TESTIMONY OF
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BEFORE THE
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS
SUBCOMMITTEE ON CLEAN AIR AND NUCLEAR SAFETY
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I. Introduction

Mr. Chairman and members of the Subcommittee, thank you for the opportunity to testify today on the Environmental Protection Agency's (EPA or Agency) Clean Air Interstate Rule (CAIR) and our preliminary assessment of how the recent D.C. Circuit Court decision vacating that rule may affect EPA's air quality programs, including our cap-and-trade programs. My name is Brian McLean and I am the Director of the Office of Atmospheric Programs within EPA's Office of Air and Radiation. One of my responsibilities is the development and implementation of emission reduction programs such as CAIR. CAIR is a program designed to help states address interstate transport of emissions, similar in design to an approach EPA successfully employed in the 1990s to address significant ozone problems in the eastern United States. I welcome the opportunity to discuss these important issues with the Subcommittee.

II. What Is CAIR?

The Clean Air Interstate Rule contains three regulatory programs intended to support the efforts of 28 eastern states and the District of Columbia to meet their obligations to attain the fine particle ($PM_{2.5}$) and ozone standards. It is the linchpin of EPA's program to improve air quality and EPA's most significant action to protect public health and the environment since the passage of the 1990 Clean Air Act Amendments (Act).

Congress recognized that interstate transport of pollution from upwind states can contribute to unhealthy pollution levels in downwind states. Therefore, the Act contains provisions that require upwind states to eliminate those emissions that contribute significantly to nonattainment downwind. Each state is required to have a State Implementation Plan (SIP), which contains control measures and strategies to attain and maintain the national ambient air quality standards (NAAQS). These plans are developed through a public process, formally adopted by the state, and submitted to EPA. The Act requires EPA to review and approve each plan and any plan revisions for consistency with the Act. State Implementation Plans provide for implementation, maintenance, and enforcement of the NAAQS in each state. Areas within each state that are designated nonattainment are subject to additional planning and control requirements. Accordingly, different regulations or programs in the SIP will apply to different areas. SIP requirements applicable to all areas are provided in section 110 of the Act. Should states fail to submit an adequate SIP, EPA is required to institute a Federal Implementation Plan (FIP).

First with acid rain in the 1980s, then with ozone, fine particles, and regional haze in the 1990s, the states and EPA recognized that these problems could not be solved without taking coordinated action across multiple states. The industry, too, recognized that coordinated action by government could permit more cost-effective action on their part.

The 1990 Act established the Acid Rain program utilizing a national emissions cap with interstate trading. The Act also set up the Ozone Transport Commission (OTC) to develop a multistate response to ozone in the Northeast. The OTC decided that an emissions cap and trading program would be the best solution for that problem. But as the OTC and other states throughout the eastern United States began preparing their SIPs to address ozone nonattainment,

they found they could not move forward because they did not know what to assume about emissions coming from upwind states, nor did they have the authority to control those emissions. Progress in reducing ozone was put on hold for several years as the states and EPA developed, and then implemented, a solution. In 1995, over 30 eastern states formed the Ozone Transport Assessment Group (OTAG) and, after two years, developed a set of options for addressing the transport problem. EPA took the results of OTAG and developed a rule known as the Nitrogen Oxides (NOx) State Implementation Plan Call, or the NOx SIP Call. EPA required, through regulation, that states with emissions significantly affecting another state's air quality make the amount of emission reductions achievable by applying "highly cost-effective controls." If states wished, they could participate in a multistate trading program for power plants and other large combustion sources to minimize cost, but the decision was up to each state. The trading program under the NOx SIP Call, known as the NOx Budget Trading Program (NBP), would be administered by EPA.

Although all states chose the option with trading, the rule was litigated. The D.C. Circuit upheld the approach of the NOx SIP Call. The NBP has thus far resulted in roughly 60 percent reductions in summer season NOx emissions from the affected sources in the eastern United States from 2000 levels. Although the NOx SIP Call had helped states considerably in meeting their obligations under the Act to meet the ozone standards, it was not sufficient to protect air quality in all areas of the region.

