

**Testimony of Jeffrey Holmstead**  
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**Before the Energy and Air Quality Subcommittee**  
**Energy and Commerce Committee**  
**United States House of Representatives**  
**May 26, 2005**

**I. Introduction**

Thank you, Mr. Chairman and Members of the Committee for the opportunity to testify today concerning the President's Clear Skies Act, which would reduce substantially emissions of sulfur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>) and mercury from power plants. Although I am very proud that the Agency has just issued two regulations limiting power plant emissions (the Clean Air Interstate Rule and Clean Air Mercury Rule), legislation would be a more effective, efficient and long-term mechanism to achieve large-scale national reductions.

This country should be very proud of the progress we have already made in cleaning up our air. Since the Clean Air Act was first enacted in 1970, total national emissions of the six most common air pollutants have been reduced 54 percent. Remarkably, this improvement in national air quality has occurred even while, during the same almost 35-year period, the U.S. Gross Domestic Product increased 187 percent, energy consumption increased 47 percent, and vehicle miles traveled increased 171 percent.

The President's Clear Skies Act is the most important next step we can take to continue our progress in providing healthy air and a clean environment for all Americans. Clear Skies would make great strides towards solving our remaining air quality problems in a way that also advances national energy security and promotes economic growth. It would reduce power plant emissions of SO<sub>2</sub>, NO<sub>x</sub> and mercury by approximately 70 percent from today's levels and do it with more certainty than would current law. Because of the innovative cap-and-trade approach used in Clear Skies and the legal certainty provided by caps and deadlines set by statute, power plants would have an incentive to start reducing emissions as soon as Clear Skies is passed, resulting in emissions reductions more quickly than required.

When fully implemented, Clear Skies would deliver tens of billions of dollars in annual health benefits by prolonging thousands of lives and preventing millions of illnesses each year. It would also provide billions of dollars of economic benefits, including saving millions of

dollars in health care costs.<sup>1</sup> The added benefit of Clear Skies would virtually assure attainment of the new ozone and particulate matter standards for much of this country, yielding a level of air quality that meets the new, more protective health-based national air quality standards for millions of people. Clear Skies would also virtually eliminate chronic acidity in modeled northeastern lakes, reduce nitrogen loading in coastal waters, and help restore visibility in our national parks and wilderness areas.

Although the Clean Air Interstate Rule (CAIR) and the Clean Air Mercury Rule (CAMR) are very important rules, with significant health and environmental benefits, the country would be even better off if Congress passed the President's Clear Skies Act. Clear Skies would provide more expansive and certain results. Clear Skies would enable us to achieve broader reductions of SO<sub>2</sub> and NO<sub>x</sub> emissions because the legislation would apply nationally, while CAIR is limited in geographic scope to 28 states and the District of Columbia. Although CAIR addresses the bulk of power plant emissions of SO<sub>2</sub> and NO<sub>x</sub>, Clear Skies would also reduce SO<sub>2</sub> and NO<sub>x</sub> emissions in the West and incorporate the SO<sub>2</sub> program developed by Western states. Based on our experiences with litigation on the NO<sub>x</sub> SIP Call versus that on the Acid Rain Trading Program, Clear Skies would provide more certainty for the utility industry, and for state and local air quality planners. Although the NO<sub>x</sub> SIP Call is now in place, litigation on this rule delayed compliance, making planning for pollution control installations difficult, raising costs to industry and consumers, and delaying health and environmental benefits. In contrast, the Acid Rain Trading Program, enacted by Congress as part of the 1990 Clean Air Act Amendments, has been almost free of litigation and started on schedule. Compliance has been nearly 100 percent, and the inherent flexibility of the allowance trading program has reduced costs by 75 percent from initial EPA estimates.

As Chairman Connaughton said before me, we strongly urge passage of Clear Skies. Clear Skies gives our states a critical, proven tool for meeting our new air quality standards for fine particles and ozone. We urge you to act soon as the States are now developing their implementation plans.

