these emissions also resulted in significant reductions in emissions of particulates, hydrogen chloride and other air toxics. The Act also required Maryland to join the Regional Greenhouse Gas Initiative (RGGI), a multi-state collaborative regulatory initiative to reduce greenhouse gas emissions from power plants.

The Healthy Air Act is the most significant emissions reduction program ever adopted in Maryland. Widely applauded by the environmental community when it was enacted in 2006, the Healthy Air Act is now fully implemented and has achieved its goals. The Maryland Department of the Environment worked in close partnership with the State's power plants to plan for and implement the law. Maryland generators invested approximately \$2.6 billion in new control technologies. This substantial investment funded a wide range of new pollution controls including:

- 6 scrubbers to reduce SO₂ emissions
- 7 SCRs (Selective Catalytic Reduction) and 6 SNCRs (Selective Non-Catalytic Reduction) to reduce NO_x emissions
- 2 baghouses to reduce particulate and mercury emissions

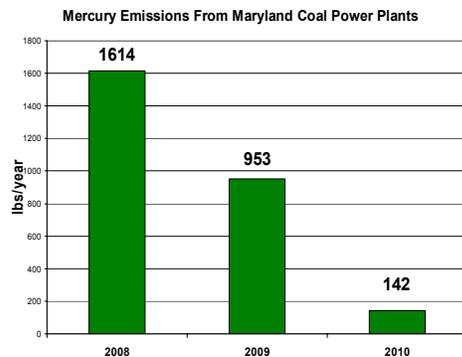
- 2 hydrated limestone injection systems to reduce SO₂ and mercury emissions
- 6 powdered activated carbon (PAC) injection systems to reduce mercury emissions

By 2010, the operation of these controls resulted in dramatic reductions in power plant emissions: Mercury emissions were reduced by more than 90%; SO₂ emissions by more than 80%; NO_x emissions by more than 75%; direct particulate matter emissions by more than 60%; and hydrogen chloride emissions by approximately 83%.



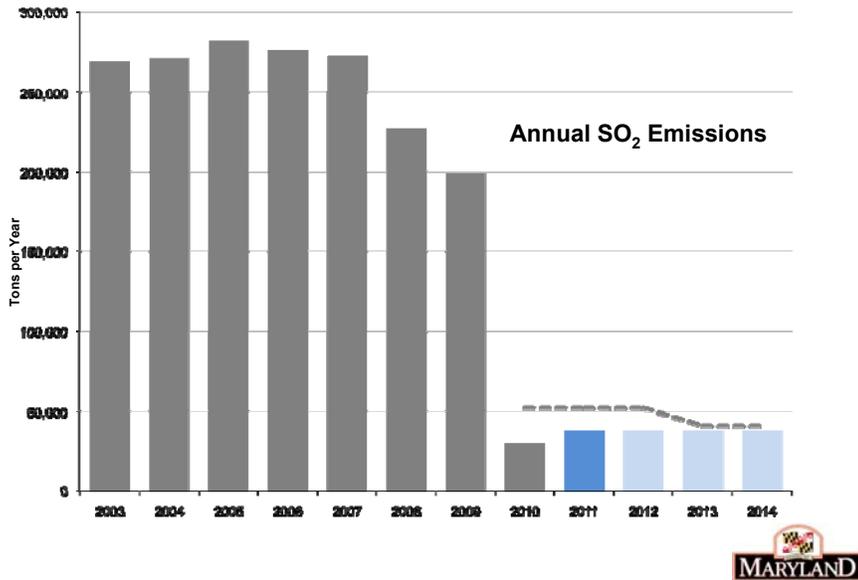
The Results – Mercury & Other Air Toxics

- Mercury
 - Exceeding 2012 90% reduction requirement in 2010
- Hydrogen Chloride (HCl) reduced 83%
- Direct particulate matter reduced 60%

