S. HRG. 110–1259

EPA'S CLEAN AIR INTERSTATE RULE (CAIR): RECENT COURT DECISION AND ITS IMPLICATIONS

HEARING

BEFORE THE

SUBCOMMITTEE ON CLEAN AIR
AND NUCLEAR SAFETY

OF THE

COMMITTEE ON ENVIRONMENT AND
PUBLIC WORKS
UNITED STATES SENATE

ONE HUNDRED TENTH CONGRESS

SECOND SESSION

JULY 29, 2008

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C O N T E N T S

EPA'S CLEAN AIR INTERSTATE RULE (CAIR): RECENT COURT DECISION AND ITS IMPLICATIONS

Tuesday, July 29, 2008

U.S. SENATE,
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS,
SUBCOMMITTEE ON CLEAN AIR AND NUCLEAR SAFETY
Washington, DC.

The subcommittee met, pursuant to notice, at 9:30 a.m. in room 406, Dirksen Senate Office Building, Hon. Barbara Boxer (chairman of the full committee) presiding.

Present: Senators Carper, Voinovich, Lieberman, Clinton, Inhofe.

OPENING STATEMENT OF HON. THOMAS R. CARPER, U.S. SENATOR FROM THE STATE OF DELAWARE

Senator CARPER. The hearing will come to order.

Welcome, one and all. We appreciate the efforts of our witnesses to be with us today, both the first and second panel.

Today's hearing is focused on the D.C. Circuit Court's recent decision on EPA's Clean Air InterState Rule, known affectionately as CAIR. Senators will have 5 minutes for opening statements. Then I will recognize the Director of EPA's Office of Atmospheric Programs to offer his statement to the Committee. Welcome, Mr. McLean.

Following the Director's statement, we will have two rounds of questions. Then our second panel of witnesses will come forward. Their testimony will be followed by two rounds of questions.

We will then break for dinner, return for a prayer meeting. And after hot chocolate, sing Kumbyah and go home and see where the future takes us from there.

[Laughter.]

Senator CARPER. Albert Einstein, my colleagues are used to me quoting Thomas Edison, but I am going to change that to now quote Albert Einstein, who once said that in the midst of every difficulty lies an opportunity. Einstein was one smart fellow, and we in Congress need to listen to him, at least on this point.

As members of our Committee charged with protecting our environment, we are confronted with some of the greatest challenges facing our planet: global warming, making sure that people can swim and fish in our Nation's rivers and lakes, cleaning up the air so that fewer Americans will die or suffer from lung cancer from mercury poisoning. As Members of Congress, it is our responsibility to seize these opportunities and to solve them.

The clean air issue is one that I began to address when I first became a Senator, almost 8 years ago. During those last 8 years, we have seen the Bush administration propose its own legislation called Clear Skies, but refuse to budget when Congress wanted to strengthen that proposal. We then saw the Administration try to implement Clear Skies through regulation, only to see those regulations, first through the mercury rule and now the Clean Air InterState Rule, overturned by the Federal courts for being either too weak or flawed in some respect.

In other words, 8 years have gone by without any meaningful, substantive action on the clean air debate. I hope this offends everyone here as much as it offends me.

This inaction means that tens of thousands of Americans will die prematurely from lung-related diseases who didn't have to die. It means that thousands more children will be borne with birth defects, thanks to mercury poisoning, who otherwise would have been healthy without incident. It means that Congress and the White House failed to do what is right.

Let me be clear. I am not going to wait another 8 years to do what should have been done 8 years ago, and that is to pass a strong, comprehensive Clean Air bill that makes deep and meaningful reductions in mercury, nitrogen oxides and sulfur dioxide. We have the science and we have the technology to clean up our act in a way that makes sense and won't put anyone out of business. We owe it to the American people to try harder, to come together and develop a bipartisan solution to the clean air mess that we find ourselves in today.

My bet is that no one in this room really wanted the D.C. Circuit Court to overturn the CAIR rule. I certainly didn't. While I thought CAIR should have been stronger in the proposed legislation along those lines, CAIR would have nevertheless provided real benefits to my State, and I know to a number of our neighboring States.

As many of you know, Delaware struggles to meet its clean air goals, because we are located, along with our neighbors, Pennsylvania, New Jersey, Maryland and others, at the end of what we call America's tailpipe. We simply can't cleanup our air along the eastern seaboard unless the upwind States meet their obligations too. In Delaware alone, we have some 80,000 children and adults who suffer from asthma this year. CAIR would have reduced that number and saved lives.

But the court said that the rule was fundamentally flawed, and that is why we have invited all of our witnesses here to testify today, to find out what this ruling means and to understand its impact on the States, on industry and on public health.

I am also hopeful that we can use today's hearing to begin to develop consensus on how Congress should proceed for the balance of this year and once the new Administration takes office in less than 175 days. Let me offer just a couple of my initial thoughts on that front.

One, we should not expect this Administration or the next one to get the job done through regulation alone. The only surefire way that we are going to get reductions that we need is through, I believe, congressional action. Only Congress can take back the power from the courts and ensure that we move forward on schedule.

Two, CAIR only covered the eastern United States. We need to write legislation that protects the whole Country. This approach doesn't just save more lives, it also prevents polluters from moving to unregulated areas in order to escape environmental controls.

Three, CAIR only addresses SOx and NOx. We can do better by simultaneously addressing toxic mercury emissions as well as carbon dioxide that causes global warming. I said for some time it makes no sense to address only one or two of these pollutants without trying to address the others. The four-pollutant approach better protects the public health and gives industry the flexibility and the regulatory certainty that they need to implement the most cost-effective control strategy.

I believe a good starting point for discussions on how to proceed is a bipartisan bill that I introduced again last year, the Clean Air Planning Act, which many of this Committee's members have co-sponsored. That legislation just picked up its 13th co-sponsor yesterday, I am told, and I want to thank Senator Clinton for joining us as a co-sponsor of the legislation and welcome her as a co-sponsor as well as welcome her back to this Committee and lending her voice and her support to our efforts.

We believe that the Clean Air Planning Act provides an aggressive yet achievable schedule for power plants to reduce emissions from nitrogen oxides, from sulfur dioxide, from mercury and from CO2. It goes further and goes faster than what the Bush administration put forward; in fact, even more compelling given the legislative stalemate of the last 8 years.

I would also point out that EPA's own analysis shows that that CAPA greatly improves the health benefits associated with CAIR. For instance, 10,000 more premature deaths would be avoided under our legislation than under the CAIR rule. I believe the Clean Air Planning Act is a great starting point, but I want to say that all options are on the table. What matters most to me is not what legislative vehicle we use to clean up our air, but rather that we get something done.

But that something has to be comprehensive, it needs to be meaningful and it has to be stronger than what the Administration's Clean Air InterState Rule and seriously flawed mercury rule would have provided. In addition to today's hearing, I will be holding other hearings and roundtables on this issue, along with my friend, Senator Voinovich, throughout this fall to hear various perspectives on how we can move forward on clean air legislation early next week at the latest.

Again, we don't have the luxury of waiting another 8 years to get the job done. I don't know that we have the option of waiting another 8 months. It is time for all of us to come to the table and pass a long-overdue update to the Clean Air Act. It is time to stop squandering opportunities and to begin to seize them.

That having been said, Senator Voinovich, I am pleased that you are here, and you are recognized for as long as you wish.

OPENING STATEMENT OF HON. GEORGE V. VOINOVICH, U.S. SENATOR FROM THE STATE OF OHIO

Senator VOINOVICH. Thank you, Mr. Chairman.

The Chairman and I have been friends for a long time. And we are arm in arm on many things, although we don't see eye to eye on some issues. And one of the great disappointments in my being here in the Senate is the fact that we weren't able to come together when we had the Clear Skies legislation before us. We spent hours and hours and hours and had all kinds of work done by staff and so forth. And I think we both talked that, who knows what would happen. I predicted that the courts would overrule it and it would be back on our table, and that we are in a period of uncertainty.

I accept the challenge of trying to find some way that we can work together to get this done. I am hopeful, but every time we have tried in the past, we have failed because of the fact that there hasn't been a willingness to compromise. And we are back at it. The environmental policy of the United States has been determined by the courts.

I am glad that Chris Korleski, our Director of the Ohio Environmental Protection Agency is here, because he can give us a perspective on what does this mean, really, to the States that have gone ahead and passed their implementation plans, and what do they do now? What are we going?

We know about the North Carolina suit, and they vacated the Clean Air InterState Rule. I think the people that brought the cause of action today, if you ask them, would say, what a revolting situation this turned out to be, because I don't think they expected the Court to strike down the whole thing. They wanted a little exemption to the thing and the court just came in and said, goodbye.

So we know that CAIR implemented a cap and trade program to provide significant reductions from fossil power utilities across 28 eastern States and the District of Columbia. Now that it is vacated, it also, we have the mercury rule to decide what are we are we going to do.

According to the EPA, when fully funded or implemented, CAIR would have reduced SO2 emissions in the participating States and D.C. by over 70 percent, and NOx emissions over 60 percent from 2003 levels. EPA predicted that by the year 2015 CAIR would have provided $85 billion to $100 billion in annual health care benefits at a cost of approximately $4 billion. EPA also estimated that CAIR would have annually prevented 17,000 premature deaths. Senator Carper has talked about deaths, but the prediction from the EPA was 17,000 premature deaths. Millions of lost work and school days and tens of thousands of non-fatal heart attacks and hospital admissions.

So it did something pretty significant. Indeed, CAIR and CAMR, combined with the Clean Air Visibility Rule were viewed as one of the most cost-effective set of environmental regulations in our history. In 2005, EPA estimated that the cost-benefit ration of these three rules to be greater than 20 to 1, with most of the benefits coming from the CAIR rule. While there were differences of opinion on how CAIR should be implemented, who should be included and whether the reduction requirements went far enough. The rule was generally supported by much of the regulated community, affected States and environmental groups. Indeed, Duke Energy, a petitioner in the litigation, didn't want to have the rule vacated, as I

mentioned. They just wanted to have it remanded to address how the SO2 allowances were distributed.

The Natural Resources Defense Council, NRDC, intervened on EPA's behalf in support of the rule. And Mr. Chairman, I would like to submit a statement from Duke Energy for the record with regard to what it was they tried to accomplish with that.

Senator CARPER. Without objection, so ordered.

[The referenced information follows:]

July 29, 2008

Statement of Duke Energy

For the United States Senate Committee on Environment and Public Works, Subcommittee on Clean Air and Nuclear Safety's hearing entitled:

"EPA's Clean Air Interstate Rule (CAIR): Recent Court Decision and its Implications."

The Clean Air Interstate Rule (CAIR) and the D.C. Circuit Court of Appeals' Decision in *North Carolina v EPA, No. 05-1244 July 11, 2008*

Background

Title I of the Clean Air Act (CAA) requires states to design their state implementation plans (SIPs) to eliminate their significant contribution to downwind nonattainment with the National Ambient Air Quality Standards (NAAQS). This requirement has been part of the CAA since the 1970s.

To address concerns about acid rain, in 1990 Congress amended the CAA and added an innovative cap-and-trade program to reduce national emissions of sulfur dioxide (SO_2) from utility units. Congress allotted allowances to utilities and decreed that one allowance permitted the emission of one ton of SO_2. This program is Title IV of the CAA.

Building on the success of the market-based SO_2 cap-and-trade program, President Bush proposed his Clear Skies legislation that would use cap-and-trade programs to reduce emissions of SO_2, nitrogen oxides (NO_X), and mercury from utility units. When Clear Skies failed in Congress, the Bush administration reintroduced the concepts as regulatory proposals -- the Clean Air Mercury Rule (CAMR) and the Interstate Air Quality Rule (IAQR), which later became the Clean Air Interstate Rule (CAIR)[1]. Both were promulgated as final rules in May, 2005.

The utility industry generally supported both rules, understanding that cap-and-trade programs provide market incentives to achieve reductions most cost effectively. To implement these rules EPA proposed regional budgets for SO_2 and NO_X and a nationwide budget for mercury. After the overall budgets were set, the rules allocated these budgets to the states, but the methodology used for SO_2 differed radically from the methods used for NO_X and mercury.

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[1] CAIR reduces emissions of precursors to ozone and particulate matter, the pollutants for which downwind areas are in nonattainment. CAIR was designed to allow states to satisfy their obligation to eliminate their significant contribution to downwind nonattainment via a market-based cap-and-trade program. CAIR did not create the obligation for states to revise their SIPs to address downwind nonattainment. That obligation exists independently of CAIR, and that obligation remains after CAIR's vacatur.

Rather than create new allowance allocations for SO_2 that would reflect current conditions, EPA proposed using the Title IV SO_2 allowances that had been allocated by Congress in 1990. In 1990 Congress used heat input from 1985-87 to set the allowance allocations. Thus, EPA proposed using data that was nearly twenty years old. In addition, EPA would not issue new allowances, but would require the surrender of additional Title IV allowances, thereby resulting in allowances that no longer permitted emission of a ton of SO_2 as Congress had decreed. Beginning in 2010, the first phase of CAIR's SO_2 program, utilities would have to surrender 2 Title IV SO_2 allowances for each ton of SO_2 emitted. With Phase 2 in 2015, utilities would have to surrender 2.86 Title IV SO_2 allowances for each ton of SO_2 emitted.

Duke Energy was one of several utilities that received relatively fewer allowances under Title IV than other utilities. This was due largely to its nuclear units brought on line just before and during the baseline period of 1985-87, resulting in temporarily reduced heat input, which was used to determine allowance allocations. Since 1990 economic growth in North Carolina and South Carolina has resulted in increased electrical demand, and therefore increased output from coal-fired units and increased emissions of SO_2. Other utilities similarly affected included South Carolina Electric & Gas and South Carolina Public Service Authority.

Duke Energy Comments on CAIR

During the comment periods on the IAQR/CAIR, Duke Energy actively commented, raising its concerns and repeatedly requesting that EPA establish a stand-alone SO_2 allowance program for CAIR, as EPA had proposed for NO_X and for mercury under the CAMR. On March 30, 2004 Duke Energy submitted comments and stated among other things:

> Duke Energy is generally supportive of efforts to develop a comprehensive regulation to further control SO_2 and NO_X emissions from power plants but only to the extent that the regulation is scientifically-based, includes reasonable reduction levels and compliance schedules, incorporates a flexible compliance mechanism (emissions trading) with a fair allocation of allowances, preserves fuel diversity, and doesn't simply add to the current regulatory burden on the power sector.

Duke Energy Comments March 30, 2004, page 1.

Duke emphasized its support of cap-and-trade programs and urged creation of a stand-alone SO_2 allowance program for CAIR.

> Duke Energy is a strong proponent of emissions trading (cap-and-trade) as the most cost-effective way of achieving a given level of reduction. However, the method in which a cap-and-trade program is implemented, principally, the way in which allowances are allocated, is critically important to its overall success. Therefore, a primary objective of any cap-and-trade program must be the

> equitable allocation of allowances to all affected sources. A cap-and-trade program that allocates allowances unfairly will diminish its overall success by imposing excessive and unwarranted costs on entities that receive an inequitable allocation.
>
> Duke Energy recommends that EPA develop an entirely new SO_2 trading program for the IAQR. EPA's proposal to use the obsolete Title IV SO_2 allowance allocations to establish state SO_2 caps, to allocate the state caps to individual sources, to use existing Title IV allowances for compliance at a greater than 1 for 1 surrender ratio, and to provide for the transfer of allowances to non-Title IV sources, in addition to being illegal, would result in a grossly inequitable distribution of allowances. Instead, EPA should set up an entirely new SO_2 trading program that has new allowances, apportions the regional SO_2 cap to the affected states based on recent (1999-2002) heat inputs, and allows states to decide how to distribute their caps among their affected sources, as EPA proposes to do for the NO_X portion of the IAQR. The attached comments include Duke Energy's specific recommendations for a new SO_2 trading program. We urge EPA to include Duke Energy's recommended approach for a new SO_2 trading program in its upcoming supplemental notice of proposed rulemaking as an alternative to EPA's proposed approach.

Duke Energy Comments March 30, 2004, pages 2-3.

On June 3, 2004 Duke Energy representative Kris Knudsen delivered similar oral comments at the EPA Public Hearing on the Supplemental Proposal on the Clean Air Interstate Rule in Alexandria, Virginia. At that hearing Mr. Knudsen stated:

> Duke Energy is generally supportive of EPA's approach to address future emissions reduction requirements through a cap and trade program, but we have continuing concerns with the technical and scientific bases for the proposed SO_2 and NO_X requirements of EPA's Clean Air Interstate Rule. Also, Duke Energy believes that the proposed SO_2 trading program described in the Supplemental Notice is not equitable, is contrary to law, and clearly violates the specific provisions of the Title IV Acid Rain program enacted by Congress.

Knudsen Comments, Written Version of Oral Comments, June 3, 2004.

Mr. Knudsen went on to say:

> With regard to SO_2 allowance allocations, Duke Energy is disappointed by the decision to exclude from the Supplemental Notice all mention of alternatives to EPA's plan to use Title IV SO_2 allowance allocations under the Clean Air Interstate Rule. Rather than enhance the public's opportunity to consider alternatives, the Supplemental Notice has taken options off the table and has refused to provide the public the chance to consider alternatives offered during the comment period on the original proposal. This is most unfortunate.

> EPA acknowledged that the Title IV allowance allocations it proposes to use to establish state SO_2 emissions caps do not take into account any of the significant changes and growth in the power sector since 1987. The changes that have occurred in the power sector make allocations based on Title IV inappropriate for purposes of a new, more stringent program intended to address ambient air quality in the Eastern U.S. Under EPA's proposed approach, entities in every state would essentially be regulated to different and widely varying emissions standards. The alternative approach that Duke Energy recommended in its written comments would eliminate this inequity. In addition, our approach retains an "input-based" system in comparison to other "output-based" approaches that have been advocated.
>
> In addition, EPA has acknowledged that it does not have authority to change statutory requirements. EPA's program changes Title IV in fundamental ways and is clearly contrary to the specific provisions of the law, subjecting a final rule to potential legal challenge which could delay or undermine achieving EPA's regional SO_2 reduction goals. Delaying the program may also undermine EPA's proposed mercury cap and trade program. Duke Energy has recommended to EPA that any regional program to address ambient air quality standards must be based on an entirely separate program that allows the Title IV allowances to remain intact.
>
> The decision not to even mention and invite comment on alternative methods for allocating SO_2 allowances under the Clean Air Interstate Rule is, in our view, unreasonable, and we call on EPA to immediately issue a revised Supplemental Notice that includes a full discussion of alternative SO_2 allocation methodologies and that solicits public input on those alternatives. A revised Supplemental Notice is sufficiently necessary that EPA should allow time in the rulemaking process to assure that public input is adequately addressed before finalizing the rule. There is no binding schedule that requires EPA to rush this rule to completion without full consideration of its equity and its financial impacts.

Id.

On July 26, 2004 Duke Energy once again submitted comments, this time in response to EPA's June 10, 2004 Supplemental Proposal (69 Fed. Reg.32684). Duke Energy repeated its oft-stated general support for the CAIR rule, but "once again recommend[ed] that EPA abandon its plan to use the Title IV SO_2 program and instead establish an entirely new SO_2 trading program for the CAIR as outlined in Duke Energy's March 30, 2004 comments." Duke Energy Comments Cover Letter July 26, 2004, pages 1-2.

Specifically Duke Energy recommended:

> that EPA develop an entirely new SO_2 trading program for the CAIR that uses newly issued SO_2 allowances that are distributed to the states based on recent heat input rather than rely on a 1985-1987 baseline that, by the time of CAIR

> implementation, will be over twenty years old and by EPA's own admission, is already no longer representative of the electric generating sector.

Duke Energy Comments July 26, 2004, page 1.

In response to EPA's request for comments regarding the use of a 2.86-to-1 surrender ratio in lieu of a 3-to-1 surrender ratio for Phase II of CAIR, Duke Energy stated:

> Both options suffer from the same legal flaw. The existing Clean Air Act does not, as a matter of law, allow EPA to require that State SIPs compel Title IV affected sources to surrender any Title IV allowances for CAIR compliance, and certainly not at a greater than 1-to-1 ratio. Duke Energy therefore does not support either ratio. The solution again is for EPA to abandon its attempt to use the Title IV SO_2 program under CAIR and instead establish an entirely new, independent and legal SO_2 trading program.

Id.

Despite Duke Energy's repeated pleas and warnings, EPA pressed ahead to promulgate the CAIR SO_2 program in violation of the CAA.

Duke Energy was one of many petitioners to the D.C. Circuit Court of Appeals to review CAIR who were lumped together as the "SO_2 petitioners." Other SO_2 petitioners included waste-coal units that were exempted by Congress from Title IV, thereby receiving no allowances, but that were compelled by EPA to acquire Title IV SO_2 allowances as part of CAIR.[2]

The SO_2 petitioners' brief was the result of compromise between all of the SO_2 petitioners, but did include a request to vacate the SO_2 allowance allocation portion of CAIR. Typically the D.C. Circuit Court of Appeals will remand a rule if it finds that EPA acted arbitrarily and capriciously, and vacate the rule if it finds that EPA violated the Act. As pointed out numerous times in advance by Duke Energy, SO_2 petitioners' argument was that EPA violated the Clean Air Act. Thus, a request to vacate the CAIR SO_2 rules was appropriate.

However, the fatal blow to CAIR came not from arguments about the SO_2 program, but from the Court's holding that a regional cap and trade program could not lawfully fulfill states' obligations under CAA § 110(a)(2)(D) to eliminate their significant contribution to downwind nonattainment, because CAIR allows sources that are causing the nonattainment to buy allowances rather than requiring them to reduce their emissions. As a result of this holding, which had nothing to do with SO_2 petitioners' arguments, interstate trading as compliance with CAA § 110(a)(2)(D) appears dead.

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[2] Other SO2 petitioners included Inter-Power/AhlCon Partners, AES Corporation, FPL Group, Inc., South Carolina Electric & Gas Company, ARIPPA, Minnesota Power, a Division of ALLETE, Inc., Northern Indiana Public Service Company, South Carolina Public Service Authority, and JEA (an independent agency of the City of Jacksonville, Florida)

Ironically, CAIR and CAMR were the regulatory reincarnations of President Bush's Clear Skies legislation that would have been immune from the regulatory infirmities that killed CAIR and CAMR if enacted as laws, rather than promulgated as rules.

Cap-and-Trade After *North Carolina v EPA*

The Court's decision in *North Carolina v EPA* casts serious doubt on whether EPA could ever promulgate a cap-and-trade rule that fulfills states' obligations to eliminate their significant contribution to downwind nonattainment under CAA § 110(a)(2)(D). Nevertheless, Duke Energy still strongly supports market-based programs that include equitable allocations of burdens and benefits. Congress should support market-based solutions to air pollution.

Table 1: Cost Effectivness Summary

Source Category	NOx Emission Control - Cost Effectiveness ($/ton)	SO_2 Emission Control - Cost Effectiveness ($/ton)
Electrical Generating Units (EGU's)[1]	SCR @ 80% reduction - $1,600	Wet FGD @ 90 % reduction - $1,000
ICI Boilers 250 mmBtu > (non-EGU)[2]	SCR @ 80% reduction. - $1,600 - $4,800	Dry FGD @ 85% reduction. - $1,500 - $4,000
	LNB @ 50% reduction. - $600 - $2,500	Wet FGD @ 90% reduction. - $1,400 - $3,800
Combustion Turbines[3]	Dry Low NOx Burners @ 70% reduction. - $1,000 - $2,000	SO2 controls not evaluated in Ohio for this source category.
	Water and/or Steam Injection @ 50% reduction - $2,000 - $7,000	
	SCR @ 80% reduction. - $3,700 - $13,000	
Internal Combustion Engines[3]	Low Emission Combustion @ 80% reduction. - < $1,000	SO2 controls not evaluated in Ohio for this source category.
	SCR @ 80% reduction. - $1,000	
Mobile Sources[4]	Low Reid Vapor Pressure Fuel (7.8 RVP) - 1 to 3 cents/gallon increase at the refinery	SO2 controls not evaluated in Ohio for this source category.

References

[1]Federal Registar, Vol 70, NO 91 dated May 12, 2005 (Final CAIR rule)

[2]The ACT document from EPA in 1994 (EPA-453/R-94-022); The Air Pollution Control Technology Fact Sheets from EPA (EPA-452/F-03-031, EPA-452/F-03-032, EPA-452/F-03-034); and the MACTEC Midwest RPO BART Engineering Analysis March 30, 2005.

[3] NESCAUM. "Executive Summary: Status Report on NOx Controls for: Gas Turbines, Cement Kilns, Industrial Boilers, Internal Combustion Engines. Technologies and Cost Effectiveness," December 2000.

[4]The estimated 1 to 3 cent price increase was provide by industry source.

LNB: Low NOx Burner
FGD: Flue Glas Desulfurization
SCR: Selective Catalytic Reduction

Senator VOINOVICH. Now that it has been vacated, there is no comprehensive and cost-effective policy to address NAAQs compliance, untangle the complicated web of overlapping and redundant regulations affecting power plants and to bring about the public health benefits we had hoped to achieve.

This situation is precisely what I feared, and is why Senator Inhofe and I worked so hard to move the Clear Skies Act during the last Congress. I already mentioned that.

As most of you recall, Clear Skies was more or less the legislative equivalent to CAIR and CAMR. While Clear Skies did not go far enough for some, passing that legislation would have at least locked into law the emission reduction requirements that have now been invalidated by the Court. Now that the rule has been overturned, we have an uncertain and chaotic situation that I believe is incumbent upon the Congress to fix. I pledge publicly to work with Senator Carper and the other members of this Committee to see if we cannot get some legislation done before the end of the year, so there is not chaos, so there is certainty and we can move forward as a Country in reducing NOx, SOx, mercury and do it in a way that looks at not only the health benefits but also the impact that it has overall on our society in terms of our economy.

[The prepared statement of Senator Voinovich follows:]

STATEMENT OF HON, GEORGE V. VOINOVICH, U.S. SENATOR
FROM THE STATE OF OHIO

Mr. Chairman,

I thank you for holding today's hearing on this important issue. I thank the witnesses for being here today and look forward to their testimony. Today's panel includes Chris Korleski, Director of the Ohio Environmental Protection Agency. I'm glad you're here, Chris. I am anxious to hear how the court's decision will impact Ohio. As you know, issues now before us have great bearing on Ohio and I look forward to your testimony.

Earlier this month, in North Carolina v EPA the U.S. Court of Appeals for the DC Circuit vacated the Clean Air InterState Rule (CAIR). The decision undermines years of work and unravels the Administration's attempt to implement a comprehensive air quality strategy to meet the combined goals of: bringing much of the country into attainment with the ozone and fine particulate matter National Ambient Air Quality Standards (NAAQS); achieving reductions in mercury emissions from coal-fired power plants; addressing regional haze impacts from power plants; and, responding to State petitions to control upwind sources of ozone and fine particulates under Section 126 of the Clean Air Act.

Generally, CAIR implemented a cap and trade program to provide significant reductions in sulfur dioxide (SO_2) and nitrogen oxide (NO_x) emissions from fossil fuel powered utilities across 28 eastern states and the District of Columbia.

CAIR, along with the also now vacated Clean Air Mercury Rule (CAMR), was an attempt to avoid piecemeal implementation of multiple emissions control obligations and to attain air quality standards in a cost effective manner. Among other things, coordinating the compliance obligations for all three air pollutants (SO_2 NO and mercury) promoted efficiency, enabling many companies to meet a substantial portion of mercury emission reduction obligations through the co-benefits achieved by installing pollution controls to reduce SO_2 and NO_x (scrubbers and SCRs).

According to EPA, when fully implemented, CAIR would have reduced SO_2 emissions in the participating states and D.C. by over 70 percent, and NO_x emissions by over 60 percent, from 2003 levels. EPA predicted that by the year 2015, CAIR would have provided $85 to $100 billion in annual health benefits, at a cost of approximately $4 billion. EPA also estimated CAIR would have annually prevented 17,000 premature deaths, millions of lost work and school days, and tens of thousands of non-fatal heart attacks and hospital admissions.

Indeed, CAIR and CAMR, combined with the Clean Air Visibility Rule (CAVR) were viewed as one of the most cost effective set of environmental regulations in history. In 2005, EPA estimated that the cost benefit ratio of these three rules to be greater than 20 to 1, with most of the benefits coming from the CAIR rule. And

while there were differences of opinion on how CAIR should be implemented, who should be included, and whether the reduction requirements went far enough, the rule was generally supported by much of the regulated community, affected states and environmental groups. Indeed, Duke Energy, a petitioner in the litigation didn't want to have the rule vacated, but wanted to have it remanded to address how the SO_2 allowances were distributed; the Natural Resources Defense Counsel (NRDC) intervened on EPA's behalf in support of the rule. (Mr. Chairman, I'd like to submit a statement from Duke Energy for the record.)

Now that CAIR has been vacated, there is no comprehensive and cost effective policy to address NAAQS compliance, untangle the complicated web of overlapping and redundant regulations affecting power plants and to bring about the public health benefits we had hoped to achieve. This situation is precisely what I feared and is why Senator Inhofe and I worked so hard to move the Clear Skies Act during the last Congress. As most of you will recall, Clear Skies was—more or less—the legislative equivalent to CAIR and CAMR. And while Clear Skies did not go far enough for some, passing that legislation would have at least locked in to law the emission reduction requirements that have now been invalidated by the court. Now that the rule has been overturned, we have an uncertain and chaotic situation that I believe it is incumbent upon this Congress to fix.

Thank you.

Senator CARPER. I look forward to working with you and try, try again, we will make another run at this. I think the stakes are even higher now than they are when we took a run at this, a very serious run at this about 4 years ago. You have my pledge to work with you in the harness.

Senator Lieberman, I believe you are next.

OPENING STATEMENT OF HON. JOSEPH I. LIEBERMAN, U.S. SENATOR FROM THE STATE OF CONNECTICUT

Senator LIEBERMAN. Thanks, Mr. Chairman. Thanks to you and Senator Voinovich for holding this important hearing this morning.

The EPA's Clean Air InterState Rule, CAIR, was one of those rare moments in recent times in Washington where you had, with regard to environmental matters, where you had, it seemed to me, the overwhelming majority of regulated entities in the overwhelming majority of environmental groups supporting the overwhelming majority of parts of the CAIR rule. As Senator Voinovich indicated, some of the plaintiffs in the action in the courts had concerns about pieces of it. This is always a danger when you go to a court, you are not quite sure what the court might do in the exercise of its own individual judgment. This district circuit panel acted, if I may misappropriate an expression in a way that both shocked a lot of us and I suppose created an awe about what we were going to do, a lot of hard work by a lot of people may well have been, as my mother used to say, thrown on the window on that day.

And the hopes that we had of really making progress in the reduction of these air pollutants was also put in jeopardy, unless we figure out a way to act together now. The decision was July 11th. Until that date, we were looking forward, as a result of CAIR, to exactly the positive public health effects that my colleagues have referred to, thousands of fewer premature deaths, thousands of fewer heart attacks, for instance, per year, as a result of the CAIR rule. Those projects are from science-based EPA testimony. Up until that decision on July 11th, if I may be a bit parochial, seven of Connecticut's eight counties were looking forward to coming in line with important Federal air quality standards by 2015. That is something we simply can't do on our own because of all the move-

ment of air into and out of Connecticut. And the seven Connecticut counties are joined by more than 100 other counties who similarly would have been benefited and whose people would have been protected from air pollution throughout the Country.

It is worth saying that in the 3-years before this court decision on July 11th, owners of fossil fuel fired power plants all across the eastern part of the United States spent billions of dollars buying and installing pollution control equipment designed to bring their facilities into compliance with CAIR, with the Clean Air InterState Rule. For at least two of those 3 years, power plant owners had also been buying and saving emission allowances under CAIR's emission trading system. Private energy companies and public electric utilities woke up on July 12th, the day after the decision, to learn that billions of dollars that they had convinced shareholders, lenders and ratepayers to spend, were now effectively stranded, perhaps at worst, wasted. They woke up to find that emission allowances they had prudently bought and saved were now worth a lot less than what they had paid for them.

In all these alarming respects, the D.C. Circuit Court's sudden invalidation, and unexpected, I would say, invalidation of the CAIR program has really hurt in a lot of ways. It could, if there is not some further action, get a lot worse. I know there are a lot of people, government officials, business leaders, environmentalists, lawyers, now trying to figure out how to devise alternative ways for the litigants, the EPA or Congress to reinState most of the CAIR program that most people, as I said at the beginning, agree on. I think it is very important that that way continue.

I thank you, Mr. Chairman, and Senator Voinovich, for what I take to be your bold statement that if there is not some other way that this can be fixed quickly, that Congress must and will at under the leadership of this Subcommittee, to try to achieve all that CAIR was going to achieve, based on the consensus among the parties involved that that rule expressed.

Thank you.

[The prepared statement of Senator Lieberman follows:]

STATEMENT OF HON. JOSEPH I. LIEBERMAN, U.S. SENATOR FROM THE STATE OF CONNECTICUT

Thank you, Mr. Chairman. And thank you very much for holding this important hearing. Up until July 11, we as a nation were looking forward to preventing—starting as early as 2 years from now—19,000 heart attacks and 13,000 premature deaths every year.

Up until July 11, seven of Connecticut's eight counties— and more than a hundred others in the country— were looking forward to coming into line with important Federal air-quality standards by 2015.

In the 3 years leading up to July 11, owners of fossil fuel-fired power plants all across the eastern half of the United States spent billions of dollars buying and installing pollution control equipment designed to bring those facilities into compliance with the Clean Air InterState Rule.

For at least two of those 3 years, power-plant owners had been buying and saving emission allowances under CAIR's emission trading system. When, on July 11, the DC Circuit panel invalidated CAIR in its entirety, we lost the program that was going to prevent those 13,000 premature deaths each year. We lost the program that was going to dramatically improve air quality for tens of millions of Americans while lightening a regulatory burden carried by countless State and local governments.

And both private energy companies and public electric utilities woke up on July 12 to learn that billions of dollars that they had convinced shareholders, lenders,

and ratepayers to spend was now potentially stranded. They woke up to find that emission allowances that they had prudently bought and saved were now worth substantially less than what they had paid for them.

In all these alarming respects, the court's sudden invalidation of the CAIR program is potentially disastrous.

I know that a lot of government officials, business-people, and lawyers are now trying to devise various alternative ways that the litigants, the EPA, or Congress might quickly reinState the CAIR program. I am glad they are. I am eager to start learning about the options. And I am very willing, Mr. Chairman and Senator Voinovich, to help in whatever way I can to reinState the pollution reductions, bureaucratic streamlining, and clarity for industry that the July 11 decision has jeopardized.

Senator CARPER. Senator, thank you for your statement.

I also just want to say personally how much I appreciate the great leadership you and Senator Warner and Senator Boxer and others have shown on climate change. We thank you for that. I want to thank you also for being a co-sponsor, not just of our Clean Air Planning Act, but also of Senator Alexander's sister proposal, a very similar proposal. Thank you for all of that.

Senator Inhofe, welcome.

OPENING STATEMENT OF HON. JAMES M. INHOFE, U.S. SENATOR FROM THE STATE OF OKLAHOMA

Senator INHOFE. Thank you, Mr. Chairman. Again, I will join everyone else in thanking both Senators Carper and Voinovich for this very timely hearing. You acted pretty quickly after this rule came.

While I welcome the opportunity to discuss the impacts and where we might go from here to achieve the reductions that are needed in real criteria pollutants that have direct adverse health effects, it is very unfortunate that the set of circumstances that brought us to this point has taken place. Let me just repeat something I said sitting in this chair 3 years ago, "CAIR is significantly more vulnerable to court challenges than Clear Skies would have been and will undoubtedly be held up not unlike the 1997 air quality standards." This latest round of litigation demonstrates the need for a strong national Clear Skies law more than ever. Today, here we are, and unfortunately, the statement has rung true, and as I stated back then, trying to litigate the way to cleaner air only delays progress, often yields little or no results and wastes millions of taxpayers' dollars, as Senator Lieberman has mentioned.

Now we are faced with the full vacating of the entire rule, which ironically enough is a litigation result that no party actually wanted. In addition, we face an uncertain regulatory future. Most importantly, we have thrown into jeopardy the health and environmental benefits that CAIR would have achieved, estimated to have benefits over 25 times greater than the cost by EPA. I also note that this decision certainly doesn't bode well for those folks who say we can structure flexibility into regulating carbon under the Clean Air Act.

As I said in the beginning, none of these chaotic results needed to happen. Passing the Clear Skies legislation would actually have done far more to help State and local governments comply with the new air quality standards by providing greater certainty than implementing the Clean Air InterState Rule. Now we are left with a laundry list of uncertainty, and very costly uncertainty, most im-

portantly for States who are either in the final planning stages or recently submitted SIPs that did rely on CAIR to finally achieve attainment for the 1997 ozone and PM National Ambient Air Quality Standards. Add to this the potential direct impacts the rule had on mercury reductions, conformity, new source review, and its effects on reductions in the regional haze rule, which may impact my State of Oklahoma. And we have a colossal mess on our hands.

Clear Skies would have proposed to put in place an integrated set of emissions controls, requirements with coordinated compliance deadlines. It would have avoided piecemeal implementation of multiple emissions control obligations, and was essential if electric power generators were to achieve compliance in the most economically efficient manner possible. Among other things, coordinating the compliance deadlines for all three air pollutants, SOx, NOx and mercury, promoted economic efficiency including enabling many companies to meet a substantial portion of mercury emissions reductions obligations through the eco-benefits achieved by installing pollution controls to reduce SO2 and SOx and NOx. Now once again we are left with the status quo, and I think both sides agree that the status quo is not acceptable. It means more litigation, more costs and less certainty. And less certainty means a lot of costs. I won't go into what has already been identified by Senator Voinovich and Senator Lieberman in terms of the EPA's estimate on the very large numbers of premature deaths that could have been avoided, non-fatal heart attacks, the hospital emissions and all the things that we know were so great. We suspected that would happen, we stated that back then.

So here we are back before this Committee, because these benefits were held hostage, first legislatively here in the Senate due to the issue of CO2 caps and now because of the litigation by some disgruntled parties. While this rule was not perfect in any way, it was progress, and an agreement among various stakeholders, something that rarely happens in this area. We had a rule in place that started guaranteeing real reductions in health benefits starting on January 1st of 2009. Now we are here in search of another solution to the problem.

So I don't know, it was very frustrating to me, I have to join Senator Voinovich in expressing my frustration that back when we had Clear Skies legislation, a fix, the largest reduction proposed by any President in the history of this Country, and we had a chance to do it with SOx and NOx and mercury and it was held hostage because everybody wanted CO2 to be in on the deal and it could have been handled separately. So I regret that, Mr. Chairman, and here we are. Let's try to go forward from here.

Senator CARPER. That is the spirit, and we will.

Senator Clinton, I don't know if Senator Clinton recalls this, but a couple of years ago, when you and I came here to the Senate, I think one of our first hearings, full Committee hearing here on EPW was a confirmation hearing for Governor Christie Todd Whitman. She had been nominated by the President to head up EPA. And in part, to help spearhead and lead us to the option of a four-pollutant strategy.

And there were lot of cameras here in the room where Mr. McLean is sitting today, a lot of clicking noises as she came in and

took her seat. And then at that moment, you entered the room and sat down right next to me, and immediately 400 cameras turned to you, and in the room all I could hear was the clicking of cameras. I turned to you and I said, I know that is a lot of cameras, but you will get used to it.

[Laughter.]

Senator CARPER. I know in the last 18 months, I am sure, I don't know if you have gotten used to it, but you had one heck of a lot of cameras.

I just want to say as a friend how proud I am of you and the way that you handled yourself on the campaign trail and worked your heart out. We all applaud you and I am thrilled that you are back and look forward to working with you and very much appreciate your support of our multi-pollutant legislation. Thank you so much, and you are recognized.

OPENING STATEMENT OF HON. HILLARY RODHAM CLINTON, U.S. SENATOR FROM THE STATE OF NEW YORK

Senator CLINTON. Thank you so much, Mr. Chairman, and thanks for your dedication. I remember very well that you have been a tireless advocate for reducing power plant pollution ever since you came to the Senate, and your leadership continues with this hearing. I join with all of my colleagues to hope that we are going to come to some resolution. Because we find ourselves in a very unexpected and difficult position with the consequences of the D.C. Circuit Court's decision to vacate the Clean Air InterState Rule.

I also want to welcome Mr. Jared Snyder, who is representing New York and other downwind States on the second panel.

It is critically important here, and you have already heard from my friends and colleagues who have already spoken about this, we have a very difficult dilemma. And it is not partisan in terms of political parties, so much as it is, I would argue, geographic to some extent. And maybe a little philosophical. We know that the Clean Air rule wasn't perfect. It was trending in the direction of trying to help us get some of these pollutants under control and save the lives and alleviate suffering that we think would have flowed from that. And it wouldn't have just improved human health, because it would also have affected positively the health of the mountains, lakes, farms and wildlife in New York and many other States.

Just last week we had a new report detailing the continuing toll of acid rain and other air pollution on eastern ecosystems. It was released by the Nature Conservancy and the Cary Institute of Ecosystem Studies located in Milbrook, New York. And it talked about how ground level ozone harms both natural ecosystems and agricultural crops. High levels of deposited mercury continue to have negative impacts on wildlife. Acid rain is making sensitive lakes and streams uninhabitable for fish. And excess nitrogen in part from air pollution is harming waterways from the Chesapeake to the Narragansett Bay.

Now, some of these ecosystem impacts double back on human health. Mercury, as we know, is a potent neurotoxin. And in New York, high levels of mercury in fish due to air pollution have

caused the State Department of Health to recommend that infants, children under 15 and women of child-bearing age should not eat even a single serving of fish caught from 93 lakes and 265 miles of river in New York. And last, of course, we know that power plants are a major contributor to the urgent problem of global warming, accounting for about 40 percent of U.S. greenhouse gas emissions.

Now, the CAIR rule would not have solved all of these problems. In fact, the NRDC testimony we will hear later today underscores the point that to some extent, CAIR was in fact designed to avoid solving some of these problems. It was designed to dovetail with the EPA's plan to ignore the Clean Air Act and delay action on mercury pollution from power plants. It was designed to delay reductions in NOx and SOx in accordance with industry wishes. And it wasn't designed to do anything about global warming.

For all these reasons, I was at the time critical of both CAIR and the Clean Skies legislation that it was based on. Yet, since CAIR was finalized in 2005, utilities have been making and planning billions of dollars of investment in pollution control equipment, based on the expectation of having to comply with CAIR. In turn, New York and other States have been relying on these new pollution controls to help us attain ozone and particular matter standards.

The Court's decision to vacate CAIR leaves States and utilities with uncertainty and confusion about the path forward. It is already financially punishing utilities like PPL who acted quickly and have already installed pollution controls. I have always felt, certainly since I have sat on this Committee, that we have done this backward. We should have figured out what incentives and rewards we could provide to utilities to move them more quickly. We put into place CAIR, some utilities moved, and now they are left holding the bag.

So here we are, 8 years down the road, and I believe that the way forward is comprehensive legislation to reduce all four pollutants. I am proud to sponsor the Chairman's Clean Air Planning Act. I also am a co-sponsor of Senator Sanders' Clean Power Act, the successor to Senator Jeffords' bill that I voted for as a member of this Committee in 2002.

Now, I appreciate the concerns of some members of this Committee about the cost of pollution controls. But I am convinced that there are economic ways of ameliorating those costs for utilities, and we just cannot wait any longer. And if you are downwind State, like we are, we are getting the worst of both worlds.

So I hope, Mr. Chairman, that we will do whatever we can, working together, to try to take on this issue. It is my initial judgment that rather than pursuing an inadequate short-term fix we should get to work and hopefully with a new Administration, immediately move to comprehensive bipartisan legislation to sharply reduce NO_x, SO_x mercury and carbon dioxide emissions from our power plants.

Senator CARPER. Senator Clinton, thank you very much for your statement.

Our lead-off witness joins us today from EPA. Mr. McLean, just tell us a little bit about how long you have been at EPA and the nature of your responsibilities there. Just very briefly.

Mr. MCLEAN. I have been at EPA since 1972. At the time I didn't think I was going to be there that long, but it is a very challenging and rewarding institution. I have been involved in many of the clean air issues since that time, including the 1989–1990 period, when I worked with staff of this Committee on the Title IV Acid Rain provisions, which have turned out to be one of the most successful air quality programs we have had in this Country.

Senator CARPER. Good. I spoke with Administrator Johnson last week about this hearing and urged him, if he couldn't come himself, to send somebody who is knowledgeable and would be a very good expert witness. My staff tells me that EPA has sent the right person. So welcome, we are delighted that you are here. Please proceed. You will have roughly 5 minutes for your statement. If it goes a little bit long, that is OK, if it goes really long, that is not OK, I will reign you in.

[Laughter.]

Senator CARPER. But please proceed. Your entire statement will be made part of the record.

STATEMENT OF BRIAN MCLEAN, DIRECTOR, OFFICE OF ATMOSPHERIC PROGRAMS, OFFICE AND AIR AND RADIATION, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Mr. MCLEAN. Thank you.

Mr. Chairman and members of the Subcommittee, thank you for the opportunity to testify today on EPA's Clean Air InterState Rule, or CAIR and our preliminary assessment of how the recent D.C. Circuit Court decision vacating that rule may affect EPA's air quality programs.

CAIR 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 and ozone standards. It is the linchpin of EPA's program to improve air quality, reduce regional haze and further reduce acid rain, and our most significant action to protect public health and the environment since the passage of the 1990 Clean Air Act amendments. Over the last 20 years, first with acid rain and then with ozone and fine particles and regional haze, the States, EPA and industry have come to appreciate the value of a coordinated, multi-State approach to these problems.

CAIR, along with other pollution control efforts, was poised to help over 450 counties in the eastern United States meet the national air quality standards for ozone and fine particles. 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 that downwind States could count on in preparing their (SIPs) plans.

The U.S. power sector, the focus of CAIR, is unique in that through the electricity grid, production (and accompanying emissions) can be rapidly shifted from one source to another, and one State to another, in the course of meeting electricity demand. In response to CAIR, the power industry had committed billions of dollars in add-on pollution control technology to meet the stringent new caps for SO_2 and NO_x in the CAIR rule. By 2020, in fact, about

80 percent of coal-fired capacity in the CAIR region was projected to have such equipment.