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<sup>1</sup> Unless otherwise noted, all projections about the costs and benefits of the Clear Skies Act are based on EPA's 2003 analysis of the Clear Skies Act of 2003. The analysis can be found at <http://www.epa.gov/air/clearskies/technical.html>. To calculate the costs and benefits of Clear Skies, EPA compared the Clear Skies Act of 2003 to a Base Case (Existing Control Programs), which is the typical approach EPA uses in calculating the costs and benefits of Agency rulemakings. The Existing Control Programs reflected implementation of only finalized control programs and the non-road diesel rule as it was proposed in April, 2003; it did not include yet-to-be developed regulations, such as the now final Clean Air Interstate Rule and Clean Air Mercury Rule, or other regulations that may be developed to implement the National Ambient Air Quality Standards.

## **II. Clear Skies Provides Significant Benefits**

The heart of Clear Skies is a proven cap-and-trade approach to emissions reductions. Mandatory caps restrict total emissions and decline over time. When fully implemented, Clear Skies would result in a 70% reduction in power plant emissions of SO<sub>2</sub>, NO<sub>x</sub> and mercury from 2000 levels. Clear Skies would continue the existing national cap-and-trade program for SO<sub>2</sub>, but dramatically reduce the cap from 9 million to 3 million tons. Clear Skies would also use a national cap-and-trade program for mercury that would reduce emissions from the current level of about 48 tons to a cap of 15 tons. The legislation would also employ two regional cap-and-trade programs for NO<sub>x</sub> to reduce emissions from 2000 levels of 5 million tons to 1.7 million tons.

Although national in scope, Clear Skies recognizes and adjusts for important regional differences in both the nature of air pollution and the relative importance of emissions from power generation. The eastern half of the country needs reductions in NO<sub>x</sub> emissions to help meet the ozone and fine particle standards, which generally are not a regional issue in the western half of the country (with the exception of California, which does not have significant emissions from existing coal-fired power plants). The western half of the country needs NO<sub>x</sub> reductions primarily to reduce the regional haze that mars scenic vistas in our national parks and wilderness areas, and the nitrogen deposition that harms fragile forests. Recognizing these regional differences, Clear Skies would establish two trading zones for NO<sub>x</sub> emissions and prohibit trading between the zones to ensure that the critical health-driven goals in the East are achieved.

Clear Skies also recognizes the special visibility protection measures that have been developed by states participating in the Western Regional Air Partnership (WRAP). Clear Skies would essentially codify the WRAP's separate SO<sub>2</sub> backstop cap-and-trade program, which would come into effect only if the WRAP states did not meet their 2018 SO<sub>2</sub> emissions targets.

Finally, Clear Skies requires tough, technology-based new source standards on all new power generation projects and maintains special protections for national parks and wilderness areas when sources locate within 50 km of "Class I" national parks and wilderness areas.

### **Significant Public Health and Environmental Benefits**

The public health and environmental benefits of Clear Skies present compelling reasons for its immediate passage. EPA's 2003 analysis of the President's Clear Skies Act (which did not account for CAIR and CAMR) projected that Americans would experience significant health benefits each year by 2020, including approximately:

- 14,100 fewer premature deaths;
- 8,800 fewer cases of chronic bronchitis;
- 23,000 fewer non-fatal heart attacks;
- 30,000 fewer visits to hospitals and emergency rooms for cardiovascular and respiratory symptoms, including asthma attacks; and
- 12.5 million fewer days with respiratory illnesses and symptoms.

Many of these benefits, as well as the benefits described below, would be achieved by CAIR and CAMR if they are not delayed or blocked by litigation.<sup>2</sup> Clear Skies would lock in the benefits of CAIR and CAMR and provide additional benefits, particularly in the West.

Clear Skies' benefits would far exceed its costs. EPA estimated in 2003 that the monetized value of the health benefits we can quantify under Clear Skies would be \$110 billion annually by 2020 -- substantially greater than the projected annual costs of approximately \$6.3 billion. The Agency estimated an additional \$3 billion in benefits from improving visibility at select national parks and wilderness areas. These estimates did not include the many additional benefits that were not monetized, such as human health benefits from reduced risk of mercury emissions, and ecological benefits from improvements in the health of our forests, lakes, and coastal waters.