When faced with new fine particle standards, a tighter ozone standard, and regional haze requirements, EPA again chose the model of the NOx SIP Call, which had been upheld by the Court. Proposed on January 30, 2004, and promulgated on March 10, 2005, CAIR was on a path to achieve the largest reduction in air pollution in more than fifteen years. This action offered

steep and sustained reductions in air pollution as well as dramatic health benefits, 25 times greater than its cost by 2015. It did not directly regulate emission sources. Instead, CAIR required states to revise their SIPs to reduce emissions of NOx and SO_2 in the eastern U.S. The emission reduction requirements assigned to the states were based on control levels known to be highly cost-effective for electric generating units. Each state independently determined which emission sources to control and which control measures to adopt. CAIR was EPA's response to help states meet their state responsibilities based on our successful experience addressing ozone in the 1990s, and it was designed around the fundamental requirements in section 110 of the Act. Through the use of the proven cap-and-trade approach, first demonstrated in the Acid Rain Program for SO_2 reductions and later employed in the NOx SIP Call, CAIR was expected to achieve substantial reductions of SO_2 and NOx emissions. CAIR was neither designed nor intended to replace state obligations to attain the air quality standards; rather, it was designed to assist states by establishing a common level of control in upwind states. CAIR, along with other pollution control efforts, was poised to help over 450 counties in the eastern United States meet EPA's air quality standards for ozone and fine particles. [See Figure 1]

CAIR provided states with options to comply with reduction requirements by devising their own strategy, entering the EPA-administered cap-and-trade programs, or defaulting to the FIP. The FIP serves as a backstop to ensure all CAIR emission reductions are achieved on schedule and has been in place since June 2006. All affected states chose to adopt the CAIR trading programs or allow the FIP to take effect. Building on EPA's experience with successful trading programs for SO_2 (Acid Rain Program) and NOx (NOx Budget Trading Program), CAIR harmonized with, and preserved the benefits of, the existing SO_2 and NOx trading programs, while offering a smooth transition to new reductions with no disruption to current programs or

regulated entities. The CAIR program was to be supportive of state attainment demonstrations for both $PM_{2.5}$ and ozone.

In order to meet electricity demand, the U.S. power sector is unique in that it is the only industrial sector where emitting sources owned by different companies in different states are interconnected. Power production (and accompanying emissions) can be shifted on a continuous basis from one source to another, and one state to another. When we think of regulating the power sector, we need to take this into consideration. All fossil-fuel electric generating units over 25 megawatt (MW) capacity within the CAIR region were covered by the program, along with large industrial boilers during the summer ozone season.

The power industry — especially coal-fired generation — has committed billions of dollars in add-on pollution control technology to meet CAIR's stringent new caps for SO_2 and NOx. [See Figure 2] By 2020, about 80 percent of coal-fired capacity in the CAIR region was projected to have scrubbers and/or selective catalytic reduction (SCR)/selective noncatalytic reduction (SNCR) (some small portion of this is new capacity under New Source Performance Standard control). Also by 2020, 106 areas were projected to come into attainment with the 1997 PM and ozone standards, in many cases as a primary result of CAIR, providing health and environmental benefits for Americans in the eastern United States.

EPA established regional budgets — or caps — for SO_2 and NOx emissions for the states covered by CAIR to address the interstate transport problem. [See Figure 3] One of the mechanisms EPA employed in the CAIR SO_2 program was to use the existing Title IV SO_2 emission allowances (i.e., authorizations to emit). At stricter ratios of 2:1 surrender for 2010-2014, and a 2.86 to 1 surrender in 2015 and beyond, this approach eliminated states' significant contribution, and promised the greatest reductions in emissions and improvements in health

benefits and ecosystems since the 1990 Act. The regional NOx cap was calculated based on historic state heat input data and highly cost-effective emission rates, and the state budgets were adjusted to reflect the different NOx emission rates of coal, oil, and gas combustion. The Act requires states to eliminate their significant contribution to nonattainment of the NAAQS in downwind states. When EPA set up the CAIR emission reduction requirements, we spent significant time and effort developing budgets that we believe represent each state's fair share of emission reductions — in other words, their significant contribution.

CAIR requirements effectively established an annual NOx cap in 2009 of 1.5 million tons and an annual SO_2 emission cap in 2010 of 3.7 million tons in the East. These emission budgets would be lowered in 2015 to provide annual SO_2 and NOx emission caps of 2.6 million tons and 1.3 million tons, respectively, in the control region. The states covered by the program and the emission caps in place are shown in Figure 4.