By the year 2015, as you have noted, CAIR would dramatically reduce emissions and deliver $85 billion to $100 billion in annual health benefits, preventing 17,000 premature deaths annually and millions of lost work and school days. It would provide nearly $2 billion worth of annual visibility benefits in our national parks in the East, and significantly reduce the number of acidic lakes and streams in the Northeast. As early as 2010, just 2 years from now, we projected the avoidance of about 13,000 premature deaths from this program.

As you know, on July 11th, the D.C. Circuit issued its ruling on the petitions for review of CAIR. The Court's opinion was mixed. It ruled for EPA on some issues and against us on other issues. Overall, however, the Court decided to vacate the entire rule and the associated Federal implementation plan.

EPA is continuing to evaluate its litigation options. However, assuming the decision stands, it will have a ripple effect that will delay, if not impede, significant clean air programs and activities throughout the eastern United States. Since in many cases, State plans to attain the ozone and fine particle standards relied heavily on CAIR, they will likely need to be revised. States will likely have to reexamine the reasonable progress goals of the regional haze plans, develop alternative emission reduction strategies, and make individual best available retrofit technology determinations for certain power plants.

After States missed the July 2000 Clean Air Act deadline regarding interState transport, EPA issued a Federal implementation plan (FIP) for all States covered by CAIR. The Court decision vacated the CAIR FIP, but not the findings of failure to submit. Therefore, EPA remains obligated to issue FIPs based on those findings and the statutory timeframe for doing so has now expired, in that it was May 2007.

In 1998, EPA issued a rule known as the NOx SIP Call, to mitigate significant transport of nitrogen oxides critical in forming ozone. All 20 States and the District of Columbia covered by that NOx SIP Call chose to participate in an optional NOx trading program. The CAIR rulemaking in many States discontinued that trading program after this year's ozone season. We are now evaluating the impact on the 2009 ozone season, which is rapidly approaching.

While it is too early to assess fully the impact of this decision, we have many concerns, from the precipitous declines in allowance values that could lead to units slowing installations or abandoning pollution controls that could in turn increase emissions, to possible financial losses to those who acted early to meet CAIR's compliance deadlines. But we are most concerned with the possible air quality impacts on ecosystems and human health.

Another concern is the implication of the Court decision on the future of cap and trade programs. Cap and trade has been an extremely effective mechanism, delivering broad emission reductions with certainty that specific emission levels will be maintained, regulatory certainty and compliance flexibility for affected sources, 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. It may also make environmental protection more expensive and thus, more difficult to achieve.

With CAIR, we believed we were properly implementing the Clean Air Act and faithfully following precedent. In the wake of the Court's decision, EPA and the affected States 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.

This concludes my oral statement. I would be happy to answer questions.

[The prepared statement of Mr. McLean follows:]

TESTIMONY OF
BRIAN MCLEAN
DIRECTOR, OFFICE OF ATMOSPHERIC PROGRAMS
OFFICE OF AIR AND RADIATION
U.S. ENVIRONMENTAL PROTECTION AGENCY
BEFORE THE
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS
SUBCOMMITTEE ON CLEAN AIR AND NUCLEAR SAFETY
UNITED STATES SENATE
July 29, 2008

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.

Senator Boxer

Question # 1. What steps is EPA taking to require and/or encourage power plants to continue installation and operation of air pollution control equipment that had been intended for purposes of compliance with CAIR?

Until the court issues a mandate and any further petitions by any of the parties are resolved, the future for the CAIR program is unclear. In the meantime, EPA is continuing to gather information on the status of the installation and operation of pollution control equipment intended for CAIR compliance purposes and on the status of state plans to address interstate transport and attainment requirements. We are also taking steps to be ready to administer the 2009 ozone season NOx Budget Trading Program (NBP) for power plants covered by the NOx SIP Call in case the CAIR program cannot be implemented. We were intending for the CAIR ozone season NOx trading program to replace the NBP in 2009. (Note: The NBP does not limit SO_2 emissions or annual NOx emissions.) We have not been encouraging power plants to continue with control activities related to CAIR or taking any other actions that are inconsistent with the court decision; however, we are aware that some states and other organizations are working with power companies to assure that emission reductions take place and we are generally supportive of the goals of these efforts.

Boxer Question # 2. What other regulatory authorities are available to EPA and/or the states to seek the emissions reductions that would have been achieved under CAIR, and what actions is EPA taking or planning under those authorities?

CAIR would have resulted in significant reductions of both NOx and SO_2 in the eastern United States. Because all states had decided to have their sources participate in the CAIR trading programs, these reductions would have come from sources in the electric power generating industry. NOx and SO_2 emissions from electric generating units (EGUs) may be regulated by EPA and/or the states under other mechanisms described below. EPA is considering whether it could use other Clean Air Act (CAA) mechanisms to reduce emissions of NOx and SO_2 from sources that would have been included in the CAIR trading programs. At this time, EPA has not yet made any final determinations as to what regulatory path(s) forward we will pursue.

EGU emissions of NOx and SO_2 may be regulated by states and/or EPA through several CAA mechanisms. First, emissions of these pollutants may be regulated because they contain or are precursors to pollutants for which EPA has established National Ambient Air Quality Standards (NAAQS) under section 109 of the CAA. Under section 110 of the CAA, States have the primary responsibility for ensuring that all areas of the State attain the NAAQS as expeditiously as practicable. To do so, states are required to develop state implementation plans (SIPs) that impose controls on emission sources within their state necessary to meet those standards. These controls may include, but are not limited to, reasonably available control technologies (RACT) on sources in nonattainment areas. (Note: Approximately 62% of the EGUs covered by the CAIR are located outside areas that are designated nonattainment for the $PM_{2.5}$ NAAQS.) If states fail to submit SIPs that demonstrate timely attainment of the NAAQS or where EPA disapproves such SIPs, EPA must promulgate federal implementation plans (FIPs) that demonstrate timely attainment including implementing RACT on appropriate sources such as EGUs. In addition, States have a continuing obligation to eliminate significant contribution to

downwind nonattainment pursuant to section 110(a)(2)(D)(i)(I) of the Act. This is the authority EPA used to issue both CAIR and the NOx SIP call. EPA is committed to working with states to help achieve this goal and to providing appropriate technical support and assistance as they work to address transport issues in their SIPs. EPA has already found that states in the CAIR region failed to meet this obligation in a timely manner with respect to the 1997 8-hour ozone and/or $PM_{2.5}$ standards, and is required to develop FIPs addressing this requirement. EPA had met this FIP obligation by promulgating the CAIR FIP but, if the court issues a mandate vacating CAIR, we would have to develop separate FIPs to address interstate transport of SO_2 and NOx. If fully reinstated, the NOx Budget Trading Program may fulfill this requirement for some states for NOx transport affecting downwind ozone violations (see answers to Boxer #1 and Clinton #2).

In addition to the requirements above, emissions of SO_2 and NOx from certain new, modified, and reconstructed EGU sources may also be subject to the new source review requirements under parts C and D of Subchapter I of the CAA. Certain such sources may also be subject to the New Source Performance Standards promulgated pursuant to section 111 of the CAA. In addition, certain EGU sources may be required by section 169A of the CAA to install the best available retrofit technology (BART) for the purpose of eliminating or reducing visibility impairment.

Finally, section 126 of the CAA provides a mechanism for States or other political subdivisions to petition the Administrator for a finding that stationary sources in another state violate the section 110(a)(2)(D)(i)(I) prohibition against significantly contributing to nonattainment or interfering with maintenance of the NAAQS in any other State. If EPA makes such a finding it could establish emission limitations on specific sources using compliance schedules that would allow the sources' continued operation.

Question # 3. Your testimony noted the requirement for states to demonstrate attainment with air quality standards for ozone and fine particulate matter prior to upcoming statutory deadlines, saying that "[t]hese attainment demonstration components of the [State Implementation Plans] will likely need to be revised to show how the states will achieve the emission reductions previously required by CAIR."

Provide copies of data compilations and analyses conducted by or available to EPA reflecting the impact that the D.C. Circuit's decision vacating CAIR may have on the ability of states to demonstrate attainment, assuming the CAIR decision is not reversed or modified.

EPA is still in the process of analyzing the impact of a CAIR vacatur, should the mandate ultimately issue and become final, on numerous clean air programs and regulations. However, EPA has been conducting a qualitative survey on the status of SIPs.

For the $PM_{2.5}$ NAAQS, 55 $PM_{2.5}$ attainment demonstration SIPs for nonattainment areas in the CAIR region were required to be submitted to EPA in April 2008. We have received only 7 SIPs thus far. It is our understanding that all 55 areas were intending to rely on emissions reductions delivered by the CAIR to some degree.

For the ozone NAAQS, of the 32 ozone attainment demonstration SIPs for nonattainment areas in the eastern US, 25 were required to be submitted to EPA in June 2007. An additional 7 SIPs have later due dates (2008 – 2009) because they have been reclassified to reflect a more severe ozone problem. We have received 22 SIPs thus far. All 22 rely on emissions reductions delivered by the CAIR to some degree.

The Lake Michigan Air Directors Consortium (LADCO), which represents the states of Illinois, Indiana, Michigan, Ohio, and Wisconsin, has been conducting new modeling to assess the air quality impacts of the CAIR vacatur under several scenarios for 2009, 2012, and 2018. These analyses evaluated air quality with respect to the 1997 8-hour ozone and $PM_{2.5}$ annual standards as well as for the 2008 revised ozone standards, the $PM_{2.5}$ 24-hour standard, and regional haze. Presentations summarizing their findings are attached.

Question # 4. EPA has pending two proposed rules relating to power plant emissions: (i) "Prevention of Significant Deterioration, Nonattainment New Source Review, and New Source Performance Standards: Emissions Test for Electric Generating Units," 70 Fed. Reg. 61081 (October 20, 2005) and (ii) "Supplemental Notice of Proposed Rulemaking for Prevention of Significant Deterioration and Nonattainment New Source Review: Emission Increases for Electric Generating Units," 72 Fed. Reg. 26,202 (May 8, 2007). These proposals relied on the reductions to be achieved by CAIR as a rationale for reducing New Source Review (NSR) and related requirements applicable to power plants.

a. *Provide detailed quantifications and analyses of the impact of CAIR being vacated, and the associated loss of emissions reductions and control device installations, on the emissions scenarios assumed or discussed in each of the proposed rules referenced above.*

EPA is still in the process of analyzing the impact of a CAIR vacatur, should the mandate ultimately issue and become final, on numerous clean air programs and regulations. The "NSR EGU" proposed rulemaking (the 2005 proposal and 2007 supplemental proposal referenced in the question) quantified emissions reductions associated with CAIR. .

b. *Does EPA plan to publish a supplemental proposal concerning either or both of these proposed rules following the D.C. Circuit's decision vacating CAIR?*

We have not yet determined the agency's course of action with respect to the NSR EGU rule should the mandate issue and become final, vacating CAIR.

Question # 5. In your testimony you discussed EPA's Regional Haze Rule, which requires states to adopt emission reduction strategies to improve visibility in national parks and wilderness areas. You noted that "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."

a. *In the absence of CAIR, what measures can EPA and the 28 states take to ensure further improved visibility in these areas?*

In the absence of CAIR, states can adopt and enforce source-specific emissions limitations to satisfy the Best Available Retrofit Technology (BART) and the Reasonable Progress Goal (RPG)-Long Term Strategy (LTS) requirements of the regional haze rule. The BART requirement applies to electric generating units (EGUs) constructed and

operated in the 1962-1977 timeframe (before the Prevention of Significant Deterioration requirements took effect). We determined that CAIR satisfied BART for those sources, so should CAIR ultimately be vacated, states would need to make individual BART determinations for each source. For EGUs subject to BART, it is EPA's understanding that all the CAIR states were intending to rely on the CAIR to satisfy the BART requirement. The RPG-LTS requirements provide that states must adopt and enforce emissions limitations on selected emissions sources, including EGUs, that contribute to regional visibility impairment. It is EPA's understanding that the CAIR states were intending to rely on CAIR to some degree to address the RPG-LTS requirements. For some states, no additional emissions controls aside from CAIR are proposed to achieve the RPG-LTS requirements. If CAIR is ultimately vacated, states will need to prescribe source specific limits.

b. *What impact would the two NSR proposed rules discussed in Question #4 above have, if finalized, on the ability of the 28 states to improve visibility in these areas in the absence of CAIR?*

There will be no effect on the ability of the CAIR states to improve visibility if the NSR rules are finalized, even if CAIR is ultimately vacated. The proposed rules would change the NSR applicability test for existing EGUs, but they would not change the regional haze rule provisions for existing EGUs (i.e., BART, reasonable progress, and long term strategies). In addition, the regional haze rule requires states to account for new source growth in their long term strategies.

Question # 6. In past EPA modeling conducted for CAIR, EPA has used its Integrated Planning Model (IPM) and National Electric Energy Data System (NEEDS) to project power plants and individual electric generating units (EGUs) that EPA expected either to install or to not install advanced pollution controls for S02 (e.g., scrubbers) and NOx (e.g., selective catalytic reduction (SCR).

a. Provide data regarding all power plants and EGUs in the 28 states in the CAIR region that EPA projected either (i) would install or (ii) would not install pollution controls in order to comply with CAIR. For each such plant, provide the following information: plant name, state, county, owner/operator, EGU and plant capacity (in MW), post-combustion controls for S02 and/or NOx, and known or projected online year for the control(s), based on the best information available to EPA.

b. Provide any available information concerning (i) plants or EGUs that EPA had projected to install controls but that have not done so as projected or have indicated that they will not do so, and, conversely, (ii) plants or EGUs that EPA had projected not to install controls but that have done so, or have indicated that they will do so.

Attached is a spreadsheet that addresses these questions, as well as part of Senator Carper's question 2. In regard to this question, we have included information from the Integrated Planning Model (IPM) projections that EPA performed in support of CAIR development. We have also included information collected about control installations as EPA updates the IPM. While EPA has worked with states and sources to create as complete a list as possible, sources are not required to report projected control

installations to EPA, so there may be installations not reflected in our spreadsheet. Furthermore, in its CAIR analysis, EPA projected control installations through 2020. Companies have not made control decisions that far out. In this spreadsheet, EPA has only collected planned control installations through 2010 (and in some isolated cases through 2011).

Senator Carper

Question #1. I would like for EPA to provide me with an updated analysis of the Clean Air Planning Act, using the 2007 version.

As you know, EPA is committed to providing technical support and analysis for significant pieces of environmental legislation. We have analyzed an earlier version of CAPA, and expect to be able to analyze a more recently introduced version over the next several months. As you know, these analyses take significant time and involve the same agency resources that are currently working to address the ramifications of the CAIR decision. We will work with your staff to determine the best way to provide the information you are requesting within our resource constraints.

Question #2. With CAIR vacated, how many facilities will continue to install and operate emission controls to comply with settlement agreements and State requirements? How many lives will be saved through these efforts?

The attached spreadsheet addresses this question, as well as Senator Boxer's questions 6a and 6b. This spreadsheet indicates what controls EPA believes are still likely to be installed in the near term (e.g., through 2011) under State rules or settlement agreements. EPA does not have any analysis to quantify the impacts of these rules and settlements.

Question #3. What state laws currently in place require the same emission caps as CAIR or beyond CAIR?

A number of States have multi-pollutant legislation. It is difficult to make a direct comparison to CAIR, because many of them have different control requirements (e.g., less stringent caps, emission rate limits, or a combination of mechanisms) and different deadlines. For instance, North Carolina's Clean Smokestacks rule has two phases, with a first compliance deadline of 2008 and a second in 2012. The first phase is not as stringent as Phase 1 of CAIR, but it does occur earlier. Similarly, the second phase is not as stringent as CAIR, but also occurs earlier. Other states with multi-pollutant power sector regulations include: Connecticut, Delaware, Illinois, Massachusetts, New Hampshire, New York, and Texas.

Question #4. How many lives would CAPA (the version EPA analyzed) have saved when fully implemented?

EPA assessed the health benefits of CAPA in 2005 in an effort typically referred to as the 2005 Multi-Pollutant Analysis. In this analysis, EPA estimated that CAPA would avoid 23,000 annual incidences of premature mortality in 2010 and 2015, and 26,000 annual incidences of premature mortality in 2020. The analysis is available on our website at www.epa.gov/airmarkets/progsregs/cair/multi.html.

Question #5. Will EPA still go through with finalizing a New Source Review rule – even though the basis of the rule (relaxing new source review provisions) was justified by CAIR benefits? What is the correlation between stringency of the CAIR standards and NSR? (i.e., what is the legal argument that a more stringent CAIR makes it easier to relax NSR requirements?)

In our following response, EPA assumes that the subject of this question is the "NSR EGU" proposed rulemaking.

We disagree that "relaxing new source provisions" was the basis of the proposed NSR EGU rule requirements. The agency's views of the legal basis for the rule are included in the 2005 proposal and the 2007 supplemental proposal.

Emissions reductions resulting from the CAIR were quantified and presented in the analyses we performed for the proposed NSR EGU rule. As indicated in response to Senator Boxer's question #4, EPA has not yet determined our course of action on the NSR EGU rulemaking.

Question #6. You say in your statement that CAIR would have saved about 17,000 lives per year. How many more lives per year would have been saved if CAIR was nationwide?

It is fair to assume that expanding CAIR implementation to the national level would prevent additional incidences of premature mortality in states that were not covered by the final version of CAIR. This was one of the major reasons why the Bush Administration advocated that Congress pass the "Clear Skies" legislation. It is important to recognize, however, that this conclusion depends on the assumption that non-CAIR states in the western U.S. and Northeast would reduce power sector emissions of SO_2 and NOx without affecting emission reductions in the CAIR region. EPA does not have the emissions and air quality modeling necessary to perform a detailed, quantitative analysis of the number of incidences of premature mortality avoided. However, a state-by-state qualitative assessment using 2005 census and power sector emissions data can give a sense of the extra benefits that might be achieved if CAIR were implemented nationwide.

The annual incidences of premature mortality avoided estimated in the CAIR Regulatory Impact Analysis (RIA) (17,000 incidences avoided in 2015) were calculated from reduced annual ambient $PM_{2.5}$ concentrations that result from changes in emissions of SO_2 and NOx. There are two primary factors that drive $PM_{2.5}$-related incidences of premature mortality avoided on a state level: state population and the reduction in ambient $PM_{2.5}$ concentrations due to power sector emission reductions of SO_2 and NOx within the state itself as well as from upwind states.

In general, the portion of CAIR that affects emission of $PM_{2.5}$ precursors (generally described as the CAIR $PM_{2.5}$ program) covers the states with both the greatest power sector SO_2 and NOx emissions and largest populations. The CAIR $PM_{2.5}$ program capped annual emissions from states with 90 percent of total U.S. power sector SO_2 emissions, 76 percent of total U.S. power sector NOx emissions, and 69 percent of the total U.S. population. While it is impossible to define the exact function, a relationship exists between the concentrations of emissions and population in the CAIR states and the resulting 17,000 incidences of premature mortality avoided under CAIR in 2015. States

not covered by the CAIR $PM_{2.5}$ program account for 10 percent of total U.S. power sector SO_2 emissions, 24 percent of total U.S. power sector NOx emissions, and 31 percent of the total U.S. population.

However, several of the non-CAIR states do not have both significant power sector SO_2 and NOx emissions and large populations. Seven of the non-CAIR states have SO_2 and NOx emissions that are less than 0.2 percent of the U.S. total (California, Oregon, Connecticut, Idaho, Maine, Rhode Island, and Vermont). Because the cap and trade approach to emission reductions provides significant economic incentives to reduce the largest emission sources first, it is likely that even with a nationwide CAIR program significant emission reductions would not occur in these states. The remaining states that are not covered by the CAIR $PM_{2.5}$ program and emit more than 0.2 percent of national SO_2 and NOx emissions together comprise 10 percent of power plant SO_2 emissions, 23 percent of power plant NOx emissions, and 16 percent of the U.S. population.

CAIR reduced emissions from states that have the highest emission levels and the greatest concentrations of population. While the benefits of extending CAIR nationwide would likely not be anywhere near the 17,000 incidences of premature mortality avoided due to CAIR, some health benefits would occur. However, without understanding the structure of a nationwide CAIR program and without extensive emissions and air quality modeling, it is impossible to say how many more incidences of premature mortality avoided would occur.

Question #7. How many areas would remain in nonattainment after full implementation of CAIR?

In analyses for the final CAIR rule, EPA projected the number of nonattainment areas for the 1997 ozone and $PM_{2.5}$ standards that would remain in 2010 and 2015 after implementation of the phase 1 and phase 2 CAIR emissions reductions.

- In 2005, there were 108 ozone nonattainment areas in the eastern U.S. We projected CAIR would reduce the number of ozone nonattainment areas to:
  - 16 in 2010 and,
  - 6 in 2015.
- In 2005, there were 36 $PM_{2.5}$ nonattainment areas (all annual standard violators) in the eastern U.S. We projected CAIR would reduce the number of $PM_{2.5}$ nonattainment areas to:
  - 19 in 2010 and,
  - 14 in 2015.

It is important to note that CAIR was not intended to be a NAAQS attainment strategy. Rather it was designed to reduce interstate pollution transport that contributes to nonattainment of the 1997 ozone and $PM_{2.5}$ standards in downwind states and to balance emissions control responsibility more equitably between the upwind contributors and the local-area contributors to nonattainment. Even with CAIR in place, states were required to adopt additional measures to address local contributions as necessary to ensure attainment by the relevant attainment dates.

The emissions projections in the CAIR analyses did not include any estimates of the additional emissions control requirements that states might adopt to meet their attainment needs. Therefore, the projected nonattainment area counts do not reflect EPA's expectation of what the actual nonattainment situation would be at those future dates. However, the numbers do demonstrate the significant air quality benefits CAIR would have provided to assist states in meeting their attainment goals.

a. *Same question, but for the new ozone standard just published by the EPA and 2006 PM standard?*

EPA has not yet designated nonattainment areas for the 2008 revised ozone standards or the new $PM_{2.5}$ 24-hour standard. Therefore, this response reflects numbers of counties with monitors violating the new standards. Using the modeling for the final CAIR rule, we projected that:

- 196 counties with monitors would violate the 2008 ozone standard in 2010
- 116 counties with monitors would violate in 2015.

The emissions projections in the CAIR analyses did not include any estimates of the additional emissions control requirements that states might adopt to meet their attainment needs for the 1997 ozone standard or the 2008 revised ozone standard. Therefore, the projected violating county counts do not reflect EPA's expectation of what the actual nonattainment situation would be in those future years.

For the final CAIR rule we did not estimate future attainment status for a $PM_{2.5}$ 24-hour standard. However, based on air quality modeling performed for the regulatory impact analysis (RIA) for the 2006 $PM_{2.5}$ 24-hour standard, EPA projected that there would be:

- 10 counties with monitors violating the 24-hour $PM_{2.5}$ standard in 2015 and,
- 7 violating counties in 2020.

The emissions projections for the RIA assumed the CAIR reductions are in place. The projections do not include estimates of the additional emissions control requirements that states might adopt to meet their attainment needs. Therefore, the projected violating county counts do not reflect EPA's expectation of what the actual nonattainment situation would be at the projection dates.

b. *What was EPA going to do to ensure these areas met attainment?*

EPA promulgated CAIR to address the interstate pollution portion of the nonattainment problem for states in the eastern half of the United States. CAIR was not intended to be an attainment strategy; rather it was designed to reduce interstate pollution transport that contributes to nonattainment of the 1997 ozone and $PM_{2.5}$ national ambient air quality standards and to balance emissions control responsibility more equitably between long-distance upwind contributors and nearby local-area contributors.

The Clean Air Act requires states to adopt additional measures to address local contributions as necessary and to demonstrate that the collection of national, regional, and local measures will achieve attainment by the relevant attainment date.

For attainment demonstration SIPs that EPA approves, states and EPA will continue to monitor air quality and conduct compliance assessments on sources. If an ozone area fails to attain the standard by the attainment date, EPA would reclassify the area to a higher classification, which imposes additional required emissions controls. In addition, for both ozone and $PM_{2.5}$ nonattainment areas, EPA would require the state to develop a new SIP to demonstrate attainment including additional control measures.

If a state fails to submit an attainment demonstration SIP, EPA can make a finding of failure to submit, thereby starting a "sanctions clock" and a federal implementation plan (FIP) process to serve as incentives for the state to complete its planning. EPA made findings of "failure to submit required attainment demonstration SIPs" for the 1997 ozone standards for 7 eastern states in March 2008. For states that do not eventually submit an approvable SIP, sanctions would apply, and EPA would develop a FIP that provides for the emission reductions needed for attainment.

c. *Under CAIR, if downwind states continued to have nonattainment areas because of upwind pollution, what could they do to go beyond CAIR?*

Under CAIR, states had several options if they believe that emissions from upwind states are significantly contributing to their nonattainment problems. These included:

- contacting the upwind state(s) to see if they could reach a cooperative agreement that the upwind state(s) adopt additional control measures to address the interstate pollution. For example, states in the Ozone Transport Region and the states that participate in the Lake Michigan Air Directors Consortium have worked together for many years to address regional air pollution problems.
- requesting EPA to make a finding under section 110(k)(5) of the Clean Air Act (CAA) that an upwind state's SIP is inadequate to protect downwind areas. In this case EPA could require the upwind state to revise its SIP to correct the problem by a deadline not to exceed 18 months. The upwind state would determine the sources and controls to adopt, subject to EPA SIP approval.
- submitting a petition under section 126 of the CAA requesting that EPA make a finding that certain stationary sources or groups of stationary sources are significantly contributing to nonattainment or interfering with maintenance in the petitioning state. The petitioning state would need to present new information demonstrating a different level of upwind contribution than EPA determined in CAIR. If EPA were to grant the petition, EPA would establish federal emission control requirements for the affected sources.

Question #8. In your testimony, you state that the EPA spent "significant time and effort" developing the state methodologies for SO2 and NOx emission allowances and believe it "represented each state's fair share of emission reductions." However, the Court was very critical of your work - I believe even called it "fundamentally flawed."

a. Why did these caps not correlate with nonattainment dates?

Implementing the requirements of CAIR represent a significant challenge. First, 28 States had to develop state-specific rules to implement the requirements that EPA set

forth. Based on the experience of the NOx SIP Call and the difficulties that states had in finalizing the necessary rules, EPA provided additional time to finalize these rules under CAIR. After the state rules were finalized, power companies had to develop and implement plans to purchase and install billions of dollars worth of control equipment. These installations require specialized labor including boilermakers, project managers, and engineers. They also require specialized equipment, including some of the biggest cranes in the world. Schedules for plant closures (outages) need to be coordinated to ensure that the nation's electricity needs can still be met. After extensive analysis that focused on how quickly these controls could be installed, EPA determined that the earliest that Phase 1 could be implemented was 2009 for NOx and 2010 for SO_2, even though that would not exactly match up with the attainment dates. It should also be noted that EPA spent significant effort developing a program (CAIR) that could, and has, achieved early reductions to provide both broad health benefits as well as the benefits of achieving the NAAQS before the Phase 1 compliance deadline.

b. Why did these caps not ensure all 28 states were in attainment after 2015?
CAIR was not intended to be a NAAQS attainment strategy. Rather it was designed to reduce interstate pollution transport that contributes to nonattainment of the 1997 ozone and $PM_{2.5}$ standards in downwind states and to balance emissions control responsibility more equitably between upwind contributors and local-area contributors to nonattainment. Even with CAIR in place, as provided for in the Clean Air Act, states were required to adopt additional measures to address local contributions as necessary to ensure attainment by the relevant attainment dates.

Question #9. In your testimony, you mention that states have struggled to meet a Clean Air Act deadline to address interstate air pollution transport by July 2000. You go on to state that the Agency issued a national "finding" at the same time as the CAIR, that said states had failed to submit state implementation plans to address interstate transport. Although the CAIR was vacated, the EPA's findings that states have failed to submit were not affected.

a. Could these "findings" encourage upwind states to adopt CAIR caps to help their downwind neighbors?

The states in the CAIR region were intending to rely on the CAIR emissions control program to address their interstate transport control requirements. If a final mandate vacating the CAIR is ultimately issued, the findings of failure to submit would again be in effect. These findings would not have any associated sanctions to serve as incentives for states to take action. However, when EPA issued the findings in 2005, this triggered a requirement for EPA to promulgate federal implementation plans (FIPs) if states did not take action to put in place a SIP to address interstate transport. Typically, states prefer to make their own decisions regarding the appropriate emission control measures for their sources to meet SIP requirements. Therefore, the potential that EPA will issue a FIP could encourage states to adopt the necessary control measures. It would be at each state's discretion whether to adopt emission reduction measures for EGUs or alternative measures.

b. Could upwind states adopt INTRA-state trading (trading within their own borders) to reduce interstate pollution?

EPA believes states may be able to adopt intra-state trading programs to address interstate pollution transport. Our understanding is that court decision does not prohibit a state from adopting such a program for this purpose. Before EPA could approve a SIP containing an intra-state trading program as meeting the Clean Air Act section 110(a)(2)(D) interstate transport control requirements, EPA would have to evaluate the state program to determine if it is adequate to eliminate that state's significant contribution to nonattainment and interference with maintenance in other impacted states.

Senator Clinton

Question #1. What options is EPA considering as they move forward? Are there other options besides asking the court for a rehearing (e.g., can we negotiate w/ the litigants)? Please provide the committee with a list of options and an explanation of any help EPA needs/we can provide moving forward.

EPA is continuing to explore all available options relating to the litigation. EPA has filed a petition for rehearing or rehearing en banc with the Court of Appeals for the D.C Circuit. On October 21st, 2008, the Court requested responses to EPA's petition, specifically addressing whether CAIR should remain in place until EPA can issue a new rule. EPA has also explored settlement possibilities and, in fact, sought an extension of the time for filing petitions for rehearing in part to allow for these discussions. EPA remains willing to discuss settlement possibilities further. EPA recognizes that any settlement may be challenging in light of the number of parties, the complexity of the issues involved, and likely need for judicial approval.

As you are well aware, CAIR would have achieved significant emission reductions. If the court's vacatur of those emission requirements becomes final and there is no action taken by Congress to restore them, EPA will need to consider the range of regulatory options available (see answer to Senator Boxer's question #2) to reduce emissions, improve air quality, help states attain the national ambient air quality standards, reduce acid deposition, and adequately protect Americans' health. At this time, we have not yet made any determinations as to the best regulatory approach(es) to pursue.

Question #2. What is EPA's response to the recent letter NY State sent asking that EPA reinstate the NOx SIP Call trading program?

Jared Snyder, New York Department of Environmental Conservation Assistant Commissioner, along with Shari Wilson, Maryland Department of the Environment Secretary, and Laurie Burt, Massachusetts Department of Environmental Protection Commissioner, wrote Administrator Johnson shortly after the court issued its ruling on CAIR on behalf of the Ozone Transport Commission (OTC). The letter urges EPA to take prompt action to develop a new regulation that achieves or exceeds the air quality benefits of CAIR and to ensure in the interim that there is continued implementation of the nitrogen (NOx) Budget Trading Program (NBP) for the NOx SIP Call.

The Agency responded to the OTC letter explaining that currently the Court decision is being reviewed and options for response evaluated. We have not made final decisions yet

regarding the appropriate course of action. While the Court decision puts the emission reductions that CAIR would achieve in jeopardy, it does not change the obligation of EPA and states to address interstate pollution transport. We are aware that the court decision also has implications for other program areas where states may have relied on the CAIR reductions to meet their Clean Air Act requirements for ozone, $PM_{2.5}$, and regional haze. We are assessing the scope of these impacts on the health and environmental benefits associated with these requirements.

The court decision, among other things, vacated the provisions that would establish the CAIR NOx ozone season trading program. It also vacated the provision that would eliminate EPA's obligation to run the NBP after the 2008 ozone season. However, until the mandate has been issued by the Court, the CAIR rules technically remain in effect. This means there is continuing uncertainty for everyone about what trading programs will be in effect in 2009.

Despite this uncertainty, it is a priority for the Agency to work with states to ensure that an effective multi-state NOx reduction program is in place for the 2009 ozone season. Therefore, on September 2, 2008 Principal Deputy Assistant Administrator Robert J. Meyers sent a letter to the director of the agency in charge of implementing the NOx SIP Call in each state covered by the NOx SIP Call. These letters encouraged these states to begin work to ensure they can implement the NBP, if necessary, in time for the 2009 ozone season.

Senator Inhofe

Question #1. In the absence of CAIR and without a legislative fix, do you think we can still achieve these same reductions along the same time frames?

Simply stated, it will difficult for action from EPA, should CAIR be finally vacated and without a legislative fix, to achieve the same health and environmental benefits in the same time frames that CAIR was poised to deliver.

Senator CARPER. Thanks very much.

Very, very briefly, Mr. McLean, tell us a little bit about your involvement in the development of the Clean Air InterState Rule. Just very briefly.

Mr. MCLEAN. Following the Acid Rain law in 1990, I was put in charge of implementing that program. Then in the mid–1990's we started looking at ozone and got involved with the Ozone Transport Commission in the Northeast and partnered with them, actually, in operating a multi-State trading program in the Northeast, which then expanded into the NOx SIP Call, covering 20 States. Then after 2000, the first step was to look at Clear Skies, or a legislative solution to further reducing SOx, NOx and mercury, which you have mentioned.

Since we didn't make progress for a variety of reasons, we decided that it was urgent to address these emission reductions and we proceeded with the Clean Air InterState Rule. That was part of my office, and I was involved in helping to put forward that program as an alternative or a backup to the legislative fix that we had originally looked for. We proposed that program in 2004, it was final in 2005. So it was 3 years ago that this rule went into effect. And we were pleased to see the reaction of industry to accept that this was going to happen, and they began the steps necessary to start implementing that program and installing in control equipment.

What we have actually seen is emissions of SO2, for example, which had been controlled by Title IV, start coming down in advance of this program to the point today where they are actually below the cap for Title IV.

Senator CARPER. Thank you. You mentioned that in the weeks ahead, EPA is going to be considering their options. Just very brief, what are some of those options?

Mr. MCLEAN. Well, trying to get your head around this whole thing, because it is like dropping a bomb in the middle of a program that was the underpinning of a lot of different other parts of the air program. It had been accepted as sort of a foundation piece.

We are looking at it in three directions at the same time. One is our legal options in response to the Court decision, which we are working on. A decision will be made there by August 25th, I believe, on a request for rehearing. So that has not yet been decided but will be decided in the next few weeks.

We are also looking at regulatory issues, both short-term and long-term. In the short term, we have issues like the NOx SIP Call and some of the SIPs that have been submitted that may have to be changed. So we have to address those issues quickly. And then we are also considering the legislative options that you have mentioned as a longer term solution to dealing with this program. And even on the legislative side, there are quick responses and there are longer term responses. So I think all of those areas are open and are being pursued.

Senator CARPER. Good, thank you. So by the time we return following the August recess, we will know whether or not you are going to appeal and in what manner?

Mr. MCLEAN. Yes.

Senator CARPER. OK, thank you.

The real purpose of today's hearing, we have gotten out of the box quickly, within 2 weeks of the Court's decision, to hear from a variety of folks, including EPA and certainly a number of groups that are interested in these issues, States and environmental groups and the industry, the utility industry itself. I think as much today, what I am going to do is listen and hear a variety of options that are out there for EPA, but also for us as we try to decide what to do in the next several months and also by the early part of next year.

Let me just ask a couple of questions, then I will yield to Senator Voinovich. What does EPA anticipate will happen to States that have relied on CAIR for their State implementation plans? For example, is EPA planning on issuing guidance to States to assist in the necessary State implementation plan revisions?

Mr. MCLEAN. That is clearly one of the things we are considering and we will need to do if we go down that path. So I would say in the next few weeks, we have to make decisions in those areas as to which rules, which actions need to be taken first. But that is an area that we are looking at.

Senator CARPER. Do you believe that many downwind States will supplement their State implementation plans with a Section 126 petition? Do you expect EPA will encourage downwind States to look to Section 126 as a means to address regional transport?

Mr. MCLEAN. We are clearly aware of that and even the Court mentioned 126 as a possibility for action. We have dealt with that section before, and it certainly is a tool that States can use. At this point, we haven't decided what is the best path, so we are not encouraging anybody to use or not use that provision.

Senator CARPER. Do you expect to be in a position to encourage them to consider that option after August 25th?

Mr. MCLEAN. Some time after August 25th, I don't know exactly how that will play out.

Senator CARPER. Last, would a cap and trade policy be a good policy option for reducing upwind reductions if EPA had to act on a Section 126 petition?

Mr. MCLEAN. We have to look at the Court opinion. It seems to say in parts that interState cap and trade may not be an option. So we would have to be sure of how the opinion is actually directing us and whether that limits some of our regulatory options.

Senator CARPER. Thank you for your responses.

Senator Voinovich?

Senator VOINOVICH. Thank you, Mr. Chairman.

Several things, you talked about a quick legislative fix or a long-term legislative fix. I have been on this Committee 10 years and I can recall many pieces of legislation that Senator Clinton and I worked on, and there was a time when we had something on NOx, SOx and mercury and we couldn't get it, and everybody held out for greenhouse gases. And now we have separate legislation on greenhouse gases that didn't go anywhere, and there are several of us that are working to try and come back with another proposal on that.

So in effect, if you leave that off the table, understanding that we have to deal with it, and by the way, if we don't deal with it, we are back to the EPA dealing with it. And you restricted to say

NOx, SOx, and mercury. First of all, in terms of a quick fix on CAIR, which deals with NOx and SOx, what do you anticipate would be a quick fix? And would you involve the mercury rule in that or leave that separate and apart and deal with that differently?

Mr. MCLEAN. Personally, I think involving mercury would not be as quick a fix. I think the more issues and the more details one provides, the less quick it becomes. So I define quick as one page, very short direction to put things back in place while we consider how to deal with the longer term implications. It gets complicated very fast, as you know, and it becomes not quick very fast. I don't necessarily think a quick fix is a permanent fix.

But the permanent fix may, and you know better than I the difficulty of bringing parties together as we try to deal with all of the issues involved. So I see quick as being very short and trying to put the pieces back together for some period of time in order to develop a longer term solution.

Senator VOINOVICH. In other words, if you had a quick fix, the one piece of paper, it would put everybody back where they are at and continue to be going forward with it in terms of what is underway. And if we held back and said, well, we want to deal with a lot of this other, the same thing that Senator Carper and I dealt with for, how long did we do that?

Senator CARPER. Forever.

[Laughter.]

Senator VOINOVICH. Could take forever again. I hope not, but it could. And at the same time, while that is going on, you would have the situation where people, there would be uncertainty out there throughout the Country. The other issue is this: even if you go back to court and win this situation, you are still dealing with a CAIR that is not legislation. So somebody else could come in and say, we don't like this piece of it and come back into court and take that on.

So the best thing that we could possibly do, is it your opinion that the best thing we could do would be to pass legislation to clarify this?

Mr. MCLEAN. I am trying not to give you a definite answer, because the Administration, in fact, while we are meeting, is meeting to work on this. There is a sincere sense of urgency within the Administration about dealing with this issue, and people are focused on it. So I am trying not to preclude whatever options they are trying to consider. So I think the range is open as to how to proceed, and there is no definite view at this point as to what the right path is. I personally think it may be a combination of these things.

Senator VOINOVICH. Well, here is the thing. If you go back and the Court ruling is overturned, it still means that other actions could be filed against the CAIR rule, correct?

Mr. MCLEAN. I believe so. I would have to check with my lawyers. Because I find this rather complicated, the situation we are in.

Senator VOINOVICH. Well, I would argue that you would be better off with legislation than you would be with a rule.

Mr. MCLEAN. I would tend to agree. In fact, I think the Administration would tend to agree, having tried to go down that path first earlier. I think the general preference is for legislation.

Senator VOINOVICH. The one last question is this. One of the things that I have been really impressed with is that you estimated some reductions in emissions. In fact, you mentioned it in your testimony. Because we had the certainty out there, as Senator Clinton and others have mentioned, that there has been billions of dollars worth of investments that are being made, and that we are getting in phase one of this reductions that we thought we wouldn't get until we got to phase two of this program, which I think is terrific. Could you comment on that?

Mr. MCLEAN. We were in fact a little surprised but very pleased at how rapidly the industry responded and the equipment was going in. That has accentuated our concern, that so much was going in now as we speak, people are installing equipment, and they are probably also making decisions about wherever they are in their contracts, how much money to spend at this point. So we have a considerable concern about any effect on slowing that effort.

Senator VOINOVICH. Thank you.

Senator CARPER. Senator Lieberman?

Senator LIEBERMAN. Thanks, Mr. Chairman.

Mr. McLean, thanks for your public service and all you have done in this regard and so many others to help our environment.

I want to ask you a few questions that I think may help us understand in somewhat more local terms the impact of the Court decision on CAIR. I am going to come back to my own State. Currently in Fairfield and New Haven Counties, the airborne concentration of fine particles from coal-fired power plants and other sources exceeds EPA's public health standard. But by 2015, it was expected that the concentration would drop down within the range deemed acceptable by EPA. That was according to CAIR. The reduction in coal-fired plant pollution that CAIR was going to bring about in upwind States, in other words, outside of Connecticut, was going to account for a very large part of the air quality improvement that was going to bring Fairfield and New Haven Counties back into attainment.

So I wanted to ask you if you could walk us through, by way of illustration, some of the specific Federal legal requirements. I noted in your opening statement you specifically referred to the Federal implementation plan still necessitated by pre-existing Federal law, and some of the practical difficulties that State and local government entities in Connecticut, and by extension of course, throughout the Country face with respect to these two counties, Fairfield and New Haven that I have mentioned, if the CAIR reductions and regulations are not by one means or another reinstated.

Mr. MCLEAN. State and local governments face a daunting task under normal circumstances to deal with a lot of the provisions of the Clean Air Act. They have to devise plans that are going to attain the standards. And as I mentioned earlier, what we have learned over the last 20 years is that the contribution to the emissions and the air quality in many local areas is dominated by emissions that come from outside those areas, making it extremely dif-

ficult for State and local governments to figure out, even begin the process to figure out, how they are going to attain those standards.

Connecticut in particular is downwind of New York and Pennsylvania and the whole Midwest. So a large portion of their air quality is determined by factors outside their control. CAIR was an attempt, as the NOx SIP Call was, to give those States some certainty as to what they could count on in developing their plan. If they could assume that reductions were going to be 50 or 60 percent coming into the area, then they had a point to start with. And then they could figure out what was left for them to do.

There are two consequences of this. First of all, the reductions that we were getting on a regional basis were, as we called them, highly cost effective. They were very effective cost reductions. And often more cost effective than what a local government could do. So the first thing that happens when they lose this is that the alternatives they have are much more expensive. So the cost of pollution control in those communities is going to rise to compensate for the reduction, if in fact they can.

The second part is it may not be possible for them to compensate. Sometimes what they have available is just not enough to get to the standard, in which case they find themselves missing deadlines and being behind the eight ball, so to speak, with their responsibilities. Then the Clean Air Act has automatic provisions that deal with sanctions that may affect these areas from transportation to new source review, et cetera. So there is a whole set of consequences here that States face. And removing this piece increases the cost and greatly complicates their lives and may lead to other consequences.

We had this problem in the mid–1990's with ozone, when the States in the Northeast and others started to realize that they couldn't even do their planning until they had a better handle on this regional air pollutant problem. So it is very important to try to put back in place some certainty for them so that they can move forward, because they can't.

Senator LIEBERMAN. Very well stated. At one point a while back, we had some modeling done in Connecticut that showed that we could, if we shut down the whole State, effectively, we still couldn't meet the EPA attainment standard.

Mr. MCLEAN. That is probably true.

Senator LIEBERMAN. Can you take a moment, I am running out of time, just to talk a little bit about the impact of the Court decision on some of the utilities that have coal-fired plants in States that affect us but are away from us, like Indiana or Kentucky or West Virginia? What impact does this have now on those companies and their bottom lines, really?

Mr. MCLEAN. First of all, there are a couple hundred companies in the eastern United States, and many are under different regulatory regimes in every State as to how their costs are handled and the rates are handled. Each one of them was on their own independent path in terms of where they were in contracting and building.

So it is hard to sort of go through a good example, because each one would be almost unique. In each State, the regulatory structure for utilities is different. So their costs would be different.

So they each were designing programs that were responding to the rest of the regulatory environment in which utilities operate. They would have to go back to their rate commissions and find out if they had been given authority to charge, can they still charge for those costs or do they have to write them off. You will have a couple of utilities in the next panel that can describe their unique situations and what they face. It is like a story of each company separately.

One of the beauties of this program was, we didn't have to figure out each company's situation. We gave them the general direction and they were able then to go work through those problems at the State level.

Senator LIEBERMAN. Thank you. My time is up. Thanks, Mr. Chairman.

Senator CARPER. Thank you, Senator Lieberman.

Senator INHOFE.

Senator INHOFE. Thank you, Mr. Chairman. Most of my questions I had actually have already been asked. Let me just pursue a couple of things. In your opinion, if Congress had passed the Clear Skies back in 2005, would there have been the same problems that were noted with the CAIR in the D.C. Circuit?

Mr. MCLEAN. I do not believe so. I mean, I would have to ask, but I think because some of them would have been statutorily directed that that would not have been the issue. Most of the Court's issues were regarding our interpretation of the current act.

Senator INHOFE. When the EPA talks about trading, we still hear concerns about the hot spots today. Since EPA has significant experience in the acid rain program, there has been extensively modeled other trading programs. Does the EPA believe that trading results in more hot spots?

Mr. MCLEAN. The programs that we have used cap and trade for we have analyzed quite a bit and have not found the case of hot spots. Hot spots are predicated on the assumption that areas will either not reduce or in fact increase their emissions and that the surrounding emissions won't come down and you have this confluence of sort of a bad situation where emissions and concentrations increase.

What we have seen is that across large areas, like the eastern United States or the whole Country, there are variabilities in costs across companies, within States, across States, within companies, and that you don't see like pockets of areas where emissions increase and areas where they go down. Instead, it tends to be spread over an area. So when we have thousands of sources, which we do in these programs, we just haven't seen any concentration of pollution increases. In fact, we haven't seen any air quality areas that have gone up in air pollution concentrations. All areas have come down.

Senator INHOFE. We talked about, all of us talked about some of the very responsible parties out there anticipating what they would have to do to comply with the CAIR rule, and millions of dollars have been spent by different parties. Do you have any kind of a figure as to how much you think could have been spent up to this point, No. 1? And No. 2, I think it goes without saying that all of us up here agree, we may disagree on how we got into this situa-

tion, but we all want to get out. And if any solution we have, whether it is legislative or whether it is a rule, do you think that some of the money that has been spent by responsible parties will not be totally lost? In other words, they would have to do it anyway when we come up with a solution to this?