Clear Skies would achieve most of these benefits by dramatically reducing fine particle pollution caused by SO<sub>2</sub> and NO<sub>x</sub> emissions, which is a year-round problem. Of the many air pollutants regulated by EPA, fine particle pollution is perhaps the greatest threat to public health. Hundreds of studies in the peer-reviewed literature have found that these microscopic particles can reach the deepest regions of the lungs. Exposure to fine particles is associated with premature death, as well as asthma attacks, chronic bronchitis, decreased lung function, and respiratory disease. Exposure is also associated with aggravation of heart and lung disease, leading to increased hospitalizations, emergency room and doctor visits, and use of medication.

By reducing NO<sub>x</sub> emissions, Clear Skies also would reduce ozone pollution in the eastern part of the country and help keep ozone levels low in the western portion of the country. Ozone (smog) is a significant health concern, particularly for children and people with asthma and other respiratory diseases who are active outdoors in the summertime. Ozone can exacerbate respiratory symptoms, such as coughing and pain when breathing deeply, as well as transient reductions in lung function and inflammation of the lung. Ozone has also been associated with increased hospitalizations and emergency room visits for respiratory causes. Repeated exposure over time may permanently damage lung tissue.

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<sup>2</sup> See explanation in footnote 1 for more detail regarding EPA's 2003 analysis of costs and benefits.

Analyzing the Clear Skies reductions, coupled with the decreases associated with the nonroad diesel engine rule and other existing state and federal programs, EPA's 2003 analysis projected that 86% of counties monitoring nonattainment for the PM<sub>2.5</sub> standard (based on 1999-2001 data) would monitor attainment by 2020, and 91% of counties monitoring nonattainment for the 8-hour ozone standard (based on 1999-2001 data) would monitor attainment by 2020.

Even in the few areas that would not attain the standards, EPA's modeling projected that Clear Skies would significantly improve air quality. Throughout the West, Clear Skies would hold emissions from power plants in check, preserving clean air in high-growth areas and preventing degradation of the environment, even as population, the economy and electricity demand increase. (See Attached Figures 1 and 2.)

Clear Skies would also address mercury emissions from power plants. People are exposed to mercury mainly through eating fish and shellfish that contain methylmercury. While mercury in fish is not an issue for most people, mercury can put a developing fetus or young child's developing nervous system at risk when ingested in sufficiently high quantities. Some recent studies raise a possibility that exposure to methylmercury may attenuate the cardioprotective effects of fish consumption in some populations of men, although other studies have not observed an association. This is a new area of research and these potential effects need to be further evaluated in the context of the known heart-health and developmental benefits of a well-balanced diet that includes a variety of fish and shellfish.

Mercury is released into the environment from many sources. Mercury emissions are a complex atmospheric pollutant transported over local, regional, national, and global geographic scales. As previously indicated, Americans are exposed to mercury through eating fish that contain methylmercury. Of the mercury that falls directly onto the U.S. we estimate that approximately 16% comes from U.S. sources, about half of which is from power plants. This fraction varies significantly across the U.S. (See Figures 3 and 4.) Ninety percent of the fish and shellfish we eat are from the ocean environment; and nearly 80 percent of those are imported. Because the U.S. represents just a few percent of global man-made mercury emissions, we cannot expect a quick fix to the global mercury problem. For the foreseeable future, EPA advises that women who may become pregnant, pregnant women, nursing mothers, and young children carefully observe the joint EPA-FDA Fish Advisory issued last year. We are also committed to working collaboratively with those countries that are the largest sources of airborne mercury to help them reduce those emissions to the global pool. Our actions reduce our contribution to the global pool and promote the technologies so other countries can follow our lead.

Clear Skies will require a 69% reduction of mercury emissions from power plants from

1999 levels. Under Clear Skies, units are projected to install selective catalytic reduction (SCR) and scrubbers to meet their SO<sub>2</sub> and NO<sub>x</sub> requirements and take additional steps to meet the mercury reduction requirements, including adding mercury-specific control technologies (such as Activated Carbon Injection). The specific controls we anticipate will be adopted by utilities under the Clear Skies are particularly good at reducing the forms of mercury that are of concern with respect to U.S. deposition. Therefore, we expect U.S. deposition to be reduced faster than emissions.