When fully implemented, CAIR would dramatically reduce emissions of SO_2 and NOx from coal-fired power plants in the eastern United States, permanently capping them at levels more than 70 percent and 60 percent, respectively, below 2003 levels. This would result in annual region-wide NOx emission reductions of 1.2 million tons by 2009. Annual region-wide SO_2 emission reductions were projected to be approximately 3.6 million tons of SO_2 by 2010.

By the year 2015, CAIR would also deliver $85-$100 billion in annual health benefits, preventing 17,000 premature deaths annually, millions of lost work and school days, and tens of thousands of non-fatal heart attacks and hospital admissions; nearly $2 billion in annual visibility benefits in southeastern national parks, such as Great Smoky and Shenandoah; and significant regional reductions in sulfur and nitrogen deposition, reducing the number of acidic lakes and streams in the eastern U.S. [See Figure 5] As early as 2010, EPA projected the avoidance of

about 13,000 premature deaths and 19,000 heart attacks — just two years from now.

III. CAIR Implementation

CAIR established a two-phase program with declining emission caps for NOx in 2009 and 2015, and for SO_2 in 2010 and 2015. Because sources may save (or "bank") allowances freed-up from controlling more than required, overall emissions tend to decline continuously over time, rather than in distinct steps tied to the years in which the caps are lowered.

As mentioned above, all CAIR-affected states chose to participate in the EPA-administered trading programs and have either developed state programs or acknowledged the FIP as a default. Annual NOx emissions monitoring and reporting began in January 2008. Many states have submitted SIPs that include complete CAIR trading program rules; many others have submitted SIPs that cover only NOx allocations for these trading programs. Others chose to be covered by the FIP trading programs. EPA expected that by the end of 2008, 21 states would have SIP approval for the complete CAIR SO_2 program; 23 states would have SIP approval for the complete CAIR NOx trading programs; four more states would have SIP approval covering NOx allowance allocations; and the remainder would be covered by the FIP trading programs.

Annual NOx allowances were recorded in facility accounts as far out as 2014 in all affected states except one (North Carolina). The SO_2 allowances were already in place from the Acid Rain Program allocations. Emission reductions and trading began in earnest for SO_2 allowances as early as 2006. We have seen early emission reductions on the order of over a million tons annually as a result of industry's early compliance with CAIR's 2010 regulatory horizon for SO_2, with greater reductions expected as the program became fully implemented. We have seen the allowance markets developing for NOx and SO_2. However, since the court

decision, we have seen the growing concern in the markets as evidenced by the collapse in SO_2 and NOx allowance prices and the significant decline in trading activity.

The CAIR rule did not replace the requirement to meet the NAAQS at the local level, but rather helped achieve those standards through significant reductions in the pollution that is transported across state boundaries. Thus, state and local governments continue to have the obligation and the authority under the Clean Air Act to assure that the NAAQS are met everywhere.

Clearly, the Court decision vacating CAIR in its entirety creates uncertainties that could cause setbacks in air quality and environmental benefits and negatively affect the health and well being of citizens in the CAIR region.

IV. The Court Decision

On July 11, 2008, the United States Court of Appeals for the D.C. Circuit issued its ruling on the petitions for review of CAIR. The ruling addressed numerous challenges brought by industry petitioners and the State of North Carolina. In addition, a number of environmental groups, industry associations, and individual power companies intervened on EPA's behalf in support of CAIR on various issues. The Court's opinion is mixed — it ruled for EPA on some issues and against us on others. Overall, however, the Court determined CAIR is fundamentally flawed and vacated the entire rule and the associated FIP.

The Court upheld some aspects of the rule relating to the methodology EPA used to determine which states should be in the CAIR region, including EPA's decision to include the entire states of Texas and Florida and the $PM_{2.5}$ contribution threshold. It also upheld the phase one NOx compliance deadline.