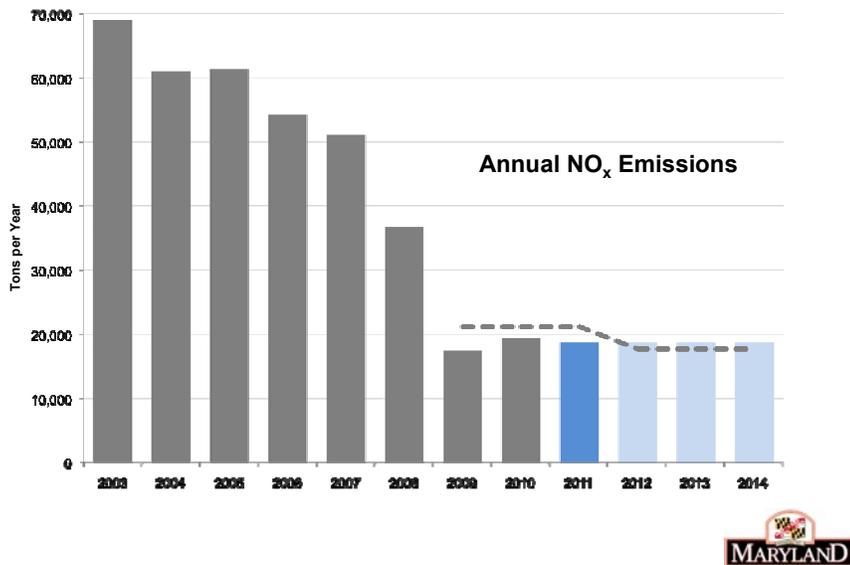




The Results – SO₂



The Results – NO_x



These numbers are not estimates or projections. They are based on actual monitored emissions at the plants. It has been our experience, that the controls to reduce mercury, other air toxics, sulfur dioxide and nitrogen

oxides work extremely well. In almost all cases, the controls have resulted in even lower emission rates than were originally projected in 2006.

The construction and installation of the controls also boosted Maryland's economy. The effort resulted in the creation of approximately 90 new permanent jobs, and during the peak construction period, more than 3,000 jobs.

Maryland's Experience with Timing

The regulations implementing the Act were not finalized until 2007, resulting in a relatively short lead time for the power plants. The deadline for achieving a first phase of NO_x reductions was December 31, 2009. This meant that all NO_x controls needed to be operational by January of 2009, in less than two years. The compliance deadline for achieving a first phase of SO₂ and mercury reductions was December 31, 2010, so that as a practical matter, the controls for these pollutants needed to be operational by January of 2010—within two-and-a-half years. Because implementation of the Healthy Air Act was occurring at the same time that many power plants in the East were installing NO_x and SO₂ controls to achieve compliance with EPA's Clean Air Interstate Rule (CAIR), Maryland's generators expressed serious concerns that sufficient labor and materials would not be available to complete construction prior to the compliance deadlines. Similar to provisions in the MATS rule, the Healthy Air Act allowed "emergency" extensions of the compliance deadlines to address any issues related to reliability or the availability of equipment or labor. Significantly, no compliance deadline extensions were needed or requested. All of the necessary controls were installed in time and the emission reductions occurred as expected, starting in 2009.

Working in Partnership with Affected Power Plants

Maryland worked very closely with our power plants to facilitate a smooth implementation process and timely compliance with the emission limitations. The Department of the Environment coordinated with our State Public Service Commission and Maryland's Department of Natural Resources to ensure an efficient planning and permitting process. This was a key reason for our success.

In closing, I would like to quote Paul Allen of Constellation Energy, one of our State's largest power companies.

"We recently completed the installation of a major air quality control system, including scrubbers, a baghouse, and other equipment at one of our major coal facilities in Maryland....These systems work effectively and result in dramatically lower emissions of mercury, sulfur dioxide, particulate matter, and acid gases. We know from experience that constructing this technology can be done in a reasonable time frame, especially with good advance planning; and there is meaningful job creation associated with the projects." (from March 16, 2011 press release)

Thank you for taking the initiative to look into these important air quality issues and for providing this opportunity to Maryland to share our experience and perspective. Marylanders now benefit from improved air quality. We commend EPA for moving ahead with the MATS standards. We believe, based on our experience, that these standards can be timely achieved without disruption of our electricity supply system. We look forward to further improvements in Maryland's air quality as implementation of the new standards reduces upwind transport of emissions into our airshed.