Mr. MCLEAN. I think that we are all talking about solutions that would lead to comparable emission reductions. In some cases, maybe more. So that the actions people are taking, if we put things back together quickly, there will not be significant long-term losses. The longer we have this gap, the more discontinuity there will be, the more costs you could say maybe shouldn't have been expended or would have been spent too soon.

So timing is important in resolving this and minimizing the losses. But I think if we act relatively quickly, there should not be long-term financial consequences.

Senator INHOFE. Yes, because this is not the first time we have been faced with this. There are a lot of other times when they have either retrofitted something or expended a lot of money and then find out that the rules have changed.

Well, when we do ultimately have the solution, is it going to be better to have a legislative fix or a regulatory fix?

Mr. MCLEAN. Given the choice, what we are facing today, I would rather have a legislative fix. I think that is the Administration preference. But what we did between Clear Skies and CAIR was we decided that a regulatory fix was better than no fix. So there is a priority there.

Senator INHOFE. Thank you, Mr. Chairman.

Senator CARPER. Thank you, Senator Inhofe.

Senator Clinton.

Senator CLINTON. Thank you, and thanks, Mr. McLean, for your many years of service to our Country, and especially on these important environmental issues.

I want to followup on what Senator Inhofe was asking, because clearly when you take stock of where you will be by August 25th and what kind of actions you think you will pursue going forward, I think you can sense a readiness on the part of all of us up here to try to assist you in whatever way makes sense.

In the second panel, you will hear what New York thinks should happen. Obviously, we want to move as quickly as possible to regain the benefits of CAIR and not undermine the implementation that was going on.

At the same time, we want to do it in a way that does not remove the incentive for us pursuing multi-pollutant legislation. So we see a bit of a dilemma here, but we ought to be able to work our way through this.

I know that New York sent EPA a letter that will be part of the testimony of Mr. Snyder when he testifies, asking you to immediately take action to protect air quality by restoring the protections required by the 1997 NOx SIP, which was largely displaced by CAIR. Could that be done?

Mr. MCLEAN. I would have to check. I understand the question and we certainly are looking at that as one of the areas that we might need to move more quickly on than others.

Senator CLINTON. And then of course at the same time, you would be taking steps to issue a new comprehensive transport rule that would give us the opportunity to regain the benefits from CAIR, I assume?

Mr. MCLEAN. Correct.

Senator CLINTON. We are also hoping that the States can use the authority they have under Section 126 of the Act to try to file petitions seeking the elimination of emissions that contribute significantly to the non-attainment in the downwind States. One of the reasons that some of us had a problem with Clear Skies was because it removed the Section 126 opportunity for States to be able to take action on their own when they felt that they were not being given national relief. I think that we should also ask you to perhaps get back to the Committee as soon as you can after you have assessed the situation. Because if it were possible to pass something or support a new rulemaking before the Congress went out, some of us would certainly be interested in trying to do that, for all of the reasons that we have already heard discussed.

So I guess, Mr. McLean, I can ask you specific questions about what if, what if, but I take it from your testimony you are in the process of trying to figure out what if, what if.

Mr. MCLEAN. Yes.

Senator CLINTON. So if you could, with the Chairman's direction, provide us as soon as possible what your options are that you are considering and what if any help you need from us legislatively. Obviously if we can get Congress to act to promptly restore the benefits of CAIR, that would be a very good first step. And then we can, under the leadership of Senators Carper and Voinovich, try to figure out what else we are going to do to strengthen air quality across the board.

So I hope you will let us know as soon as you know what it is you are pursuing, if there is any option other than a rehearing with the Court, whether they might consider some kind of negotiated settlement, if the parties would agree. In looking at the six reasons that the Court gave for overturning CAIR, it seems some of those are solvable. They didn't look to me like they were big deal breakers.

So it might be some kind of settlement or negotiation could perhaps bring everybody back to the table. But let us know as soon as you know through our Chairman what we all need to be doing.

Mr. MCLEAN. We would be glad to, and appreciate the request.

Senator CARPER. Mr. McLean, let me just ask, do you think EPA will still go through with finalizing a new source review rule, even though the basis for that rule, and that is relaxation of the new source review provisions, was justified by CAIR benefits?

Mr. MCLEAN. The NSR rule is one of the things that we are looking at to see what effect this decision has on that rule. Unfortunately, it is not my area of responsibility, so I am not exactly sure how that is going to turn out. But it is one that we are aware of and we are looking at that.

Senator CARPER. Is there some correlation between tightening the emissions standards for SOx, NOx and mercury, for example, the tighter those standards are with the greater ability of EPA to

relax the new source review rule? Is there any correlation, or some kind of an inverse correlation?

Mr. MCLEAN. I know that has been an area that has been discussed and I think it is a matter of specifics as to exactly what you do and how that can work. I know legislatively that has also been considered, whether there is a relationship there that we can figure out a better path forward.

Senator CARPER. Just kind of think out loud for us, and if you are not comfortable with answering this, don't. But just kind of think out loud for us on this point, please.

Mr. MCLEAN. On what?

Senator CARPER. On the question I am raising.

Mr. MCLEAN. On the relationship between the two? I think over time, as I have watched the Clean Air Act evolve, we have added to it new mechanisms. The cap and trade mechanism in Title IV didn't exist in 1970 or 1977. I think from time to time, it is good to assess where we are and whether we need every mechanism or exactly the way it was originally written or whether we can make adjustments that can reconcile and allow those programs to operate more effectively together. That would be my general response. So I think there is an opportunity there to look at those issues again.

Senator CARPER. Thank you.

Another question. It is my understanding that the folks at EPA thought that they were limited in their legal scope to keep CAIR as a regional program. Would EPA rather have had a national program?

Mr. MCLEAN. The focus of CAIR was responding to the requirement to meet the fine particle standard and ozone standard through Section 110, through Title 1. And based on Title 1, we had to tie the actions to specific contributions to non-attainment of those two pollutants. And that is what defined the boundary conditions.

If your scope, if your purpose is different, then the scope of the geography can be different. Certainly we have regional haze issues in the east and west and we even have acid rain issues in the east and west. So I think there is an opportunity to look at the overall purpose and then define the scope of the area.

Senator CARPER. Let me just followup. Without a national approach, what keeps polluters moving from one region of the Country where they are regulated to another region where they are not?

Mr. MCLEAN. The general answer is, there are a lot of provisions in the Clean Air Act now. It is not so easy to move and be freed of responsibility. Between new source review and SIPs in every part of the Country, there would be requirements on anybody moving anywhere. So there would be some limitations.

But you do raise an issue that is a valid one in terms of looking at the implications. Certainly if the requirements in one State are extremely different, tighter than another State, you do run the risk of moving sources or emissions.

Senator CARPER. And one last followup, I think you said in your testimony that the CAIR would have saved some 17,000 lives per year when it is fully in effect. Any idea how many more lives per year would have been saved if CAIR was nationwide as opposed to regional in scope?

Mr. MCLEAN. I don't know the number, but I think that is doable.

Senator CARPER. Would you provide that for the record, please?

Mr. MCLEAN. OK.

[The referenced information follows:]

The attached list is based on **preliminary draft estimates of current and announced control technology installation** as a result of implementing CAIR and other existing air quality regulations. The lists reflect all of the controls EPA is aware of and will be updated as more information becomes available. The data included in the list are based on an updating of data in the IPM model by the leading power sector companies affected by CAIR, a review of trade press announcements of technology installation, and discussions with States. While some control technology installations may have been omitted, or some announced installations may be cancelled, CAMD believes these lists provide an accurate picture of control technology installation currently and projected for the near future as of July 10, 2008 before the Notably, future operation of the equipment once installed has not be considered here or fully evaluated by EPA, and must be also considered in the context of the recent Court Decision and the large reductions in allowance prices that has occurred for SO2 and NOx. EPA is planning to have the information in the list included in the next version of the Integrated Planning Model (IPM) and the NEEDS database in the last half of 2008. It will provide the foundation for future power sector modeling and analysis.

Plant Name	UniqueID_Final	Unique ID	PechanPlantType	State Name	County	Capacity MW	On Line Year	SCR Online Year
Chesterfield	3797_B_4	3797_B_4	Coal Steam	Virginia	Chesterfield	166	1,960	2013
Chesterfield	3797_B_5	3797_B_5	Coal Steam	Virginia	Chesterfield	310	1,964	2012
Scherer	6257_B_3	6257_B_3	Coal Steam	Georgia	Monroe	875	1,987	2011
Chesterfield	3797_B_6	3797_B_6	Coal Steam	Virginia	Chesterfield	658	1,969	2011
Sandow No 4	6648_B_4	6648_B_4	Coal Steam	Texas	Milam	545	1,981	2011
Beech Hollow Power Project	82704_B_1	82704_B_1	Coal Steam	Pennsylvania	Washington	272	2,011	2011
Longview Power	82702_B_1	82702_B_1	Coal Steam	West Virginia	Monongalia	695	2,011	2011
Cliffside	2721_B_6	2721_B_6	Coal Steam	North Carolina	Cleveland	800	2,011	2011
AES Westover	2526_B_11	2526_B_11	Coal Steam	New York	Broome	22	1,943	2010
AES Westover	2526_B_12	2526_B_12	Coal Steam	New York	Broome	22	1,943	2010
AES Westover	2526_B_13	2526_B_13	Coal Steam	New York	Broome	84	1,951	2010
Iatan 2	6065_B_2	6065_B_2	Coal Steam	Missouri	Platte	850	2,010	2010
Southwest	6195_B_2	6195_B_2	Coal Steam	Missouri	Greene	300	2,010	2010
Trimble Station (LGE)	6071_B_2	6071_B_2	Coal Steam	Kentucky	Trimble	732	2,010	2010
Elm Road Generating Station	56068_B_2	56068_B_2	Coal Steam	Wisconsin	Milwaukee	615	2,010	2010
Clay Boswell	1893_B_3	1893_B_3	Coal Steam	Minnesota	Itasca	350	1,973	2009
Asheville	2706_B_2	2706_B_2	Coal Steam	North Carolina	Buncombe	184	1,971	2009
Conesville	2840_B_4	2840_B_4	Coal Steam	Ohio	Coshocton	780	1,973	2009
Marshall	2727_B_3	2727_B_3	Coal Steam	North Carolina	Catawba	657	1,969	2009
St Johns River Power Park	207_B_1	207_B_1	Coal Steam	Florida	Duval	626	1,987	2009
Ghent	1356_B_2	1356_B_2	Coal Steam	Kentucky	Carroll	469	1,977	2009
Chalk Point LLC	1571_B_1	1571_B_1	Coal Steam	Maryland	Prince George's	341	1,964	2009
Chalk Point LLC	1571_B_2	1571_B_2	Coal Steam	Maryland	Prince George's	342	1,965	2009

San Juan	2451_B_2	2451_B_2	Coal Steam	New Mexico	San Juan	320	1,973	2009
Big Bend	645_B_BB01	645_B_BB01	Coal Steam	Florida	Hillsborough	411	1,970	2009
Big Bend	645_B_BB02	645_B_BB02	Coal Steam	Florida	Hillsborough	391	1,973	2009
Big Bend	645_B_BB03	645_B_BB03	Coal Steam	Florida	Hillsborough	414	1,976	2009
Nebraska City Unit 2	6096_B_2	6096_B_2	Coal Steam	Nebraska	Otoe	663	2,009	2009
Cross	130_B_4	130_B_4	Coal Steam	South Carolina	Berkeley	652	2,009	2009
Springerville	8223_B_4	8223_B_4	Coal Steam	Arizona	Apache	400	2,009	2009
Sandow 5	82010_B_5	82010_B_5	Coal Steam	Texas	Milam	600	2,009	2009
Oak Grove	82011_B_1	82011_B_1	Coal Steam	Texas	Robertson	800	2,009	2009
Oak Grove	82011_B_2	82011_B_2	Coal Steam	Texas	Robertson	800	2,009	2009
TS Power Plant	82013_B_1	82013_B_1	Coal Steam	Nevada	Eureka	200	2,009	2009
Plum Point Energy	82014_B_1	82014_B_1	Coal Steam	Arkansas	Mississippi	665	2,009	2009
Comanche	470_B_3	470_B_3	Coal Steam	Colorado	Pueblo	750	2,009	2009
Elm Road Generating Station	56068_B_1	56068_B_1	Coal Steam	Wisconsin	Milwaukee	615	2,009	2009
Two Elk Generating Station	55360_B_1	55360_B_1	Coal Steam	Wyoming	Campbell	300	2,009	2009
J K Spruce	7097_B_BLR2	7097_B_BLR2	Coal Steam	Texas	Bexar	750	2,009	2009
Dallman	963_B_34	963_B_34	Coal Steam	Illinois	Sangamon	200	2,009	2009
AES Greenidge LLC	2527_B_4	2527_B_4	Coal Steam	New York	Yates	27	1,950	2008
AES Greenidge LLC	2527_B_5	2527_B_5	Coal Steam	New York	Yates	27	1,950	2008
AES Greenidge LLC	2527_B_6	2527_B_6	Coal Steam	New York	Yates	106	1,953	2008
Charles R Lowman	56_B_2	56_B_2	Coal Steam	Alabama	Washington	238	1,979	2008
Charles R Lowman	56_B_3	56_B_3	Coal Steam	Alabama	Washington	238	1,980	2008
Barry	3_B_5	3_B_5	Coal Steam	Alabama	Mobile	750	1,971	2008
St Johns River Power Park	207_B_2	207_B_2	Coal Steam	Florida	Duval	626	1,988	2008
Morgantown Generating Plant	1573_B_2	1573_B_2	Coal Steam	Maryland	Charles	620	1,971	2008
Bailly	995_B_7	995_B_7	Coal Steam	Indiana	Porter	160	1,962	2008
San Juan	2451_B_1	2451_B_1	Coal Steam	New Mexico	San Juan	322	1,976	2008
San Juan	2451_B_3	2451_B_3	Coal Steam	New Mexico	San Juan	495	1,979	2008
Weston	4078_B_4	4078_B_4	Coal Steam	Wisconsin	Marathon	519	2,008	2008
AES Deepwater	10670_B_AAB001	10670_B_AAB001	Coal Steam	Texas	Harris	140	1,986	2007
La Cygne	1241_B_1	1241_B_1	Coal Steam	Kansas	Linn	724	1,973	2007
Morgantown Generating Plant	1573_B_1	1573_B_1	Coal Steam	Maryland	Charles	624	1,970	2007
PSEG Hudson Generating Station	2403_B_2	2403_B_2	Coal Steam	New Jersey	Hudson	583	1,967	2007
San Juan	2451_B_4	2451_B_4	Coal Steam	New Mexico	San Juan	506	1,982	2007
Big Bend	645_B_BB04	645_B_BB04	Coal Steam	Florida	Hillsborough	457	1,985	2007
Cross	130_B_3	130_B_3	Coal Steam	South Carolina	Berkeley	620	2,007	2007
Wygen II	55479_B_4	55479_B_4	Coal Steam	Wyoming	Campbell	90	2,007	2007
Council Bluffs	1082_B_4	1082_B_4	Coal Steam	Iowa	Pottawattamie	790	2,007	2007
E C Gaston	26_B_5	26_B_5	Coal Steam	Alabama	Shelby	861	1,974	2006
Mayo	6250_B_1A	6250_B_1A	Coal Steam	North Carolina	Person	362	1,983	2006
Mayo	6250_B_1B	6250_B_1B	Coal Steam	North Carolina	Person	362	1,983	2006
Kingston	3407_B_9	3407_B_9	Coal Steam	Tennessee	Roane	178	1,955	2006
Pleasant Prairie	6170_B_1	6170_B_1	Coal Steam	Wisconsin	Kenosha	617	1,980	2006
Brayton Point	1619_B_1	1619_B_1	Coal Steam	Massachusetts	Bristo	243	1,963	2006

Brayton Point	1619_B_3	1619_B_3	Coal Steam	Massachusetts	Bristo	612	1,969	2006
Mount Tom	1606_B_1	1606_B_1	Coal Steam	Massachusetts	Hampden	144	1,960	2006
Springerville	8223_B_3	8223_B_3	Coal Steam	Arizona	Apache	400	2,006	2006
Hardin Generator Project	55749_B_UNT1	55749_B_UNT1	Coal Steam	Montana	Big Horn	105	2,006	2006
Warrick	6705_B_4	6705_B_4	Coal Steam	Indiana	Warrick	300	1,970	2005
John E Amos	3935_B_1	3935_B_1	Coal Steam	West Virginia	Putnam	800	1,971	2005
John E Amos	3935_B_2	3935_B_2	Coal Steam	West Virginia	Putnam	800	1,972	2005
Roxboro	2712_B_2	2712_B_2	Coal Steam	North Carolina	Person	639	1,968	2005
Harding Street	990_B_70	990_B_70	Coal Steam	Indiana	Marion	435	1,973	2005
Hawthorn	2079_B_5A	2079_B_5A	Coal Steam	Missouri	Jackson	563	2,001	2005
Winyah	6249_B_4	6249_B_4	Coal Steam	South Carolina	Georgetown	270	1,981	2005
Lambton	70297_B_3	70297_B_3	Coal Steam	Ontario		490	1,970	2005
Lambton	70297_B_4	70297_B_4	Coal Steam	Ontario		490	1,970	2005
Nanticoke	70398_B_7	70398_B_7	Coal Steam	Ontario		490	1,978	2005
Nanticoke	70398_B_8	70398_B_8	Coal Steam	Ontario		490	1,978	2005
James H Miller Jr	6002_B_1	6002_B_1	Coal Steam	Alabama	Jefferson	684	1,978	2004
James H Miller Jr	6002_B_2	6002_B_2	Coal Steam	Alabama	Jefferson	687	1,985	2004
W H Zimmer	6019_B_1	6019_B_1	Coal Steam	Ohio	Clermont	1,300	1,991	2004
Dan E Karn	1702_B_1	1702_B_1	Coal Steam	Michigan	Bay	265	1,959	2004
Killen Station	6031_B_2	6031_B_2	Coal Steam	Ohio	Adams	615	1,982	2004
Havana	891_B_9	891_B_9	Coal Steam	Illinois	Mason	487	1,978	2004
Crist	641_B_7	641_B_7	Coal Steam	Florida	Escambia	477	1,973	2004
Merom	6213_B_1SG1	6213_B_1SG1	Coal Steam	Indiana	Sullivan	507	1,983	2004
Merom	6213_B_2SG1	6213_B_2SG1	Coal Steam	Indiana	Sullivan	493	1,982	2004
Petersburg	994_B_2	994_B_2	Coal Steam	Indiana	Pike	435	1,969	2004
Petersburg	994_B_3	994_B_3	Coal Steam	Indiana	Pike	540	1,977	2004
Ghent	1356_B_1	1356_B_1	Coal Steam	Kentucky	Carroll	475	1,973	2004
Ghent	1356_B_3	1356_B_3	Coal Steam	Kentucky	Carroll	478	1,981	2004
Ghent	1356_B_4	1356_B_4	Coal Steam	Kentucky	Carroll	478	1,984	2004
Bailly	995_B_8	995_B_8	Coal Steam	Indiana	Porter	320	1,968	2004
R M Schahfer	6085_B_14	6085_B_14	Coal Steam	Indiana	Jasper	431	1,976	2004
Bruce Mansfield	6094_B_3	6094_B_3	Coal Steam	Pennsylvania	Beaver	850	1,980	2004
Wateree	3297_B_WAT2	3297_B_WAT2	Coal Steam	South Carolina	Richland	350	1,971	2004
Williams	3298_B_WIL1	3298_B_WIL1	Coal Steam	South Carolina	Berkeley	615	1,973	2004
Marion	976_B_4	976_B_4	Coal Steam	Illinois	Williamson	170	1,978	2004
Dallman	963_B_31	963_B_31	Coal Steam	Illinois	Sangamon	86	1,968	2004
Dallman	963_B_32	963_B_32	Coal Steam	Illinois	Sangamon	87	1,972	2004
Dallman	963_B_33	963_B_33	Coal Steam	Illinois	Sangamon	199	1,978	2004
Mt Storm	3954_B_3	3954_B_3	Coal Steam	West Virginia	Grant	521	1,973	2004
E D Edwards	856_B_3	856_B_3	Coal Steam	Illinois	Peoria	364	1,972	2004
James H Miller Jr	6002_B_3	6002_B_3	Coal Steam	Alabama	Jefferson	687	1,989	2003
James H Miller Jr	6002_B_4	6002_B_4	Coal Steam	Alabama	Jefferson	688	1,991	2003
Coffeen	861_B_01	861_B_01	Coal Steam	Illinois	Montgomery	340	1,965	2003
Cardinal	2828_B_1	2828_B_1	Coal Steam	Ohio	Jefferson	600	1,967	2003

Cardinal	2828_B_2	2828_B_2	Coal Steam	Ohio	Jefferson	600	1,967	2003
Cardinal	2828_B_3	2828_B_3	Coal Steam	Ohio	Jefferson	630	1,977	2003
Miami Fort	2832_B_7	2832_B_7	Coal Steam	Ohio	Hamilton	500	1,975	2003
Monroe	1733_B_1	1733_B_1	Coal Steam	Michigan	Monroe	770	1,972	2003
Monroe	1733_B_4	1733_B_4	Coal Steam	Michigan	Monroe	775	1,974	2003
Belews Creek	8042_B_1	8042_B_1	Coal Steam	North Carolina	Stokes	1,115	1,974	2003
Belews Creek	8042_B_2	8042_B_2	Coal Steam	North Carolina	Stokes	1,115	1,975	2003
H L Spurlock	6041_B_1	6041_B_1	Coal Steam	Kentucky	Mason	315	1,977	2003
Clifty Creek	983_B_1	983_B_1	Coal Steam	Indiana	Jefferson	217	1,955	2003
Clifty Creek	983_B_2	983_B_2	Coal Steam	Indiana	Jefferson	217	1,955	2003
Clifty Creek	983_B_3	983_B_3	Coal Steam	Indiana	Jefferson	217	1,955	2003
Clifty Creek	983_B_4	983_B_4	Coal Steam	Indiana	Jefferson	217	1,955	2003
Clifty Creek	983_B_5	983_B_5	Coal Steam	Indiana	Jefferson	217	1,955	2003
Pleasants Power Station	6004_B_1	6004_B_1	Coal Steam	West Virginia	Pleasants	639	1,979	2003
Pleasants Power Station	6004_B_2	6004_B_2	Coal Steam	West Virginia	Pleasants	639	1,980	2003
Michigan City	997_B_12	997_B_12	Coal Steam	Indiana	La Porte	469	1,974	2003
Kyger Creek	2876_B_1	2876_B_1	Coal Steam	Ohio	Gallia	217	1,955	2003
Kyger Creek	2876_B_2	2876_B_2	Coal Steam	Ohio	Gallia	217	1,955	2003
Kyger Creek	2876_B_3	2876_B_3	Coal Steam	Ohio	Gallia	217	1,955	2003
Kyger Creek	2876_B_4	2876_B_4	Coal Steam	Ohio	Gallia	217	1,955	2003
Kyger Creek	2876_B_5	2876_B_5	Coal Steam	Ohio	Gallia	217	1,955	2003
Gibson	6113_B_4	6113_B_4	Coal Steam	Indiana	Gibson	622	1,979	2003
Wateree	3297_B_WAT1	3297_B_WAT1	Coal Steam	South Carolina	Richland	350	1,970	2003
Allen Steam Plant	3393_B_1	3393_B_1	Coal Steam	Tennessee	Shelby	247	1,959	2003
Cumberland	3399_B_1	3399_B_1	Coal Steam	Tennessee	Stewart	1,232	1,973	2003
Widows Creek	50_B_7	50_B_7	Coal Steam	Alabama	Jackson	473	1,961	2003
Wygen 1	55479_B_3	55479_B_3	Coal Steam	Wyoming	Campbell	70	2,003	2003
Mt Storm	3954_B_1	3954_B_1	Coal Steam	West Virginia	Grant	524	1,965	2003
Mt Storm	3954_B_2	3954_B_2	Coal Steam	West Virginia	Grant	524	1,966	2003
HMP&L Station Two Henderson	1382_B_H2	1382_B_H2	Coal Steam	Kentucky	Henderson	159	1,974	2003
Pleasant Prairie	6170_B_2	6170_B_2	Coal Steam	Wisconsin	Kenosha	617	1,985	2003
Big Sandy	1353_B_BSU2	1353_B_BSU2	Coal Steam	Kentucky	Lawrence	800	1,969	2003
Duck Creek	6016_B_1	6016_B_1	Coal Steam	Illinois	Fulton	335	1,976	2003
Gorgas	8_B_10	8_B_10	Coal Steam	Alabama	Walker	690	1,972	2002
Coffeen	861_B_02	861_B_02	Coal Steam	Illinois	Montgomery	560	1,972	2002
John E Amos	3935_B_3	3935_B_3	Coal Steam	West Virginia	Putnam	1,300	1,973	2002
Mountaineer	6264_B_1	6264_B_1	Coal Steam	West Virginia	Mason	1,300	1,980	2002
New Madrid	2167_B_1	2167_B_1	Coal Steam	Missouri	New Madrid	580	1,972	2002
Roxboro	2712_B_1	2712_B_1	Coal Steam	North Carolina	Person	369	1,966	2002
Roxboro	2712_B_3A	2712_B_3A	Coal Steam	North Carolina	Person	341	1,973	2002
East Bend	6018_B_2	6018_B_2	Coal Steam	Kentucky	Boone	600	1,981	2002
Miami Fort	2832_B_8	2832_B_8	Coal Steam	Ohio	Hamilton	500	1,978	2002
Herbert A Wagner	1554_B_3	1554_B_3	Coal Steam	Maryland	Anne Arundel	324	1,966	2002
Cliffside	2721_B_5	2721_B_5	Coal Steam	North Carolina	Cleveland	550	1,972	2002

H L Spurlock	6041_B_2	6041_B_2	Coal Steam	Kentucky	Mason	509	1,981	2002
Gibson	6113_B_2	6113_B_2	Coal Steam	Indiana	Gibson	628	1,975	2002
Gibson	6113_B_3	6113_B_3	Coal Steam	Indiana	Gibson	628	1,978	2002
Allen Steam Plant	3393_B_2	3393_B_2	Coal Steam	Tennessee	Shelby	247	1,959	2002
Allen Steam Plant	3393_B_3	3393_B_3	Coal Steam	Tennessee	Shelby	247	1,959	2002
HMP&L Station Two Henderson	1382_B_H1	1382_B_H1	Coal Steam	Kentucky	Henderson	153	1,973	2002
Roxboro	2712_B_4A	2712_B_4A	Coal Steam	North Carolina	Person	343	1,980	2001
Harrison Power Station	3944_B_1	3944_B_1	Coal Steam	West Virginia	Harrison	640	1,972	2001
General James M Gavin	8102_B_1	8102_B_1	Coal Steam	Ohio	Gallia	1,300	1,974	2001
General James M Gavin	8102_B_2	8102_B_2	Coal Steam	Ohio	Gallia	1,300	1,975	2001
PPL Montour	3149_B_1	3149_B_1	Coal Steam	Pennsylvania	Montour	774	1,972	2001
Paradise	1378_B_1	1378_B_1	Coal Steam	Kentucky	Muhlenberg	619	1,963	2001
D B Wilson	6823_B_W1	6823_B_W1	Coal Steam	Kentucky	Ohio	420	1,986	2001
AES Cayuga	2535_B_1	2535_B_1	Coal Steam	New York	Tompkins	152	1,955	2001
New Madrid	2167_B_2	2167_B_2	Coal Steam	Missouri	New Madrid	580	1,977	2000
Asheville	2706_B_1	2706_B_1	Coal Steam	North Carolina	Buncombe	190	1,964	2000
Roxboro	2712_B_4B	2712_B_4B	Coal Steam	North Carolina	Person	343	1,980	2000
Brandon Shores	602_B_1	602_B_1	Coal Steam	Maryland	Anne Arundel	643	1,984	2000
Brandon Shores	602_B_2	602_B_2	Coal Steam	Maryland	Anne Arundel	643	1,991	2000
Monroe	1733_B_2	1733_B_2	Coal Steam	Michigan	Monroe	785	1,973	2000
Monroe	1733_B_3	1733_B_3	Coal Steam	Michigan	Monroe	795	1,973	2000
Kincaid Generation LLC	876_B_1	876_B_1	Coal Steam	Illinois	Christian	584	1,967	2000
Kincaid Generation LLC	876_B_2	876_B_2	Coal Steam	Illinois	Christian	584	1,968	2000
Baldwin Energy Complex	889_B_2	889_B_2	Coal Steam	Illinois	Randolph	629	1,973	2000
Bowen	703_B_1BLR	703_B_1BLR	Coal Steam	Georgia	Bartow	713	1,971	2000
Bowen	703_B_2BLR	703_B_2BLR	Coal Steam	Georgia	Bartow	718	1,972	2000
Bowen	703_B_3BLR	703_B_3BLR	Coal Steam	Georgia	Bartow	902	1,974	2000
Bowen	703_B_4BLR	703_B_4BLR	Coal Steam	Georgia	Bartow	929	1,975	2000
Hammond	708_B_4	708_B_4	Coal Steam	Georgia	Floyd	510	1,970	2000
Wansley	6052_B_1	6052_B_1	Coal Steam	Georgia	Heard	891	1,976	2000
Wansley	6052_B_2	6052_B_2	Coal Steam	Georgia	Heard	892	1,978	2000
Logan Generating Plant	10043_B_B01	10043_B_B01	Coal Steam	New Jersey	Gloucester	219	1,994	2000
Mill Creek	1364_B_3	1364_B_3	Coal Steam	Kentucky	Jefferson	391	1,978	2000
Mill Creek	1364_B_4	1364_B_4	Coal Steam	Kentucky	Jefferson	477	1,982	2000
Trimble County	6071_B_1	6071_B_1	Coal Steam	Kentucky	Trimble	511	1,990	2000
Homer City Station	3122_B_1	3122_B_1	Coal Steam	Pennsylvania	Indiana	620	1,969	2000
Homer City Station	3122_B_2	3122_B_2	Coal Steam	Pennsylvania	Indiana	614	1,969	2000
Homer City Station	3122_B_3	3122_B_3	Coal Steam	Pennsylvania	Indiana	650	1,977	2000
Harrison Power Station	3944_B_2	3944_B_2	Coal Steam	West Virginia	Harrison	642	1,973	2000
Harrison Power Station	3944_B_3	3944_B_3	Coal Steam	West Virginia	Harrison	651	1,974	2000
Allen S King	1915_B_1	1915_B_1	Coal Steam	Minnesota	Washington	571	1,968	2000
Elmer Smith	1374_B_1	1374_B_1	Coal Steam	Kentucky	Daviess	141	1,964	2000
PPL Montour	3149_B_2	3149_B_2	Coal Steam	Pennsylvania	Montour	766	1,973	2000
Gibson	6113_B_1	6113_B_1	Coal Steam	Indiana	Gibson	630	1,975	2000

Gibson	6113_B_5	6113_B_5	Coal Steam	Indiana	Gibson	620	1,982	2000
Cross	130_B_1	130_B_1	Coal Steam	South Carolina	Berkeley	620	1,995	2000
Cross	130_B_2	130_B_2	Coal Steam	South Carolina	Berkeley	540	1,984	2000
Winyah	6249_B_1	6249_B_1	Coal Steam	South Carolina	Georgetown	295	1,975	2000
Winyah	6249_B_2	6249_B_2	Coal Steam	South Carolina	Georgetown	295	1,977	2000
Winyah	6249_B_3	6249_B_3	Coal Steam	South Carolina	Georgetown	295	1,980	2000
A B Brown	6137_B_1	6137_B_1	Coal Steam	Indiana	Posey	250	1,979	2000
A B Brown	6137_B_2	6137_B_2	Coal Steam	Indiana	Posey	250	1,986	2000
F B Culley	1012_B_3	1012_B_3	Coal Steam	Indiana	Warrick	270	1,973	2000
Bull Run	3396_B_1	3396_B_1	Coal Steam	Tennessee	Anderson	881	1,967	2000
Colbert	47_B_5	47_B_5	Coal Steam	Alabama	Colbert	459	1,965	2000
Cumberland	3399_B_2	3399_B_2	Coal Steam	Tennessee	Stewart	1,233	1,973	2000
Kingston	3407_B_1	3407_B_1	Coal Steam	Tennessee	Roane	135	1,954	2000
Kingston	3407_B_2	3407_B_2	Coal Steam	Tennessee	Roane	135	1,954	2000
Kingston	3407_B_3	3407_B_3	Coal Steam	Tennessee	Roane	135	1,954	2000
Kingston	3407_B_4	3407_B_4	Coal Steam	Tennessee	Roane	135	1,954	2000
Kingston	3407_B_5	3407_B_5	Coal Steam	Tennessee	Roane	177	1,955	2000
Kingston	3407_B_6	3407_B_6	Coal Steam	Tennessee	Roane	177	1,955	2000
Kingston	3407_B_7	3407_B_7	Coal Steam	Tennessee	Roane	177	1,955	2000
Kingston	3407_B_8	3407_B_8	Coal Steam	Tennessee	Roane	177	1,955	2000
Paradise	1378_B_2	1378_B_2	Coal Steam	Kentucky	Muhlenberg	605	1,963	2000
Paradise	1378_B_3	1378_B_3	Coal Steam	Kentucky	Muhlenberg	977	1,970	2000
Widows Creek	50_B_8	50_B_8	Coal Steam	Alabama	Jackson	464	1,965	2000
W A Parish	3470_B_WAP5	3470_B_WAP5	Coal Steam	Texas	Fort Bend	649	1,977	2000
W A Parish	3470_B_WAP6	3470_B_WAP6	Coal Steam	Texas	Fort Bend	649	1,978	2000
W A Parish	3470_B_WAP8	3470_B_WAP8	Coal Steam	Texas	Fort Bend	610	1,982	2000
J M Stuart	2850_B_2	2850_B_2	Coal Steam	Ohio	Adams	597	1,970	1999
Baldwin Energy Complex	889_B_1	889_B_1	Coal Steam	Illinois	Randolph	624	1,970	1999
W A Parish	3470_B_WAP7	3470_B_WAP7	Coal Steam	Texas	Fort Bend	555	1,980	1999
AES Somerset LLC	6082_B_1	6082_B_1	Coal Steam	New York	Niagara	681	1,984	1999
Roxboro	2712_B_3B	2712_B_3B	Coal Steam	North Carolina	Person	341	1,973	1998
Dan E Karn	1702_B_2	1702_B_2	Coal Steam	Michigan	Bay	265	1,961	1998
J M Stuart	2850_B_1	2850_B_1	Coal Steam	Ohio	Adams	585	1,971	1998
Birchwood Power	54304_B_1A	54304_B_1A	Coal Steam	Virginia	King George	239	1,996	1997
J M Stuart	2850_B_3	2850_B_3	Coal Steam	Ohio	Adams	597	1,972	1997
Stanton Energy Center	564_B_2	564_B_2	Coal Steam	Florida	Orange	446	1,996	1996
Indiantown Cogeneration LP	50976_B_AAB01	50976_B_AAB01	Coal Steam	Florida	Martin	330	1,995	1995
Bruce Mansfield	6094_B_2	6094_B_2	Coal Steam	Pennsylvania	Beaver	830	1,977	1995
PSEG Mercer Generating Station	2408_B_1	2408_B_1	Coal Steam	New Jersey	Mercer	315	1,960	1995
PSEG Mercer Generating Station	2408_B_2	2408_B_2	Coal Steam	New Jersey	Mercer	310	1,961	1995
Merrimack	2364_B_1	2364_B_1	Coal Steam	New Hampshire	Merrimack	113	1,960	1995
Merrimack	2364_B_2	2364_B_2	Coal Steam	New Hampshire	Merrimack	320	1,968	1995
Keystone	3136_B_1	3136_B_1	Coal Steam	Pennsylvania	Armstrong	850	1,967	1995
Chambers Cogeneration LP	10566_B_BOIL1	10566_B_BOIL1	Coal Steam	New Jersey	Salem	131	1,994	1994

Chambers Cogeneration LP	10566_B_BOIL2	10566_B_BOIL2	Coal Steam	New Jersey	Salem	131	1,994	1994
Mitchell	3948_B_2	3948_B_2	Coal Steam	West Virginia	Marshall	800	1,971	1994
Muskingum River	2872_B_5	2872_B_5	Coal Steam	Ohio	Washington	585	1,968	1994
Bruce Mansfield	6094_B_1	6094_B_1	Coal Steam	Pennsylvania	Beaver	830	1,976	1994
Keystone	3136_B_2	3136_B_2	Coal Steam	Pennsylvania	Armstrong	850	1,968	1994
Mitchell	3948_B_1	3948_B_1	Coal Steam	West Virginia	Marshall	800	1,971	1993
Cheswick	8226_B_1	8226_B_1	Coal Steam	Pennsylvania	Allegheny	580	1,970	1993
J M Stuart	2850_B_4	2850_B_4	Coal Steam	Ohio	Adams	597	1,974	1991

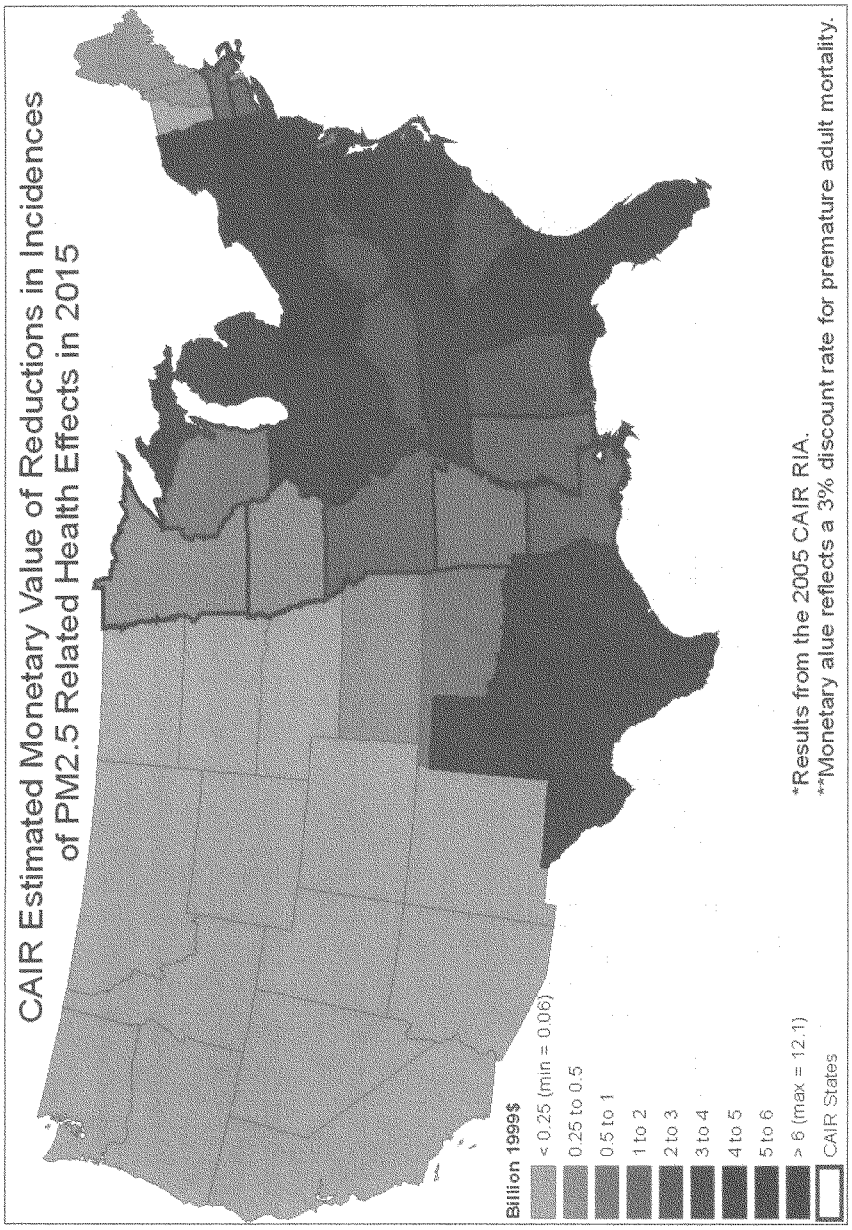

CAIR Estimated Monetary Value of Reductions in Incidences of PM2.5 Related Health Effects in 2015
Billion 1999$
< 0.25 (min = 0.06)
0.25 to 0.5
0.5 to 1
1 to 2
2 to 3
3 to 4
4 to 5
5 to 6
> 6 (max = 12.1)
CAIR States
*Results from the 2005 CAIR RIA.
**Monetary alue reflects a 3% discount rate for premature adult mortality.

Figure 1: Ozone and Particle Pollution: CAIR, together with other Clean Air Programs, Will Bring Cleaner Air to Areas in the East - 2015

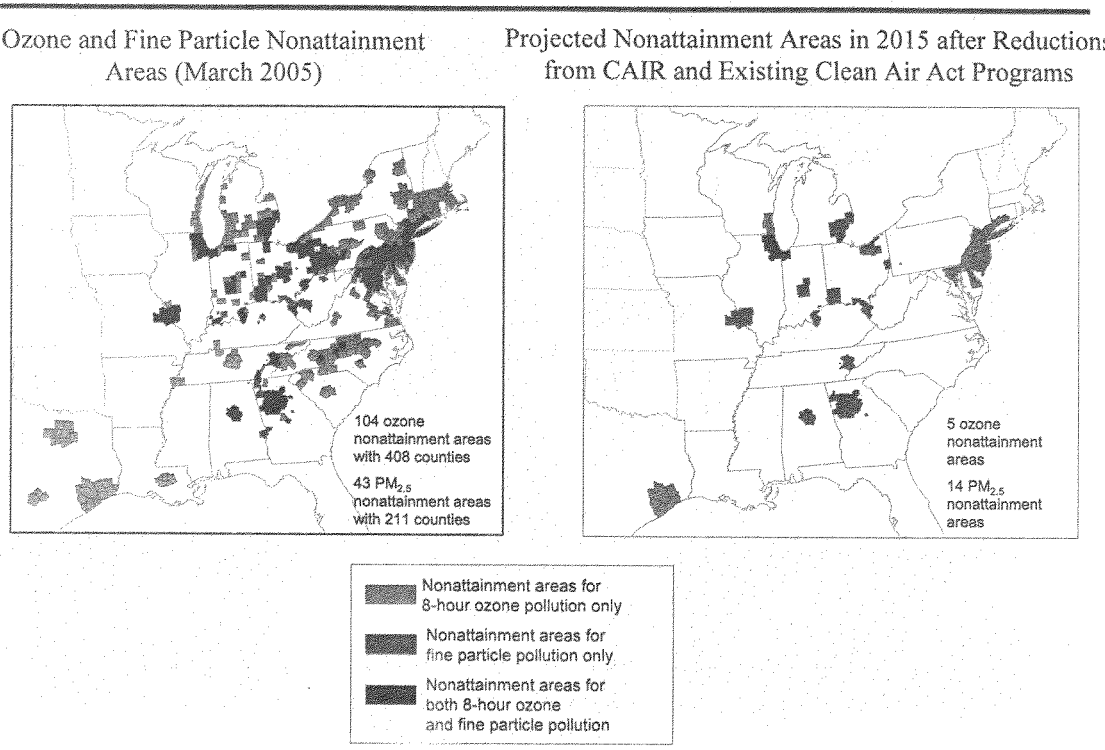
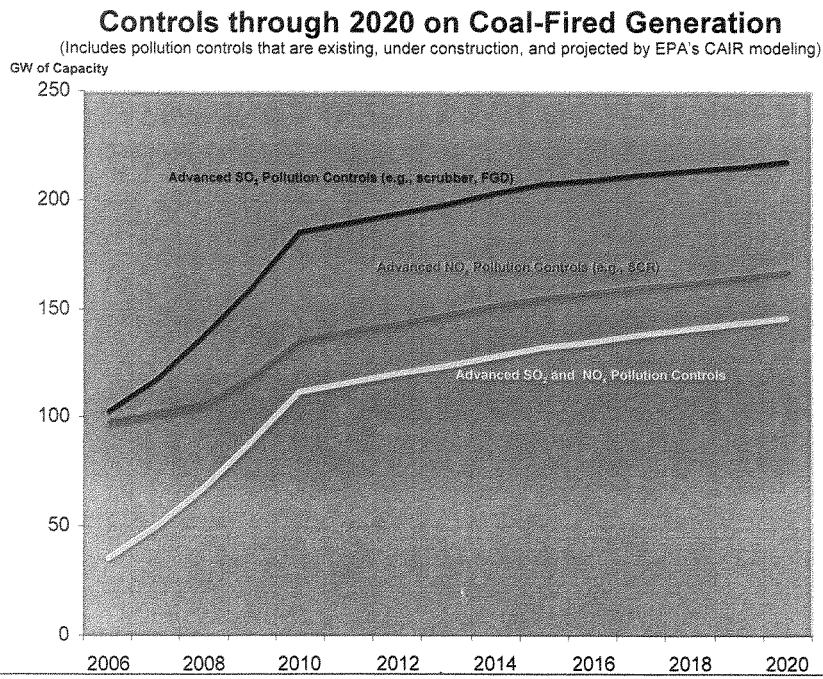
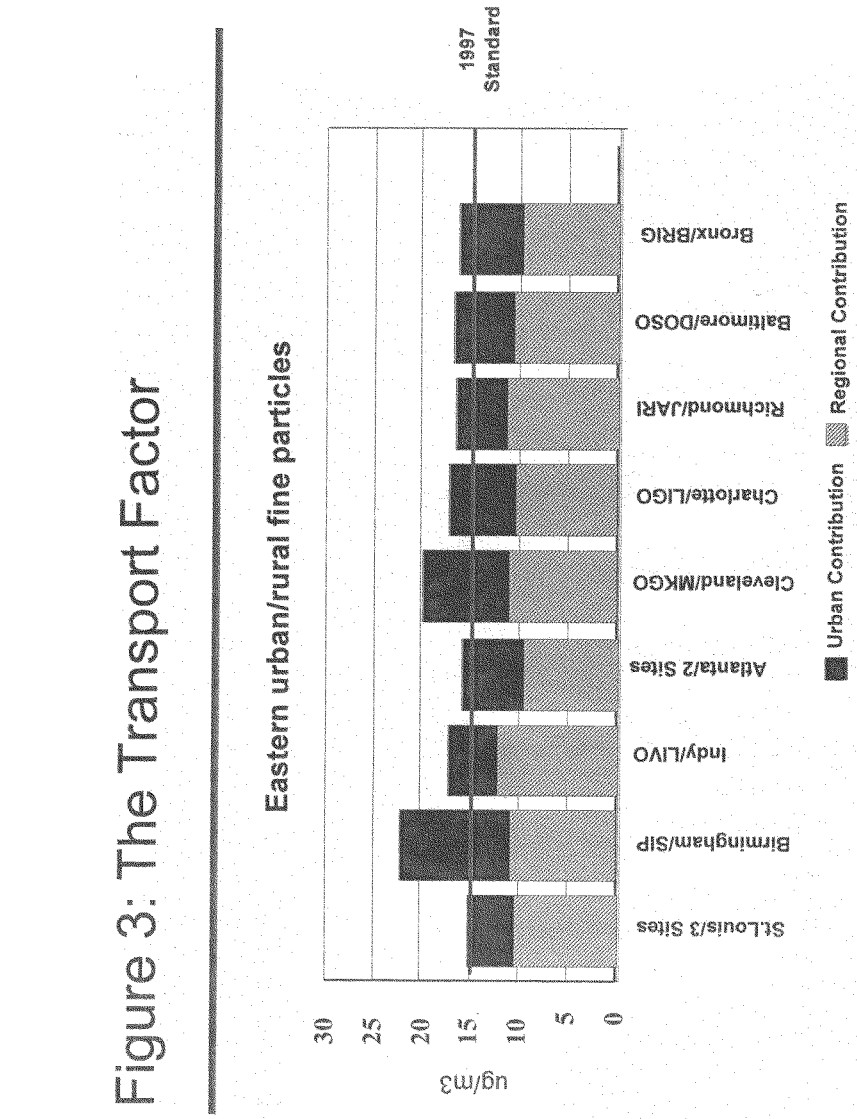


Figure 2: Advanced Pollution Controls for SO_2 and NO_x with CAIR



Advanced controls are required by NSR and New Source Performance Standards for new generating units; the graph does not include the controls on those projected new units. While the vast majority of the control installations reflected in the graph are attributable to CAIR, some are also required in the future under binding NSR settlements or state programs. In addition to the installation of advanced controls, utilities would be using other compliance strategies such as fuel switching to lower sulfur coal and upgrading existing control technologies to provide more emission reductions.