The Court ruled against EPA on six issues. First, the Court held that the CAIR cap-and trade-program was flawed, concluding that EPA focused on region-wide emission reductions and did not adequately factor in each state's significant contribution to air pollution issues. Second the Court found that EPA did not give independent significance to the "interfere with maintenance" language in section 110(a)(2)(D) and thus did not provide adequate protection for downwind areas. Third, the Court rejected EPA's decision to establish 2015 as the compliance date for the second phase of CAIR. Fourth, the Court held that both the SO_2 and NOx budgets developed by EPA were not based on the objectives of section 110(a)(2)(D) and were thus invalid. Fifth, the Court held that EPA lacked authority under section 110 to remove Title IV (Acid Rain Program) allowances through CAIR, or change the amount of SO_2 emissions that an allowance permits. In addition, the Court held EPA did not properly address certain claims of measurement errors raised by Minnesota regarding its contributions to NOx and SO_2 emissions.

V. Implications for EPA Programs from the Court Decision

EPA is continuing to evaluate further litigation options; however, assuming the decision stands it will have a ripple effect that will delay and could impede significant clean air programs and activities throughout the eastern U.S. The first major category of affected programs involves requirements for state planning for clean air.

- **Ozone and Fine Particle Standards**

Many of the areas EPA identified as "nonattainment" for the 1997 health-based standards for ground-level ozone and fine particle pollution are in the region covered by CAIR. These areas must prepare SIPs that demonstrate how they will attain and maintain clean air by their Clean Air Act deadlines. SIPs for the 1997 ground-level ozone standards were due to EPA by June 2007 and for the 1997 fine particle standards by April 2008.

In many cases, states in the CAIR region have relied heavily on the emission reductions required by CAIR as they conducted their modeling to show that they will meet the 1997 ambient air quality standards on time. These attainment demonstration components of the SIPs will likely need to be revised to show how the states will achieve the emission reductions previously required by CAIR.

The plans must require emission controls that are economically and technologically feasible. Emission control technologies that meet these criteria are known as RACT, or Reasonably Available Control Technology. For power plants in the CAIR region, EPA determined that CAIR could meet these requirements. Because of the Court's decision, states will likely need to revise the SIP component to demonstrate another RACT option for those sources. Such revisions could affect sources beyond the power sector.

- **Visibility**

EPA's Regional Haze Rule requires states to adopt emission reduction strategies to ensure that reasonable progress is made toward improving visibility in national parks and wilderness areas. States must submit comprehensive plans every 10 years in which they set goals to ensure that reasonable progress is being made toward natural visibility conditions and adopt long-term strategies for achieving those goals. The first regional haze SIPs were due to EPA in December 2007, and as with the fine particle and ozone SIPs, the 28 states in the CAIR region were relying heavily on the emission reductions from CAIR to show that reasonable progress was being made toward achieving the goals of the visibility program. EPA's regional haze rule also requires identification and installation of the Best Available Retrofit Technology (BART) for certain categories of very large stationary sources, including power plants, which were constructed between 1962 and1977. States must evaluate BART for these facilities as part

of the first 10-year plan. For the 28 states covered by CAIR, EPA determined that CAIR could satisfy the BART requirements for SO_2 and NOx emissions from power plants, and the 28 states in the CAIR region were relying on that determination.

As a result of the Court's decision, states will likely have to reexamine the reasonable progress goals in their SIPs and develop alternative emission reduction strategies to ensure that the SIPs provide for reasonable progress. Without CAIR, states will have to make individual BART determinations for each power plant.

There are many questions regarding how to move forward to meet these obligations in the absence of CAIR. EPA is making every effort to provide answers as quickly as possible.

In addition to state planning requirements under the Act, various other rules and activities are impacted by the Court's decision.

- **Interstate Transport of Air Pollution**

CAIR was a key component in reducing the transport of air pollution across state boundaries in the East. States have struggled with this issue for years and failed to meet a Clean Air Act deadline to address interstate transport by July 2000.

When EPA issued CAIR in March 2005, the Agency also issued a national "finding" that states had failed to submit SIPs to address interstate transport. This finding triggered a two-year clock for EPA to issue FIPs to address interstate transport. To ensure that the emission reductions required by CAIR were achieved on schedule, in 2006 EPA issued a FIP for all states covered by CAIR. The Agency planned to withdraw the FIP for any state once that state's own plan for meeting the CAIR requirements was approved and in place. The Court decision vacated the CAIR FIP. However EPA's findings of failure to submit are not affected.

- **Section 126 of the Clean Air Act**

Section 126 of the Clean Air Act is designed to remedy interstate air pollution transport. Section 126(b) authorizes states to petition EPA for a finding that major sources or groups of stationary sources in upwind states contribute significantly to nonattainment in, or interfere with maintenance by, downwind states. An affirmative finding by EPA would be accompanied by direction from EPA to each state to revise its SIP to remedy the interstate pollution.