Not only do the controls tend to reduce the forms of mercury that matter most for reducing U.S. deposition from power plants but many of the mercury emission reductions are projected to result from large units installing these controls. Under the cap-and-trade approach we are projecting that mercury reductions result from units that are most cost effective to control, which enables those units that cannot install controls cost-effectively to use other approaches for compliance. The largest emitting plants are generally more cost-effective to control than small plants and under our cap-and-trade approach, the large plants produce the greatest reductions in the form of mercury that matters most for reducing U.S. deposition. For all of these reasons, Clear Skies is projected to lead to the greatest reduction in power plant deposition where it is the greatest. (See Figures 5 and 6.)

In addition to substantial human health benefits, Clear Skies would also deliver numerous environmental benefits. Nitrogen loads to the Chesapeake Bay and other nitrogen sensitive estuaries would be reduced, reducing potential for water quality problems such as algae blooms and fish kills. Clear Skies would also accelerate the recovery process of acidic lakes, virtually eliminating chronic acidity in all but 1% of modeled Northeastern lakes by 2030, according to our 2003 analysis. The Acid Rain Program has allowed some of these lakes and the surrounding forests to begin to recover. Clear Skies would also help other ecosystems suffering from the effects of acid deposition by preventing further deterioration of Southeastern streams. Finally, Clear Skies would improve visibility across the country, particularly in our treasured national parks and wilderness areas, resulting in projected improvements of approximately two to seven miles in visual range in many areas (based on our 2003 analysis).

### **Reasonable Costs and Energy Security for Consumers and Industry**

The President directed us to design Clear Skies to meet both our environmental and our energy goals. While delivering substantial emission reductions, Clear Skies is not projected to impact electricity prices significantly. Our extensive economic modeling of the power industry

looked at a broad array of factors to gauge the effects of Clear Skies on the energy industry – and they all show that cleaner air and energy security can go hand-in-hand.

Clear Skies would maintain energy diversity. With Clear Skies, our analysis indicated that coal production for power generation would be able to grow by 10 percent from 2000 to 2020 while air emissions are significantly reduced. Our analysis showed that the legislation would also have little effect on natural gas prices. EPA's economic modeling for Clear Skies demonstrated that the proposal's emission reductions would be achieved primarily through retrofitting controls on existing plants, where those controls would likely be most cost-effective. Clear Skies' timeframe and certainty enable the power sector to meet aggressive emission reduction targets without fuel switching. This is important not only to power generators and their consumers who want to continue to rely on our most abundant, reliable, affordable and domestically secure source of energy, but also to other consumers and industries whose livelihoods could be hurt by a rise in natural gas prices.

One of the key reasons Clear Skies would be cost-effective is its reliance on cap-and-trade programs. Like the Acid Rain Trading Program upon which it is based, Clear Skies would give industry flexibility in how to achieve the required emission reductions, which allows industry to make the most cost-effective reductions and pass those savings on to consumers. Power plants would be allowed to choose the pollution reduction strategy that best meets their needs (e.g., installing pollution control equipment, switching to lower sulfur coals, buying excess allowances from plants that have reduced their emissions beyond required levels). Like the Acid Rain Trading Program, Clear Skies includes banking provisions, enabling companies to save unused allowances for future use. Banking creates a tangible, quantifiable, economic incentive to decrease emissions beyond allowable levels, which EPA projects will result in significant early benefits due to over-compliance in the initial years, particularly for SO<sub>2</sub>. It also leads to gradual emissions reductions over time, and therefore a less disruptive transition to tighter emission controls needed to address lingering problems. Based on past experience under the Acid Rain Trading Program, by placing a monetary value on avoided emissions, Clear Skies would stimulate technological innovation, including efficiency improvements in control technology, and encourage early reductions.

### **Assistance to State and Local Governments**

Under the current Clean Air Act, state and local governments face the daunting task of meeting the new fine particle and ozone standards. Clear Skies would substantially reduce that burden. By making enormous strides towards attainment of the fine particle and ozone standards, Clear Skies would assist state and local governments in meeting their obligation under the Clean Air Act to bring areas into attainment with these health-based standards, and provide Americans with cleaner air.

As noted previously, the combination of Clear Skies, EPA's rule to decrease emissions from nonroad diesel engines, and other existing state and federal control programs – such as

pollution control requirements for cars and trucks – would bring a substantial number of counties that currently monitor nonattainment into attainment with the fine particle and ozone standards. Even in the few areas that would not attain the standards without adoption of local control measures, Clear Skies would significantly improve air quality. This would make it easier for state and local areas to reach the ozone and fine particle standards.