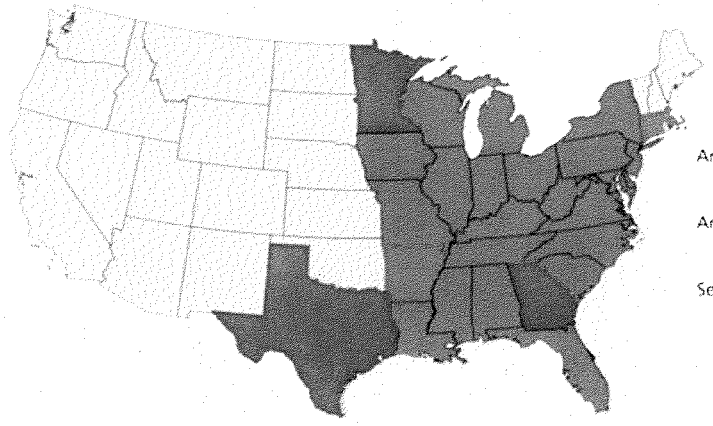
Figure 3: The Transport Factor



12-month average PM2.5 mass from speciation samplers

Reference: 2002 EPA Trends Report http://www.epa.gov/air/airtrends/chem_spec_of_pm2.5_b.pdf

Figure 4: States Covered in the Clean Air Interstate Rule for SO_2 and NO_x and the Region-wide Caps



CAIR Emission Caps*

(million tons)

	2009/2010	2015
Annual SO_2 (2010)	3.7	2.6
Annual NO_x (2009)	1.5	1.3
Seasonal NO_x (2009)	0.6	0.5

*for the affected regions

States controlled for fine particles (annual SO_2 and NO_x)

States controlled for ozone (ozone season NO_x)

States controlled for both fine particles (annual SO_2 and NO_x) and ozone (ozone season NO_x)

Source: EPA, 2007

CLEAN AIR MARKET PROGRAMS

Figure 5: CAIR Health and Environmental Benefits: Benefits over 25 Times Greater than Costs

Annual Health and Welfare Benefits and Costs of CAIR*		
Health Related Incidences Avoided (PM2.5,Ozone)	2010	2015
Premature deaths avoided	13,000	17,000
Non-fatal heart attacks avoided	17,000	22,000
Hospital admissions/ER visits avoided	19,000	27,000
Work loss days	1.4 million	1.7 million
School absence days	180,000	510,000
Monetary Value of Total Health Benefits (Billion 1999$)	$62.6-$73.3	$86.3-$101
Monetary Value of Visibility Improvements	More than $1 billion	Almost $2 billion
Annual Costs of CAIR Implementation (Billion 1999$)	$2.36	$3.57

- Additional non-monetizable health, environmental benefits, and changes in risk include:
  - Decreases in sulfur deposition (resulting in reduced acidification of surface waters and damage to forest ecosystems and soils)
  - Decreases in nitrogen deposition (resulting in reduced acidification of surface waters, damage to forest ecosystems and soils, and coastal eutrophication)
  - Exposure to mercury through eating fish containing mercury
  - Decreases in ozone-related damage to agriculture
- CAIR implementation beyond 2015 leads to higher annual benefits and costs

*Note: The annual health and welfare benefits and costs shown for 2010 and 2015 were taken from the Clean Air Interstate Rule Regulatory Impact Analysis (RIA) published in March of 2005 (http://www.epa.gov/cair/pdfs/finaltech08.pdf).

Senator CARPER. Last, with CAIR intact, how many States would still have non-attainment areas for ozone or particulate matter, say, maybe in 2010 or 2015? Any idea?

Mr. MCLEAN. I would have to give that number to you for the record, but I think we can get that.

Senator CARPER. All right, thanks very much.

Senator Voinovich.

Senator VOINOVICH. I am not asking you to speculate, but give me your best shot on some of these things. If we were to pass legislation that would put CAIR into law, and we put a sunset on it, i.e., 2 years from now we would have to reauthorize it, which would put us in the position where we could look out around the Country to just see how things are working or not working, what impact would that have on some of the decisionmaking, in your opinion, of the utilities that are primarily the ones that are going to have to invest the money?

Now, I would suspect, and just add this, that if I am a utility and I am going forward and I am spending billions of dollars right now based on the CAIR rule, that they have to know that maybe down the road something else more stringent might be legislated. So as a regulator, looking out, what is your reaction to the concept of say, putting CAIR into law and then say, we have to reauthorize it in 2 years to see just exactly where we are and what impact would that have on decisionmaking made by some of the utilities and others that are making these decisions?

Mr. MCLEAN. It could vary quite a bit from company to company. You would find different situations, where for some people a short timeframe might be sufficient for them to make their decisions on what they have to do. Other companies, may need a longer timeframe in order to make those decisions. You certainly have capital investments and payback and the longer the timeframe you have the more certainty and therefore the more efficient a solution would be. But you have to weigh that and you would be weighing that against various other pressures and trying to design an appropriate long-term solution.

So the idea is to give people a long timeframe. But how much time do you have to put a fix in place and say you have to balance those two, I couldn't really tell you at this point without looking at the whole range of companies and situations. It is sort of like a discount rate curve over time. There are diminishing returns the farther you go out. Certainly the near-term actions and stability are more valuable than the long-term ones. Again, you could ask the two companies here and they could probably tell you from their perspective how different timeframes would affect their decisionmaking.

Senator VOINOVICH. Since they are here, hopefully they will respond to that.

I know you are not supposed to do this, but has the EPA looked at the impact that the CAIR rule has had on ratepayers?

Mr. MCLEAN. Yes, we did. I could give you that for the record. I don't know what the numbers are. But we did look at the cost of the program and the likely impact on electricity rates. That is something that we usually do.

Senator VOINOVICH. Has it been around long enough to get an idea of the impact in the short term?

Mr. MCLEAN. Of the decision, you mean?

Senator VOINOVICH. Of the cost, yes.

Mr. MCLEAN. We could probably do that. I mean, as you can imagine, there are many factors affecting the costs to ratepayers, this being one of them. So we often model this, assuming everything else doesn't change, what is the incremental impact of this regulatory action. And I can check and see for what timeframes we have done that.

Senator VOINOVICH. OK, a couple of questions. New source review. If I heard correctly, there are certain things that trigger new source review. And the reason I bring this up, it gets into the whole climate change area. One of the thoughts that many of us have to reduce greenhouse gases in this Country would be to allow utilities to move forward with making their plants more efficient, so they produce more energy. I think for every, it is like one for one, if you increased the efficiency by one, then you reduce your carbon emissions overall.

Under CAIR, are there certain things that trigger new source review? And what would you think about having a different regimen, say, in terms of efficiency, taking into consideration the greenhouse emission aspect of it?

Mr. MCLEAN. That is a good series of questions. I don't really have the answer to that. But I understand what you are thinking about, and I think those are one of the areas that we will try to work on.

Senator VOINOVICH. First of all, does CAIR trigger new source review, or does a company doing something trigger new source review?

Mr. MCLEAN. I think it is more what a company does. Pollution control devices, generally, we have exempted from triggering new source review. So if you are responding to one part of the law, we are not trying to tie you into another part.

Senator VOINOVICH. The way I understand it, some utilities are not going forward and doing the efficiencies that they could do because they are afraid they are going to trigger new source review, which then becomes a lot more expensive for them to do their——

Mr. MCLEAN. My perception, and I may be wrong, is that the efficiency itself is not the problem, it is how the plant is used afterward. So the efficiency allows you to increase production and emissions at the plant, that is the concern, not the efficiency per se.

Senator VOINOVICH. Do you think it would be a good idea to have, when we take into consideration these decisions in terms of new source review, to look at the impact that they would have on climate change and greenhouse gases?

Mr. MCLEAN. I think they should all be looked at, particularly given the relevance of the climate change issue that needs to be factored into the decisionmaking process. I also have found that with the cap and trade program, if you get the goal that you are looking for in terms of the emission reduction, then there is more flexibility on how you get there, and it may allow one to look at those issues with new eyes.

Senator VOINOVICH. To your knowledge, does the issue of greenhouse gases come into play when you are considering the new source review being triggered?

Mr. MCLEAN. I don't know the answer to that question.

Senator VOINOVICH. Could you find out for me?

Mr. MCLEAN. Yes.

Senator VOINOVICH. Thank you.

[The referenced information was not received at time of print.]

Senator CARPER. Mr. McLean, I just have one last question, and if you can help us with this on the record that would be great, if you have to dig up the answer, that is understandable. I seem to recall that earlier it was forecast or predicted that the implementation of the CAIR rule would be saving roughly 17,000 lives per year by 2015. And the health benefits were anywhere from $85 billion to maybe $100 billion, which was roughly—what is the cost benefit ratio there, do you recall? Is it 20 to 1?

Mr. MCLEAN. Twenty-five to one.

Senator CARPER. The Clean Air Planning Act, which a number of us co-sponsored in support, would save, I believe, additional lives by 2015. Any idea how much that might be?

Mr. MCLEAN. I would have to look at that. We analyzed your bill a few years ago, and we did have estimates of that. I don't think we have done the more recent bill. It is the magnitude of the reductions which drives the benefits. So they should be similar.

Senator CARPER. For some reason, I am thinking it was 26,000 lives and the health benefits were in the range of $150 billion to $160 billion.

Mr. MCLEAN. Yes, that could be correct. I can check that.

Senator CARPER. Well, we are going to have, I suspect, some additional questions to submit in writing. I know a number of our colleagues would like to have been here. I personally have four hearings going this morning, and Senator Voinovich probably has at least as many. People have a lot on their plates. This is important for our Country, it is important, certainly, for my State and for other States that are at the end of the tailpipe. We will be interested in working with you and your colleagues at EPA in the weeks ahead as you decide your near-term course forward. Then as we get past August 25th, and you have made that decision to decide what we need to do this year, and then just as importantly, maybe more importantly, what we need to do next year.

It sounds to me like what you are saying is that the EPA and the Administration believe that the real solution here is not for the long term additional regulation, but you need some legislation.

Mr. MCLEAN. Yes.

Senator CARPER. Thank you for your willingness on very short notice to be here for your testimony, for responding to our questions and for your willingness to followup. I leaned over to Senator Voinovich during one of your responses and said, well, I think we have ourselves, we are fortunate that you were able to make time to be here today. These are difficult issues for all of us to understand. I am certainly one of those. But you have helped make it a bit more understandable, and for that, I am grateful.

Mr. MCLEAN. Thank you very much.

Senator VOINOVICH. Thank you very much. You have been a great, great witness. Thanks for your service.

Senator CARPER. We will now excuse Mr. McLean and invite our second panel to come to the table.

Thank you very much. So far, we have been fortunate enough not to have any votes. I am told that we may not have any votes until 2:15, when I will be presiding, not over this Subcommittee, but over the Senate. And then we are going to be having a series of votes, so there is a good chance we will be able to finish this up at a reasonable time and break for a bit of lunch, then the Senate will convene and start its work.

I want to just briefly introduce these five panel members. First of all, Jared Snyder, who is the Assistant Commissioner for Air Resources, Climate Change and Energy, New York Department of Environmental Conservation. Welcome, thank you for joining us today.

Eric B. Svenson, Jr., Vice President, Environment, Health and Safety, Public Service Enterprise Group, our neighbors across the river in New Jersey. Welcome. We are happy you are here.

Mr. William H. Spence, Executive Vice President and Chief Operating Officer, PPL Corporation. What does PPL stand for?

Mr. SPENCE. Well, it used to be Pennsylvania Power and Light Corporation, but we changed it to PPL Corp.

Senator CARPER. Fair enough. Thank you.

Chris Korleski, Director of the Ohio Environmental Protection Agency. We are both Ohio State grads.

John Walke, Director, Clean Air Program, Natural Resources Defense Council. Mr. Walke, thank you so much for coming today and we look forward to your testimony and the chance to ask you some questions.

Mr. Snyder, you are our lead-off hitter, and Mr. Walke, you get to bat clean-up, even though you are No. 5 in the lineup. We are happy you are all here. Your entire testimoneys will be made part of the record. You can summarize if you wish. Try to wrap it up in about 5 minutes apiece, then we will get into some questions.

STATEMENT OF JARED SNYDER, ASSISTANT COMMISSIONER FOR AIR RESOURCES, CLIMATE CHANGE AND ENERGY, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Mr. SNYDER. Good morning, Chairman Carper and Senator Voinovich. I am Jared Snyder, I am Assistant Commissioner in New York responsible for air pollution and climate change issues. I am also the current Chair of the Ozone Transport Commission. Thank you for providing me with the opportunity to testify on this important matter today.

My message today is simple: unless prompt action is taken to rectify the Court's decision vacating CAIR, we will all be breathing dirtier air, and many of us will suffer, especially the very old and very young and persons with asthma and other respiratory illnesses.

I will make three major points this morning. First, the Court's decision will harm air quality and make it more difficult for States to meet their obligations to comply with the national standards for

ozone and particulate matter. Second, and perhaps more importantly, the Court's decision could have dire public health consequences. And third, achieving clean, healthy air means strengthening CAIR, requiring quicker and steeper reductions.

CAIR was flawed. It did not provide sufficient and timely reductions from the power sector to fully protect public health. Nevertheless, we chose to view CAIR as a glass half full, rather than half empty. But the Court's decision means that the glass is now empty. New York and other downwind States can no longer count on the substantial upwind pollution reductions needed for us to comply with the applicable standards. The demise of CAIR will also eliminate the help that was on its way for the lakes and streams still suffering from acid rain and will postpone the visibility improvements expected in our natural areas.

New York and other States face a 2010 deadline for compliance with the ozone standards. Because the air entering the Northeast on hot summer days is already high in ozone, reducing upwind pollution is essential. Losing CAIR places a big hole in our efforts to comply.

In what appears to be a classic case of unintended consequences, the Court's decision has also placed the NOx SIP Call in jeopardy. Many States have replaced their SIP Call programs with CAIR starting next year. Thus, not only do we lose CAIR's future air quality improvements but we may even lose at least some of the substantial benefits that the NOx SIP Call has provided over the last couple of years.

Even more important from a public health perspective are the reductions in fine particulate matter that CAIR would help achieve. In cities across the eastern half of the United States, we will be unable to meet the 2010 deadline without the reductions required by CAIR. But this is not just about States meeting their compliance deadlines. Instead, the dirtier air that will result from the Court's decision will harm the public, especially those who need relief the most, such as children, the elderly and persons with asthma.

By 2015, when the second phase of CAIR is affected, the reductions will save over 17,000 lives annually. Each year, 1,500 of those lives saved will be in New York, the same as in Ohio. There will also be tens of thousands fewer hospitalizations and other breathing illnesses.

Many of the OTC States are taking steps to ensure that in-State reductions comparable to CAIR are realized. New York's acid deposition program is just one example. But because that program does not deal with transported pollution, which accounts for approximately 75 percent of our particulate matter in the New York City area, it will not provide the same public health benefits as CAIR.

We must find a way to restore these lost public health benefits. We believe that extending compliance deadlines should not be part of the solution. It offers no relief to the breathing public.

If Congress takes action, it should strengthen CAIR, accelerating the schedules and obtaining steeper reductions. CAIR's schedule came from the Clear Skies bill. It wasn't based on deadlines for compliance with air quality standards. We should also remember that CAIR seeks to facilitate compliance with the old ozone standards, which EPA has now replaced with more stringent standards.

And even those new standards do not provide the protection recommended by EPA's science advisors. Inadequate as these new standards are, they still require the States and EPA to implement new control programs beyond CAIR to reduce regional pollution.

This summer provides a stark reminder of the inadequacy of CAIR. Even with the reductions required by the NOx SIP Call, the eastern part of the Country is seeing an increase in high ozone alert days this summer. But CAIR would not provide substantial emission reductions in the ozone season beyond those provided by the NOx SIP Call until 2015. That is too late.

A similar story can be told for particulate matter. The health benefits that I mentioned a moment ago and that we have been hearing about this morning, the 17,000 lives saved, those health benefits will not be realized until phase two of CAIR is implemented in 2015. We believe that the solution is obvious: the reductions required by CAIR should be accelerated and strengthened.

A final point, which I will leave to my written testimony, is that Congress should take this opportunity to enact control programs for the other two pollutants emitted from power plants, mercury and carbon dioxide.

Thank you very much.

[The prepared statement of Mr. Snyder follows:]

Testimony of

Jared Snyder
Assistant Commissioner for Air Resources, Climate Change and Energy
New York State Department of Environmental Conservation
625 Broadway, 14th Floor
Albany, New York 12233-1010

Before the

U.S. Senate Committee on Environment and Public Works
Subcommittee on Clean Air and Nuclear Safety
"EPA's Clean Air Interstate Rule (CAIR):
Recent Court Decision and its Implications"
406 Dirksen Senate Office Building
Tuesday, July 29, 2008, 10:00 AM

My name is Jared Snyder and I am the Assistant Commissioner of the New York State Department of Environmental Conservation for Air Resources, Climate Change and Energy. I am also the current Chair of the Ozone Transport Commission (OTC), a body established by the 1990 amendments to the Clean Air Act to coordinate activities of the twelve states and the District of Columbia that comprise the ozone transport region (OTR). Although I am testifying today on behalf of New York, I can also relate the collective views of the OTC.

I appreciate the opportunity to testify today about the impact of the decision of the U.S. Court of Appeals for the District of Columbia Circuit vacating the Environmental Protection Agency's (EPA) Clean Air Interstate Rule (CAIR). Assuming that it is not reversed on further review, the court's decision will have potentially dramatic repercussions for air pollution management and public health. Many states will now find

it much more difficult, if not impossible, to establish compliance with the national ambient air quality standards (NAAQS) for ozone and fine particulate matter (PM2.5). The vacatur of CAIR also disrupts the efforts of the states to comply with a number of other air quality programs that were dependent, at least in part, on CAIR, such as the implementation of the regional haze rule.

More importantly, this decision means that people living in the eastern United States will have to wait longer for clean air, suffering the continued consequences of breathing air that fails to meet the health-based air quality standards. EPA's own numbers, used to justify the program, now demonstrate in vivid detail the effect of the CAIR vacatur. In adopting CAIR, EPA estimated that there would be 17,000 fewer fatalities annually as a result of the implementation of CAIR. Unless the emission reductions expected from CAIR are restored, therefore, we can expect that an additional 17,000 people will die each year, in addition to the suffering of thousands of people with asthma and other respiratory difficulties.

The State of New York and the other member states of the OTC are committed to taking the steps necessary to restore and strengthen the protection of air quality that was provided by CAIR. Those efforts, including the filing of petitions under Section 126 of the Clean Air Act, are described in more detail below. Recognizing the vagaries of administrative action, and the fact that the states cannot solve this problem themselves, we urge Congress to take prompt action to restore and strengthen the emission

reductions required by CAIR. If expeditious action is taken, it is possible that we can avoid postponing the benefits of cleaner air.

Benefits of CAIR

Most of my testimony will focus on what CAIR did do, what it did not do, and what its demise means for air quality and the states' obligations to comply with Clean Air Act mandates. New York and the OTC have maintained that CAIR did not provide sufficient and timely reductions from the power sector to fully protect public health. Nevertheless, CAIR would have provided a significant amount of reductions in emissions of nitrogen oxides (NOx) and sulfur dioxide (SO_2), which would have resulted in substantial air quality benefits and assisted States in meeting their air quality goals. The vacatur of CAIR has far-reaching impacts on the ability of the states to attain and maintain the health-based ozone and PM2.5 standards (including the recently strengthened ozone and PM2.5 NAAQS), improve lands, lakes and streams still being severely impacted from acid rain, and enhance visibility in our national parks and wilderness areas.

States are currently implementing plans to meet these health-based air quality standards in the 2009 to 2012 time frame in accordance with the Clean Air Act and current regulatory requirements. Many of these plans are now rendered inadequate by the loss of in-state and upwind emission reductions from CAIR that are being relied upon to demonstrate attainment with the ozone and PM2.5 standards. In New York, we are currently in the process of evaluating the changes that must be made in our current ozone and PM2.5 state implementation plans (SIPs) to take account of the court's

decision. Our ozone SIP projects that we will be able to achieve compliance with the ozone standard by 2012, but that assumes the reduction of emissions from out-of-state sources attributable to the implementation of CAIR. In its decision, the court of appeals expressed its view that the 1997 NOx SIP Call would limit the harm to air quality from the vacatur of CAIR. But the truth is much more complicated. The NOx SIP Call was a more limited air pollution transport rule that required NOx reductions in twenty eastern States and the District of Columbia in the five month ozone season only (May through September). The NOx SIP Call has been very successful in reducing emissions and, consequently, ozone levels. As the chart attached as Exhibit A shows, ozone season NOx emissions from the power sector have decreased nearly 60% since 2000 as a result of the NOx SIP Call. At the same time, ozone levels have decreased substantially. In New York, for example, ozone levels decreased 15 % in Chautauqua County (in southwestern New York) and 9.5 % in Babylon, Suffolk County (part of the New York City nonattainment area) over this period. *See* Exhibit B.

The problem with the court of appeals' conclusion that the NOx SIP Call will serve as a backstop is that many states repealed their NOx SIP Call programs when adopting the CAIR program. With the sunset of the NOx SIP Call after the end of this year's ozone season, some states may not be able to put their programs back in place before the start of the next ozone season (May 1, 2009). Although the control technologies are in place to maintain the 60% reduction in NOx emissions that has been realized, a portion of these reductions will be in jeopardy without the CAIR rule in place. We know this because of what we see during the non-ozone season when the NOx SIP

Call does not govern. During that time where control programs are not in place, emissions go up dramatically. *See* Exhibit C (Presentation to the NESCAUM Directors, Discerning Plant NOx Emissions Behavior in the Northeast Using the ETS Dataset by Jeremy Fisher, Ezra Hausman, & Chris James, Synapse Energy and Economics, Inc., January 30, 2008). Without CAIR there is no annual program to mitigate those emissions.

Therefore, the fate of New York's ozone SIP, as well as the SIPs of other OTC states, depends largely on the status of the NOx SIP Call in upwind states. In New York, we will not lose substantial emission reductions from New York sources because we did not repeal the state regulations implementing the NOx SIP Call when we enacted the New York CAIR regulations. However, because of the uncertainty over the status of the NOx SIP call regulations in upwind states, we cannot be sure at this time about the ramifications of the demise of CAIR on our efforts to achieve compliance with the ozone SIP. We are also uncertain about EPA's ability to allocate the NOx SIP Call allowances in a timely manner and to continue to administer the program.

For the PM2.5 SIP, the analysis is clearer. EPA projected that the implementation of CAIR, along with other programs directed at diesel emissions, would result in attainment for all the PM2.5 nonattainment areas in the corridor extending from Washington to the Connecticut suburbs, which includes all the areas projected to be in nonattainment in New York. *See* Exhibit D. Although we are just beginning to analyze the effect of the loss of CAIR, we believe that it will make it much more difficult for many

states to achieve compliance with the PM2.5 NAAQS by the 2010 compliance deadline. Once again, however, New York and states downwind of New York benefit from the New York state regulations predating CAIR that require SO_2 reductions of a magnitude comparable to the first phase of CAIR, and year round NOx reductions that are somewhat lower than those required by CAIR. But because the portion of PM2.5 levels attributable to transported emissions is so high (approximately 75% in New York)[1], the failure to achieve the upwind emission reductions required by CAIR may prevent New York from complying with the PM2.5 NAAQS until those emission reductions are restored.

Much more important than the effect of the court decision on state air quality planning activities is the effect of the decision on public health. By 2015, when the second phase of CAIR commences, EPA projected the following health benefits flowing from the PM2.5 reductions attributable to CAIR: approximately 17,000 fewer premature fatalities, 8,700 fewer cases of chronic bronchitis, 22,000 fewer non-fatal heart attacks, 10,500 fewer hospitalizations for combined respiratory and cardiovascular diseases, 9.9 million fewer cases of respiratory illnesses, and 1.7 million fewer work-loss days. EPA also estimated substantial health improvement for children from reduced upper and lower respiratory illness, acute bronchitis, and asthma attacks. Of the 17,000 lives that would be saved annually by the PM2.5 reductions attributable to CAIR, EPA estimated than 1,500 of those lives saved would be in New York, the same as Ohio. Only

[1] Qin, Y., Kim, E., Hopke, P., 2006. The Concentrations and Sources of PM2.5 in Metropolitan New York City. Atmospheric Environment.

Pennsylvania would realize greater public health benefits from the implementation of CAIR.

Similarly, EPA estimated 2015 ozone related benefits (in the eastern US generally limited to summer season of May to October) to include 2,800 fewer hospital admissions for respiratory illness, 280 fewer emergency room admissions for asthma, 690,000 fewer days with restricted activity levels and 510,000 fewer days of children school absences. Although not part of EPA's benefits analysis, EPA did analyze studies that indicate a relationship between mortality and ozone, which suggest that approximately 500 lives would be saved annually as a result of the ozone reductions attributable to CAIR. EPA estimated the net benefits that it expected from CAIR as between $62.6 – 73.2 billion in 2010 and $86.3 – 101 billion in 2015. Compared to the costs to the power industry of $2.4 billion in 2010 and $3.6 billion in 2015, this means that the benefits of CAIR exceed the costs by a factor of 25:1.

CAIR would also assist the states in achieving compliance with the new ozone and PM standards, promulgated in 2008 and 2006, respectively. States are now beginning to develop plans to comply with the 2008 ozone standard that will have attainment deadlines for states starting in 2013, and the 2006 PM2.5 standard, which will have an attainment deadline of 2014. CAIR would have provided air quality benefits that would likely have resulted in fewer nonattainment areas under these newer and stricter standards. For example, in New York, upstate areas like Buffalo, Rochester, Syracuse and Albany would be expected to meet the new, stricter ozone standard with

the reductions from CAIR. Air quality in rural areas like Jamestown (Chautauqua County), Watertown (Jefferson County) and Essex County (the peak of Whiteface Mountain), currently exceed the new ozone NAAQS largely due to transported air pollution that would have been reduced by CAIR.

Also, there are a few areas of the country -- including New York City, Houston and Los Angeles -- that are still trying to meet the old one hour ozone standard. At this point, these areas have failed to meet their attainment date and are subject to stringent requirements under Section 185 of the Clean Air Act. Section 185 requires major sources in the nonattainment area to pay substantial fees in lieu of reducing local emissions, but does nothing for transported pollution. CAIR or a similar program that limits the influx of ozone and its precursors is needed to assist these areas to deal with that component of nonattainment related to transported pollution.

CAIR would also have substantial benefits for the natural environment. The reduction in NOx and SO_2 emissions will reduce the acid deposition that decimates the lakes and streams in New York's Adirondack park region and other portions of the northeast. EPA's analysis is that CAIR would eliminate chronic acidity in Adirondack Lakes by 2030. *See* Exhibit E. The implementation of CAIR would also reduce the nitrogen deposition to sensitive coastal ecosystems such as Chesapeake Bay and Long Island Sound. CAIR would also improve visibility in our national parks and other natural areas. In fact, EPA rules establish compliance with CAIR as constituting Best Available Retrofit Technology (BART) under the regional haze rule. 70 Fed. Reg. 39137 (July 6,

2005). The vacatur of CAIR means that many states will have to revisit their regional haze requirements.

Shortcomings of CAIR

As important as CAIR is for protecting air quality and the environment, it is equally important to recognize its inadequacies. CAIR did not provide adequate reductions for many of the major metropolitan areas of the Northeast. Nonattainment areas like the New York City metropolitan area, including northern New Jersey and southeastern Connecticut; Philadelphia, including southern New Jersey and parts of Delaware and Maryland; and Baltimore-Washington, DC, including northern Virginia, need more than CAIR to meet their air quality goals. The air entering states in the northeast corridor is often already highly contaminated. An analysis of the monitoring data at the Methodist Hill, Pennsylvania site by the Maryland Department of the Environment shows that approximately 40 parts per billion (ppb), or more than half of the amount of ozone allowed under the new ozone standard, comes from an "elevated reservoir" of ozone that enters the region from upwind states. *See* Exhibit F. For Ocean County, New Jersey and New Haven County, Connecticut, EPA estimates that after implementation of the NOx SIP Call, but not CAIR, 82 and 95% of the ozone in 2010, respectively, will be the result of pollution transported from sources in upwind States.

To close the gap left by CAIR, OTC states controlled other sources and required further controls on power plants. For example, Maryland passed its own Healthy Air Act

to assure additional emission reductions from the power sector and Delaware adopted a multi-pollutant regulation for electricity generators. New York and the other OTC States have implemented many control programs -- including controls on sources of volatile organic compounds (VOCs) like gas cans, consumer products, and autobody refinishing, and NOx controls on smaller sources -- that were more costly to implement than deeper CAIR reductions would have cost on a dollar per ton basis and were not as effective as a more stringent CAIR would have been.

Responding to the Vacatur of CAIR

New York and the other OTC states are committed to taking the steps needed to restore the emission reductions lost as a result of the court of appeals' decision. First, we are urging EPA to move quickly to repromulgate a CAIR-type rule that corrects the shortcomings identified by the court of appeals in its decision. This past Friday, we sent EPA the letter attached as Exhibit G, calling upon EPA to take immediate action to protect air quality by restoring the protections required by the 1997 NOx SIP, which was largely displaced by CAIR, and by taking prompt steps to issue a new comprehensive transport rule that conforms to the court's decision and obtains quicker and steeper emission reductions than would have resulted from CAIR. Second, we are also committed to using the authority the states have under Section 126 of the Act to file petitions seeking the elimination of any emissions that contribute significantly to nonattainment in the downwind state. Section 126 provides a powerful tool for states harmed by transported air pollution to obtain quick relief. Third, we are committed to taking steps to ensure that emissions of our in-state sources are reduced. For example,

New York will continue to enforce the preexisting obligations of power plants to reduce their emissions under the State's acid deposition reduction program (ADRP).

Finally, we are urging Congress to act. We ask Congress to promptly restore the benefits of CAIR that have been lost. But it should not stop there. It should take this opportunity to expedite and strengthen the air quality benefits of CAIR. With regard to ozone, most of the urban areas in the northeast will be unable to meet the ozone standard by 2010, according to EPA's analyses. Accelerating the second phase of CAIR will help us achieve cleaner air that complies with the standard sooner. In any event, EPA has recognized that even lower levels of ozone are needed to protect public health. Expediting the second phase of CAIR is an essential part of the strategy to reduce ozone levels to meet the new lower ozone standard, which we believe is still inadequately protective.

Accelerating the second phase of CAIR will result in dramatic benefit for public health, due to the earlier reduction of fine particulate levels. The health benefits identified above – over ten thousand lives saved annually and thousands of reduced hospitalizations – will not be realized until the second phase of CAIR is implemented in 2015. Implementation of the second phase of CAIR will result in only a few additional areas coming into compliance with the PM2.5 standard, with most of the large, heavily populated areas in the Midwest remaining out of attainment even after that second phase is implemented. *See* Exhibit H.

Likewise, additional reductions in NOx and SO_2 emissions, beyond those required by CAIR, will have substantial benefits for public health and the environment. Working with our colleagues at the Northeast States for Coordinated Air Use Management (NESCAUM), the OTC has calculated the benefits and costs of reducing emissions. Implementation of an additional 20% reduction in NOx and SO_2 emission levels will save 250-300 additional lives annually in the OTR.[2] The benefits should be even greater in the Midwestern states, which, according to EPA's analysis, will include urban areas that remain in noncompliance with the PM2.5 standard even after CAIR is fully implemented. Once again, as with CAIR itself, the benefits of these additional reductions for public health greatly exceed the costs of implementing the additional reductions. The NESCAUM study concludes that the nationwide health benefits of this strategy exceed the costs by a magnitude of over 3 to 1.

In crafting its response to the court of appeals decision, Congress should resist the temptation to extend compliance deadlines. While we acknowledge that the failure of CAIR makes compliance with the ozone and PM NAAQS by the applicable deadlines difficult if not impossible, we believe strongly that the proper response is not to extend the deadlines or weaken the standards, which would do nothing to protect public health. Instead, Congress should ensure that the emission reductions required by CAIR are achieved and the public health benefits of clean air realized.

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[2] See www.nescaum.org/topics/exposure-risk-assessment-and-health-effects or www.otcair.org/documents.asp?fview=Report#

Other Power Plant Emissions

When Congress addresses SO_2 and NOx emissions, it should consider addressing the other two primary power plant emissions, mercury and carbon dioxide. The CAIR vacatur comes on the heels of another court of appeals decision striking down EPA's Clean Air Mercury Rule (CAMR), which relied unlawfully on a cap-and-trade program to control this toxic pollutant. We agree that mercury emissions should be addressed through limits applicable to each plant, instead of a cap-and-trade program that provides inadequate protection and allows hot spots of mercury pollution to persist.

Mercury poses a very real threat to public health and the environment throughout in New York and the northeast. Due to the high levels of mercury in freshwater fish, the New York State Department of Environmental Conservation (NYSDEC) and New York State Department of Health (NYSDOH) have issued specific warnings advising that pregnant women and children should not consume any servings of specific fish species that are caught in 93 lakes and more than 265 miles of rivers in the State. To address this impact, New York joined with other northeastern States is establishing a total maximum daily load (TMDL) for mercury pollution under the Clean Water Act; this TMDL was approved by EPA in December 2007. Reducing mercury levels in accordance with this TMDL will require substantial reduction from sources of mercury emissions, including power plants. The States are taking steps to achieve the needed reductions. New York requires that coal fired power plants reduce mercury emissions by 50% in 2010 and meet a performance standard (0.6 pounds per trillion Btu) which

will result in a 90% reduction from 1999 levels in 2015. Pennsylvania requires an 80% reduction in 2010 and a 90% reduction in 2015. Several significant upwind States, including Illinois, Michigan and Wisconsin, have implemented mercury reduction strategies for coal fired electric utilities. However, other states with large power plant sources of mercury emissions, such as Ohio, Indiana and West Virginia, followed EPA's lead and relied on CAMR to achieve the needed reductions.

The court of appeals' decision vacating CAMR requires EPA to now do what it was required to do from the outset: promulgate plant-specific emission standards for mercury under Section 112 of the Clean Air Act, which governs hazardous air pollutants. We believe that Section 112 provides a valid and effective framework for reducing power plant mercury emissions. But EPA has yet to respond to the remand of CAMR. Therefore, we would support Congressional enactment of a strong nationwide mercury emission reduction program that requires reductions in mercury emissions of 90% or more from each power plant. In the alternative, Congress could enact legislation placing EPA on a strict schedule to complete the rulemaking and require the implementation of controls in accordance with Section 112 of the Clean Air Act.

Finally, we urge Congress to address the climate implications of the emissions from power plants. Overwhelming scientific evidence demonstrates that climate change threatens New York State's air quality, water quality, marine and freshwater fisheries, salt and freshwater wetlands, surface and subsurface drinking water supplies, river and

stream impoundment infrastructure, forests, and wildlife habitats.[3] The New York climate has already begun migrating south, gradually taking on the characteristics of the climate formerly found in the states south of New York. Climate change will cause more intense and prolonged periods of summertime heat in New York, resulting in increased mortality and heat illnesses, especially among susceptible populations such as children, the elderly and individuals with pre-existing cardiovascular and respiratory disease. Higher temperatures will contribute to conditions that enhance the formation of ground-level ozone.

Climate change will adversely affect New York's 2,625 miles of coastal ecosystems and communities. Accelerated sea level rise due to climate change will increase the frequency and magnitude of flood damage to coastal communities and further stress coastal ecosystems. Climate change will warm coastal waters, altering the species composition of our marine fisheries and impacting local fisheries-based economies. Reduction of cold-water habitat supporting resident trout and salmon populations is expected as temperatures of surface waters increase. Warmer winters will increase pests and diseases that can disrupt crop production and threaten our forests, including those in the Adirondack Park, one the most significant hardwood ecosystems in the world. New York's maple syrup industry is endangered since specific temperature conditions are required in order for the sugar maples to produce sap, as are our dairy farms as milk production is maximized under cooler conditions. Changes in temperature and precipitation trends will make management of New York's public

[3] Frumhoff, P.S., J.J. McCarthy, J.M. Melillo, S.C. Moser, and D.J. Wuebbles. 2007. Confronting Climate Change in the U.S. Northeast: Science, Impacts, and Solutions. Synthesis Report of the Northeast Climate Impacts Assessment (NECIA). Cambridge, MA: Union of Concerned Scientists (UCS).

water supply, including the surface water reservoirs that deliver approximately 1.4 billion gallons of water each day to nearly 9 million people in New York City, much more difficult.

Once again, the states have stepped into this void. New York and many of the other northeastern and mid-Atlantic states joined forces to implement the regional greenhouse gas initiative (RGGI), a first of its kind cap-and-trade program for carbon dioxide emissions. Last week, the RGGI states released the application materials for participation in the nation's first auction of carbon dioxide allowances to be held in September. New York also has one of the nation's most aggressive renewable performance standards, requiring the generation of 25% of the State's electricity from clean, renewable sources of energy by 2025. In addition, New York leads the way with its "15 by 15" program to reduce energy demand 15% by 2015. Other states across the country are implementing similar efforts.

Such state efforts should be preserved, but they are not enough. It is time for the United States to take the lead in enacting a carbon dioxide reduction program that achieves the steep reductions in carbon dioxide emissions that scientists tell us are needed to prevent dangerous human interference with the climate. Any such program should acknowledge the need for a partnership in which all levels of government participate, including the states, and it should expressly preserve state authority to enact programs that reduce emissions of greenhouse gases.

Conclusion

In conclusion, the court of appeals decision has the potential to result in substantially increased air pollution in the eastern United States, with dramatic ramifications for the protection of public health. Congress should act promptly to restore and strengthen the air quality protection provided by CAIR. At the same time, Congress should also use this opportunity to enact a stringent four pollutant control program that addresses the immediate threat posed by NOx, SO_2 and mercury emissions and achieves climate protection goals.

Exhibit A

Table 3: Ozone Season NO_x Emissions from All NBP Sources, 1990–2006 and 2006 State Trading Budgets

NBP State	1990 Emissions	2000 Emissions	2003 Emissions	2004 Emissions	2005 Emissions	2006 Emissions	2006 Budget*
AL	89,758	84,560	50,895	40,564	33,632	27,812	25,497
CT	11,203	4,697	2,070	2,191	3,022	2,514	4,477
DC	576	134	72	35	279	115	233
DE	13,180	5,256	5,414	5,068	6,538	4,764	5,227
IL	124,006	119,460	48,917	40,976	37,843	36,343	35,557
IN	218,333	145,722	100,772	68,375	57,249	55,510	55,729
KY	153,179	101,601	63,057	40,394	36,729	37,461	36,224
MA	40,367	14,324	9,265	7,481	8,269	5,464	12,861
MD	54,375	28,954	19,257	19,944	20,989	18,480	15,466
MI	120,132	80,425	45,614	39,848	42,157	40,163	31,247
NJ	44,359	14,630	11,003	10,807	11,277	8,692	13,022
NY	84,485	43,583	34,785	34,139	36,663	26,339	41,397
NC	92,059	73,082	51,943	39,821	32,888	30,387	34,632
OH	240,768	159,578	133,043	67,304	54,335	52,817	49,978
PA	199,137	87,329	51,530	52,140	51,125	52,798	50,843
RI	1,099	288	209	177	221	181	936
SC	56,153	39,674	34,624	25,377	18,193	18,376	19,678
TN	115,348	69,641	55,376	31,399	25,718	23,924	31,480
VA	51,866	40,043	32,766	25,443	22,309	20,491	21,195
WV	149,176	109,198	69,171	41,333	30,401	28,852	29,507
All NBP States	1,859,559	1,222,179	819,783	592,819	529,809	491,483	515,186

* Budgets include opt-in allowances, where applicable.

Note: Totals may not equal individual rows due to rounding. Data for previous years for some states may be slightly different from the data presented in earlier reports due to resubmissions. Baseline estimates remain fixed based on EPA estimates prepared for the NBP 2003 Progress and Compliance Report. All other data are current and correspond to data as of July 6, 2007, in EPA's data systems, available through Data and Maps at <http://camddataandmaps.epa.gov/gdm>. Emissions are from all NBP affected sources, including 2003 and May 2004 emissions from sources in non-OTC states that did not control emissions during these periods. Data for 2003 emissions in North Carolina do not include affected non-EGU emissions because they did not report that year.

Source: EPA, 2007.