In 2004, North Carolina submitted a section 126 petition with respect to the 1997 ozone and fine particle standards seeking emission reductions from large power plants located in 13 states. For technical support, the petition relied largely on EPA's analyses for the proposed CAIR.

EPA denied North Carolina's 126 petition in March 2006, and there is separate litigation pending over that denial. EPA is currently evaluating possible next steps.

- **NOx SIP Call**

As described earlier, EPA issued a rule known as the NOx SIP Call in 1998 to mitigate significant interstate transport of NOx — one of the compounds that reacts to form ozone. EPA included an EPA-administered trading program (NBP) as a control option for states. All 20 states and the District of Columbia covered by the NOx SIP Call chose to participate in the trading program.

The CAIR rulemaking revised the NOx SIP Call to discontinue the NOx Budget Trading Program after the 2008 ozone season. The NOx SIP Call states could choose to bring their affected sources into the CAIR ozone season trading program or adopt alternative control measures to meet the NOx SIP Call requirements.

The Court decision vacates the provisions that eliminated EPA's obligation to run the NOx Budget Trading Program after the 2008 ozone season, leaving the NOx SIP Call in place. We are evaluating the impact of the decision on the NOx Budget Trading Program for the 2009 ozone season. We are also evaluating SIPs where states have already included provisions to transition to the CAIR NOx ozone season trading program in 2009 and discontinue participation in the NBP.

- **International Agreements**

CAIR has been integral to the negotiations relating to a proposed new PM Annex under the U.S.-Canada Air Quality Agreement. In addition, CAIR has been a central component in discussions of potential U.S. commitments to reducing fine particle pollution and the emissions that form it in negotiations under the Convention on Long Range Transboundary Air Pollution. The court's decision, if it stands, will affect the substance and pace of these international negotiations.

VI. Conclusion

Although issues were raised by some stakeholders, the reductions and approach of CAIR were broadly accepted. While it is too early to fully assess the damage to our air quality programs and the health and environmental protection they were designed to achieve, the court decision to vacate CAIR poses significant concerns in implementing the CAA provisions. These include the significant burdens imposed on the states in meeting their CAA obligations (such as the near term deadlines for the $PM_{2.5}$ and ozone NAAQS); a potential increase in emissions from power plants associated with precipitous declines in allowance values; and possible air quality degradation with implications for ecosystems, acid deposition, and human health. We are aware of possible financial losses due to declining allowance values for those

who have installed abatement technology and/or purchased allowances early, having assumed these were reasonable compliance strategies for a 2009 CAIR program start date. In fact, Pennsylvania Power & Light announced last week it may take a $100 million loss as a result of the market decline. Clearly the CAIR vacatur will punish those who took control actions ahead of compliance deadlines and send a negative signal to utilities regarding their near-term emission control strategies. However, we are most concerned about the impacts to public health and welfare and the environmental damage that could result from companies which may now decide to shift to cheaper, higher-sulfur fuels; or choose not to install a scrubber for SO_2 emissions on older boilers; or limit use of their control systems to save operating costs and increase plant efficiency.

Another concern is the implications of the court decision on the future of cap-and-trade programs. While the court disagrees with how we employed the cap-and-trade approach in CAIR, cap-and-trade has been an extremely effective mechanism delivering broad reductions and certainty that a specific emission level is achieved and maintained; regulatory certainty for affected sources; compliance flexibility as sources choose from many alternatives for reducing emissions; cost savings to industry and government; unprecedented levels of compliance; and dramatic human health and environmental benefits. Losing such programs means losing assurances that reductions will be made in a timely manner by sources responsible for environmental problems. This may also make environmental protection more expensive and thus more difficult to achieve.

With CAIR, we believed we were properly implementing the CAA and faithfully following precedent, particularly the earlier Court opinion on the NOx SIP Call. We were being proactive to support the states, responding to the problems we saw ahead, and using the best

tools at our disposal. In the wake of the Court's decision, EPA and the states in the CAIR region will need to work together to develop strategies to protect public health and the environment. EPA will earnestly be considering all options over the next few weeks. Thank you for your time.