Clear Skies’ assistance to states goes beyond ensuring that power plants will reduce their emissions. Clear Skies relies on a common-sense principle – if a local air quality problem will be solved cost-effectively in a reasonable time frame by the required regional reductions in power plant emissions, we should not require local areas to adopt local measures. Under Clear Skies, areas that are projected to meet the ozone and fine particle standards by 2015 would be able take advantage of the broad emission reductions occurring at the regional level as a result of Clear Skies.<sup>3</sup> If certain conditions are met, these areas could be designated “transitional” areas, instead of “nonattainment”, and they would not have to adopt local measures (except as necessary to qualify for transitional status). They would have reduced air quality planning obligations and would not have to administer more complex programs, such as transportation conformity, nonattainment New Source Review, or locally-based progress or technology requirements in most circumstances.

### **III. Improving the Clean Air Act With Clear Skies**

Clear Skies would improve the Clean Air Act in a number of ways. It would build on the proven portions of the Clean Air Act – like the national ambient air quality standards and the Acid Rain Trading Program – and reduce reliance on complex, less efficient requirements like New Source Review for existing sources. The mandatory emission caps at the heart of Clear Skies guarantee that reductions will be achieved and maintained over time. In contrast, litigation uncertainties make it difficult to estimate how quickly and effectively current regulations would be implemented under the current Clean Air Act.

### **Legislation Now Is Better than Regulation Followed by Years of Litigation**

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<sup>3</sup> Clear Skies legislation introduced in the House of Representatives (H.R. 999, February 27, 2003) was introduced before EPA designated nonattainment areas for the 8-hour ozone or PM 2.5 standards. Such areas have since been designated.



Clear Skies has several benefits over the regulatory scheme that will otherwise confront power generators. Clear Skies provides regulatory certainty and lays out the timeframes necessary for plant managers to design a cost effective strategy tailored to both their current budgets and future plans. Clear Skies is designed to go into effect immediately upon enactment. Power plants would immediately understand their obligations to reduce pollution and would be rewarded for early action. As a result, public health and environmental benefits would begin immediately and result in emissions reductions more quickly than required. Given Clear Skies' design, it is unlikely that litigation could delay the program (particularly since Congress would decide the two most controversial issues – the magnitude and timing of reductions).

Past experience suggests that litigation delays on the regulatory path are likely. Our experience with two cap-and-trade programs – the legislatively-created Acid Rain Trading Program and the administratively-created NOx SIP Call – illustrates the benefits of achieving our public health and environmental goals with well-designed legislation rather than relying solely on existing regulatory authority. Even when regulations are ultimately upheld in the courts, emission reductions can be delayed and costs can increase simply because of uncertainty.

Reductions from the Acid Rain Trading Program were experienced early, well before compliance deadlines. There were few legal challenges to the small number of rules EPA had to issue – and none of the challenges delayed implementation of the program. The results of the program have been dramatic – and unprecedented. Reductions in power plant SO<sub>2</sub> emissions were larger and earlier than required, providing earlier human health and environmental benefits. Now, in the tenth year of the program, we know that the greatest SO<sub>2</sub> emissions reductions were achieved in the highest SO<sub>2</sub>-emitting states; acid deposition dramatically decreased over large areas of the eastern United States in the areas where it was most critically needed; trading did not cause geographic shifting of emissions or increases in localized pollution; and the human health and environmental benefits were delivered broadly beyond what EPA had projected.

It is clear from this example that existing regulatory tools often take considerable time to achieve significant results, and can be subject to additional years of litigation before significant emissions reductions are achieved. Even when the regulation is ultimately upheld by the courts, litigation creates uncertainty that can delay emission reductions or increase costs.

## **Conclusion**

The President's Clear Skies Act provides a balanced approach that our nation needs for meeting clean air goals, while safeguarding economic growth and promoting energy security. Congressional action on Clear Skies legislation is the preferable route toward ensuring that health and environmental goals can be met. We stand ready to work with this Committee and the Congress to get a bill on the President's desk as soon as possible.