Exhibit B

Historic 8-hour Ozone NAAQS Design Values

Station	1998-2000	1999-2001	2000-2002	2001-2003	2002-2004	2003-2005	2004-2006
REGION 1							
Babylon	0.091	0.087	0.092	0.095	0.094	0.091	0.089
Riverhead	0.094	0.091	0.085	0.084	0.080	0.079	0.085
Holtsville			0.097	0.100	0.094	0.091	0.088
REGION 2							
Pfizer/ex Bot Garden	0.080	0.083	0.081	0.084	0.083	0.075	0.074
IS #52		0.065	0.073	0.078	0.080	0.076	0.072
Susan Wagner	0.096	0.098	0.096	0.094	0.089	0.087	0.089
College Point			0.074	0.075	0.072	0.069	
Queens College 2				0.083	0.083	0.082	0.079
REGION 3							
White Plains	0.092	0.092	0.090	0.094	0.090	0.088	0.085
Valley Central	0.086	0.087	0.084	0.087	0.083	0.084	0.080
Millbrook	0.087	0.087	0.093	0.094	0.089	0.079	0.074
Mt. Ninham	0.087	0.089	0.092	0.093	0.089	0.086	0.084
Belleayre	0.080	0.081	0.081	0.083	0.080	0.079	0.077
REGION 4							
Loudonville	0.077	0.080	0.083	0.086	0.080	0.076	0.073
Schenectady			0.076	0.081	0.076	0.074	0.068
Grafton Lakes					0.085	0.080	0.076
REGION 5							
Stillwater	0.079	0.084	0.083	0.087	0.084	0.082	0.078
Whiteface Summit	0.080	0.082	0.086	0.091	0.089	0.084	0.075
Whiteface Base	0.076	0.078	0.082	0.088	0.083	0.077	0.071
Piseco Lake	0.077	0.077	0.079	0.081	0.076	0.073	0.070
REGION 6							
Perch River	0.083	0.087	0.091	0.097	0.086	0.080	0.075
Camden	0.073	0.076	0.078	0.083	0.078	0.072	0.066
Nick's Lake	0.070	0.072	0.074	0.076	0.072	0.069	0.066
REGION 7							
Camp Georgetown	0.078	0.078	0.080	0.082	0.077	0.073	0.070
Fulton/Granby						0.082	0.076
East Syracuse	0.080	0.081	0.083	0.085	0.079	0.074	0.071
REGION 8							
Elmira	0.079	0.079	0.081	0.083	0.077	0.070	0.067
Rochester	0.079	0.081	0.085	0.088	0.078		
Rochester 2						0.068	0.072
Williamson	0.081	0.081	0.083	0.088	0.081	0.071	0.065
REGION 9							
Westfield	0.088	0.085	0.087	0.089	0.085	0.079	0.075
Amherst	0.089	0.092	0.097	0.099	0.091	0.086	0.083
Middleport	0.085	0.087	0.091	0.095	0.089	0.086	0.081
Dunkirk		0.089	0.092	0.094	0.093	0.089	0.086

Exhibit C

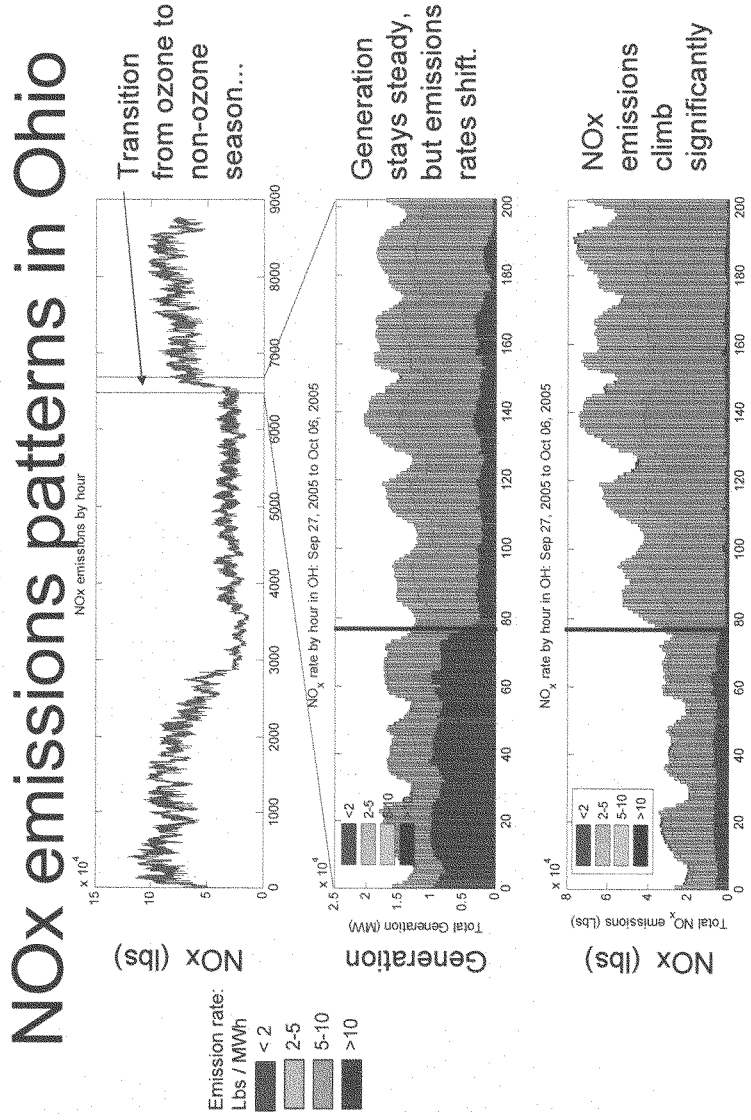
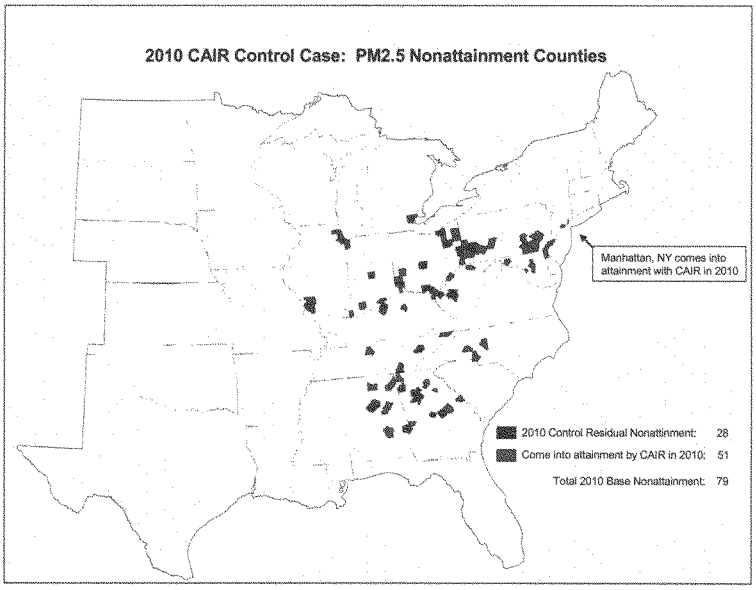

NOx emissions patterns in Ohio
Transition from ozone to non-ozone season…
Generation stays steady, but emissions rates shift.
NOx emissions climb significantly
NOx (lbs)
Generation
NOx (lbs)
Emission rate: Lbs / MWh
< 2
2-5
5-10
>10
NOx emissions by hour
NOx rate by hour in OH: Sep 27, 2005 to Oct 06, 2005
Total Generation (MW)
Total NOx emissions (Lbs)

Exhibit D



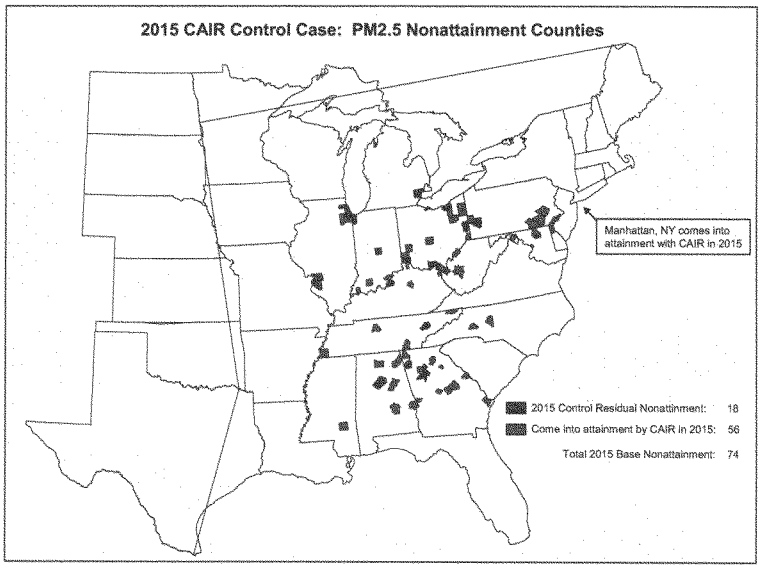


Figure VIII-4. 2010 and 2015 Base Case 8-hour nonattainment counties that are expected to come into attainment with CAIR in 2010 (top) and 2015 (bottom).

Exhibit E

CAIR Delivers Considerable Environmental Benefits

In 2015, annual visibility benefits would be almost $2 billion for improvements in southeastern national parks, such as Great Smoky and Shenandoah, and forests.

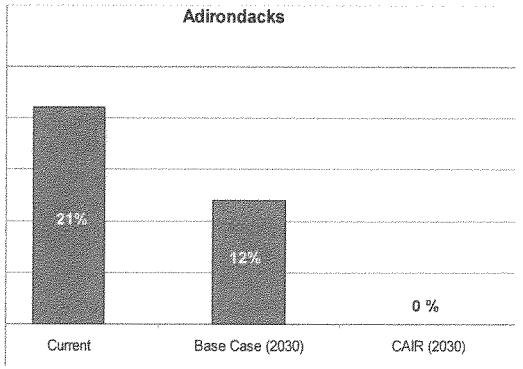
CAIR will reduce the number of acidic lakes — significant regional reductions in sulfur and nitrogen deposition are projected to benefit lakes and streams in the eastern U.S.

Northeast Region — Chronic acidity would be dramatically reduced by 2030 (only 1% of lakes would remain chronically acidic).*

Adirondack Mountains — Eliminates chronic acidity from lakes in the Adirondacks*

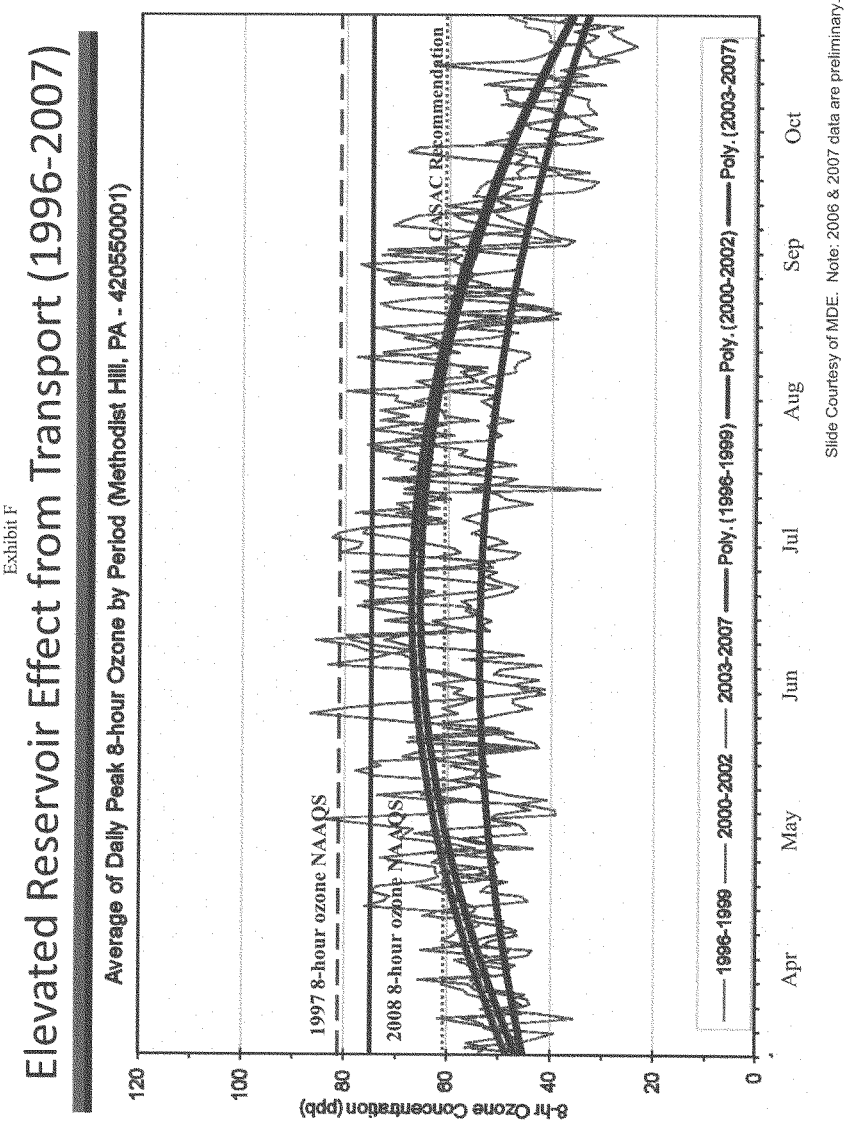
Southeast Region — Slows the rate of stream acidification.

Reductions in nitrogen deposition will benefit sensitive coastal ecosystems.



*Note: The figure presents results for chronic acidity only in modeled lakes. As such, model results apply to a subset of lakes in the Adirondacks and cannot be generalized to all waters in that area. These results do not include lakes that experience episodic acidification, or short periods of low Acid Neutralizing Capacity or high acidity, during storms or snowmelt. A significant proportion of Adirondack lakes could still experience episodic acidification at levels potentially harmful to fish and other aquatic species.

Exhibit F



Slide Courtesy of MDE. Note: 2006 & 2007 data are preliminary.

Exhibit G

OZONE
TRANSPORT
COMMISSION

Connecticut

Delaware

District of Columbia

Maine

Maryland

Massachusetts

New Hampshire

New Jersey

New York

Pennsylvania

Rhode Island

Vermont

Virginia

Anna Garcia
Executive Director

444 N. Capitol St. NW
Suite 638
Washington, DC 20001
(202) 508-3840
FAX (202) 508-3841
Email: ozone@otcair.org

Administrator Stephen L. Johnson
Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, N. W.
Washington, DC 20460

July 25, 2008

Dear Administrator Johnson:

The members of the Ozone Transport Commission (OTC), in response to the July 11, 2008 court decision vacating the Clean Air Interstate Rule (CAIR), urge the U.S. Environmental Protection Agency (EPA) to take prompt action to develop a new regulation that achieves or exceeds the clean air benefits of CAIR and to ensure, in the interim, that there is no backsliding from the emission caps imposed under the NOx SIP Call (NOx Budget Trading Program).

The vacatur of CAIR presents a significant blow to the protection of human health and the environment. It has far-reaching impacts on the ability of states to attain and maintain the eight-hour ozone and fine particulate matter National Ambient Air Quality Standards (NAAQS), and improve visibility in our national parks and wilderness areas as required under the Clean Air Visibility Rule. Prompt action by EPA to develop a national program that restores or even strengthens the air quality protection CAIR would have provided, and is consistent with the court's ruling, is more important than ever in light of the recently strengthened ozone and PM 2.5 NAAQS.

A key priority is to fully reinstate the NOx SIP Call Trading Program, as indicated in the court's decision, including the allocation of allowances and administration of the program by EPA. Simultaneously, the EPA should promulgate a new rule that, consistent with the court's decision, corrects the disconnect between the timing of the reductions that were required by CAIR and the timeframe for states in the Northeast and elsewhere to achieve and maintain the ozone and PM 2.5 NAAQS.

We recognize that EPA is considering whether to seek rehearing of, or appeal, the court's decision. Regardless of whether EPA further pursues the litigation, EPA should not postpone developing a regulatory response to the decision pending the exhaustion of appeals. The appeal process is likely to take months and EPA should move as quickly as possible to ensure that public health is protected.

The court also held that "downwind states retain their statutory right to petition for immediate relief from unlawful interstate pollution under Section 126, 42 U.S.C. § 7426." Consequently, many of our states are now considering the filing of Section 126 petitions. We urge EPA, however, not to wait for the filing of Section 126 petitions before taking appropriate and prompt action to comply with the court's decision. In light of the CAIR vacatur, EPA should also expeditiously revisit its April 28, 2006 denial of the North Carolina Section 126 petition, the court challenge of which is currently being held in abeyance.

Our states stand ready to work with EPA as it promptly develops a regulation that achieves maximum clean air benefits and complies with the court's decision, and to take appropriate steps in the interim to ensure continued implementation of the NOx SIP Call. We look forward to working collaboratively with EPA to protect the health of all of our citizens as expeditiously as practicable.

Jared Snyder, Chair
Assistant Commissioner
New York Department of
Environmental Conservation

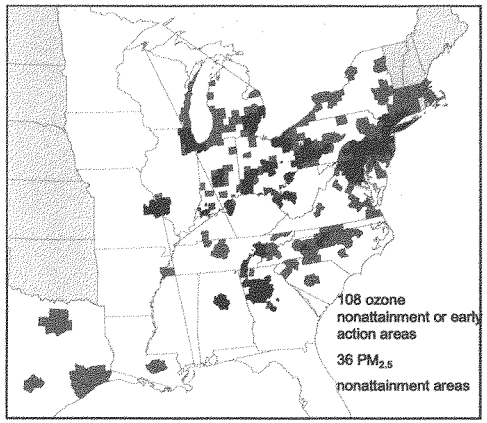
Shari Wilson, Vice Chair
Secretary
Maryland Department of the
Environment

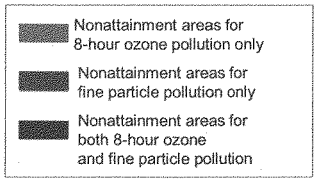
Laurie Burt, Secretary/Treasurer
Commissioner
Massachusetts Department of
Environmental Protection

Exhibit H

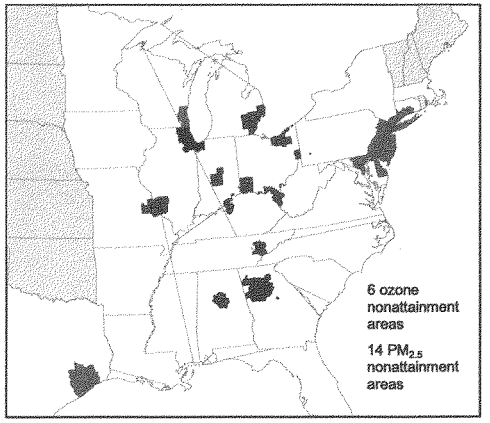
Ozone and PM Attainment Forecast with CAIR and with Other Clean Air Programs – Eastern U.S. in 2015

Ozone and Fine Particle Nonattainment Areas* (April 2005)





Projected Nonattainment Areas* in 2015 after Reductions from CAIR and Existing Clean Air Act Programs



*Although tallies include all nonattainment areas in the eastern U.S., maps show only those areas in States covered by CAIR. Four current O^3 nonattainment areas in New England are not pictured.

Projections concerning future levels of air pollution in specific geographic locations were estimated using the best scientific models available. They are estimations, however, and should be characterized as such in any description. Actual results may vary significantly if any of the factors that influence air quality differ from the assumed values used in the projections shown here.

Environment and Public Works Committee Hearing
July 29, 2008
Responses to follow-up questions to Jared Snyder

Questions from Senator Boxer

Question # 1

a. Are New York and other States moving forward under the Clean Air Act to seek the reductions in power plant air pollution emissions that would have been achieved under CAIR?

Several States are undertaking initiatives unrelated to CAIR to reduce emissions of nitrogen oxides (NOx), sulfur dioxide (SO2) and/or mercury from power plants. For example, New York has an in-state emissions trading program that began to achieve emission reductions similar to the first phase of CAIR starting in 2003. As a result, emissions from power plants in New York were below the prescribed CAIR Phase 1 levels in 2007 (NOx emissions = 40,817 tons and SO2 emissions = 107,211 tons). Although these regulations remain in effect, they do not require reductions equivalent to CAIR Phase 2. Because New York was relying on CAIR to drive the second phase of reductions, New York will have to undertake further regulatory action to assure that the Phase 2 emission reductions expected from CAIR are achieved in New York. New York also adopted mercury regulations for coal fired power plants that went beyond the overturned federal Clean Air Mercury Rule (CAMR), requiring all plants in New York to meet a 0.6 lbs/trillion Btu limit by 2015, a 90 % reduction.

North Carolina's Clean Smokestacks Act requires power plants to reduce emissions of NOx by 77% in 2009 and SO2 by 73 % in 2013. North Carolina's program is unaffected by the CAIR vacatur.

Maryland's Healthy Air Act sets state and company based caps for NOx, SO2 and mercury that are stricter than the caps established by CAIR. The first phase requires emissions reductions of almost 70 % of NOx, and 80 % of SO2 and mercury by 2010 and the second phase requires reductions of 75 % for NOx, 85 % for SO2 and 90 % for mercury by 2013. Maryland's law is also unaffected by the vacatur of CAIR.

Delaware has adopted regulations to control emissions of NOx, SO2 and mercury from power plants. The first phase of the Delaware program becomes operational in 2009 and requires sources to meet caps for each pollutant. The second phase requires by 2012 that each unit comply with an emission limit equivalent to approximately an 80 % reduction in NOx and 90 % reductions in SO2 and mercury.

New Jersey has proposed NOx performance standard regulations that, when implemented, will reduce emissions below the CAIR levels. New Jersey is looking into performance standards or fuel in sulfur limitations for SO2.

This list is by no means complete. For example, many states have adopted mercury control programs or are in the process of replacing the reductions lost by the vacatur of CAMR.

As a result of the CAIR vacatur, the affected States are caucusing to determine what additional options are available. The environmental commissioners of the Ozone Transport Commission (OTC) and Lake Michigan Air Directors Consortium (LADCO) have directed staff to develop recommendations to present to the commissioners at an early October meeting of the State Collaborative (discussed below).

b. What steps are the states taking or considering, under what legal authorities?

The Northeast and Midwest States have been working together for several years to develop recommendations for controlling power plants and other large NOx and SO2 emissions sources. This effort, called the State Collaborative, recognizes that CAIR did not result in emissions reductions adequate to meet the current and future air quality needs of the states. The State Collaborative effort was expected to result in recommendations for EPA for national programs and to assist participating States to pursue their own regulatory efforts. The State Collaborative's caucus effort (mentioned above) is being expanded to include all willing CAIR states.

Northeastern States are working together to develop Clean Air Act Section 126 petitions for ozone, particulate matter and/or regional haze. These petitions are necessary to restore the emission reductions for the attainment State Implementation Plans (SIPs) for the 1997 8-hour ozone and annual PM2.5 standards. Many States' SIPs for these standards depend on the reductions anticipated from CAIR to demonstrate attainment. The States with Class I areas (Maine, New Hampshire, New Jersey and Vermont) are also developing petitions to protect visibility in national parks and wilderness areas. The CAIR reductions were used by these States to demonstrate that the reasonable progress requirements for regional haze were being met.

In addition, we are planning on petitioning EPA under Section 126 related to the revised 2006 PM2.5 24-hour standard and the revised 2008 8-hour ozone standard. EPA recently announced its recommendations on the designation of 57 areas in 25 states that don't meet the 2006 PM2.5 24 hour standard. Recommendations on the revised 2008 8-hour ozone standard are not expected until late next year. To meet these new, lower standards, substantial emission reductions will be required, presumably from all significant sectors (including power plants). Based on EPA's air quality modeling done in support of these new standards, emission reductions beyond CAIR Phase 2 will be needed.

New York is also developing reasonably available control technology (RACT) performance standards for large NOx sources (including power plants) to assist in abating the in-state contribution to nonattainment with ozone and PM2.5 national ambient air quality standards. These performance standards will result in deeper reductions than those that would have been required by CAIR. New York is also developing fuel sulfur requirements that will result in expanding the reduction of SO2 emissions to other industrial, commercial and even residential sources.

New York and the other OTC states are in the process of reevaluating SIP compliance strategies and determining whether additional emission reductions are required on a local or regional basis to make up the regional emission reductions lost when CAIR was vacated.

Question # 2

EPA had projected a number of power plants in New York that were expected to have NOx controls and/or SO2 scrubbers online in time to comply with the first phase of CAIR.

a. *Describe the steps DEC is taking to secure commitments to these measures, and provide your best current estimates of (i) the percentage of New York power plants that you believe are likely to continue with installation and operation of these controls, and (ii) the percentage of New York power plants that are not planning to go forward with the equipment installation and operation planned under CAIR.*

As an initial matter, New York questions the accuracy of EPA's modeling regarding the control decisions that would be made in New York under CAIR. The primary reason for the invalidity of EPA's modeling is that the dispatch assumptions built into EPA's model do not take account of the unique reliability rules that exist in New York, especially in New York City and on Long Island. Nevertheless, although we are not able to reconcile EPA's predictions with our expectations, we are able to identify those units that are implementing controls and that are expected to operate those controls.

The controls necessary to comply with the first phase of CAIR are already installed in New York and we expect that they will be operated. As mentioned above, New York has an in-state trading program for power plant NOx and SO2 emissions and emissions from power plants are currently below CAIR Phase 1 levels. New York's in-state trading program builds on EPA's ozone season NOx SIP Call program by capping emissions from power plants in the non-ozone season (October through April) and requires SO2 emissions from power plants to be slightly less that the first phase of CAIR. Although 2007 ozone season NOx emissions were below Phase 1 CAIR levels, further action will be needed to maintain the ozone season NOx budget trading program. In the absence of action by EPA to allocate allowances and continue to administer the program, New York will have to revise its implementing regulations to provide for state administration of the program. Furthermore, as a result of the CAIR 'fuel adjustment factor,' which the Court of Appeals held to be invalid, the CAIR NOx budgets (ozone season and annual) are approximately 30 % lower than the in-state program.

As explained above, New York is also developing NOx RACT regulations that will likely require plant-specific controls more stringent that CAIR NOx requirements. Finally, New York has also actively pursued emissions controls from in-state power plants through the enforcement of the new source review provisions of the Clean Air Act. These actions have resulted in consent decrees that include enforceable schedules for the application of controls. As a result, New York anticipates that most New York power plants will control emissions to CAIR levels or better, as explained in more detail below.

Given the state of flux in development of various control strategies, including NOx RACT, we cannot at this time identify with certainty the units that will and will not operate controls in the absence of CAIR. Our best estimate is that we have been able to identify only two power plant units, at the Danskammer plant, that would operate SO2 controls under CAIR but not without CAIR. These units produce approximately 11% of the power produced by coal-fired power plants in New York. We believe that the remaining New York power plants that would be operating controls if CAIR is in effect will continue to do so without CAIR.

b. *Please identify power plants and electric generating units (EGUs) in New York that you believe are either likely or unlikely to continue with installation and operation of those controls, based upon the best information available to you. For each of these plants and EGU, please provide the following information: plant name, county, owner/operator. EGU and plant capacity (in MW), post-combustion controls for SO2 and/or NOx, known or projected online year for the control(s) based on the best information available to DEC.*

Based on our analysis, we believe that the following coal-fired plants will operate the controls indicated even without CAIR or some replacement:

1. Plant name – Dunkirk Steam Generating Station
2. County – Chautauqua
3. Owner/operator – Dunkirk Power, LLC. (NRG)
4. EGU and plant capacity (in MW) – unit 1 (100 MW), unit 2 (100 MW), unit 3 (200 MW) and unit 4 (200 MW), so the plant capacity is 600 MW
5. Post-combustion controls for SO2 and/or NOx – Trona injection with baghouses for SO2 and mercury control and selective non-catalytic reduction (SNCR) for NOx control are being installed. Both systems are expected to be operational for units 3 & 4 during the third quarter of 2009 and both systems are expected to be operational on units 1 & 2 during the first quarter of 2010.

1. Plant name – Huntley Steam Generating Station
2. County – Erie
3. Owner/operator – Huntley Power, LLC. (NRG)
4. EGU and plant capacity (in MW) – unit 67 (200 MW), unit 68 (200 MW), so the plant capacity is 400 MW
5. Post-combustion controls for SO2 and/or NOx – Trona injection with baghouses for SO2 and mercury control and selective non-catalytic reduction (SNCR) for NOx control are being installed. Both systems are expected to be operational for units 67 & 68 during the first quarter of 2009.

1. Plant name – AES Westover
2. County – Broome
3. Owner – AES Westover, LLC

4. EGU and plant capacity (in MW) – Westover 8 capacity is 83 MW. Plant capacity is 126 MW.
5. Post-combustion controls for SO2 and/or NOx – SCR for NOx, followed by a dry scrubber/baghouse for SO2 and mercury control. Controls are expected to be operated starting in 2009.

1. Plant Name – AES Greenidge Station
2. County – Yates
3. Owner – AES Greenidge , LLC
4. EGU and plant capacity (in MW) – Unit 4 capacity: 110 MW
5. Post-combustion controls: SNCR and SCR for NOx control and dry scrubber and baghouse for SO2 control. Activated carbon added before the baghouse for mercury control. These controls have been operational since mid-2007 and are expected to continue to operate in the future as a result of the consent decree.

1. Plant Name - AES Somerset
2. County - Niagara
3. Owner / operator - AES Somerset, LLC
4. EGU and plant capacity (in MW) - Somerset capacity is 700 MW
5. Post-combustion controls for SO2 and NOx - "side by each" SCR (2 units in parallel) for NOx control. Trona injection with ESP and Flue Gas Desulfurization (FGD) for SO2 control.

1. Plant Name - AES Cayuga
2. County - Tompkins
3. Owner / operator - AES Cayuga, LLC
4. EGU and plant capacity (in MW) - Cayuga units 1 and 2 both units 150 MW (unsure at this time - AFS is down)
5. Post-combustion controls for SO2 and NOx - unit 1 has SCR for NOx control. Both units have Flue Gas Desulfurization (FGD) for SO2 control.

Likewise, the natural gas-fired and oil-fired plants in New York State with NOx controls have installed and operate those controls independent of the CAIR program.

The following controls are unlikely to be operated unless there are some future requirements.

1. Plant name – Danskammer
2. County – Orange County
3. Owner – Dynegy
4. EGU and plant capacity – Danskammer 3 capacity 135 MW
5. Post-combustion controls for SO2 – Trona and baghouse

1. Plant name – Danskammer
2. County – Orange County
3. Owner – Dynegy
4. EGU and plant capacity – Danskammer 4 capacity 235 MW

5. Post-combustion controls for SO2 – Trona and baghouse

Question from Senator Inhofe

1. *With the January 1, 2009 deadline rapidly approaching for Phase 1 NOx reductions, do you believe that achieving the reductions in CAIR along the time frames established by CAIR achieve important public health benefits that should be protected?*

CAIR would have achieved substantial, albeit inadequate, public health benefits, as explained in more detail in my testimony. These benefits should not only be protected, but they should be strengthened by requiring the implementation of deeper and still cost-effective emission reductions in the near and long term. Emission reductions from the power sector are needed to protect public health and to assure that states have the ability to attain and maintain the national ambient air quality standards in the time frames prescribed in the Clean Air Act.

Senator CARPER. Mr. Snyder, thank you again for your presence and for your testimony.

Mr. Svenson, welcome.

STATEMENT OF ERIC SVENSON, VICE PRESIDENT, ENVIRONMENT, HEALTH AND SAFETY, PUBLIC SERVICE ENTERPRISE GROUP

Mr. SVENSON. Mr. Chairman and Senator Voinovich, I am very pleased and honored to appear before you today.

My name is Eric Svenson and I am Vice President of Environment, Health and Safety for Public Service Enterprise Group, PSEG. PSEG is a large, New Jersey-based diversified energy company with 16,000 megawatts of electric generation in eight States. Mr. Chairman, you asked PSEG to provide an overview of the impacts of the vacatur of the Clean Air InterState Rule, otherwise known as CAIR.

When CAIR was promulgated, PSEG believed it was the second best solution. But putting that aside, we believe the rule would have provided significant air quality and public health benefits. We are very concerned that it will take a long time for EPA to replace the rule.

In the meantime, public health and the environment will suffer. As a result of this, a great cloud of additional uncertainty now hangs over the electric industry regarding future generation investment and air quality obligations.

PSEG believes immediate legislation action is need for four-pollutant, or 4P legislation to address needed and timely NOx, sulfur dioxide, mercury and CO2 reductions from the electric power sector. Let me elaborate on some of the impacts of the Court decision.

First and foremost, the significant public health and productivity benefits that would have been achieved by CAIR are lost. The EPA predicted the implementation of CAIR would lead to the reduction of 17,000 premature deaths a year and 22,000 non-fatal heart attacks. In addition, CAIR was expected to reduce lost work days by 1.7 million a year and lost school days by 500,000 per year.

CAIR would have also resulted in improvements in our lakes from reduced acid rain and improvements in visibility at some of our most cherished national parks. CAIR was expected to stimulate one of the most extensive pollution control retrofits in the history of the Clean Air Act, and now that has been lost. Those retrofits primarily would have consisted of the installation of scrubbers, which remove sulfur dioxide, and selective catalytic reduction technology, which removes NOx.

The proven cap and trade method, whereby sulfur dioxide and NOx emissions are capped and allowances for emissions are traded was the heart of CAIR. Up until the D.C. Circuit's decision, sulfur dioxide allowances were actively traded at approximately $500 per ton. After the decision, sulfur dioxide prices fell precipitously to a record low of $85 per ton. The glut of allowances discourages additional investment in scrubbers, and in some cases may even encourage existing scrubbers to shut down.

In addition to NOx and sulfur dioxide, scrubbers and SCRs also help remove mercury from flue gases. Add that to the list of benefits now lost. The Court's decision calls into question EPA's ability

to use cap and trade programs to meet National Ambient Air Quality Standards. While the Court did not State definitively that cap and trade programs are impermissible under the Clean Air Act, the Court created at best an extremely high hurdle for the agency. We now have a huge regulatory hole. States must still attain the National Ambient Air Quality Standards for fine particulates and ozone. Without CAIR, States will have limited options other than to engage in protracted litigation like what led to the NO_x SIP Call, ratchet down on existing sources within the State or both. Ultimately, the public will bear the additional costs of these systems.

Finally, the uneven playing field of environmental regulation that cap and trade would have specifically addressed is back. CAIR would have provided a mechanism to meet the National Ambient Air Quality Standards and at the same time provide a level playing field for the competitive energy markets.

So unless rectified, the Court decision leaves us stuck with an inefficient, more expensive system with significant public health loss and much less environmental benefit.

Mr. Chairman, the vacatur of CAIR, the previous court ruling striking of the Clean Air Mercury Rule and the continued implementation of a patchwork of State and regional programs governing carbon dioxide have created a chaotic regulatory environment. PSEG believes that national multi-pollutant legislation is a national imperative for ensuring timely public health and environment benefits, business certainty and a level, competitive playing field for the electric generation sector.

Mr. Chairman, for these reasons, PSEG was an early proponent of your Clean Air Planning Act, CAPA. The electric sector needs 4P regulatory certainty sooner rather than later, and more importantly, so does the public.

Mr. Chairman, Senator Voinovich, thank you for the opportunity to be here.

[The prepared statement of Mr. Svenson follows:]

Written Testimony

Eric Svenson, Vice President
Environment, Health & Safety
Public Service Enterprise Group

Before the United States Senate
Committee on Environment and Public Works
Clean Air and Nuclear Safety Subcommittee
July 29, 2008

EPA's Clean Air Interstate Rule: Recent Court Decision and Its Implications

Good morning Chairman Carper, Senator Voinovich and Members of the Subcommittee, I am pleased and honored to appear before you today on behalf of Public Service Enterprise Group Incorporated (PSEG). My name is Eric Svenson, and I am the Vice President of Environment, Health & Safety. Mr. Chairman, I am particularly honored given your leadership for many years on the issue of reducing the four major power plant pollutants, including nitrogen oxides (NO_x), sulfur dioxide (SO_2), mercury and carbon dioxide (CO_2).

Mr. Chairman, you have asked me to provide PSEG's perspective of the impacts of the vacature of the Clean Air Interstate Rule ("CAIR") by the United States Court of Appeals of the District of Columbia Circuit. PSEG is most concerned about the immediate negative environmental and public health impacts from the loss of SO_2 and NO_x reductions to have been realized from CAIR. These losses will affect the quality of life of our families, our employees and our customers, all of whom have been living with the negative health effects caused by these pollutants. In addition, PSEG is very

concerned that the environmental vacuum created by the ruling has seriously undermined the emissions trading markets and creates significant business uncertainty for the electric generating industry. We are particularly concerned that the result of the vacature will be a myriad of uncoordinated regulatory compliance mandates that will lead to higher costs to consumers and to power companies such as PSEG. This is a particular concern for us given the investment that the company has made in installing extensive pollution control technologies.

PSEG believes that quick congressional action is necessary to ensure the public health benefits that the CAIR rule had promised are realized, and to provide the needed certainty to the electric power sector to make investments that achieve the needed emission reductions in the most cost effective manner.

PSEG

To provide some context for our views, PSEG (NYSE:PEG) is a publicly traded diversified energy company with annual revenues of more than $12 billion, and three principal subsidiaries: PSEG Power LLC, PSEG Energy Holdings LLC, and Public Service Electric and Gas Company (PSE&G). PSEG, through its affiliates, owns and operates approximately 16,000 megawatts of electric generating capacity in New Jersey, New York, Connecticut, Texas, Pennsylvania, New Hampshire, California and Hawaii. We own a diverse fleet in terms of fuel source, including 2,400 megawatts of coal-fired capacity, and 3,500 megawatts of nuclear capacity. PSEG is best known as the parent of PSE&G, which was founded in 1903, and has, over the past 100 years, become one of the

nation's largest combined electric and gas utilities, meeting the needs of approximately 2.1 million electric customers, and 1.7 million gas customers in communities across New Jersey.

But, beyond the growth and success of our core business, one of the most noteworthy features of my company is our demonstrated commitment to our customers and to public policy. "Public Service" is part of our formal name, but it also reflects what our customers expect from us. I can proudly state that one of our greatest contributions in the name of "Public Service" is our environmental advocacy and stewardship. PSEG has been a long-time supporter of an integrated, multi-pronged strategy to reduce the most harmful of major power plant emissions, and has used its advocacy to advance the public policy objectives of our state and federal partners. For example, in Connecticut, PSEG was at the forefront of supporting the nation's first legislation regulating mercury emissions and reducing actual emissions from coal-fired power plants. PSEG has also advocated for similar stringent national standards on mercury emissions.

PSEG has also been a leader in environmental action, and has invested heavily in new, clean generation. Since 1990, PSEG has invested more than $3 billion to replace inefficient, older generating units and upgrade existing facilities in New Jersey, New York, Connecticut and other states. These changes have dramatically lowered emissions of NO_x SO_2 and fine particulate emissions fleet-wide. Today, PSEG's domestic electric generation fleet is among the cleanest in the country and will be even cleaner when we

complete the emission control upgrades at our Hudson and Mercer plants by the end of 2010.

To further reduce emissions of SO_2, NO_x, particulates and mercury, PSEG has agreed to install a variety of advanced emissions controls at the company's coal-fired plants in New Jersey and Connecticut. Through a consent decree entered into in 2002 with the United States Environmental Protection Agency ("EPA") and the New Jersey Department of Environmental Protection, and amended in 2006, PSEG is installing a variety of advanced emissions control technologies, including SCRs, scrubbers and baghouses, at the company's New Jersey coal plants, all at an estimated cost of $1.1 billion. Separately, PSEG has installed mercury controls at its Connecticut coal plant consistent with the legislation for which the company was a prime advocate.

As a result of these investments, PSEG was well positioned to meet its NOx and SO2 reduction obligations under the CAIR rule well in advance of the Phase II compliance period. At the same time, the company is also working to achieve high rates of mercury control (>90%) at its Connecticut and New Jersey coal-fired power plants. An unfortunate reality of the CAIR rule vacature if left to stand is that it rewards those who adopted the strategy of delay as opposed to early action.

CAIR Background

As you are aware, in May 2005, the EPA published CAIR identifying 28 Eastern states and the District of Columbia as contributing significantly to the levels of fine

particulates and/or eight-hour ozone air quality in downwind states. CAIR was the primary mechanism developed by EPA for the 28 states to make reasonable further progress toward the National Ambient Air Quality Standards ("NAAQS") for both fine particulates and 8-hour ozone. Both NAAQS are required to be met by 2010 and the revised NAAQS in the 2015 timeframe. The standards were set given the significant impact of these major pollutants on public health in the United States, and in particular, the Eastern portion of the United States. Fine particulates contribute significantly to respiratory problems such as asthma and chronic bronchitis, significant health problems such as heart attacks, and even premature death. Similarly, ground level ozone also contributes to respiratory problems, and can lead to premature death. NO_x is a precursor to both fine particulates and ground level ozone, while SO_2 is also a significant precursor to fine particulate matter.

While not a perfect rule, the public health benefits of CAIR would have been among the most significant in EPA's history. Currently, there are 126 ozone nonattainment areas and 39 fine particulate nonattainment areas in the 28 Eastern states subject to CAIR. EPA estimated that by 2015, CAIR would have brought at least 115 of the 8-hour ozone nonattainment areas and 22 fine particulate nonattainment areas into attainment with the NAAQS. Reducing the number of nonattainment areas would have had a dramatic effect of eliminating smog, curbing asthma and other chronic and acute respitory effects, and even preventing premature death caused by chronic exposure to these pollutants. EPA estimated that by 2015, CAIR would have resulted in $85-$100

billion in health benefits and avoided health related costs. The following is an estimate from EPA of the annual real benefits that would have been realized by CAIR:

17,000 reduction in premature deaths

22,000 reduction in non-fatal heart attacks

12,300 reduction in hospital admissions

1.7 million reduction in lost work days; and

500,000 reduction in lost school days.

CAIR also would have resulted in significant benefits to our natural resources. Visibility in our national parks, such as the Great Smoky Mountains and the Shenandoah Mountains, would have significantly improved. EPA estimated that visibility benefits would have been approximately $2 billion, to the extent that one can put a price tag on something as priceless as a view of our natural landscape. The acidification of our lakes, such as the chronic problems that have occurred in the Adirondack Mountains, and the nitrification and eutrification of our water bodies would have been significantly curtailed under CAIR.

CAIR was projected to stimulate one of the most extensive pollution control retrofits in the history of the Clean Air Act. Those retrofits primarily would have consisted of the installation of scrubbers, which remove SO_2, and selective catalytic reduction (SCR) technology, which removes NO_x. Scrubbers and SCRs also help remove mercury from flue gases. EPA estimated significant reductions in mercury as a result of CAIR and actually designed Phase I of the Clean Air Mercury Rule contemplating these

co-benefits. EPA estimated that close to 20% of national mercury reductions would have occurred by the installation of scrubbers and SCRs alone resulting from implementation of CAIR. In reviewing the analysis, and focusing on some key states upwind of New Jersey, implementation of CAIR would have reduced mercury emissions in these states by 34% in 2010.

All of these benefits, which would have come at a relatively low cost of about $3.6 billion a year in 2015, are lost, unless action is taken. In fact, CAIR's estimated reduction of SO_2 would have dwarfed newly enacted clean air requirements related to diesel and other vehicle and large-engine requirements, and would have provided significant additional NOx benefits.

EPA proposed through CAIR a two-phased emissions reduction program for NO_X and SO_2, with Phase I beginning in 2009 (NO_X) and 2010 (SO_2) and Phase II beginning in 2015. EPA recommended in CAIR that the program be implemented through a cap-and-trade program, although states were not required to proceed in this manner. Most major stakeholders in the effort to reduce SO_2 and NOx agree that cap-and-trade programs have been the most economically efficient mechanisms for reducing these pollutants. The Acid Rain program, which was enacted by Congress as part of the 1990 amendments to the Clean Air Act, has provided significant reductions to the emissions of SO_2. The Acid Rain program statutorily established an SO_2 emissions limit and goals for almost 2,000 designated electric generating units in the United States. The Ozone Transport Commission (OTC) NOx Budget and the succeeding NOx SIP Call also

produced significant reductions in NOx, particularly in the Eastern half of the United States. The NOx SIP Call was in answer to eight Northeastern states' petition to the EPA to make findings and require decreases in NOx emissions from certain stationary sources in upwind states that may significantly contribute to ozone nonattainment problems in the petitioning states. Phase I of the SIP call was realized in 2003/04 through a cap-and-trade program and Phase II required further reductions starting in May 2007.

These programs created caps on the total amount of emissions that could be emitted from regulated sources and created a market for trading allowances. An allowance equaled a ton of emissions. All sources had to have allowances equal to the amount of emissions during a calendar year (SO_2) or ozone season (NOx), but were allowed to be traded among units within each program. Trading permitted sources to use the most economically efficient methods to reduce emissions or meet their requirement by obtaining allowances. Electric generating units with existing technologies had the incentive to run technologies because it allowed them to both operate with a reduced need for allowances and, consequently, made them a net seller of allowances that the owner or operator already owned, either through prior allocations or trading.

Most importantly, the Acid Rain and NOx SIP Call programs provided incentives to certain power plants to either retire old and inefficient units and replace them with cleaner technologies, or to begin construction of pollution control technologies at existing generating units. The incentives became much more dramatic as the total cap was reduced over time; as the cap on emissions became more stringent, there were less

allowances available for facilities to use instead of controlling emissions through technology. Although PSEG had advocated for a rule that was fuel neutral, and that would have been integrated with mercury and CO_2, PSEG ultimately supported the Administration's efforts to promulgate CAIR, in large part because it extended the concepts of cap-and-trade, and CAIR was positioned to be enacted much more quickly than a multi-pollutant legislative effort.

Of the states in which PSEG generates electricity, New Jersey, New York, Pennsylvania, Texas and Connecticut are among the states EPA listed in CAIR. All of the states within which PSEG operates had adopted CAIR prior to the vacature.

The Decision

On July 11, 2008, the D.C. Circuit vacated CAIR in its entirety. While the D.C. Circuit addresses a variety of issues underlying the court's vacature, throughout the opinion, the court emphasizes the failure of CAIR to comport with the Clean Air Act's "good neighbor" provision (specifically, in Section 110(a)(2)(D)(i)(I)), which the Agency sought to fulfill through CAIR, requires "[e]ach state [to] eliminate its own significant contribution to downwind pollution." The D.C. Circuit, in formulating its judicial remedy, did not surgically remand portions of the rule; rather, the court stated that CAIR as a single, regional program must fall due to its deficiencies and that "very little will survive remand in anything approaching recognizable form." As the D.C. Circuit stated, "EPA's approach – region wide caps with no state-specific quantitative contribution

determinations or emissions requirements – is fundamentally flawed. Moreover, EPA must redo its analysis from the ground up."

The D.C. Circuit's decision hints at what may be the fundamental legal problem with CAIR; namely, whether existing provisions of the Clean Air Act can be utilized in any meaningful way to support regulations to implement a multi-pollutant strategy. The court found "more than several fatal flaws." Most telling, the court strongly hinted that a cap-and-trade program, as envisioned by EPA under Section 110 of the Clean Air Act, would be very difficult to implement: "CAIR's flaws are deep. No amount of tinkering will transform CAIR, as written, into an acceptable rule." Let me be clear, the Court did not state definitively that cap-and-trade programs are impermissible under the Clean Air Act. However, the D.C. Circuit created, at best, an extremely high hurdle for the agency without a lot of clear direction.

I have already outlined the lost benefits to public health and the environment as a result of the Court's action. Let me also describe some of the other areas of impact for the electric sector.

Compliance Concerns

The vacature of CAIR does not change the fundamental requirement that states must attain the NAAQS for fine particulates and ozone. The 28 Eastern states that have nonattainment areas must demonstrate mechanisms for progress to meet the NAAQS by submission of State Implementation Plans (SIPs) to EPA for approval. With the

vacature of CAIR, states must now work quickly to develop alternatives in their already-submitted SIPs to meet these critical NAAQS. You will be hearing from the State of New York today as to its concerns about meeting these NAAQS. From PSEG's perspective, it is unclear what the states can, or will do, to meet the requirements of the NAAQS. Without CAIR as a regulatory mechanism, states like those in which we operate have limited options other than to engage in protracted litigation like what led to the NOx SIP Call, ratchet down on existing sources within those states, or both.

States will also have to quickly evaluate their ability to re-start programs that may have been supplemented by CAIR. While we have not performed a legal analysis, several states transitioned into CAIR by abolishing existing state rules, particularly rules implementing the NOx SIP Call. With the vacature of CAIR, each state will have to quickly review the status of its regulatory programs and determine whether immediate regulatory or, in extreme cases, statutory action is required to continue NOx and SO_2 programs existing prior to implementation of CAIR.

In addition to the regulatory uncertainty imposed upon states, power producing companies are also put into a state of confusion. Several companies, like PSEG, made significant early capital investment in pollution control technologies to reduce major power plant emissions based, in part, on anticipating that a national multipollutant program would be enacted either by Congress or by the EPA. EPA's promulgation of CAIR provided regulatory certainty, at least with respect to SO_2 and NOx. The vacature

removes that certainty and now calls into question the economic justification for some of those investments.

Continued improvement and development of technologies, particularly scrubbers to reduce SO_2, may suffer a set back. While the current Title IV Acid Rain program continues to function, the loss of CAIR has created significant uncertainty and devalued SO_2 allowances. CAIR relied upon the existing SO_2 allowance market, but unlike the Acid Rain program, required the retirement of two allowances for every ton of SO_2 emissions, ramping up even higher in 2015. Up until the D.C. Circuit's decision, there had been active trading of SO_2 allowances in anticipation of compliance with CAIR; SO_2 allowances were trading at approximately $500.00/ton at the beginning of the year. After the decision, SO_2 allowance prices fell precipitously to a record-low of $85/ton as of Wednesday, July 16th. While the Acid Rain Program remains in place, and trading of SO_2 allowances continues, the supply of such allowances now greatly outweighs demand given the removal of CAIR. Given the glut of allowances today, the ruling encourages existing scrubbers to be shut down, unless a company has a legal obligation to install a scrubber, or to run an existing scrubber, the economics resulting from this decision tend to favor purchasing allowances to meet emissions obligations.

With respect to NOx allowances, the market appears to be somewhat in flux pending EPA's decision on how to proceed. Several types of NOx allowances were traded: existing NOx SIP Call allowances, NOx allowances required during the ozone season under CAIR, and separate NOx allowances required annually under CAIR. As of

this date, NOx SIP Call allowances have not dropped in value after the decision, most likely because it is generally anticipated that the NOx SIP Call program will come back into effect as a stop-gap measure. However, with the vacature of CAIR, there is no regulatory need for annual or ozone-season NOx allowances.

"Easy" reductions in NOx resulting from Phase I of CAIR are also now lost. Under the NOx SIP Call, existing SCRs operate during the summer ozone season. CAIR envisioned those SCR units operating a full year, thus allowing immediate reductions of NOx without undertaking significant technology development in the short term. Those additional reductions are now lost.

In addition to the ruling's impact on existing plants, this decision also may delay or cancel projects, such as the development of needed, cleaner peaking units, in those states which desperately need them. Multipollutant programs provide incentives for the development of cleaner technologies because new units would have to be built in light of a reducing cap of allowances, in this case, SO_2 and NOx. The vacature of CAIR takes away that incentive.

In sum, the vacature of CAIR has left regulation of power plant SO_2 and NOx in shambles. Actions taken by the Eastern states in anticipation of CAIR are all now in question. This regulatory uncertainty must be addressed quickly, ideally in our view by a multipollutant statutory program.

Energy Market Impact

The vacature of CAIR also aggravates an issue that has plagued the energy markets for years; namely, the uneven playing field of environmental regulation and its impact on competitive markets. Since the early 1990s, the energy industry as a whole has been moving towards a competitive wholesale market. One of the key obstacles in developing a competitive energy market was making sure that competitive energy companies played by the same set of rules in each state. Nowhere was that competitive imbalance more apparent than in the regulation of power plant pollutants. Each state had its own command and control mechanism to deal with pollutant reduction. In the case of downwind states, such as New Jersey, New York and Connecticut, those states faced the choice of imposing even tougher requirements on their own electric generation -- even though air quality was impacted, in large part, by ozone transport from upwind states.

The NOx SIP Call and Acid Rain programs partially solved those problems, but only took us to a certain point. CAIR would have provided a mechanism to meet the NAAQS and at the same time, provided the level playing field for energy markets. As stated previously, the vacature of CAIR does not obviate the need for the 28 Eastern states to meet the NAAQS. Without further action to implement a multi-state cap-and-trade program to meet the new NAAQS, even if states can meet their NAAQS, they will do so in a very uneven way, and downwind states will once again have to deal with the issue of transport affecting attainment. While litigation may provide a solution to the transport problem at a future date, not only is this inefficient, as I have stated above, but

during the pendency of that litigation, markets continue to operate on an uneven playing field. This is exactly the type of scenario that the federal government should be trying to avoid.

The Costs of Meeting the NAAQS without a Multipollutant Strategy Could Be Significant

Ultimately, the consumer will bear the costs of the loss of this program. As stated previously, states will have to begin quickly to act to amend their SIPs to account for the loss of CAIR as a compliance mechanism to meet the 8-hour ozone and fine particulate NAAQS. CAIR would have implemented a proven economically efficient system that would have provided significant reductions from upwind sources that are demonstrably accountable for downwind poor air quality. We now are faced with potential command and control systems, without the benefit of cap-and-trade, which have been proven to be inefficient and, in the long run, add costs. Further, states may decide, or be forced to decide, to impose reductions on other industry sectors. As with any environmental program, those costs will be borne by the customers of those industry sector's products. The implementation of such a system, or lack thereof, will all take time, and could be expensive for the consumer. In other words, we may have an inefficient, more expensive system producing less environmental benefit, and at a significant cost to public health, as I have outlined above.

Multipollutant Legislation

As stated above, there is general agreement that cap-and-trade programs are a faster, more economic solution to achieve significant emissions reductions, particularly with respect to SO_2 and NOx. The Acid Rain program and the NOx SIP Call have been incredibly successful in achieving meaningful reductions in emissions. From the beginning of the policy and legislative debate on major power plant emissions, PSEG has always supported a national cap-and-trade program for the reduction of major power plant pollutants. PSEG believes that national multi-pollutant legislation is imperative in ensuring business certainty as well as a level playing field for the electric generating sector. This is of particular interest to PSEG given its significant early investments in emission reduction technologies.

Mr. Chairman, PSEG was an early proponent of your Clean Air Planning Act, which, if enacted, would have established a national, multi-pollutant cap-and-trade program for all four major power plant pollutants, including SO_2, NOx, mercury and carbon dioxide. In light of the significant legislative debate at the time CAPA was being discussed, PSEG did support CAIR as an attempt to use the existing regulatory authority under the Clean Air Act to put in place such a multipollutant program that was regional in nature. While not a perfect program, it went a long way toward improving air quality in the eastern part of the United States while, at the same time, reducing uncertainty in the electric generating sector. Without further immediate action, the improvements in air quality are lost.

While PSEG hopes that EPA will address the regulatory uncertainty quickly, it is readily apparent that creating a cap-and-trade program under the existing Clean Air Act will be an extremely difficult hurdle to overcome. The EPA could go back to the drawing board and attempt to address the Court's concerns, this will take time and, I suspect, be subject to additional legal challenge. The EPA could also appeal the D.C. Circuit's ruling. PSEG anxiously awaits the agency's decision. However, we suspect that further appeals will also take time, assuming they are pursued. In the meantime, and maybe most importantly, public health and the environment continue to suffer.

Mr. Chairman, with the vacature of CAIR, the previous rulings striking the Clean Air Mercury Rule, and the continued implementation of a patchwork of state and regional programs governing carbon dioxide, the regulation of the four major power plant pollutants is now in an extreme state of flux. PSEG strongly believes that this uncertainty is unacceptable from both a public health standpoint and from a business standpoint. PSEG urges Congress to re-start the legislative discussion and pass multi-pollutant legislation quickly. If there is a consensus to add other economic sectors to the regulation of CO_2, we would support that solution as well, although we warn that time is of the essence.

Mr. Chairman, thank you for your consideration.

Senator CARPER. Thank you for your testimony. Thank you especially for the last two sentences of your testimony and for your strong support right from the start.

Mr. Spence, you are recognized.

STATEMENT OF WILLIAM H. SPENCE, EXECUTIVE VICE PRESIDENT AND CHIEF OPERATING OFFICER, PPL CORPORATION

Mr. SPENCE. Good morning, Chairman Carper and Senator Voinovich. It is my pleasure to be here.

As the Chief Operating Officer of PPL, I have the responsibility to run the day to day operations of the corporation, which includes the operation of all of our power stations. Along with PSEG, you have before you two of the largest top ten power companies in the Nation. So I think we have a unique perspective on this.

We own 12,000 megawatts of generation throughout the Country, from Montana to Maine, and 4 million customers in Pennsylvania and in the U.K. We have fossil plants in 4 of the 28 States covered by the CAIR rule, most notably of course, Pennsylvania, where we have 3,500 megawatts of generation.

Under the EPA Clean Air Act and programs to reduce acid rain and ozone, we have already reduced emissions of SO2 by 30 percent and NOx by 60 percent since 1990. We are poised to do a lot more. In fact, we are in the midst right now of a billion and a half dollar program to put scrubbers on five of our power stations as we speak. In fact, two of those are already in operation. So this is a very important topic for us.

The July 11th Appeals Court decision really shattered our expectations and left a lot of uncertainty, as already noted, for our sector and for our company. In fact, we have already had to advise our investors in the investment community that we expect the immediate impact of this rule to have resulted probably in about $100 million of reduction in value from just the SO2 and NOx credit market declines alone. As you are probably aware, the SO2 market price prior to this rule was around $300 a ton and it dropped immediately to less than $100 a ton, a 70 percent reduction, very significant. And the annual NOx allowances actually went to no value, completely worthless at this point.

In addition to the disruption in the allowance market, the D.C. Court of Appeals decision has also put at risk the ability of power generators in the eastern part of the U.S. to comply with the 2009 ozone season. I think the gentleman from EPA mentioned that as well. The Appeals Court held that EPA's NOx SIP Call program, initiated in 1998, remains in place even though the CAIR has been now invalidated. This means the industry and the States covered by the SIP Call provisions must have necessary NOx allowances to surrender for the 2009 ozone season. But there are no 2009 ozone season NOx available because of the vacation of CAIR. So again, very serious impact on the company.

The decision also adversely affects States, and of course, the environment, importantly. States have now no assurance of the reductions needed to comply with National Ambient Air Quality Standards for ozone and fine particulates. We fully supported the CAIR, as did PSEG, and developed a compliance strategy based on CAIR requirements and construction of the billion and a half dol-

lars in scrubbers was part of our strategy to comply with that rule. Scrubbers were placed in service already at our Montour Station in northeastern Pennsylvania, and we are in the midst of building three more scrubbers at our Brunner Island plant in south central Pennsylvania.

So where do we go from here? What we propose is simply to codify the CAIR through an immediate legislative fix to rectify the situation in time in particular for 2009. Codifying CAIR, in our view, would not preclude further modifications or a multi-pollutant bill in the future. But with 2009 just around the corner, in our view, it is imperative that Congress act now to give us in the generation community certainty about the future requirements to reduce emissions.

Thanks for the opportunity.

[The prepared statement of Mr. Spence follows:]

Testimony of PPL Corporation

Senate Committee on Environment and Public Works

Subcommittee on Clean Air and Nuclear Safety

United States Senate

July 29, 2008

William H. Spence

Executive Vice President and Chief Operating Officer

Mr. Chairman and members of the Subcommittee:

Thank you for the opportunity to address consequences of the recent federal appeals court decision invalidating the Environmental Protection Agency's Clean Air Interstate Rule (CAIR). My name is William Spence, and I am the executive vice president and chief operating officer of PPL Corporation.

PPL is a Fortune 500 company and one of the 10 largest electricity companies in the United States. Our headquarters is in Allentown, Pennsylvania. We own 12,000 megawatts of electricity generating capacity in six states — Pennsylvania, Montana, Maine, New York, Connecticut and Illinois — market electricity in the Northeast and West, and deliver electricity to 4 million customers in Pennsylvania and the United Kingdom.

PPL owns FERC jurisdictional generating assets in states with competitive wholesale electricity markets. Our generation portfolio consists of coal, nuclear, natural gas, oil and hydroelectric generation. We own and operate a growing portfolio of renewable energy projects, mainly solar and biogas. We have announced the intention to invest more than $100 million to expand this renewable energy portfolio.

PPL owns and operates fossil-fuel-fired electric power generating plants in four of the 28 states that were covered by CAIR, most notably in Pennsylvania, where PPL owns about 3,500 megawatts of coal-fired generating capacity. Under EPA programs to reduce acid rain and ozone, the electric power industry has reduced annual emissions of sulfur dioxide by more than 40 percent and annual emissions of nitrogen oxides by 50 percent in the last two decades. During the ozone season, May through September, emissions of nitrogen oxides in the Eastern United States are about 70 percent less than in 1990, before implementation of the Clean Air Act Acid Rain Program. PPL has reduced annual emissions of sulfur dioxide by 30 percent and annual emissions of nitrogen oxides by 60 percent since 1990. And we are poised to do much more.

PPL is undertaking one of the largest construction projects in the company's 90-year history to upgrade environmental controls at its coal-fired power plants in Pennsylvania. This $1.5 billion investment will result in additional significant reductions in emissions of sulfur dioxide and nitrogen oxides. The centerpieces of these upgrades are flue gas desulphurization systems, or scrubbers, on 3,000 megawatts of coal-fired generation.

Two scrubber systems are already in operation at PPL's Montour power plant in north central Pennsylvania. The scrubbers, placed in service on March 8 and May 17 of this year, will reduce sulfur dioxide emissions by at least 97 percent, or more than 100,000 tons, per year.

To a large extent, these investments were driven by our expectations about the market price of sulfur dioxide and nitrogen oxide allowances under the existing acid rain program and under CAIR. These expectations have been shattered by the surprising July 11 ruling by the U.S. Court of Appeals for the District of Columbia Circuit.

The ripple effect of the appeals court's decision is substantial. It has immediate adverse consequences for industry, states and the environment. First, the invalidation of CAIR eliminates a fundamental building block under the Clean Air Act non-attainment program for cost-effectively making additional reductions in sulfur dioxide and nitrogen oxide emissions. It thereby jeopardizes the timing and certainty of those reductions, which are needed in the 28-state CAIR region to move those states towards attainment of the NAAQS for fine particulates and ozone.

More importantly, the decision has put into serious jeopardy the ability of industry to comply with 2009 ozone season requirements in the 22 states that were part of the seasonal nitrogen oxides reduction program under EPA's 1998 SIP Call. The appeals court held that EPA's SIP Call remains in place even though CAIR has been invalidated. This means that industry in the states covered by the SIP Call must have necessary

nitrogen oxides allowances to surrender for the 2009 ozone season, but there are no 2009 ozone season allowances other than CAIR allowances, which cannot be used.

The SIP Call program has flow control provisions under which large numbers of banked allowances need to be surrendered if the number of banked allowances in a region exceeds a certain level. PPL planned to use its banked allowances to comply with CAIR, but because of the flow control provisions in the SIP Call program, we will not have enough allowances even if our CAIR allowances could be surrendered for the 2009 ozone season.

The decision to overturn CAIR has significantly affected the value of emission allowances for sulfur dioxide and nitrogen oxides. As part of our overall CAIR compliance strategy, PPL EnergyPlus, our company's marketing and trading subsidiary, purchased additional emission allowances for nitrogen oxides and sulfur dioxide. PPL now must assume under current law that the annual allowances for nitrogen oxides have no value because CAIR has been invalidated, and that the value of CAIR ozone season allowances is questionable unless they can be exchanged for allowances of EPA's SIP Call program or unless CAIR is reinstated by legislation. Trading of nitrogen oxides allowances ended abruptly when the court decision was announced.

The decision also directly affected the market price of sulfur dioxide allowances, which dropped dramatically as soon as the decision was announced. Spot prices for sulfur

dioxide allowances fell from $300 per ton on the day before the court decision to around $100 a ton after the decision was announced.

The combined value for PPL's emission allowances was about $100 million at the end of the second quarter. Based on the value at the end of the third quarter, PPL has announced that it will report an impairment charge reflecting the decreased market value of emission allowances.

In addition to these problems, vacating CAIR adversely affects several other programs under the Clean Air Act. For example, it affects visibility programs in CAIR states because some states relied on EPA's presumption that sources meeting CAIR requirements also would meet Best Available Retrofit Technology (BART) requirements. Now those states will need to redo their BART analyses to include the impacts of sulfur dioxide and nitrogen oxides emissions without the reductions required by CAIR.

Vacating CAIR also affects reduction of mercury emissions. The technologies to be installed under CAIR produce co-benefits of mercury emissions reductions. These reductions may not occur without CAIR because the D.C. Circuit earlier this year also invalidated EPA's Clean Air Mercury Rule.

In adopting a state-specific rule to reduce mercury emissions from coal-fired power plants, Pennsylvania assumed that scrubbers and selective catalytic reduction (SCR) technology (technologies with mercury reduction co-benefits) would be installed under

CAIR. With CAIR invalidated, requiring coal-fired plants in Pennsylvania to install these controls solely to meet mercury requirements is extremely costly and would place Pennsylvania plants at an extreme economic disadvantage relative to plants in other states that, in the absence of CAIR, will not have to install those controls at all.

CAIR was developed with broad consensus to help states attain and maintain compliance with EPA's ambient air quality standards for fine particulates and ozone. PPL fully supported CAIR. For PPL and other electric power generators in the East, South and Midwest, CAIR provided certainty and flexibility to make necessary investments in the most cost-effective manner. The emissions caps assured environmental and health benefits by reducing overall emissions on a known schedule. The allowance trading provision of CAIR provided flexibility to generators to over-control at those plants where the cost of reductions per ton was less and to sell the excess reductions to plants where the cost was higher.

PPL developed a compliance strategy based on the CAIR requirements. Construction of scrubbers was part of that strategy. We continue to operate the scrubbers at our Montour plant as required by the plant's operating permit. We are continuing construction of scrubber systems at our Brunner Island power plant in south central Pennsylvania. Relying on those scrubbers, we have purchased coal from Pennsylvania suppliers. This coal has higher sulfur content than coal we currently purchase from other states.

The Montour plant also is equipped with SCR systems. To comply with requirements of the SIP Call, PPL operates this equipment during the ozone season. To meet the annual nitrogen oxides reduction requirements under CAIR that were scheduled to take effect in 2009, PPL had intended to operate the Montour SCRs year-round. Without CAIR, year-round SCR operation may be financially untenable.

To minimize the damage and provide the immediate relief needed for 2009, we urge Congress to act promptly and narrowly to amend the Clean Air Act to authorize and codify CAIR. In codifying the rule, Congress should preserve the right of states to petition EPA for rulemaking under the Administrative Procedure Act or under Section 126 of the Clean Air Act to obtain more reductions from upwind states if needed for attainment and maintenance of the National Ambient Air Quality Standards (NAAQS) after implementing CAIR.

PPL believes an immediate legislative solution from Congress is necessary to ensure that progress toward cleaner air continues in a deliberate and systematic way. Only a legislative fix can be accomplished quickly and with the necessary certainty to rectify the current situation. Any regulatory solution will continue to be plagued by litigation.

PPL implemented sound business plans based on the rules that were in place and now, through the impairment charge, our shareowners are experiencing the upheaval that occurs in the absence of clear federal direction on environmental policy. The recent

appeals court decision has removed one leg of the platform on which emission reductions were anchored. That leg needs to be restored legislatively to keep the platform steady.

Sweeping changes are not necessary to address the immediate problems created by the appeals court's decision. Rather than major rewrites or new legislation that could take years to resolve, simply codifying CAIR at this time will enable the country to move forward with an acceptable solution that will keep us on the path we were following under CAIR. This would not, of course, preclude further modifications under comprehensive multi-pollutant legislation later. We look forward to working with Congress in those discussions.

Thank you for the opportunity to testify on this important environmental policy issue.

Senator Barbara Boxer
Question # 1
Your testimony described a number of measures PPL Corporation had planned in compliance with CAIR.

a. Assuming the CAIR decision stands, will PPL Corporation nevertheless implement all of the measures you described?

ANSWER: As I noted in my written testimony, "PPL has reduced annual emissions of sulfur dioxide by 30 percent and annual emissions of nitrogen oxides by 60 percent since 1990. And we are poised to do much more." PPL is undertaking one of the largest construction projects in the company's 90-year history to upgrade environmental controls at its coal-fired power plants in Pennsylvania. This $1.5 billion investment will result in additional significant reductions in emissions of sulfur dioxide and nitrogen oxides. The centerpieces of these upgrades are flue gas desulphurization systems, or scrubbers, on 3,000 megawatts of coal-fired generation. Two scrubber systems are already in operation at PPL's Montour power plant in north central Pennsylvania. The scrubbers, placed in service on March 8 and May 17 of this year, will reduce sulfur dioxide emissions by at least 97 percent, or more than 100,000 tons, per year.

We continue to operate the scrubbers at our Montour plant as required by the plant's operating permit. We are continuing construction of scrubber systems at our Brunner Island power plant in south central Pennsylvania. At this time we expect to place the Units 1 & 2 scrubbers in operation in spring 2009. Assuming the CAIR decision stands, PPL may defer start-up of the Unit 3 scrubber, and may operate the SCR systems at Montour during the summer ozone season and not throughout the year.

b. If not, describe in detail which measures that you do not expect to be taken, and estimate the expected impact on air pollutant emissions of not taking those measures.

ANSWER: Year-round operation of the SCR systems at Montour would be expected to reduce NOx emissions by about 10,000 to 12,000 tons beyond operation during the summer ozone season. The Unit 3 scrubber would be anticipated to reduce SO2 emissions by about 50,000 tons per year.

Senator Thomas R. Carper

1. Do you have any changes to your testimony you would like to submit for the record?

ANSWER: I have made changes to my written testimony that I have submitted for the record.

Senator James M. Inhofe

1. With the January 1, 2009 deadline rapidly approaching for Phase 1 NOx reductions, do you believe that achieving the reductions in CAIR along the time frames established by CAIR achieve important public health benefits that should be protected?

ANSWER: As I noted in my testimony, PPL fully supported CAIR. For PPL and other electric power generators in the East, South and Midwest, CAIR provided certainty and flexibility to make emissions control investments in the most cost-effective manner. We do not have a position on specific environmental and health benefits that CAIR would achieve. .

2. Mr. Spence, you mention that PPL is undertaking one of the largest investments in the company's history, $1.5 billions to install scrubbers to reduce the emissions of sulfur dioxide and nitrogen oxides. You also mention that these investments were driven by expectations about the market price of allowances under the existing acid rain program and under CAIR. Can you explain how your compliance strategy incorporated both allowance purchases and investing in technology? How does this ruling immediately impact those investments?

ANSWER: Given the price of sulfur dioxide emission allowances prior to the vacatur of CAIR, it was clearly financially preferable to install scrubbers rather than have to purchase the allowances that would otherwise have been needed. In fact, the scrubbers were expected to reduce emissions so much that we would have a surplus of allowances for sale. With regard to NOx annual allowances beginning in 2009, Montour already has SCRs but our plant at Brunner Island does not have any NOx removal equipment. Ongoing construction of sulfur dioxide scrubbers and cooling towers at Brunner Island precludes the installations of NOx removal equipment there before 2012. Because of this constraint, PPL purchased annual NOx allowances at a cost of millions of dollars to comply from 2009 through 2012. Vacatur of CAIR rendered the market value of those allowances essentially worthless, and also adversely affected the value of SO2 allowances. As a result, PPL has declared a potential $100 million financial impairment with the Securities and Exchange Commission.

3. Do you think an inter-state or intra-utility trading program could be structured in a way that would be as efficient as a regional trading program? What are the benefits of a regional trading program? How does trading in effect get you more emission reductions?

ANSWER: An intra-state or intra-utility trading program will be less economically efficient (i.e. will result in higher costs) than a regional trading program because it limits the opportunities for lower cost emission reductions. To meet a state or utility program it may be necessary to scrub an electric generation unit that could have more cost- effectively complied by purchasing allowances from another state or utility that had lower emission control costs. The benefit of a regional trading program is that it maximizes the opportunity for reducing emission control costs. Trading can achieve greater emission reductions by removing any infeasibility obstacle for any particular unit. For example, our Brunner Island facility cannot accommodate further NOx control equipment before 2012, but still can meet its obligations through trading by securing allowances based on over-control at other units. More importantly, trading under a cap provides absolute certainty on the level of emission reductions that will be obtained. In addition, trading substantially reduces the cost of the emission reductions.

4. Mr. Spence, I understand that EPA's current NSR interpretation actually discourages some power plants from conduction projects that would improve efficiency and reduce carbon and pollution emissions per kilowatt hour generated. For example, EPA has said that replacing old turbine blades with a newer, more efficient blade design can trigger NSR requirements, which then makes the efficiency upgrade too costly. Do you think more power plants would undertake efficiency improvements if they didn't have to worry about triggering NSR requirements?

ANSWER: Yes, it is certainly possible that the current uncertainties on how to determine emissions increases under the NSR rules may result in some plants foregoing modernization and efficiency improvements that they would otherwise undertake in the absence of that uncertainty. Although such efficiency improvements result in significant emission reductions (including CO2 reductions) per net megawatt generated, those efficiency improvements can, under certain circumstances, result in a particular plant running more during the year (displacing other less efficient plants). Thus there is the possibility that the annual emissions at the more efficient plant increase. Of course, the overall emissions at the plants combined go down, but NSR is applied on a plant-specific basis.

In October 2005, EPA proposed changing its rules on how to determine whether a project results in an emissions increase and is therefore subject to review under NSR. EPA's proposed tests would substantially reduce the uncertainties under the current regulations. In our view, an hourly test would eliminate the disincentive to making efficiency improvements. At the very least, bringing greater clarity and certainty to NSR would greatly assist efforts to install new technologies and improve efficiency, especially at existing plants.

5. Mr. Spence, isn't it true that, regardless of its NSR status, every power plant has a Clean Air Act permit that sets a maximum limit on the amount of emissions from that plant?

ANSWER: Yes.

Senator CARPER. Mr. Spence, thank you very much. Thanks for being here as well.

Mr. Korleski, you are recognized. Thank you.

STATEMENT OF CHRISTOPHER KORLESKI, DIRECTOR, OHIO ENVIRONMENTAL PROTECTION AGENCY

Mr. KORLESKI. Mr. Chairman, Senator Voinovich, thank you.

As you know, the Clean Air Act requires States to develop approval State implementation plans, SIPs, which set forth the emission reduction measures that States will implement in order to achieve attainment with what I am going to call the NAAQS, the National Ambient Air Quality Standards. Stated simply, CAIR served as an integral component of Ohio's plan to achieve necessary reductions in both NOx and SOx emitted from power plants. Those NOx and SO2 emission reductions would have greatly assisted Ohio and other States in attaining the standards for both PM and ozone, and in addition, were an essential component of U.S. EPA's plan for addressing regional haze.

Now, of critical importance to the States is that despite the CAIR vacatur, the States' obligation to achieve the NAAQS for ozone and PM in the strict timeframes promulgated by U.S. EPA remain firmly in place. Specifically, Ohio must still achieve compliance with the NAAQS for the old ozone standard in marginal non-attainment areas by June 2009, which I respectfully submit is tomorrow. And in our moderate non-attainment area, northeastern Ohio, by June 2010, with similar deadlines coming quickly for PM as well. And new, more stringent standards for ozone and PM with their own compliance deadlines are now in place.

Ohio was looking forward to the reductions achieved by CAIR to not only help us meet the old standards but also would have helped us toward achieving the new standards as well. Given the significant reductions we anticipated resulting from CAIR, we have quickly evaluated the direct impact of the decision on Ohio's plans for both ozone and PM. Now, without the benefit of time to run a detailed modeling analysis, our preliminary estimate for ozone demonstrates that with Ohio's NOx SIP Call still in place, we still do have the NOx SIP Call in Ohio, which requires reductions from utilities in the summer months, we are hopeful, cautiously hopeful that we will be able to meet our 2009 ozone attainment deadline in our marginal non-attainment areas.

Unfortunately, the loss of the additional SO_2 and NO_x reductions CAIR would have provided will make it much more difficult to attain the PM standard and to achieve ozone attainment in our moderate non-attainment area under both the old and the new standards.

Now, it is true that a number of power plants in Ohio have already installed and are operating NO_x controls and SO_2 scrubbers on their largest, newer units in anticipation of the first phase of CAIR, with a compliance deadline of January 2009. My intention is to work with the utilities on a one on one basis to determine if we can mutually agree to lock in those controls already planned or in place pursuant to CAIR. However, there is no guarantee that that will happen. And it is very unclear to me how the power companies will respond to any attempt to do so in light of the vacatur.

Now, as non-attainment with air quality standards threatens both public health and economic development, I am concerned by the wholesale vacatur of a rule which, without question, went a long way to help Ohio and many other States lower ozone and PM levels. So the question is, what now? Do we face years of litigation? Years of waiting while U.S. EPA goes back to the drawing board? Will we be faced with continued non-attainment in Ohio and other States, such that U.S. EPA is forced to impose sanctions, bump up our non-attainment status or impose costly but not necessarily cost-effective pollution controls on a host of pollution sources?

I would suggest that these options are not in any State's best interest. Therefore, let me respectfully suggest an alternative. In my view, the heart of the Court's decision lies in its interpretation of a single section of the Clean Air Act, Section 110(a)(2)(D)(i)(I). Boiled down to its essence, the decision concluded that the cost-effective region-wide trading approach on which CAIR was based did not accord with the requirement in that section that SIPs must prohibit sources within a State, within a specific State, from contributing significantly to non-attainment in another State.

Now, for today's purposes, I will not argue the legal merits or demerits of the Court's decision. Rather, I respectfully suggest that Congress address the loss of the significant emission reductions guaranteed by CAIR by a surgical, laser-like amendment to Section 110. Such an amendment would essentially allow U.S. EPA to successfully repromulgate CAIR such that the certain and significant emission reductions would be re-established. Indeed, Ohio puts forward the following language as a starting point for legislative consideration and discussion.

We propose a new Section 110(a)(2)(E), which would read: "Nothing in Section 110(a)(2)(D) shall be construed to prohibit the Administrator from requiring the development and implementation of a regional emission reduction approach (including but not limited to an emission reduction trading approach), which, in the Administrator's judgment, will eliminate or minimize any significant contribution to non-attainment caused by the impacts of pollution from upwind States on downwind States. Inclusion in an implementation plan of the regional emission reduction approach may, in the judgment of the Administrator, satisfy a State's obligations under 110(a)(2)(D)."

Again, I suggest this proposed language as a starting point for discussion.

In conclusion, I assert that the loss of CAIR with its associated emission reductions is a startling and very dispiriting development. It is Ohio's hope that Congress, U.S. EPA, other States and other stakeholders can put other air pollution control issues temporarily aside, very temporarily aside, and quickly work together to arrive at a solution that will allow for the reinstatement of CAIR or something very much akin to it. And I thank you for your time.

[The prepared statement of Mr. Korleski follows:]

OhioEPA
State of Ohio Environmental Protection Agency

STREET ADDRESS
Lazarus Government Center
50 W. Town St., Suite 700
Columbus, Ohio 43215

TELE: (614) 644-3020 FAX: (614) 644-3184
www.epa.state.oh.us

MAILING ADDRESS
P.O. Box 1049
Columbus, OH 43216-1049

Testimony of Christopher Korleski
Director of the Ohio Environmental Protection Agency

Before the
U.S. Senate Subcommittee on Clean Air and Nuclear Energy;
Senate Environment and Public Works Committee

July 29, 2008

Good Afternoon. My name is Chris Korleski and I am the director of the Ohio Environmental Protection Agency (Ohio EPA). I would like to thank the Chairman, Ranking Member, and all the members of the Subcommittee for the opportunity to discuss the effect of the recent *vacatur* of the Clean Air Interstate Rule ("CAIR") on Ohio's plan to attain the national ambient air quality standards ("NAAQS") for ozone and particulate matter ("PM").

As you know, the Clean Air Act requires states to develop approvable state implementation plans ("SIPs") which set forth the emission reduction measures that states will implement in order to achieve attainment with the NAAQS. Stated simply, CAIR served as an integral component of Ohio's plan to achieve necessary reductions in both nitrogen oxides ("NOx) and sulfur dioxide ("SO2") from power plants. Those NOx and SO2 emission reductions would have greatly assisted Ohio and other states in attaining the standards for both PM and ozone, and in addition, were an essential component of US EPA's plan for addressing regional haze.

Based on projected emission reductions for Ohio, CAIR was anticipated to reduce NOx from power plants in Ohio from 355,000 tons per year in 2003 to 93,000 tons per year by 2009 and 83,000 tons per year by 2015. Similarly, the projected emissions of SO2 from Ohio's power plants would decrease from approximately 1.2 million tons per year in 2003 to 298,000 tons per year by 2010 and 208,000 tons per year by 2015.

Of critical importance to the states is that despite the CAIR *vacatur*, the states' obligation to achieve the NAAQS for ozone and PM in the strict timeframes promulgated by U.S. EPA remain firmly in place. Specifically, Ohio must still achieve compliance with the NAAQS for the "old" ozone standard (i.e., 84 ppb) in marginal non-attainment areas by June of 2009 and in our moderate non-attainment area (northeastern Ohio) by June of 2010, with similar deadlines coming quickly for PM as well. And, new, more stringent standards for ozone and PM, with their own compliance deadlines, are now in

place. Ohio was looking for the reductions achieved by CAIR to not only help us meet the old standards, but would also have helped us towards achieving the new standards as well.

Given the significant reductions we anticipated resulting from CAIR, we have quickly evaluated the direct impact of the decision on Ohio's plans for both ozone and PM. Without the benefit of time to run a detailed modeling and analysis, our preliminary estimate for ozone demonstrates that with Ohio's NOx SIP Call still in place, which requires reductions in NOx from utilities and other larger combustion sources during the summer months, we are hopeful that we will be able to meet our 2009 ozone attainment deadline in our marginal areas. Unfortunately, loss of the additional SO2 and NOx reductions CAIR would have provided will make it more difficult to attain the PM standard and to achieve ozone attainment in our moderate non-attainment area under both the old and the new standards.

Now, it is true that a number of power plants in Ohio have already installed and are operating NOx controls and SO2 scrubbers on their largest, newer units in anticipation of the first phase of CAIR's compliance deadline of January 2009. My intention is to work with the utilities on a one-on-one basis to determine if we can mutually agree to "lock-in" the controls already planned or in place pursuant to CAIR. However, there is no guarantee that that will happen and it is very unclear to me how the power companies will respond to any attempt to do so in light of the *vacatur*.

Ohio continues to work with other midwestern states through LADCO (Lake Michigan Air Directors Consortium) to develop a revised inventory to provide a regional and state specific vision of air quality without CAIR. We hope to have this modeling by September 1. With that information, and the results of discussions with Ohio's utilities, we will determine what remaining air quality gap exists and develop strategies to fill that gap as quickly as possible.

As non-attainment with air quality standards threatens both public health and economic development, I am concerned by the wholesale *vacatur* of a rule which, without question, went a long way to help Ohio and many other states lower ozone and PM levels. So, the question is, "What now?" Do we face years of litigation? Years of waiting while US EPA goes back to the drawing board? Will we be faced with continued non-attainment in Ohio and other states such that US EPA is forced to impose sanctions, bump-up our nonattainment status, or impose costly but not necessarily cost-effective pollution controls on a host of pollution sources?

I would suggest that these options are not in any state's best interest. Therefore, let me respectfully suggest an alternative.

In my view, the heart of the Court's decision lies in its interpretation of a single section of the Clean Air Act: Section 110(a)(2)(D)(i)(I). Boiled down to its essence , the decision concluded that the cost-effective "regionwide" trading approach on which CAIR was based did not accord with the requirement in Section 110(a)(2)(D)(i)(I) that SIPs must

prohibit sources "within a state" from contributing significantly to non-attainment in another state. [a]

For today's purposes, I will not argue the legal merits or demerits of the Court's decision. Rather, I respectfully suggest that Congress address the loss of the significant emission reductions guaranteed by CAIR by a surgical, laser-like, amendment to section 110. Such an amendment would essentially allow US EPA to successfully re-promulgate CAIR such that the certain and significant emission reductions would be re-established. Indeed, Ohio puts forward the following language as a starting point for consideration and discussion:

We propose a new Section 110(a)(2)(E):

Nothing in section 110(a)(2)(D) shall be construed to prohibit the Administrator from requiring the development and implementation of a regional emission reduction approach (including but not limited to an emission reduction trading approach), which, in the Administrator's judgment, will eliminate or minimize any significant contribution to nonattainment caused by the impacts of pollution from upwind states on downwind states. Inclusion in an implementation plan of the regional emission reduction approach may, in the judgment of the Administrator, satisfy a state's obligations under 110(a)(2)(D).

In conclusion, I assert that the loss of CAIR with its associated emission reductions is a startling and dispiriting development. It is Ohio's hope that Congress, US EPA, other states and stakeholders can put other air pollution control issues temporarily aside, and quickly work together to arrive at a solution that will allow for the re-instatement of CAIR or something very much akin to it.

Thank you for your time.

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[a] The Court rejected US EPA's approach of achieving significant emission reductions on a regional basis because it concluded that, in violation of Section 110, CAIR failed to:

> *[r]equire elimination of emissions from sources that contribute significantly ... [to] downwind nonattainment areas. To do so, it must measure each state's "significant contribution" to downwind nonattainment even if that measurement does not directly correlate with each state's individualized air quality impact on downwind nonattainment relative to other upwind states.*

Senator CARPER. Thank you, Mr. Korleski.

It is not every day that we have witnesses who come before us who actually propose legislation, actually come with it written down. Who wrote that?

Mr. KORLESKI. I did.

Senator CARPER. No pride of authorship.

Mr. KORLESKI. I hope I wasn't too bold in doing so, but I felt compelled to bring at least some starting language.

Senator CARPER. Good. I appreciate that very much. You may be starting a trend here, you never know.

Mr. Walke, we are delighted that you are here, thank you for your presence and for the work that you do.

STATEMENT OF JOHN D. WALKE, CLEAN AIR DIRECTOR, NATURAL RESOURCES DEFENSE COUNCIL

Mr. WALKE. Thank you, Chairman Carper, Ranking Member Voinovich. I appreciate the opportunity to appear before you here today. My name is John Walke, and I am the Clean Air Director for the Natural Resources Defense Council.

Chairman Carper, I especially appreciate your willingness to hold this hearing about the important subject of power plant air pollution, public health and the Court's overturning of the Clean Air InterState Rule.

EPA's Clean Air InterState Rule, or CAIR, represented an important first step forward to reduce dangerous levels of SO2 and NOx emissions from power plants, and to reduce the devastating public health and environmental toll caused by these emissions. NRDC and other public health and environmental groups accordingly had intervened on EPA's behalf in litigation in the United States Court of Appeals for the D.C. Circuit, defending CAIR against industry challenges that sought to weaken CAIR, reduce its scope and effectiveness and disrupt its implementation.

The July 11th decision by the D.C. Circuit vacating CAIR in its entirety was a significant setback to public health and environmental gains embodied in CAIR and the crucial need to reduce dangerous emissions from power plants in the eastern half of the United States. But the Court's decision also represents an opportunity to get it right where CAIR did not, to take not just the first step, but the necessary steps, cost-effective and feasible steps, to eliminate dangerous levels of power plant emissions and deliver healthy air to all Americans.

With the long-overdue strengthening of the public health standards for PM 2.5 in 2006 and ozone in 2008, we now know with greater urgency what we already knew in 2005 when CAIR was adopted. Allowing power plants to produce air pollution at excessive and unhealthy levels for as long as two decades before reaching a 70 percent reduction target that still would remain unprotective imposes tremendous harms upon the American people. Even with the setback to CAIR represented by the Court decision, we can and must achieve greater than 70 percent reductions in SO2 and NOx emissions from power plants well before the end of the next decade.

I want to make one simple point about the Court's decision and CAIR in order to highlight one mistake that we should not and

cannot afford to make again. In faulting the unlawfulness of CAIR, the Court realized that the Administration had worked backward from a political agenda to institute the emissions caps and design features of CAIR. In this case, that political agenda was represented by the Administration's Clear Skies legislative proposal. The Court found that EPA had not worked forward from the Clean Air Act to achieve the emissions reductions necessary to address transported pollution at the levels and according to the schedules consistent with Clean Air Act obligations to downwind States, or consistent with the need to deliver healthy air to citizens in the affected States.

The mistake was to let a political agenda dictate not just how EPA carried out the Clean Air Act, but how far EPA went to reduce transported air pollution from upwind States to victimized downwind communities. And finally, that political agenda dictated how far EPA went to protect public health.

We can do better, we must do better. Let me be very direct why. EPA had projected that CAIR would avoid 13,000 American lives being cut short each year beginning in 2010 and avoid the loss of 17,000 lives each year starting in 2015. These are very impressive health gains that we are in danger of losing if we do not mandate the important pollution controls that CAIR would have required and do so expeditiously. My testimony includes State by State breakdowns of the early adult deaths avoided under CAIR. For New York and Ohio, for example, 1,200 deaths would have been avoided in each State each year, beginning in 2010. And in 2015, 1,500 fewer people in each of those States would have had their lives cut short by power plant air pollution.

CAIR accomplished these significant health benefits by requiring power plant operators to spend, on average, $500 per ton of pollution reduced in 2010 and on average, $700 per ton of pollution reduced in 2015. Meanwhile, air quality regulators today, and for many years in recent memory, were requiring other types of businesses in other industrial sectors to spend $3,000 to $6,000, even $15,000 for the same ton of pollution reduced. Mr. McLean said that $500 cost per ton is highly cost-effective.

But here is the crucial insight: $2,000 per ton is also highly cost-effective relative to these other control costs borne by local businesses. The Administration refused to require power plants to achieve greater pollution reductions at modestly greater average cost per ton due to the Administration's political agenda that the Court later found to be unlawful.

If this sounds like an economically unsound approach to air quality, it is. But it is also an irresponsible approach to public health. Just contemplate the thousands of additional American lives that we could save each year by bringing the amount that utility companies spend to reduce a ton of pollution more in line with the costs that other local businesses spend to reduce that same ton of pollution. Power plant companies still would end up spending much less per ton of pollution than other businesses. But we could actually deliver healthy air in a timely fashion to the entire eastern half of the Country and most of the western U.S. outside of certain challenging areas in California. And we could save thousands of additional lives over the next decade.

One of the little-understood consequences of the Administration's political agenda that created CAIR, as well as actively harmful rules that I detail in my written testimony, is that thousands of additional lives were to be sacrificed to power plant air pollution each year in order to save utility companies' compliance costs that were and are one-half or one-fifth or even one-tenth the compliance cost being borne by local businesses in the Midwest and Southeast and New England. These local businesses individually do not even emit 1 percent of the air pollution emitted by your typical power plant. So we are getting far fewer pollution reductions at far greater cost per ton from local businesses than from utility companies.

The current Administration has managed to avoid answering for this, for the harmful, economically unsound and fundamentally unfair political choice that lies at the heart of the agenda for the electric sector. The next Administration and Congress will now have the opportunity to confront those facts and concerns honestly and fairly in order to solve the Country's air quality problems in the most effective way possible.

I look forward to working with members of this Committee, Congress, EPA, States and other interested parties to accomplish these solutions. Thank you for the chance to appear before you today.

[The prepared statement of Mr. Walke follows:]

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Testimony of John D. Walke

Clean Air Director
Natural Resources Defense Council

The Overturning of EPA's "Clean Air Interstate Rule": Consequences and Opportunities

July 29, 2008

THE OVERTURNING OF EPA'S "CLEAN AIR INTERSTATE RULE": CONSEQUENCES AND OPPORTUNITIES

I. INTRODUCTION

EPA's "Clean Air Interstate Rule," or CAIR, represented an important first step forward to reduce dangerous levels of SO_2 and NO_x emissions from power plants, and to reduce the devastating public health and environmental toll caused by these emissions.

NRDC and other public health and environmental groups, accordingly, had intervened on EPA's behalf in litigation in the United States Court of Appeals for the D.C. Circuit, defending CAIR against industry challenges that sought to weaken CAIR, reduce its scope and effectiveness, and disrupt its implementation.

The July 11th decision by the D.C. Circuit vacating CAIR in its entirety was a significant setback to the public health and environmental gains embodied in CAIR, and the crucial need to reduce dangerous emissions from power plants in the eastern half of the country.

But the court's decision also represents an opportunity to get it right where CAIR did not -- to take not just the first step but the necessary steps to eliminate dangerous levels of power plant emissions and deliver healthy air to all Americans.

My testimony will focus on the following topics:

- **Background:** Brief background on how EPA arrived at CAIR, and lessons we can learn from that history. As discussed below, CAIR was fundamentally the product of a political and policy agenda whose roots lay in the Administration's unsuccessful attempt to persuade Congress to adopt its "Clear Skies" legislation, S.131 (2005), during the period from 2003 to 2005. In turn, the demise of CAIR in court may be linked directly to that political and policy agenda, which the court found to be at odds with the existing Clean Air Act in multiple respects. Finally, that political agenda remains embodied in several EPA rules and proposed rules that rely upon the continuing implementation of CAIR to weaken or avoid other Clean Air Act mandates. Those actions were not supportable or lawful at the time that EPA adopted them; but they are indefensible as a matter of law, policy and responsible governance now that CAIR has been vacated and they must be reversed.

- **Public Health Toll and Cleanup Imperatives:** Next, I discuss the public health imperative of achieving deep reductions in power plant SO_2, NO_x and associated particulate matter (PM) emissions. I will examine the public health gains accomplishing by CAIR, and will compare those with the additional public health gains that may be secured by surpassing CAIR's reductions. I also present startling data compiled by EPA that depict the incidences of premature mortality and morbidity that would have been avoided prior to CAIR's vacatur. I also discuss how may of these harms still can be

avoided, depending upon whether installed and planned pollution control equipment is operated.

- **Cost-Effective Pollution Controls:** Next, I examine the continuing status of coal-fired power plants as the source of the most cost-effective emissions reductions to attain health-based air quality standards in State Implementation Plans (SIPs). I will explore the costs of pollution control measures examined by state officials in the east and midwest, providing powerful evidence that additional emissions reductions from the power sector beyond levels achieved under CAIR provide more cost-effective emissions reduction opportunities than those available from other industrial sectors and mobile sources.

- **The Court's Decision:** Without attempting a comprehensive summary of the court's complex 60-page decision, I will focus instead on the court's understanding of how EPA arrived at CAIR; certain shortcomings in CAIR perceived by the court; a discussion of EPA's basis for believing CAIR was lawful; and how EPA must comply with the Clean Air Act in light of the court's decision.

- **Next Steps:** I discuss briefly parallel paths that we should pursue at the state, EPA and Congressional level to achieve deep and timely reductions in power plant emissions in order to protect air quality and public health.

II. BACKGROUND

The President ran for office on a campaign pledge to develop strong legislation reducing emissions of SO_2, NO_x, mercury and CO_2 from power plants. After abandoning the CO_2 element of that campaign promise in early 2001, the Administration developed a strong "straw" proposal covering the other three pollutants in 2001. Following outcries from certain elements of the utility sector and the industry's trade association, the Administration abandoned the EPA straw proposal and ending up introducing its Clear Skies legislation in February 2003. The eventual bill introduced before this Committee, the "Clear Skies Act of 2005", S.131, failed to be reported out of Committee following an unsuccessful vote in March 2005.

It is worth revisiting here briefly why declining to advance the Administration's Clear Skies legislation to the Senate floor was the right thing to do in 2005 and would be the right thing to do were that bill re-introduced in Congress today.

As I noted in my testimony before this Committee in February 2005, the Clear Skies legislation delayed by a decade or more the day when millions of Americans would have air quality that meets public health standards. Current law requires delivery of clean air by 2009 for smog and 2010 for soot pollution. The Administration's bill allowed those deadlines to be pushed back to 2022 – and it undermined the tools available to states and EPA to achieve even that lax deadline.

Despite claims by some of the bill's supporters at the time that Clear Skies would cut power plant pollution 70 percent by 2018, EPA and the Energy Department told us plainly that

the legislation would not achieve actual pollution reductions of 70 percent until some time after 2025. It was no accident that the Clear Skies legislation pushed smog and soot NAAQS attainment deadlines back to as late as 2022, since the bill was designed to grant relief from the greater strictures of the current statute while conferring a two decade-long compliance period upon utility companies alone.

With the long-overdue strengthening of the public health standards for $PM_{2.5}$ in 2006 and ozone in 2008, we know now with greater urgency what we already knew in 2005: allowing power plants to produce air pollution at excessive and unhealthy levels for as long as two decades – before reaching a 70% reduction target that still would remain unprotective -- imposes tremendous harms upon the American people. Each year, soot and smog from power plant emissions cause more than 24,000 premature deaths, 38,200 non-fatal heart attacks, hundreds of thousands of asthma attacks, and millions of days of lost work.[1] Measured against implementation of the stronger straw proposal developed by the Bush Administration itself in 2001, the Administration's Clear Skies bill of 2005, from its enactment through 2020, would have been responsible for more than 100,000 additional early deaths, more than two million additional asthma attacks, and more than fifteen million additional lost work days.

Even with the setback to CAIR represented by the court's July 11th decisions, we can and must achieve greater than 70% reductions in SO_2 and NO_x emissions from power plants well before 2025. Legislation now before the Senate, such as the Chairman's "Clean Air Planning Act," would accomplish that responsibility. And as discussed elsewhere in this testimony, regional state compacts and individual states are pursuing pollution reductions from power plants that collectively could surpass 70 percent control levels in time to meet required SIP attainment demonstration by the middle of the next decade. Finally, the court's ruling in the CAIR litigation makes quite clear that compliance dates as late as 2015, much less 2025, are unacceptable for purposes of satisfying the legal rights of downwind states to seek "immediate relief" from upwind transported pollution under Clean Air Act section 126.

A. The Administration's "Clear Skies" Straitjacket Agenda.

Following this Committee's vote in March 2005 that failed to report the Clear Skies legislation to the Senate floor, the Administration set about to carry out the central features of its Clear Skies legislation -- for good and for ill – through a series of EPA regulations under the current Clean Air Act. On the productive side, the EPA's Administrator Johnson signed the Clean Air Interstate Rule the very next day after the Senate Committee vote on the Clear Skies bill – making clear how intertwined the two efforts were.

CAIR, of course, established emissions caps for SO_2 and NO_x emissions from power plants, corresponding roughly to the reductions achieved from power plants in the eastern U.S. under the Clear Skies bill. CAIR also accelerated the phase II compliance deadline and caps for SO_2 and NO_x under Clear Skies from 2018 to 2015.

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[1] Clear the Air, "Dirty Air, Dirty Power: Mortality and Health Damage Due to Air Pollution From Power Plants" (June 2004), available at http://www.cleartheair.org/dirtypower/docs/dirtyAir.pdf.

However, EPA has since that time simultaneously carried out a systematically destructive agenda to manipulate, constrain and weaken Clean Air Act requirements to ensure that the law would not demand greater and earlier emissions reductions from power plants than the administration was prepared to impose in CAIR and, before that, Clear Skies. For the past five years, EPA has placed the Clean Air Act on the proverbial Procrustean bed from Greek mythology – cutting off statutory authorities that went too far for the liking of the Administration and the utility industry, while stretching other statutory provisions on the rack of tortured legal interpretations, all to ensure that the current Clean Air Act conformed to the Clear Skies political agenda that the Administration had been unable to persuade Congress to adopt.

The more apt metaphor for the Administration's Clear Skies political agenda, however, may be that of a straitjacket. This is because the Clean Air Act contains ample legal authority to demand deeper, faster and more effective emissions reductions from power plants than the Administration was willing to impose. Thus, the Administration needed to, and has repeatedly, placed the Clean Air Act and EPA in a policy and legal straitjacket to ensure that the agency – and states, as it turned out – would not impose greater obligations upon the utility sector through regulatory authorities than the Administration had been willing to impose in the Clear Skies legislation. And lest we forget that the Clear Skies legislation contained numerous statutory exemptions and repeals, the EPA regulatory history that has unfolded from 2005 to the present serves as a reminder, since the agency has pursued the bill's cornerstone rollbacks with a merciless determination. I address these below.

In my testimony before the full Committee in February, I described a speech that the power industry's top air pollution lobbyist in Washington delivered to a coal industry group in April 2001. Unbeknownst to him, his talk was being transcribed, and later would be posted online.[2]

The power lobbyist told his coal industry audience that EPA had been planning to use the agency's existing authority under the Clean Air Act to require large and prompt reductions in air pollution from coal-burning power plants. However, he told them, the lobbyist and his allies in the White House had a plan: the Administration would introduce legislation creating a weaker, slower program – one that would allow coal plants to emit more pollution for much longer than EPA had been planning to require under the Clean Air Act. The lobbyist promised that the weaker, slower cleanup requirements in the new legislation would be something "that we can all live with and that someone else can't undo."

The legislation that the power lobbyist proudly described in April 2001 was introduced in 2003 as the Administration's "Clear Skies" proposal. And the Clear Skies straitjacket agenda that EPA has carried out and promises to carry out until the Administration's last days, continues to reflect that understanding reached between the White House and utility industry lobbyists in the very first months of the Administration's first term.

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[2] I attached the transcript to my February 2, 2005 testimony but do not do so here.

As we confront the end of eight years in which the Administration devoted its priorities to what the utility industry desired or could "live with," we are left with little good, and must all live with the aftermath of the Administration's grim bargain.

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I examine next most of the key elements of the Administration's Clear Skies straitjacket agenda, whereby EPA manipulated its authorities and responsibilities under the Clean Air Act to ensure that power plants would not be subject to deeper, faster or more effective emissions reductions than the Administration proposed in its Clear Skies legislation and later adopted in CAIR.

B. Protections Against Transported Air Pollution That Harms Downwind States.

The Clear Skies straitjacket constrained the right of downwind states, victimized by transported pollution from upwind states, to obtain relief from EPA. This political agenda led EPA to deny the petition by the state of North Carolina asking EPA to take more effective and timely measures than CAIR contained. EPA thereby failed to provide North Carolina sufficient protection from upwind states' emissions that contributed to North Carolina's nonattainment in 2010, and interfered with the maintenance of attainment in the state.

Section 126 of the existing Clean Air Act permits downwind states to petition EPA to address upwind states' power plant emissions, and grants the agency the authority to regulate those emissions. The Administration's Clear Skies proposal would have completely overhauled section 126's interstate pollution remedies for downwind states, adding an insurmountable legal test and further restricting state remedies and EPA authorities by prohibiting additional emissions reductions from power plants and other industrial units covered by the bill until 2015.[3]

Confronted with the inability to adopt its preferred legislative restrictions on states' rights and constraints on additional reductions from power plants, the administration resorted to its Clear Skies straitjacket regulatory agenda. Pointing to CAIR, EPA proceeded to prohibit additional emissions reductions from power plants covered by CAIR until 2015, denying North Carolina's section 126 petition. Notwithstanding that 2015 was inconsistent with nonattainment deadlines faced by North Carolina in 2010,[4] and CAIR did not adequately restrict sources in upwind states from contributing significantly to nonattainment or interference with maintenance of attainment in North Carolina, EPA denied the state's 126 petition.

The court found CAIR's failings in this regard unlawful. And while North Carolina's separate lawsuit over EPA's denial of its petition has been on hold pending the CAIR lawsuit, it is safe to say under the court's reasoning that the court also will find EPA's denial to be unlawful. The court should remand EPA's decision to the agency to undertake actions requiring the upwind pollution sources despoiling the air quality of North Carolina and other states to

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[3] S. 131 § 3(a)(3) (adding Clean Air Act § 110(q)).

[4] Indeed, 2015 is unrelated to any legal or logical milestone flowing from the statute, its transport provisions or downwind states' attainment rights.

undertake stronger and faster reductions than CAIR required. One significant strand of the straitjacket agenda unravels.

C. Protections Against Toxic Air Pollution From Power Plants.

The Clear Skies straitjacket constrained and violated EPA's legal obligation to comply with the statute's air toxics provisions, requiring "Maximum Achievable Control Technology" (MACT) covering all hazardous air pollutants, including mercury, from power plants.

The Administration's Clear Skies legislative proposal repealed the Clean Air Act's MACT protections covering all hazardous air pollutants from power plants; established a two-phase cap-and-trade program for mercury emissions; and exempted from Clear Skies' mercury cap all coal-fired electric generating units that emit 50 pounds-per-year or less of mercury[5] -- which amounted to exempting an astonishing 52 percent of the country's coal-fired units from the mercury cap.[6]

Finally, for hazardous pollutants other than mercury, the bill left only the authority to set "residual risk" standards through a complex risk-based process, but the earliest that those regulations were permitted to take effect was 2018 – a full 10 years after the MACT compliance deadline of the current Clean Air Act. The bill repealed the Clean Air Act's "residual risk" protections entirely for mercury without regard to any health risks that remained under the bill's weaker mercury caps.[7]

EPA's own analyses of the Administration's bill at the time acknowledged mercury pollution increases above today's levels from "specific sources in some states," due to the trading features of the bill and the bill's repeal of the statute's MACT standards.[8]

Six days after the bill failed to pass out of this Committee, EPA signed its "Clean Air Mercury Rule" (CAMR) and a companion rule "delisting" power plant's from the statute's MACT protections. See 70 Fed. Reg. 15,994 (Mar. 29, 2005) (publication date for the delisting rule) & 70 Fed. Reg. 28,606 (May 18, 2005) (publication date for CAMR).

EPA's 2005 mercury rules repealed the MACT protections covering all hazardous air pollutants from power plants; established a two-phase cap-and-trade program for mercury emissions; and repealed the statute's residual risk protections for all hazardous air pollutants. In other words, these EPA rules effectively carried out the legislative proposal that the Administration could not get enacted in Congress, and did so under the guise of authority purportedly available under existing law.

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[5] S. 131 § 471(2)(C).

[6] 582 of the 1121 coal-fired units that were active in 1999 in this country (that is, 52 percent) emitted less than 50 pounds-per-year of mercury.

[7] S. 131 Sec. 3(a)(5)(A) (amending Clean Air Act § 112(c)(1)).

[8] *See* EPA, "Technical Support Package for Clear Skies," Section B: Human Health and Environmental Benefits, at 44.

On February 8, 2008, the D.C. Circuit vacated EPA's delisting rule and CAMR, after finding the delisting rule to violate the plain language of the Clean Air Act. The court concluded that CAMR's trading approach was thereby invalid since the statute requires regulation of power plants under CAA section 112's MACT protections. The court even ridiculed EPA's attempt to evade the plain statutory language, finding that EPA's "explanation deploys the logic of the Queen of Hearts, substituting EPA's desires for the plain text" of the Clean Air Act. The court could just have well said that EPA was attempting to substitute its Clear Skies agenda for the plain text of the current statute. This ruling marked another instance of key pieces of the Clear Skies straitjacket unraveling.

D. The Right of States to Better Protect Their Citizens Against Toxic Air Pollution.

The Clear Skies straitjacket also constrained states' authority to deviate from EPA's CAMR, when states wished to achieving deeper mercury reductions by adopting more stringent mercury plans than EPA's model trading rule. EPA officials took the extraordinary step of testifying against legislation by the Commonwealth of Pennsylvania to adopt more protective mercury control measures, eschewing EPA's trading approach, to better protect Pennsylvania and neighboring citizens against this dangerous neurotoxin. To their credit, Pennsylvania officials rejected EPA's pressure.

EPA emails uncovered through a Freedom of Information Act request have revealed that agency officials engaged in a campaign to pressure states into participating in CAMR's mercury trading program, threatening to disapprove state programs that adopted more stringent mercury safeguards, for example, through state prohibitions on mercury allowance sales or state decisions to allocate fewer mercury allowances to in-state utilities than provided for under CAMR. At the same time, EPA and Justice Department attorneys were representing to the D.C. Circuit in the CAMR lawsuit that states "have the option of implementing more stringent [mercury] emission reduction requirements under CAMR" and that a State that "chooses to submit a plan to EPA that allocates relatively fewer allowances, and therefore results in lower mercury emissions than is required by CAMR, is not a basis for disapproval of the plan by EPA."[9]

In an EPA response to a Senator Leahy inquiry about this contradiction, EPA explained that states participating in the trading program were required to adopt certain "core provisions" of CAMR, intended to "ensure the program was environmentally- and cost-effective." (emphasis added). This confirmed suspicions that environmental stringency and protectiveness were not the only considerations relevant to EPA's approval of states' mercury control plans, and squarely contradicted EPA's representations to the court. The Clean Air Act guarantees states the authority to adopt more stringent cleanup programs, and that is in no way mitigated, altered or affected by EPA's altogether different policy interest in making programs more "cost-effective" – presumably for industry. In his capacity as Chairman of the Senate Judiciary Committee, Senator Leahy has recently requested that the Government Accountability Office investigate these discrepancies and representations made by the Administration to the D.C. Circuit and

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[9] Response Brief of Respondent U.S. EPA, No. 05-1097 and consolidated cases (D.C. Cir.), at 151, n.62.

Congress. This will shine a spotlight on yet another aspect of the Administration's Clear Skies straitjacket agenda.

E. Visibility Protections in National Parks and Other Class I Areas.

The Clear Skies straitjacket constrained EPA's obligation and authority to prevent and remedy the impairment of visibility in Class I federal areas such as national parks. Under section 169A (b)(2)(A) of the Act, States must require installation of "Best Available Retrofit Technology" (BART) on all major stationary sources built between 1962 and 1977 from 26 identified source categories, including power plants, that contribute to haze over national parks. The statute requires BART review when any such source emits any air pollutant that may reasonably be anticipated to cause or contribute to any impairment of visibility in any Class I area.

The Administration's Clear Skies bill also would have repealed the current Clean Air Act's BART protections.[10] The bill exempted all opt-in units and all power plants – the primary contributor to park haze – from the BART requirement.[11] In so doing, the bill let off the hook those intransigent companies that have not yet installed the best available retrofit technology on their plants.

In July 2005, shortly after the failure of the Clear Skies bill, EPA issued a rule declaring that any "State that opts to participate in the Clean Air Interstate Rule cap-and-trade program . . . need not require affected BART-eligible EGU's to install, operate, and maintain BART." 40 C.F.R. § 51.308(e)(4); *see also* 70 Fed. Reg. 39104, 39137 (July 6, 2005) (substituting CAIR for the requirement that certain power plants install BART if they cause or contribute visibility impairment in national parks and other scenic areas). Once again, having failed to enact Clear Skies, the Administration adopted Clear Skies' repeal of BART through a rulemaking under the current Act.

EPA's rule was later upheld by the D.C. Circuit following a challenge by environmental organizations, despite the failure of CAIR to impose any pollution control measures on power plant units that otherwise would have been required to install Best Available Retrofit Technology. See *Utility Air Regulatory Group v. EPA*, 471 F.3d 1333, 1339 (D.C. Cir. 2006).

In light of the vacatur of CAIR, however, EPA's substitution of CAIR for BART is not remotely defensible under either EPA's logic or the court's ruling. Accordingly, NRDC intends to petition EPA for rulemaking to repeal the rule that allowed affected power plants to avoid installing, operating, and maintaining BART based upon the now-invalidated CAIR.

F. Reasonably Available Control Technology.

The Clear Skies straitjacket constrained and contravened EPA's obligation and authority to mandate Reasonably Available Control Technology (RACT) for power plants in all

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[10] 42 U.S.C. § 7491(b)(2)(A).
[11] S. 131 §§ 407(K), 483(a).

nonattainment areas. The Clean Air Act requires that each nonattainment area SIP "provide for the implementation of all reasonably available control measures as expeditiously as practicable (including such reductions in emissions from existing sources in the area as may be obtained through the adoption, at a minimum, of reasonably available control technology." 42 U.S.C. § 7502(c)(1).

EPA has issued two implementation rules for its 1997 ozone and $PM_{2.5}$ NAAQS, in which EPA allows sources participating in its NO_x SIP Call rule and CAIR to avoid installing any pollution controls at all (much less "RACT" controls), and to actually increase emissions within a nonattainment area by purchasing and banking allowances from sources a thousand miles downwind. Because the Act's express terms bar supplanting source-specific RACT in specific nonattainment areas with these interstate trading schemes that rely on allowance purchases rather than emissions reductions, NRDC and Earthjustice have pending lawsuits against these rules in the D.C. Circuit. In addition, because these RACT waivers for uncontrolled (or poorly controlled) sources are now not even defensible under EPA's own logic in light of the vacatur of CAIR, NRDC intends to petition EPA for rulemaking to repeal these waivers in the $PM_{2.5}$ and ozone implementation rules.

G. New Source Review.

EPA is further carrying out its Clear Skies straitjacket agenda by threatening adoption of an irresponsible rulemaking that effectively would exempt all existing power plants from the Clean Air Act's new source review (NSR) and Prevention of Significant Deterioration (PSD) programs. See 72 Fed. Reg. 26,202 (May 8, 2007); 70 Fed. Reg. 61,081 (October 20, 2005).

True to form, these proposals constrain and contravene the Act's preconstruction permitting for "modifications" at all of the nation's existing power plants, relieving utility companies of the need to employ pollution control measures even when plants become dirtier by hundreds, thousands or even tens of thousands of tons per year. Incredibly, EPA's rule would adopt this grossly weaker and dirtier approach by embracing the losing legal position of a utility company defendant, Duke Energy, in an enforcement case that EPA won in a unanimous Supreme Court decision, *Environmental Defense v. Duke Energy*, 127 S. Ct. 1423 (U.S. 2007). And yes, that would be the same Duke Energy that just persuaded the court to vacate CAIR's SO_2 program.

But it gets even more perverse. In its NSR proposals, EPA relied almost exclusively on the presence of CAIR as the justification for the effective elimination of the NSR safeguards for existing power plants (see, *e.g.*, 72 Fed. Reg. at 26,208) -- even though CAIR did not apply in half the country, CAIR left two-thirds of power plant lacking modern pollution controls for SO_2 or NO_x as late as 2020, and CAIR did not achieve its intended emissions reductions until the mid-2020's. Looking at just one example, EPA's own enforcement officials concluded that the proposed NSR rule would allow a power plant from an actual case study to increase SO_2 emissions by over 13,000 tons per year when such an increase under current law would demand

modern pollution controls.[12] Accordingly, EPA's NSR proposals were indefensible even when CAIR was in place and had no business being finalized.

With CAIR now vacated, however, under EPA's own logic there is not even the remotest policy or legal justification for finalizing this enormous NSR loophole. Yet even after the decision striking down CAIR there are indications that the Administration is still planning to do so, in one final fit of reckless irresponsibility.

This parting gift to the utility industry would conform to the bargain struck between the Administration and elements of the utility industry as far back as the spring of 2001, when the Administration's energy task force first unleashed the attacks on the NSR protections that threaten to continue until the very end. And this intention would conform once again to the Administration's Clear Skies straitjacket agenda: the Administration's Clear Skies legislation proposed to create a loophole from NSR and PSD for existing power plants that is nearly identical to the regulatory exemption proposed by EPA in 2005 and 2007: adoption of a "maximum hourly emissions" increase test, rooted in historic achievable emissions rates.[13] Having failed to adopt that loophole into law legislatively, the Administration appears committed to adopting it through illegal regulations even as EPA's own feeble rationale, the presence of CAIR, has now disappeared.

III. THE PUBLIC HEALTH IMPERATIVE OF CONTROLLING POWER PLANT AIR POLLUTION

It is both appropriate and fair to condemn a political agenda that twists the Clean Air Act and suppresses necessary, feasible reductions based upon a failed legislative proposal, reflected in Clear Skies, while at the same time praising EPA and the Administration for pursuing very significant SO_2 and NO_x emissions reductions from power plants, reflected in CAIR.

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[12] See http://www.nrdc.org/media/docs/051013a.pdf (attachment to August 25, 2005 EPA Office of Enforcement and Compliance Assurance memorandum commenting on "Draft New Source Review Clean Air Interstate Rule"). Even the EPA title of the draft rulemaking under discussion in 2005 reveals that the agency recognized this rulemaking to be part and parcel of CAIR.

[13] See S.131 (2005), Sec. 483(d)(3) (defining "modification" for NSR and PSD purposes to cover only changes that "increases the maximum hourly emissions of any pollutant regulated under this Act above the maximum hourly emissions achievable at that unit during the five years prior to the change").

EPA has estimated the annual health and welfare benefits and costs of CAIR thusly:

Annual Health and Welfare Benefits and Costs of CAIR[14]		
Health-Related Incidences Avoided ($PM_{2.5}$, Ozone)	2010	2015
Premature deaths avoided	13,000	17,000
Non-fatal heart attacks avoided	17,000	22,000
Hospital admissions/ER visits avoided	19,000	27,000
Work loss days	1.4 million	1.7 million
School absence days	180,000	510,000
Monetary Value of Total Health Benefits (Billion 1999$)	$62.6-$73.3	$86.3-$101
Monetary Value of Visibility Improvements	> $1 billion	Almost $2 billion
Annual Costs of CAIR Implementation (Billion 1999$)	$2.36	$3.57

EPA also has prepared a very useful state-by-state estimation of the $PM_{2.5}$-related benefits of CAIR, which I attach to my testimony. These state-specific spreadsheets detail avoided incidences of premature mortality, avoided morbidity, and assign monetary values to the identified health benefits.

EPA's valuation of the health benefits of avoided morbidity in these spreadsheets encompasses health conditions such as chronic and acute bronchitis, acute myocardial infarction, asthma exacerbation, and respiratory and cardiovascular symptoms. The avoided incidences of mortality and morbidity, and their associated monetized value of these benefits, are detailed in state-specific spreadsheets covering 28 states plus the District of Columbia. All of these detailed spreadsheets are attached.

The following information is drawn from an EPA document and series of spreadsheets entitled "CAIR Estimated Monetary Value of Reductions in Incidences of PM2.5 Related Health Effects in 2015." EPA's spreadsheet summaries, in turn, were drawn from the Regulatory Impact Analysis accompanying CAIR.

The incidences of premature mortality and morbidity avoided under CAIR in 2010 and 2015 are staggering, and demonstrate the public health imperative of immediate actions to restore those health benefits. But in many respects the data provide even greater urgency to reduce emissions more sharply and more quickly than CAIR accomplished, since the health benefits – and benefits-to-cost rationale – are so overwhelming.

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[14] EPA notes that "the annual health and welfare benefits and costs shown for 2010 and 2015 were taken from the Clean Air Interstate Rule Regulatory Impact Analysis (RIA) published in March of 2005 (http://www.epa.gov/cair/pdfs/finaltech08.pdf)." See also EPA, July 24th Congressional Staff Briefing on Clean Air Interstate Rule.

The EPA data also confirm total $PM_{2.5}$-related health benefits that would have been delivered under CAIR in excess of $70 billion annually beginning in 2010, and totaling nearly $100 billion annually by 2015. Again, these monetized health benefits data provide urgent reason to reduce emissions more sharply and more quickly than CAIR accomplished, since these total health-based values are so enormous. And while we harbor fundamental concerns with expressing human deaths and adverse health effects in monetary terms, we present these figures solely based upon EPA's estimation of premature mortality and morbidity avoided by CAIR and the agency's estimation of the associated monetized benefits, all based upon EPA methodologies.

		2010 Valuation of Health Benefits (1999$)		
State	Incidences of Premature Adult Mortality Avoided	Premature Adult Mortality Avoided	Morbidity Avoided	Total Health-Based Value
CAIR Region				
Alabama	280	$1,500,000,000	$90,600,000	$1,590,000,000
Arkansas	110	$567,000,000	$32,900,000	$602,000,000
Connecticut	170	$910,000,000	$68,300,000	$980,000,000
Delaware	91	$481,000,000	$32,800,000	$515,000,000
District of Columbia	64	$339,000,000	$25,300,000	$366,000,000
Florida	460	$2,460,000,000	$152,000,000	$2,620,000,000
Georgia	420	$2,240,000,000	$167,000,000	$2,420,000,000
Illinois	500	$2,640,000,000	$192,000,000	$2,840,000,000
Indiana	440	$2,310,000,000	$165,000,000	$2,490,000,000
Iowa	64	$342,000,000	$23,900,000	$366,000,000
Kentucky	380	$2,020,000,000	$128,000,000	$2,160,000,000
Louisiana	150	$771,000,000	$48,000,000	$821,000,000
Maryland	640	$3,390,000,000	$242,000,000	$3,640,000,000
Massachusetts	230	$1,200,000,000	$91,900,000	$1,290,000,000
Michigan	500	$2,650,000,000	$197,000,000	$2,860,000,000
Minnesota	58	$306,000,000	$25,500,000	$333,000,000
Mississippi	130	$665,000,000	$39,400,000	$707,000,000
Missouri	200	$1,070,000,000	$71,000,000	$1,150,000,000
New Jersey	670	$3,530,000,000	$261,000,000	$3,800,000,000
New York	1,200	$6,380,000,000	$487,000,000	$6,880,000,000
North Carolina	610	$3,220,000,000	$216,000,000	$3,450,000,000
Ohio	1,200	$6,390,000,000	$435,000,000	$6,840,000,000
Pennsylvania	1,700	$8,860,000,000	$577,000,000	$9,500,000,000
South Carolina	280	$1,490,000,000	$95,000,000	$1,590,000,000
Tennessee	410	$2,180,000,000	$136,000,000	$2,320,000,000
Texas	380	$2,020,000,000	$158,000,000	$2,190,000,000
Virginia	690	$3,670,000,000	$268,000,000	$3,950,000,000

West Virginia	290	$1,520,000,000	$85,200,000	$1,600,000,000
Wisconsin	120	$660,000,000	$50,000,000	$712,000,000
Non-CAIR Region				
Arizona	5	$28,400,000	$2,080,000	$30,600,000
California	6	$29,300,000	$2,420,000	$31,800,000
Colorado	2	$9,800,000	$824,000	$10,600,000
Idaho	0	$339,000	$30,200	$370,000
Kansas	42	$221,000,000	$15,900,000	$238,000,000
Maine	34	$181,000,000	$13,000,000	$194,000,000
Montana	0	$1,010,000	$58,900	$1,070,000
Nebraska	18	$95,000,000	$7,030,000	$102,000,000
Nevada	0	$1,180,000	$80,900	$1,270,000
New Hampshire	39	$206,000,000	$16,300,000	$223,000,000
New Mexico	3	$13,700,000	$976,000	$14,800,000
North Dakota	3	$16,700,000	$1,140,000	$17,800,000
Oklahoma	73	$387,000,000	$23,400,000	$412,000,000
Oregon	0	$1,320,000	$74,200	$1,390,000
Rhode Island	43	$226,000,000	$16,700,000	$243,000,000
South Dakota	5	$28,900,000	$2,130,000	$31,100,000
Utah	0	$1,040,000	$104,000	$1,150,000
Vermont	23	$123,000,000	$9,360,000	$132,000,000
Washington	0	$1,250,000	$54,800	$1,310,000
Wyoming	0	$898,000	$64,500	$960,000
National Total	**13,000**	**$67,400,000,000**	**$4,670,000,000**	**$72,000,000,000**

The following EPA notes accompanied the preceding and subsequent table:

* $PM_{2.5}$ related health benefits are presented from state level BenMAP results used in the development of the Clean Air Interstate Rule Regulatory Impact Analysis (RIA) published in March of 2005 (http://www.epa.gov/cair/pdfs/finaltech08.pdf).
* The health benefits presented are a result of improvements in ambient PM2.5 concentration and do not include health benefits from decreases in ground-level ozone concentrations or welfare benefits from increased visibility or reductions in acid rain.
* National totals may not precisely sum to those in the RIA because of the difference between national and state-level aggregation within BenMAP.
* Valuation of premature adult mortality at 7% discount does not match the RIA due to an error in the discount rate used in the RIA.
* The health effect incidence and valuation functions used in this analysis are the state of the science methods used in March of 2005. EPA has updated several key assumptions used in calculating health impacts since this time.
* Valuation of acute myocardial infarction incidences avoided uses a 3% discount rate.
* Valuation of premature adult mortality avoided uses a 3% discount rate.

States	Incidences of Premature Adult Mortality Avoided	Valuation of Health Benefits (1999$)		
		Premature Adult Mortality Avoided	Morbidity Avoided	Total Health-Based Value
		2015		
CAIR Region				
Alabama	430	$2,380,000,000	$135,000,000	$2,520,000,000
Arkansas	140	$775,000,000	$43,100,000	$820,000,000
Connecticut	210	$1,170,000,000	$84,300,000	$1,260,000,000
Delaware	120	$645,000,000	$42,100,000	$689,000,000
District of Columbia	80	$444,000,000	$30,900,000	$476,000,000
Florida	760	$4,220,000,000	$246,000,000	$4,470,000,000
Georgia	700	$3,880,000,000	$272,000,000	$4,160,000,000
Illinois	620	$3,430,000,000	$239,000,000	$3,680,000,000
Indiana	530	$2,920,000,000	$199,000,000	$3,130,000,000
Iowa	83	$460,000,000	$31,200,000	$492,000,000
Kentucky	500	$2,760,000,000	$165,000,000	$2,930,000,000
Louisiana	210	$1,170,000,000	$68,700,000	$1,240,000,000
Maryland	810	$4,530,000,000	$304,000,000	$4,850,000,000
Massachusetts	270	$1,530,000,000	$112,000,000	$1,640,000,000
Michigan	620	$3,430,000,000	$243,000,000	$3,680,000,000
Minnesota	72	$400,000,000	$32,200,000	$433,000,000
Mississippi	180	$1,010,000,000	$56,900,000	$1,070,000,000
Missouri	260	$1,470,000,000	$94,500,000	$1,570,000,000
New Jersey	830	$4,600,000,000	$324,000,000	$4,940,000,000
New York	1,500	$8,080,000,000	$590,000,000	$8,680,000,000
North Carolina	860	$4,780,000,000	$301,000,000	$5,100,000,000
Ohio	1,500	$8,080,000,000	$527,000,000	$8,630,000,000
Pennsylvania	2,100	$11,400,000,000	$712,000,000	$12,100,000,000
South Carolina	440	$2,470,000,000	$146,000,000	$2,620,000,000
Tennessee	590	$3,260,000,000	$192,000,000	$3,470,000,000
Texas	650	$3,620,000,000	$269,000,000	$3,910,000,000
Virginia	900	$4,990,000,000	$340,000,000	$5,350,000,000
West Virginia	350	$1,960,000,000	$103,000,000	$2,070,000,000
Wisconsin	160	$894,000,000	$65,300,000	$960,000,000
Non-CAIR Region				
Arizona	10	$52,800,000	$3,570,000	$56,500,000
California	9	$51,400,000	$3,970,000	$55,500,000
Colorado	3	$15,200,000	$1,220,000	$16,500,000
Idaho	0	$153,000	$11,300	$165,000
Kansas	54	$299,000,000	$20,900,000	$321,000,000
Maine	42	$235,000,000	$16,100,000	$251,000,000

Montana	0	$1,360,000	$81,700	$1,440,000
Nebraska	22	$123,000,000	$8,890,000	$133,000,000
Nevada	1	$4,630,000	$303,000	$4,950,000
New Hampshire	49	$271,000,000	$20,600,000	$292,000,000
New Mexico	4	$22,200,000	$1,470,000	$23,800,000
North Dakota	3	$13,700,000	$902,000	$14,600,000
Oklahoma	110	$596,000,000	$34,400,000	$632,000,000
Oregon	0	$58,200	$4,370	$62,700
Rhode Island	52	$288,000,000	$20,500,000	$308,000,000
South Dakota	6	$33,200,000	$2,410,000	$35,700,000
Utah	0	$2,420,000	$210,000	$2,640,000
Vermont	29	$164,000,000	$11,800,000	$176,000,000
Washington	0	$704,000	$65,000	$771,000
Wyoming	0	$1,060,000	$67,000	$1,130,000
National Total	**17,000**	**$93,000,000,000**	**$6,120,000,000**	**$99,000,000,000**

The shocking data presented above should lead us to contemplate the sheer scale of additional incidences of avoided mortality and morbidity and the greater monetized health benefits that would result from achieving much deeper and still highly cost-effective emissions reductions from power plants.

We can do better, we can save more lives, and we can do so cost-effectively. We know that these already-impressive benefits would have been achieved under CAIR by mandating power plant emissions reductions at costs that are one-half to one-fifth to one-tenth the cost-per-ton of SO_2, NO_x and VOC reductions that states are currently requiring or considering for other industrial source sectors and mobile sources. See section V below. That is, our regulatory systems are demanding fewer reductions at greater costs from other industrial sectors and mobile sources than we could achieve in far greater amounts at far lower costs from power plants.

Accordingly, Congress should call upon EPA to analyze the additional incidences of premature mortality and morbidity that could be avoided, as well as the associated health, welfare and environmental benefits, by achieving: (1) varying levels of greater emissions reductions than required under both phases of CAIR; (2) by earlier dates than provided for under CAIR; and (3) by achieving those reductions at costs more in line with the costs per ton of pollution control contemplated for power plants, other industrial sectors and mobile sources in SIPs and discussions undertaken by regional state compacts such as the Ozone Transport Commission (OTC) and Lake Michigan Air Directors Consortium (LADCO). Finally, Congress should ask EPA to evaluate the overall social benefits and costs of these various emission reductions scenarios, in order to compare the benefits and costs of controlling power plants versus other industrial sectors and mobile sources.

EPA should be able to perform most of these analyses based upon the Regulatory Impact Analysis for CAIR; the agency's Integrated Planning Model; other analysis performed by EPA to date; and the important ongoing leadership of states and state organizations. It will be invaluable

to have these analyses as Congress, EPA, states and the country address the consequences and opportunities presented by the court's ruling and the need to sharply reduce the terrible toll of power plant air pollution.

IV. EPA ESTIMATION OF CURRENT AND ANNOUNCED POLLUTION CONTROL INSTALLATIONS UNDER CAIR AND OTHER REGULATIONS

Following the vacatur of CAIR, EPA surveyed known information about current and announced pollution control devices for existing power plants resulting from plans to comply with CAIR and other air pollution regulations. The agency then prepared a "preliminary draft estimate" of these control technologies, which I summarize below and attach to this testimony.

The results of EPA's findings are encouraging in one key respect: the vast majority of scrubbers and selective catalytic reduction (SCR) technology, intended to comply with CAIR's SO_2 and NO_x requirements, respectively, had already been installed by 2007 or earlier. This welcome news provides the foundation for immediately taking actions at the state and federal level to require already-installed control devices to be operated, in order to provide essential protections for air quality, public health and the environment.

Moreover, EPA's data show still significant numbers of pollution control devices underway for online operation in 2008 and planned for online operation in 2009. In total, these data suggest that virtually all the pollution control devices that EPA has reason to believe would be installed to comply with CAIR (and other unidentified regulations), would be installed by 2011 or sooner, notwithstanding CAIR's phase II cap taking effect in 2015.

Together, these estimations suggest that there are immediate, effective steps that states, especially, but also EPA can take to ensure that these necessary pollution control devices will be installed and operated to reduce harmful SO_2, NO_x and PM emissions. Importantly, EPA's data identify the specific power plants that already have installed the control devices, and the dates by which they were online or are expected to go online. This information furnishes Congress, EPA, state officials, the media and the public with the information to guarantee that all necessary measures will be taken to ensure operation of these installed and planned pollution controls, in order to reduce dangerous emissions in specific local and downwind communities.

EPA Summary of Estimated Online Availability for Scrubbers and SCR

	SO_2 Scrubbers		NO_x SCR	
	# of Units	**Capacity (MW)**	**# of Units**	**Capacity (MW)**
2007 or Earlier	296	117,083	199	101,902
2008	45	20,849	12	4,127
2009	44	21,832	25	12,680
2010	58	19,025	7	2,625
2011	20	10,210	6	3,845
2012	0	0	1	310
2013	0	0	1	166

It is important to include here in full the accompanying notations provided by EPA, in order to understand the caveats and assumptions associated with these estimations:

> The attached list is based on preliminary draft estimates of current and announced control technology installation as a result of implementing CAIR and other existing air quality regulations. The lists reflect all of the controls EPA is aware of and will be updated as more information becomes available. The data included in the list are based on an updating of data in the [Integrated Planning Model] by the leading power sector companies affected by CAIR, a review of trade press announcements of technology installation, and discussions with States. While some control technology installations may have been omitted, or some announced installations may be cancelled, [EPA's Clean Air Markets Division] believes these lists provide an accurate picture of control technology installation currently and projected for the near future as of July 10, 2008 before the CAIR Court Decision.
>
> Notably, future operation of the equipment once installed has not be considered here or fully evaluated by EPA, and must be also considered in the context of the recent Court Decision and the large reductions in allowance prices that has occurred for SO_2 and NO_x. EPA is planning to have the information in the list included in the next version of the Integrated Planning Model (IPM) and the [National Electric Energy Data System (NEEDS)] database in the last half of 2008. It will provide the foundation for future power sector modeling and analysis.

FGD and SCR Online Year Summary for Draft NEEDS v4.0, attached.

MSB Energy Associates performed an analysis of these EPA scrubber and SCR installations for the Clean Air Task Force, which has graciously granted me permission to include that analysis in this testimony:

			Number of Units----------				Capacity (MW)----------			
	# of Units	Capacity (MW)	Fraction of Base Case in 2010	Fraction of CAIR in 2010	Fraction of CAIR in 2015	Fraction of Total Coal	Fraction of Base Case in 2010	Fraction of CAIR in 2010	Fraction of CAIR in 2015	Fraction of Total Coal
EPA Draft NEEDS v4.0 Spreadsheet										
Scrubbers Through 2007	296	117,080	97%	80%	59%	26%	108%	83%	64%	39%
SCR Through 2007	199	101,902	82%	69%	51%	17%	94%	82%	68%	34%
Scrubbers Through 2013 (Actual & Projected)	463	188,999			93%	40%			104%	64%
SCR Through 2013 (Actual & Projected)	251	125,655			64%	22%			84%	42%

EPA CAIR Analysis (2004)				
Base Case/2010 (Projected)	**# of Units**	**Capacity (MW)**	**% of Total # of Units**	**% of Total Capacity (MW)**
Coal Units	1,234	303,076		
Scrubbers	305	108,536	25%	36%
SCR	242	108,274	20%	36%
CAIR/2010 (Projected)				
Coal Units	1,159	297,136		
Scrubbers	370	141,886	32%	48%
SCR	290	123,558	25%	42%
CAIR/2015 (Projected)				
Coal Units	1,159	296,445		
Scrubbers	498	182,313	43%	61%
SCR	391	149,588	34%	50%

Source: MSB Energy Associates and Clean Air Task Force (July 2008).

There are a number of very striking pictures and conclusions presented by this data. Focusing first on EPA's original analysis of CAIR from 2004:

- In the base case scenario in 2010, that is without implementation of CAIR, only 20-25% of electric generating units (EGUs) nationwide – representing 36% of total capacity -- would be equipped with basic SO_2 controls in the form of scrubbers, or NO_x controls in the form of SCR. This is an arresting indictment of the poorly-controlled and uncontrolled state of power plants in the country today and until 2010.

- Taking the intended implementation of CAIR into account in 2010, the percentage of total EGUs equipped with scrubbers only increases 7% (from 25% to 32%), and the percentage of total EGUs equipped with SCR only increases 5% (from 20% to 25%). Despite the real accomplishments of CAIR by 2010, then, there is a relatively paltry increase in actual installed pollution controls, in percentage terms. These percentages correspond to 65 additional scrubbers and 48 additional SCR, out of a projected 1,159 total EGUs by 2010. These scrubbers and SCR would cover 48% and 42% of total capacity, respectively, indicating that relatively larger units are being controlled, a welcome sign.

- Looking out to CAIR's planned implementation in 2015, 43% of total EGUs would have been equipped with scrubbers, covering 61% of total capacity; and 34% of total EGUs would have been equipped with SCR, covering 50% of total capacity. While this represents clear and significant progress beyond the base case in 2010, it is still startling and inexcusable that 60% of the nation's power plant units, covering 40-50% of the country's electricity capacity, are projected to lack modern pollution controls in 2015, 25 years after passage of the Clean Air Act Amendments of 1990.

Turning to the MSB Energy Associates analysis arising out of EPA's estimation of scrubbers and SCR believed to have been installed as of 2007:

- The vast majority of scrubbers (97%) and SCR (82%) that EPA projected to be online by 2010 under its base case, without implementation of CAIR, had already been installed by 2007.

- Of the controls that EPA projected to be operating by 2010 in order to comply with CAIR, 80% of scrubbers and 69% of SCR had already been installed by 2007. (Recall from the preceding discussion how few these numbers of additional controls actually are in terms of total controlled units.) These 2007 scrubber and SCR installations still constitute 59% and 51%, respectively, of the total control measures that EPA projected to be installed by 2015 in order to comply with CAIR's phase II cap.

If EPA's information is correct, it suggests that despite the court's vacatur of CAIR, sufficiently large numbers of pollution control devices already had been installed by 2007 to meet over two-thirds of the pollution controls projected under CAIR by 2010, and over half the pollution controls projected under CAIR by 2015. As discussed earlier, this picture provides the

basis for immediate steps at the state and federal level to require already-installed control devices to be operated in order to safeguard air quality and public health.

It is essential for these installed pollution controls to be operated in order to protect the public.

There is anecdotal evidence that some utilities that installed scrubbers, for example, in order to comply with CAIR's SO_2 provisions simultaneously switched to dirtier (high-sulfur) coal, presumably for reasons of cost. Following the vacatur of CAIR, on one hand there is the possibility that these units will have pre-existing SO_2 emissions limits that will make it necessary to operate the scrubbers while burning the dirtier coal, in order to meet these emissions limits.

On the other hand, some or many of these units may lack sufficient pre-existing SO_2 emission limits; this presents the alarming prospect that these units could continue to burn the dirtier coal, cease operation of the scrubbers, and emit at even higher levels than before CAIR's vacatur, by purchasing SO_2 allowances that are now rock bottom-priced as a result of the court's decision.[15] Thus, as a result of CAIR's vacatur, scrubber operational decisions by utility companies, and the impact on the SO_2 allowance market, we very well could see power plants in some communities actually increasing their SO_2 emissions.

What this illustrates is that without CAIR, there are not sufficient legal mandates in place at the state or federal level today to require already-installed scrubbers or SCR to be turned on in 2009 or 2010. A prominent utility industry attorney, Jeff Holmstead, who also happened to be the architect of CAIR as EPA's Assistant Administrator for Air and Radiation from 2000 until 2005, has even gone so far as to suggest that utility companies may have a fiduciary responsibility to their stockholders to cease construction of planned pollution control devices.[16] Mr. Holmstead suggested that the court's decision would result in work stoppages on pollution control projects at dozens of power plants; suspension of some unknown number of projects; and even the idling of already-installed controls due to the absence of any obligation to operate those controls.

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[15] SO_2 allowance spot prices are selling for approximately $100 per ton today on the Chicago Climate Futures Exchange, after selling for approximately $300 per ton the day before the court's decision. See http://www.ccfe.com/mktdata_ccfe/futuresSummary.jsf?symbol=sfi. Interestingly, the SO_2 spot prices plummeted from approximately $350 per ton to approximately $200 per ton, shortly after the March 25th oral argument before the court. This is consistent with the impression left on me and other observers in the court room that portions of CAIR, especially its SO_2 trading program, were in serious jeopardy after the oral argument. The oral argument and SO_2 market response should also belie the claims of some observers to have been completely surprised by the July 11th ruling. Notably, the NO_x allowances market response was not the same in March, and allowance prices actually rose the following month. NO_x allowance prices then plummeted from over $5,000 per ton to $1,000 per ton the day of the court's ruling. *Id.*

[16] "'Huge mess' in wake of CAIR's collapse," *Greenwire,* by Daniel Cusick and Darren Samuelsohn (July 14, 2008).

We can and must prevent this harmful outcome. Government officials must ensure that utilities that already have installed scrubbers and SCR or planned to do so will actually operate those pollution control devices now. States should immediately undertake rulemakings and revise their SIPs to declare that installed and planned pollution controls constitute "Reasonably Available Control Technology" (RACT) for power plants in nonattainment areas and the Ozone Transport Region, and that sources must operate these controls. At the very least, this would avoid the irrational and indefensible prospect of sources shutting down control they already have installed or planned to install.

State air quality officials in affected attainment areas in the CAIR region also should require that installed or planned control equipment be mandated in SIPs in anticipation of required attainment demonstrations for the 2006 $PM_{2.5}$ NAAQS and the 2008 ozone NAAQS. It will not be a persuasive argument to the public in these communities that an unfortunate setback in court, which has been widely decried, justifies the abandonment of pollution control devices that already have been installed or planned in order to protect local and downwind communities. The urgent need for such protections did not evaporate with the court's decision, and neither should the demonstrated willingness of utility companies to make those protective investments, nor the will of air quality regulators to safeguard public health.

V. COMPARATIVE POLLUTION CONTROL OPPORTUNITIES AND THEIR COST-EFFECTIVENESS

Due to the Administration's Clear Skies straitjacket agenda, and the political refusal to require greater emissions reductions from power plants than had been reflected in Clear Skies, EPA worked backwards from Clear Skies to designate the phase I and phase II cap levels for SO_2 and NO_x under CAIR. This carried the necessary consequence of establishing and locking in the costs of annual SO_2 and NO_x reductions that EPA was willing to impose on power plants pursuant to those cap levels. These annual costs, and the underlying costs per ton of SO_2 and NO_x reductions that comprise those annual costs, bear no relationship to the Clean Air Act's legal obligations or authorities, nor the demonstrated attainment needs or timelines of downwind states, nor even to sound policy or economics. Accordingly, it is unsurprising that the court found EPA's "significant contribution" approach rooted in these arbitrary costs to be unlawful.[17]

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[17] Slip opinion at 34-37. In addition to the revealing first footnote of the court's decision discussed in section VI below, the court's decision is replete with indications that the judges understood the arbitrariness of the costs per ton of pollution controlled under CAIR: "Though unclear, [EPA's SO_2 caps] appear to represent what EPA thought would be 'a cost-effective and equitable governmental approach to attainment with the NAAQS for [$PM_{2.5}$]'" (*id.* at 36); "EPA's notions of what is an 'equitable governmental approach to attainment' is not among the objectives of section 110(a)(2)(D)(i)(I)" (*id.*); "Having chosen these equitable caps for the CAIR region, EPA then 'ascertained the costs of these reductions and . . . determine[d] that they should be considered highly cost effective.' *Id.* at 25,176." (*id.*); EPA "simply verified sources could meet the SO_2 caps with controls EPA dubbed "highly cost-effective'" (*id.*); & "EPA can't just pick a cost for a region, and deem 'significant' any emissions that sources can eliminate more cheaply. Such an approach would not necessarily achieve something measurable

It is highly instructive for purposes of future, responsible policy development to see the low costs per ton of SO_2 and NO_x controlled under CAIR, and to compare and contrast those costs to the much higher costs that EPA and state regulators are imposing upon other industrial sectors and mobile sources – in no small part because the Administration refused to require more cost-effective reductions from the power sector:

EPA's ESTIMATED COSTS PER TONS OF SO_2 CONTROLLED UNDER CAIR, CAP LEVELS BEGINNING IN 2010 AND 2015[18]

Type of cost effectiveness	2010	2015
Average Cost—Main Case	$500	$700
Marginal Cost—Main Case	$700	$1,000

ESTIMATED COSTS PER TON OF ANNUAL NOX CONTROLLED UNDER CAIR[19]

Type of cost effectiveness	2009	2015
Average Cost—Main Case	$500	$700
Marginal Cost—Main Case	$1,300	$1,600

These costs per ton of air pollution controlled under CAIR stand in stark contrast to actual and candidate control measures – for power plants, other industrial sectors, and mobile sources -- that EPA, state and local air quality officials are pursuing in order to deliver clean air to the public:

- $800-$3,000 per ton of SO_2 reductions and $700 - $2,100 per ton of NO_x reductions from power plants being considered by LADCO;[20]

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toward the goal of prohibiting sources 'within the State' from contributing significantly to downwind nonattainment." *Id.* at 37.

In these passages, of course, "equitable" is EPA code for the pollution control costs that the Administration was willing and unwilling to impose on the utility sector.

[18] See 70 Fed. Reg. at 25,202. These costs are reflected in 1999$ per ton. I have omitted the lengthy EPA footnote explaining the methodology and data used to arrive at these estimates.

[19] See 70 Fed. Reg. at 25,209. These costs also are reflected in 1999$ per ton, and I have again omitted the lengthy EPA footnote explaining the methodology and data used to arrive at these estimates.

[20] Final Report: Identification and Evaluation of Candidate Control Measures (June 2006), at 7, Table 3 (2006 LADCO Report). http://www.ladco.org/reports/rpo/Regional%20Air%20Quality/MACTEC%20Final%20Phase%20II%20Report.pdf. LADCO is the Midwest regional planning organization comprised of air quality officials from the States of Illinois, Indiana, Michigan, Ohio and Wisconsin.

- $1,622 - $5,219 per ton of SO_2 reductions and $536 - $4,293 per ton of NO_x reductions from ICI Boilers;[21]
- $2,211 - $6,917 per ton of SO_2 reductions and $1,500 - $2,000 per ton of NO_x reductions from Portland Cement Plants;[22]
- $17,630 - $21,084 per ton of NO_x reductions from Asphalt Production Plants;[23]
- $2,000 - $4,000 per ton of NO_x reductions from Glass and Fiberglass Manufacturing Plants;[24]
- $13,300 - $36,260 per ton of volatile organic compound (VOC) reductions from Gasoline Dispensing Facilities;[25]
- $600 - $18,000 per ton of NO_x reductions, with an average annual cost of $5,000 per ton, for ICI Boilers;[26]
- $1,000 - $2,500 per ton of NO_x reductions from Cement Kilns;[27]
- $1,254 - $5,300 per ton of NO_x reductions from Glass Furnaces;[28]

EPA's Regulatory Impact Analyses (RIA) for the 2008 ozone NAAQS and the 2006 $PM_{2.5}$ NAAQS detail extensive pollution control measures for non power plant industrial sources and mobile sources, where the costs per ton of SO_2 and NO_x reduced are significantly higher – by orders of magnitude and greater -- than control costs per ton of power plant emissions under CAIR.[29] This information is too extensive to summarize here but it echoes and confirms the state data excerpted above and bears review.

Finally, the OTC has developed an extensive control strategy aimed at achieving emissions reductions from the power sector that are deeper and timelier than those achieved under CAIR. It is called, appropriately, CAIR Plus. While I have not summarized the OTC's important work in this testimony, CAIR Plus further reflects costs per ton of emissions reduction that are cheaper than costs identified above, while achieving significant additional reductions beyond those achieved under CAIR in the relevant states.

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[21] 2006 LADCO Report, at 7, Table 3.
[22] *Id.*
[23] *Id.* at 9, Table 3.
[24] *Id.*
[25] *Id.* Because NO_x and VOCs are both precursors to ozone formation, it is worthwhile to consider and compare their relative control cost-effectiveness in designing ozone control strategies.
[26] Ozone Transport Commission Control Measures Documentation for 2006 OTC Resolution 06-02, http://www.ct.gov/dep/lib/dep/air/regulations/proposed_and_reports/pm25/appendix_4b.pdf.
[27] *Id.*
[28] *Id.*
[29] See 2008 Ozone NAAQS Regulatory Impact Analysis, Appendix 5a: Additional Cost Information, http://www.epa.gov/ttnecas1/regdata/RIAs/5a-ozoneriachapter5appendixA.pdf; 2006 PM2.5 NAAQS Regulatory Impact Analysis, Appendix E: Non-EGU Point and Area Source Control Measure Summary, http://www.epa.gov/ttnecas1/regdata/RIAs/Appendix%20E--Controls%20List.pdf.

The information above complements the court's finding that EPA acted arbitrarily in setting the control costs and emissions caps under CAIR, because these data confirm the irrationality of allowing power plants to avoid incrementally higher costs for controlling the same ton of pollution, where those costs still would be far lower than control costs borne by local businesses in other industries. This is especially true since power plants are the biggest contributors to our air quality problems and can be controlled more cost-effectively than these local businesses.

The current Administration has managed to avoid answering for the wasteful, economically irrational and fundamentally unfair political choice that lies at the heart of its entire air pollution agenda for the electric power industry. The next administration and Congress now have the opportunity to confront those facts and concerns honestly and fairly, in order to solve the country's air quality problems in the most effective way possible.

VI. THE COURT'S DECISION

I will not summarize the court's decision here, but EPA has done so in a briefing for Congressional staff on July 24th that should be added to the record. I would like to briefly touch upon aspects of the court's decision, however, to highlight the court's understanding of CAIR's resemblance to Clear Skies, as well as certain shortcomings in CAIR perceived by the court that may be linked directly to Clear Skies. I also will examine EPA's basis for believing CAIR was lawful in light of D.C. Circuit precedent. Then I conclude with some thoughts on how EPA must comply with the Clean Air Act following the court's decision.

Midway through the opinion, the court repeats the statutory obligation under Clean Air Act section 110(a)(2)(D)(i)(I) requiring states to "include 'adequate provisions' in their SIPs, prohibiting emissions 'within the State from . . . contribut[ing] significantly' to downwind nonattainment." Slip opinion, No. 05-1244 (D.C. Cir.) (July 11, 2008), at 35-36. The court then puzzles over the fundamental question of how EPA arrived at CAIR's SO_2 emissions reduction levels -- corresponding to the phase I and phase II caps -- that supposedly dealt with those significant contributions from upwind states:

> Apart from the arbitrary Title IV baseline, EPA has insufficiently explained how it arrived at the 50% and 65% reduction figures. Though unclear, these numbers appear to represent what EPA thought would be "'a cost-effective and equitable governmental approach to attainment with the NAAQS for [$PM_{2.5}$].'" CAIR, 70 Fed. Reg. at 25,199 (quoting Proposed CAIR, 69 Fed. Reg. 4566, 4612 (Jan. 30, 2004)).

Slip opinion at 36.

Immediately after this sentence, the court drops a footnote that contains surely the most insightful, revealing, yet understated use of the word "coincidentally" in a decision by the D.C. Circuit. In this footnote, the court stumbles upon an awareness of the Administration's Clear Skies straitjacket agenda, realizing that CAIR's SO_2 caps were plucked not from thin air but from Clear Skies:

> EPA briefly summarized a series of analyses and dialogues with various stakeholder groups in which the participants considered "regional and national strategies to reduce interstate transport of SO_2 and NO_x." *See* CAIR, 70 Fed. Reg. at 25,199. The most recent of these, EPA's analysis in support of the proposed Clear Skies Act, considered nationwide SO2 caps of, coincidentally, "50 percent and 67 percent from . . . title IV cap levels." *Id.*

Slip opinion at 36 n.1 (emphasis added).

The court signals an impressive understanding here of a dirty little secret that Clean Air Act practitioners have known for the past five years: the Administration worked backwards from its Clear Skies legislative proposal to institute the emissions caps and design features of CAIR, rather than working forward from the Clean Air Act to achieve the emissions reductions necessary to address transported pollution at the levels and according to the schedules consistent with Clean Air Act obligations to downwind states. The emissions cap levels are only one of the more obvious elements of that agenda disconnected from the current statute. It is important to recognize, however, that this backward-driven Clear Skies agenda is pervasive throughout the Administration's air pollution agenda, as discussed in section II of this testimony.

In fairness to EPA, the agency and many other parties, including NRDC, shared at least one common belief that supported CAIR's lawfulness: that there was an intersection between the Administration's Clear Skies agenda and authority conferred by the current Clean Air Act. In other words, that the Clean Air Act had ample authority to allow EPA to achieve emissions reductions on the scale of those achieved in CAIR, drawing upon the statute's interstate transport provisions.

I want to stress that this is still the case today, despite the court's opinion: the Act continues to contain ample authority to address power plant emissions, air pollution transported from upwind states, and downwind states' attainment needs. Indeed, the court goes out of its way to emphasize this point: "downwind states retain their statutory right to petition for immediate relief from unlawful interstate pollution under section 126, 42 U.S.C. § 7426." Slip opinion at 60. The problem with CAIR was not a problem with the statute; it was a problem with the policy (and political) choices made by EPA in carrying out the statute.

It is now the case, however, that the statute's authorities are bounded and directed in ways different than we had imagined before the court's decision. The Clean Air Act can and must be used to achieve even greater emissions reductions from power plants than achieved in CAIR, but various approaches employed in CAIR may not be used henceforth.

In further fairness to EPA, there were solid grounds for believing that regional trading programs under Title I of the statute had been validated by the D.C. Circuit in the landmark 2000 decision, *Michigan v. EPA*, which upheld EPA's NO_x SIP Call regional NO_x trading program. 213 F.3d 663 (D.C. Cir. 2000). The CAIR court distinguished the *Michigan* decision by arguing that no party had directly challenged the very concept of a regional trading program in that earlier case. Slip opinion at 17 ("In *Michigan* we never passed on the lawfulness of the NO_x SIP Call's trading program. *Id.* at 676 ('Of course we are able to assume the existence of EPA's

allowance trading program only because no one has challenged its adoption.")) (citing *Michigan*).

While perhaps true in a strict sense, the *Michigan* court did implicitly if not explicitly validate regional pollution trading programs under Title I by upholding key design elements of EPA's regional, ozone-season NO_x trading program. While it is certainly possible to square the letter of the *Michigan* and CAIR rulings with one another, many Clean Air Act practitioners will find the spirit and logic of the two decisions to be in tension if not active conflict.

To conclude this discussion with fairness to the court too, the judges did express the view that regional trading programs still could be permissible under the statute's Title I transport provisions: "It is possible that after rebuilding, a somewhat similar CAIR may emerge; after all, EPA already promulgated the apparently similar NO_x SIP Call eight years ago." Slip opinion at 59. There remains the anxiety, however, that such a possibility may be half-hearted, and the court's lack of explanation or further guidance does not ease that anxiety.

At any rate, it is evident that such a trading program or programs would look quite different from CAIR and possibly even the NO_x SIP Call. The challenge mounted by the utility industry SO_2 Petitioners, led by Duke Energy, appears to have struck a fatal or near-fatal blow to the future possibility of SO_2 regional trading programs that demand deep and timely SO_2 reductions beyond the provisions of Title IV's acid rain program. Any SO_2 program needing to protect public health would need to do that at the very least. Accordingly, the court's decision is most deserving of criticism for upholding the SO_2 Petitioners' challenges, and there is evidence that even Duke Energy now regrets its litigation strategy urging the court to vacate CAIR's SO_2 rules.[30]

Similarly, both SO_2 and NO_x regional trading programs would be more circumscribed than before the court's ruling – allowing intra-state and inter-state trading only to the extent that each individual state's significant contribution to downwind nonattainment (and interference with maintenance of attainment) is abated, but not to the extent that such significant contribution persists. The court found that unacceptable situation to persist in the case of CAIR, leading the judges to uphold North Carolina's challenge to the rule.

And while that legal framework and outcome plainly constrain the flexibility of an open-ended regional trading program, it is hard to say that this part of the court's ruling is wrong. CAIR was allowing individual, neighboring states to contribute significantly to the air pollution plight of downwind states like North Carolina, without abating the emissions from those neighboring states adequately or in a sufficiently timely fashion. This leads to a final important point: the court's decision in this regard is more environmentally protective than CAIR, and

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[30] "Decisions Shut Door on Bush Clean-Air Steps," Felicity Barringer, New York Times (July 12, 2008) (Duke Energy spokesman declaring that "It was not the intent of Duke Energy's participation in this litigation to overturn E.P.A.'s Clean Air Interstate Rule.)" The SO2 Petitioners' legal brief, authored by counsel for Duke Energy, urged the court to vacate CAIR's SO_2 rules. See Joint Brief of SO_2 Petitioners, No. 05-1244 (D.C.Cir.) (March 5, 2007), at 34.

ensures that the Clean Air Act must more effectively address pollution transport from upwind states to victimized downwind communities.

VII. NEXT STEPS

It is still too soon to identify exactly what the best or eventual steps will be to ensure the deep and timely reductions in power plant emissions necessary to protect public health and air quality. However, we have known for a long time that such reductions are essential. We know that the reductions must significantly surpass the reductions and timelines established in CAIR. And we know that these necessary reductions are feasible, more cost-effective than controls on other emitting sectors, and yield benefits vastly outweighing their costs.

Finally, it is clear that we can and must proceed on parallel paths to achieve these objectives at the state, EPA and Congressional level. We may not know yet which path(s) will first or best protect the health of the American people against dangerous power plant emissions, but there can be no doubt that this must be the goal.

A. EPA and State Actions.

Before EPA takes the necessary steps forward to sharply cut power plant pollution in the aftermath of the CAIR ruling, EPA must immediately stop lurching backwards. Above all, EPA must terminate the disastrous NSR rulemaking proposals that effectively would exempt all power plants in the country from any need to adopt modern pollution controls when they significantly increase emissions by hundreds or even many thousands of tons per year.

With the overturning of CAIR, under EPA's own logic there is no justification for adopting this harmful and illegal exemption, and EPA should abandon it forthwith. Congress should pose these questions to EPA: is EPA planning to adopt the NSR rulemaking proposed in October 2005 and May 2007 by the end of the Administration? If so, what are the possible justifications for doing so as a matter of policy, law, air quality and public health, following the vacatur of CAIR? Has EPA analyzed comprehensively the impacts on air quality, public health, state attainment needs and the environment that would result from adopting this regulation without CAIR in place?

In order to stop the agency from proceeding backwards further, it will be necessary for EPA promptly to re-open and repeal every regulation in which the agency has relied upon the presence of CAIR, in whole or in part, in pretending to carry out or satisfy other statutory obligations. As discussed in section II above, this includes the substitution of CAIR for RACT in the $PM_{2.5}$ and ozone implementation rules; the substitution of CAIR for BART in the so-called Clean Air Visibility Rule; and any other rules in which EPA has similarly relied upon CAIR. Congress should request a full accounting from EPA of such reliance in agency rulemakings and initiatives.

Looking ahead to the progressive steps needed by EPA to deeply reduce power plant emissions, the following steps should be taken expeditiously:

- EPA should work with state and local officials, and their national and regional organizations, to help implement immediate measures under state laws, then under their SIPs, to impose all installed and planned CAIR controls as RACT, or SIP attainment strategies in preparation for upcoming attainment demonstrations. EPA is well-equipped to provide invaluable technical support and expertise to the states, and the agency can prioritize SIP reviews and approvals to fast-track these desperately needed public health protections.

- EPA should immediately undertake the technical analysis and modeling to identify each upwind state's significant contribution to nonattainment and interference with maintenance in downwind states, drawing upon the extensive work already performed under CAIR and guided by the court's opinion dictating how such contributions must be evaluated. The court's decision makes clear that EPA has the obligation and the authority to do so under the Clean Air Act. And the CAIR rulemaking already has established the factual foundation for EPA to carry out such authority expeditiously through its Federal Implementation Plan and SIP Call powers.

- EPA should assist Congress in developing potential legislative solutions to power plant emissions, by furnishing the types of technical analyses discussed in this testimony – the comparative public health gains, cost-effectiveness, and benefits and costs of controlling power plant emissions versus other emitting activities. Even if legislation proves infeasible in this Congress, it remains the case that the next Congress, the next administration, and the public would benefit immeasurably from having the results of EPA's technical expertise and experience.

Reiterating state actions that should be taken to manage the negative consequences of the court's ruling: states should promptly require that pollution controls installed and planned for CAIR compliance constitute RACT for power plants in nonattainment areas and the Ozone Transport Region, and that sources must operate these controls. State officials in affected attainment areas in the CAIR region also should require that installed or planned control equipment be mandated in SIPs in anticipation of required attainment demonstrations for the 2006 $PM_{2.5}$ NAAQS and the 2008 ozone NAAQS.

NRDC looks forward to working with EPA, states and other stakeholders to tackle these challenges and help deliver healthy air to the American people.

B. Congressional Actions

As discussed in section III above, Congress can and should take certain immediate steps to address and manage the adverse consequences of the court's ruling. Congress should immediately ask EPA to analyze the avoided mortality and morbidity incidences that will be lost if some or all of the pollution control devices planned under CAIR are not installed or operated. Congress also should ask EPA to analyze and publicly report all the health benefits of achieving greater and earlier emissions reductions from power plants than achieved under CAIR, as well as the comparative cost-effectiveness of those reductions compared to other costs borne by other regulated entities. This analysis should include benefit-to-cost comparisons.

In addition, NRDC supports immediate legislative enactment of SO_2, NO_x and mercury limits at least as stringent as those contained in the Chairman's Clean Air Planning Act, and in other bills such as Senator Alexander's and Senator Sanders' power plant legislation. These emissions reductions rightly surpass the reductions under CAIR, and are vital to public health protection in the United States. As discussed above, literally thousands of lives depend on our achieving these reductions as soon as possible.

NRDC also commends the Chairman and Senators Alexander and Sanders for recognizing the need for steep reductions of CO_2 emissions from the electric power sector, which is the largest single emitting sector in the U.S. economy. There are a number of ways to achieve this result, including our preferred approach, which would be immediate enactment of comprehensive, national limits on global warming pollution, including provisions addressing the power plant sector through a cap and trade program, and potentially including complementary measures such as the New Source Performance Standard and low carbon generation obligation contained in Senator Sanders' power plant legislation.

NRDC believes that any power plant legislation must contain CO_2 reduction requirements for the power sector sufficient for the United States to meet science-based reduction targets for the entire U.S. economy, and to ensure that the overall integrity of the emissions cap is paramount. Accordingly, special attention must be paid to any provisions related to offsets and other cost containment devices that could affect the total amount of reductions that will actually be achieved.

We look forward to working with Chairman Carper, Chairwoman Boxer and the other members of this Committee to put needed limits on global warming pollution from all sources, including power plants, and we applaud the groundbreaking work of Senator Carper and others on this Committee to help achieve that critical outcome as soon as possible.

Senator CARPER. We are delighted that you came. Thank you for your preparation and for your testimony today, and your willingness to respond to our questions.

Mr. Korleski, I leaned over and I asked, I will start with a softball for you, my friend, but I leaned over and I said to Governor Voinovich, was Mr. Korleski, do you recall if he was part of the team in Ohio, the Department of the Environment, what is the name of your department?

Mr. KORLESKI. The Ohio Environmental Protection Agency.

Senator CARPER. OK. I asked former Governor Voinovich, I said, do you recall if Mr. Korleski was part of the team that you led when you were Governor for 8 years, and he said, I don't believe so. How long have you been there?

Mr. KORLESKI. Just quick background, I have been the Director for a year and a half, almost exactly a year and a half. Prior to that, I was environmental counsel for Honda, based in Ohio. And prior to that, I was an assistant attorney general doing trial work in the environmental enforcement section of the Ohio Attorney General's office.

Senator CARPER. So you have been in Ohio for a while?

Mr. KORLESKI. Yes.

Senator CARPER. Did you grow up there?

Mr. KORLESKI. Yes, I did. Alliance, Ohio.

Senator CARPER. When you think back on the years that you have been in Ohio and looking back on the 20th century, you think back on the great Governors that Ohio has had, does any one particular former Governor rise to the top?

[Laughter.]

Mr. KORLESKI. There are several that come to mind.

Senator CARPER. Are any of them in the room today? That's OK.

[Laughter.]

Senator CARPER. I said this would be a softball. When Senator Voinovich was re-elected to his second term in the Senate a few years ago, I kept going up and asking him how many counties he carried in Ohio. There are a lot of counties in Ohio, is it 87?

Senator VOINOVICH. Eighty-eight.

Senator CARPER. Eighty-eight, but who is counting.

I finally got him to admit that he carried all 88 counties. And I was under a lot of pressure when I ran 2 years ago to try to make sure I carried every single county of Delaware. And I am happy to report I got all three.

[Laughter.]

Senator CARPER. This man doesn't have bragging rights over me, at least not too many.

On a more serious note, I want to telegraph a pitch. And the pitch is in our second round, when we come to the close of our second round, a question I am going to ask of you. This is a diverse panel, you bring a lot of expertise and a lot of caring to the issues that are before us. But one of the things I am going to ask you is, help us find consensus. Give us some advice to help us, not continue to disagree amongst ourselves, but how to find common ground, which will meet the needs that the industry has for some certainty, the needs that the States have and the need the American people have. So just be thinking about that and help us to see,

despite the differences, where are some places that you agree and that you would suggest to us that we sort of build as a foundation. That will give you something to look forward to as we get to the end.

The question I have for Mr. Svenson is, with the Court vacating CAIR, what do you see as the most significant impact for the electric sector?

Mr. SVENSON. Mr. Chairman, from my perspective, it is really the chaotic State that it leaves us in. We had some certainty with the rules, even though, as you heard in my testimony we still thought the CAIR was a second best solution. But it provided certainty as to the obligations on nitrogen oxide emission reductions, sulfur dioxide emission reductions and furthermore, by using a trading program, when you think of the electric power markets, electric power markets extend, for my market, PJM, all the way out to Illinois. It placed everybody under the same set of rules, and that is important from a competitive standpoint to have the same rules, State to State, across the region.

So what this has done has now thrown that out the window. We are now in a mode where we are left to potentially State by State rules again, which may be different. And it has placed a cloud of uncertainty as to the confidence level in the industry relative to making investments. It has really penalized first movers. I think we would be reluctant to take early action in the future.

Senator CARPER. Maybe one more for you, then I have a question for Mr. Snyder, a question or two. PSEG has been a long-time supporter of a four-pollutant approach. We are grateful for that. What do you believe, and you spoke to this a little bit, but I want you to expand on it. Why does PSEG believe that a multi-pollutant approach is most appropriate?

Mr. SVENSON. Mr. Chairman, the reasoning for that is that the electric power industry is facing significant investments going forward to meet customer demand. And it is not just simply around NOx and SO2 that we are making investment decisions. We are looking at issues associated with where do you think CO2 pricing is going to be in the future, what do you think mercury is going to be.

So when absent having regulation, specifically State what that is, or legislation, each company is left to make certain bets as to what you think that will be, and factor that into your investment decisions going forward. I think it would be a lot better having national legislation giving certainty rather than having 100 or so major companies in this Country that are electric power generators making separate guesses as to what some of those parameters are going to be.

Senator CARPER. Mr. Spence, do you want to add any thoughts on that question?

Mr. SPENCE. I would just echo the uncertainty that was mentioned, as well as being thrown into a State by State type of an approach. And I would also agree that we need a venue for dealing with all four pollutants in the long term. And in the short term, my concern is if we try to incorporate some of the longer-term issues with a quick legislative fix on this particular issue, I think because of the complexity of those other issues, mercury and CO2

in particular, I would suspect that it wouldn't be a quick fix after all.

Senator CARPER. All right, thank you.

My time has expired. I will have a couple more questions but let me yield to Senator Voinovich.

Senator VOINOVICH. The last thing we talked about is how do you solve a problem. I have been a member of this Committee for 10 years. I went through bills introduced by Senator Jeffords and others over the years. And I will never forget, maybe it was five or 6 years ago that we had the Jeffords Bill and we thought we had a compromise, but many of the environmental groups, Mr. Walke held out and said, we have to do something about greenhouse gases, and if you didn't get 4 Ps, we wouldn't go for 3 Ps. So we didn't get 3 Ps, and as a result of that, I believe that we have delayed the time when we could do something about NOx and SOx and also deal with the Adirondacks in New York and the Smokey Mountains in Tennessee and some of the other areas that could have benefited from that.

Most recently, we spent a great deal of time on the issue of greenhouse gases and climate change. Again, we are going to be revisiting that. So from a practical point of view, looking at the picture as it really is, in your opinion, what would be the best thing for us to do at this time, understanding that Senator Carper has legislation in? And frankly, our biggest problem in coming to agreement on Clear Skies was he wanted lower reductions, I think it was, in SOx and NOx and moving the time table up and so forth.

A lot of this is going to take a great deal of time to work out. I wish I could say that you could snap your fingers and it is going to happen. So here we are, in the real world, what do you think is the best thing for us to do at this time to deal with this problem, understanding that anything that we do ultimately will be again looked at by all of us in terms of whether or not it satisfies Mr. Walke, who said we should be doing better, or Mr. Snyder, you said we should be doing better. I understand that. So that is the question I am asking all five of you. What would you do? You are now a Senator from New York.

[Laughter.]

Senator CARPER. I don't know which one of us is going to break the news to Chuck and Hillary.

[Laughter.]

Mr. SNYDER. Going back to Senator Carper's opening statement, the quote from Albert Einstein, maybe this creates the opportunity, this is the moment in time, where the solution that has evaded Congress in the past is available because of everybody that you see in front of you who has an interest in solving the problem. We see that this is opportunity to address all four pollutants. We have inadequate regulation of all four pollutants right now. What we have seen over the last several years is what happens when we try to address, when EPA tries to address at least some of these pollutants with its administrative authority. The mercury rule gets thrown out by the court, and for good reason, if you would ask me. CAIR gets thrown out by the Court. EPA doesn't know what to do about CO2. So we have inadequate regulation of all these pollutants. We have an opportunity in time. And I think dealing with

them all at once would facilitate industry planning, that industry would welcome the opportunity to know what the future holds for all these pollutants. Maybe they don't put scrubbers and SCRs on a medium-size coal-fired power plant if, because of carbon regulation, it makes more sense to shut that plan down and develop new, cleaner capacity instead.

So I think it is worth a try to try and solve all these problems. That would be my opinion.

Senator VOINOVICH. Mr. Svenson.

Mr. SVENSON. Yes, very much like Jared, my company would feel that there is an opportunity here to do better. And as you heard me in my testimony, CAIR was the second best solution. I do think that there is a, I will call it the pressure cooker effect here, that every one of us around the table wants to solve the problem. There has been a lot of uncertainty sitting out here even beyond CAIR, relative to the CO2, mercury, so it just added to the uncertainty. I think it is time for a 4P bill.

Senator VOINOVICH. Mr. Spence.

Mr. SPENCE. Yes, I would prefer a legislative solution, not a regulatory solution. I think that is the important point that I would try to make. I think also, we have also suggested through an appendix to my written testimony, I believe, some language on how to amend the Clean Air Act to basically codify the CAIR, but with the caveat that it would allow one difference between what was promulgated and what we would propose, is to allow for the States to petition the EPA to try to enforce those upwind States that aren't meeting the requirements to take action. That was one of the obviously contentious issues in the CAIR.

So not only are we proposing an approach, but also try to accommodate some of the concerns from some of the parties to try to get back to a common place. No one, most folks I would say, are not happy with this. So I think you have the vast majority of us saying, this is not what was expected, it is not good for anyone, companies, the environment, individuals. But we do have to now deal with it and fix it. I prefer a legislative fix.

Senator VOINOVICH. Mr. Korleski.

Mr. KORLESKI. I also very strongly believe that a legislative fix is appropriate. I think as I listened to my fellow——

Senator VOINOVICH. Do you agree that the legislative fix, though, and that is the other thing, has to include mercury and greenhouse gases?

Mr. KORLESKI. That was going to be my concern. If I thought that a legislative fix addressing all those issues could be arrived at expeditiously, I would say have at it, let's get it done. But again, less than a year from now, I am looking at trying to comply with ozone standards and shortly after that, I am going to have particulate kicking in. My instincts, just based on 20 years of doing environmental law and watching the process, is that it would be very unlikely that the parties could address mercury, carbon, SOx and NOx expeditiously. So if that could happen, I would be all for it.

In lieu of that, because again, I will be somewhat skeptical here, in lieu of that, what we are proposing here is again a laser-like fix to reinState CAIR. I think we all agree here at the panel that CAIR was productive. It wasn't perfect, it didn't go as far as many

people would have liked. I am not familiar with the Clear Skies Initiative, I was a manufacturing lawyer at the time, was not involved in that.

But at this point, we can argue or not whether CAIR should have been, would have been. But it was something. And it was significant, and we have lost it. And my primary recommendation is that we do something quickly to get it back quickly. If we can expeditiously address other issues, Ohio would be happy to support that concept. But after 20 years, I confess I am somewhat dubious whether that can be achieved in the very short timeframe that I think we are faced with to try to get this done.

Senator VOINOVICH. Mr. Walke.

Mr. WALKE. I think it is imperative that we pursue parallel regulatory and legislative paths, so that all the actors can try to get the right solutions. On the regulatory path, I think it is imperative that EPA stop going backward by pursuing some of these harmful rules. I also think it is imperative that EPA and the States work together, as Mr. Korleski said, to make sure that these controls, that we already have them installed and already have it planned or actually operated so that they protect the public. I am confident that we can do that in a faster timeframe.

On the legislative front, I think we also have two options available to us, or two sequences. One would be a shorter term and one would be a longer term. On the longer term front, we think it is imperative to reduce all the pollutants from the power sector, including global warming pollutants. We look forward to working with members of the Committee to do that.

On the shorter timeframe, we are facing some urgent public health needs in 2009 and 2010, and we would be happy to participate in constructive conversations that we think could well lead to consensus about ensuring that those protections are in place, at least in the next few years, to give us all time to kind of step back and think about what the longer term answers are, to allow the regulatory system to unfold, to achieve the necessary reductions, still before 2015, but according to the levels that we need, so that we could have those short-term protections for the public at the same time that we figure out what the right answer is.

Senator VOINOVICH. Thank you.

Senator CARPER. Let me just ask, I am going to ask my last question first, or I am going to ask it next. It is really sort of a variation of what Senator Voinovich has just asked. The question is this: what do you think, at least on this panel, where do you think the major points of agreement are? Mr. Snyder, do you want to lead it off?

Mr. SNYDER. I think the major points of agreement, from hearing everybody today, are that we need to deal with the public health concerns relating to fine particulate matter and ozone, and the need for the States to comply with the standards that are applicable. I was involved in the NOx SIP Call 10 years ago, and the dynamic now is very different than it was then. This is sort of going to that question that you had about the places of consensus. Then it was really upwind versus downwind. And that division doesn't really apply any more. The State of Ohio is an upwind and a downwind States. New York is an upwind and a downwind State. The

reductions that we will see here will serve the public health all across the eastern United States.

One of the exhibits to my testimony is a map of the United States showing in 2015, even after the second phase of CAIR is implemented, the non-attainment areas for particulate matter. And it is most of the major metropolitan areas in the Midwest and the South, will still be non-attainment for PM and suffering the loss of life and illness as a result. So I think we are all converging on the need to deal with that issue. It is really a national issue now, rather than an us against them issue.

And I think we all have concerns about mercury and carbon dioxide. It is just a question of, are we able to resolve those at the same time or not. I guess my point was, it is worth giving it a try. But the public health needs are really paramount in the short term.

Senator CARPER. Thank you.

Mr. Svenson, where do you think this panel agrees, major points?

Mr. SVENSON. First of all, just an observation is that nobody is here saying hallelujah, that the rule went away. Everybody is saying, there is a public health issue here and there is an environmental issue, that needs to be addressed. So certainly the consensus is that we have a problem that needs to be fixed.

The second piece here is that everybody, I think, is saying, geez, if there were sufficient time, let's try to do something better. There were some shortcomings in the CAIR rule, but they are very concerned, I think every one of us is concerned about time, time from a public health standpoint and an environment standpoint.

I like what Jared said about, give it a try, see where we can get it in terms of doing more. But time is of the essence.

Senator CARPER. Thank you.

Mr. Spence, where do you think this panel agrees?

Mr. SPENCE. I would echo both comments. I think the urgency, there is a great sense of urgency that we need to do something here rather quickly. The environmental benefits, but I would also add the detriment to the companies involved here with the emissions market being now thrown into a State of chaos, something we need to think about. Because that is a fundamental premise upon which we have achieved, in my view, some fairly significant NOx and SOx reductions over the prior years under the Clean Air Act. I don't want to miss that opportunity as we go forward to continue to have those foundations, be productive and get us to where we need to be.

Senator CARPER. Mr. Korleski, where do you think there is consensus here on this panel?

Mr. KORLESKI. The bottom line consensus that I think everyone agrees on is that the loss of CAIR is a very negative development for public health, for air pollution protection. There are nuances on what we should do, where we should go. But I think that is the bottom line from every member of this panel.

Senator CARPER. Mr. Walke.

Mr. WALKE. The benefit of batting cleanup is I am able to endorse so much of what my fellow panelists said. But I do think there is that core consensus around the public health imperative, the need to address these deadly problems of smog and soot pollution. I sense a constructive willingness to have those conversations

with this Committee and with the relative stakeholders. I don't perceive much difference in our positions on an astonishing number of issues.

I even detect consensus around the need to address global warming, pollution and the need to do so. We probably differ about the best way to go about doing it after that. But I think that there is real consensus here that we should try to seize.

Senator CARPER. All right.

My next question is going to be sort of the opposite of the first one. We have indicated some areas where we agree. Where do you see the major sticking points? Not just for where you think the major sticking points are, but how would you suggest that we deal with those in trying to find a middle ground? Mr. Snyder, do you want to start with that?

Mr. SNYDER. Setting aside the mercury and carbon dioxide issues for a moment, just focusing on the NOx and SO2, I think that the sticking points are on accelerating the CAIR deadlines and making the reductions steeper. I think that those are sticking points that we could probably work toward resolution on. We have a dialog between the OTC States and the States, including Ohio in the Midwest, a group called LADCO. We are engaged in a dialog and developing——

Senator CARPER. That is all we need, another acronym.

[Laughter.]

Mr. SNYDER. And don't ask me what it stands for.

But we are engaged in a dialog of trying to identify control strategies that both groups can implement. We are identifying strategies that, as Mr. Walke has pointed out, are much more expensive than the control strategies of CAIR. So going beyond CAIR provides an opportunity to get cheaper, more efficient reductions than many of the other things that we are exploring. I think Ohio would probably agree with that. More analysis in that area I think would help and would result in some consensus. That is not analysis that we need to assign to EPA. We can just have that dialog with each other.

I think we should also all recognize that we are facing these new compliance obligations and the new standards in time lines that are shorter than CAIR: 2013, 2014. I think we have to be able to reach consensus that we need to do better than CAIR to achieve compliance with those standards.

So that is just identifying the possible points of difference and a way to come to resolution on those.

Senator CARPER. Thank you.

Mr. Svenson, particular points of difference and a way to address those?

Mr. SVENSON. Yes, Mr. Chairman. I think that what I would think the key point of difference might be is about the extent the different parties would be willing to take the time to actually explore more. I think there are different points of view as to how fast, whether shall we quickly jump to an immediate fix of legislation right now, specific wording that would codify CAIR, maybe phase one or something like that.

I think that my point of view is that we need to truly explore more. I think the way to do that is by doing what you are doing

here today, get more people around the table, in addition to PPL, PSEG, more other points of view from the industry to speak on the issue. And also get different members of the environmental community as well. That is one of the things I have found out over the years, is that there are many views within the environmental community as well, and amongst the States. So I think more dialog is going to be needed here on this.

But I would certainly encourage, I think we should be taking some up-front time to explore more, not less.

Senator CARPER. Thank you.

Mr. Spence, same question.

Mr. SPENCE. I think one of the key differences might be what to include in any kind of legislative fix. And clearly, in my view, including mercury and CO2 makes it more problematic to get a quick fix in the short term. So how do we address that? Maybe an approach is to put something in place on an interim basis that specifically addresses the CAIR issues with some type of process for working on all four pollutants on a longer term structure or process legislation that could work for all of us.

Senator CARPER. Thank you.

Mr. Korleski.

Mr. KORLESKI. Mr. Chairman, I very much would agree with Mr. Spence. To me, this is really an issue of a bird in the hand versus two in the bush. Well, it is not a bird in the hand now, but it would be relatively easy, I think, to make CAIR a bird in the hand, versus holding out for something more, something greater, the time that will take, the parties that would have to be involved, the negotiations that would have to happen. It is an election year. All those factors, to me, mitigate toward it is going to take a while to get that done.

So Mr. Spence's suggestion of, in the interim, let's restore CAIR, and then let's begin working on the other issues.

Senator CARPER. At least one of us up on this panel is an attorney. But I am not. And I am not sure if EPA appeals the D.C. Circuit Court of Appeals decision if that stays the vacating, if you will, of CAIR. Can someone advise us on that?

Simply by appealing the decision, what effect does that have on the vacating of CAIR?

Mr. WALKE. Senator Carper, ordinarily the D.C. Circuit does not issue its mandates in a ruling that make that effective as a matter of law until they have decided how to deal with any requests for appeal that have been filed. As EPA said, they have until the end of August. You should not expect to see the mandate from the Court before then,and depending upon the resolution of that appeal by the Court, you would see the mandate when they decide to either grant, if they deny the appeal, they would grant the mandate soon after. If they grant the appeal, then the mandate would be withheld and the decision would not take effect.

Senator CARPER. All right, thank you.

Back to my earlier question, if you will. Thank you for your response on that one, but back to my earlier question. Again, points of difference, major points of difference and how to get through those to develop consensus. We have plenty of consensus on a number of things here. I am encouraged by that. But there are obvi-

ously some areas we disagree. How would you suggest we go about dealing with those?

Mr. WALKE. I echo the assessment of Mr. Snyder and Mr. Svenson that I believe there are disagreements over whether locking in the reduction levels and schedules in the second phase of CAIR is the right medium-term or long-term solution. So any effort to do that through legislative codification I think would run into a variety of different opinions. I detect more consensus around the benefits of CAIR in the earlier term, and I think that there might be consensus there.

Obviously there are different views about carbon regulation in the short term. But in the long term, I think that we could have some consensus.

Senator CARPER. All right, thanks. I have gone on too long. Senator Voinovich.

Senator VOINOVICH. If you really look at the situation that we have today, this may be the last week we are in until we take our August break. Then we get back after the Republican convention, we will be back here until September 26th, according to Harry Reid and Speaker Pelosi, and we are gone. And I suspect there are some folks out there that have the opinion that we will have a new President, it may not be a Republican, it may be a Democrat. There are some people who are speculating that we may have more Democrats in the House and maybe more Democrats in the Senate and that probably to achieve some of the things that Mr. Snyder wants and Mr. Walke wants and some of the others, it is probably going to be more likely that they can get that with a new political environment here in the Congress, and maybe at the White House. Who knows.

But I have to say to you that I don't think anything is going to get done between now and March, April, May of next year. I don't think that Senator Carper and I can get together after the hours we spent trying to—and we are good friends—working things out, that we are going to be able to get that done just like that.

Now, I can understand, Mr. Walke, you are looking down the road in terms of where is this taking us and it is not deep enough, it is not quick enough. But I would like to suggest to all of you that we are living in the real world, the political world that we find ourselves, and I would like to suggest to a lot of you who are sitting in this room that care about this one way or the other, may represent environmental groups, you may represent industrial groups, and we all have to reflect the people that are out there right now who are really hurting in this Country. I would like you to think about it. What is the best thing that we could do right now to handle this situation? Is it a Draconian situation if we let this thing sit for 6 months or so? What impact is that going to have on the environment, public health, businesses' decisions about what they are going to do going forward or whatever?

That is it, that is where we are at right now. Mr. Walke, you are a pretty outspoken leader in the environmental groups. I would really like to sit down with some of your friends, try and look at this thing from a practical point of view and say, what are we going to do about this thing. I would sure be interested in your consensus and I know Senator Carper would. I see some representa-

tives of Edison Electric industry that are here, other groups. We would sure like to hear from you about what do you think we ought to do now. Or should we just do nothing and wait until we come back after January and start to work on some of these other issues?

Senator CARPER. I think we are getting close to the end. I have one more question I would like to pose for Mr. Korleski, and I don't know if anybody else will want to chime in. I think somewhere within your statement, you said that it is your intention to work with utilities on a one on one basis to lock in controls already planned or in place pursuant to CAIR. How do you intend to lock in controls?

Mr. KORLESKI. Mr. Chairman, what we are contemplating is having discussions where we would better understand the economic ramifications from their side about where they are with their controls, is it cost-effective to run them. But in order to get the benefits, we would have to have legally enforceable mechanisms in place, making sure that those controls were installed and operated and did provide the benefits. On a statewide basis, you could do that.

The easiest way to do that, assuming the parties agreed that that was the appropriate step, would be to do that through findings and orders. You would make enforceable findings and orders where everyone would agree, OK, these controls are going in by these dates, or these controls that have already been installed will begin operating on such and such. And we would try to see how much of CAIR we could recoup through a State enforceable mechanism.

But as I also said, we have not had those discussions yet. I don't think those will be easy discussions. Certainly based on the comments from the power industry representatives here today, I certainly can't guarantee that the utility companies are going to come in and say, no problem, we will be happy to go forward with that. But we think it is important to try to do that, to at least have those discussions.

Senator CARPER. Does anyone else have a comment you would like to make on this point? Mr. Walke, please.

Mr. WALKE. As I indicated in my testimony, there are tools available to States to deem the controls that are already in place and planned reasonably available control technology. I think it will be intuitive to most members of the public that the fact that a scrubber is already at the site, ready to have the switch flipped is reasonably available.

A second point is, it is worth commending the companies that have already announced that they are going to continue with these scrubbers. Dayton Power and Light in Senator Voinovich's State, 3 days after the Court's decision on Monday announced that they were going to go ahead with a very protective scrubber project. They are going to take a $20 million hit from allowances, but they are helping to offset the cost of the scrubbers by switching to higher sulfur coal that is actually taken from the region. So they are providing jobs, they are providing scrubbers to protect the public, and they are doing it in order to protect their customers and the residents that live around them.

So I am hopeful that Mr. Korleski and the industry will come to that decision through mutual agreement, as he suggested in his testimony. But if not, I think it is imperative that we draw upon the legal tools that are available under the statute to make those comments and decisions.

Senator CARPER. Anyone else? Mr. Snyder.

Mr. SNYDER.

[off microphone] Senator Carper, as I mentioned in my testimony, in New York we have a State law program in place that will achieve most of the same reductions that CAIR would achieve in the first part. We can evaluate that, see if any of it needs to be strengthened. We will be working with the other OTC States to identify ways to ensure that the emission reductions remain in place in the OTC States, and we plan to have that, to initiate that dialog with our partners in the LADCO States to see if there can be some multi-State understanding worked out that keeps in place at least the kind of air quality protections that we would see in the first part of CAIR, as this process plays out in Congress.

Senator CARPER. Mr. Spence.

Mr. SPENCE. I would just maybe make a point that among the electric utilities, you have those that are merchant plants, those that don't have the backstop of regulation versus those that are still in "regulated" States. And on the merchant generators, of which we are one, we rely on many things in the marketplace to help us guide our decisionmaking. When the regulatory, in this case the rulemaking set the foundation upon which we were making what I think were the right business decisions on behalf of our public and the company's shareholders, now I just want to point out that whatever we do, I would like to see us restore some type of confidence in the underlying emission markets or whatever the new construct is, so that people that don't have the ability to pass these costs on to customers and have to get them through market price mechanisms have that ability or at least the presumption that we are going to have that ability going forward.

Senator CARPER. All right. This has been a timely and important and informative hearing for me, and I suspect for my colleagues. Senator Voinovich, do you want to make any closing comments before we wrap it up?

Senator VOINOVICH. I think it has been a good hearing. I am anxious to hear from a lot of folks about what they think we ought to do. I am interested in the rates that individuals are paying in States where they are able to pass them through. Mr. Korleski, I don't know what impact it is having on utility rates in the State of Ohio. All I know is that when I go home, people are really up in arms. They are telling me that their standard of living has changed, with gasoline, with the cost of heating, air conditioning. I go to Perkins on Sunday after Mass on Sunday for breakfast, and the guy said, I don't know if I am going to make payroll this week, because people aren't coming in any more.

So there is a lot of hurt going on in the Country today. I think that anything that we should do should be, that that situation should be taken into consideration. And if we don't do that, I don't think we are going to have the political will to get the job done that we would like to do for the environment. So Mr. Walke, you have

been hearing me talk for a long time. Can we harmonize our environment, our energy, our economy and now even our national security? How can we come together and figure out how to get this done?

I am going to be around, I know hopefully for another 2 years, God willing. I am willing to do that, I know Senator Carper is. But somehow we really have to come together here and figure this out. The climate change, I worked to make sure that didn't pass, I worked very hard to do that. But I can tell you that there are several of us on a bipartisan basis that are working our tail off to try and see if we can't come up with a compromise between now and when the next President comes in. The next President is going to have one great challenge. You just think about all the domestic challenges, and the international.

And I think some of us that have been working on a lot of these problems for a long time could really do the Country a great favor. I have talked to some of my colleagues in the Senate about coming up with some compromises on some things and present them to the President and say, you know, we worked on this, it is not perfect. It doesn't go as far as we want it to go. But here is something that will move us down the field to deal with some of these issues that have been around for a long period of time. That is my hope and vision.

Thank you, Mr. Chairman.

Senator CARPER. You bet. Thank you.

Senator Voinovich and I agree on a whole lot. One of the things we agree on is that technology will help us, if we are smart enough, develop it and apply it, implement it, can help us address a lot of the problems we face, not all, but a lot of the problems that we face as a society. It wasn't that long ago when we were harvesting corn, we got about 50 bushels of corn to the acre. Today we are up to about 150. Probably within the next decade or so, we will be up as high as 300. And that doesn't mean we ought to take little kernels of corn and turn them into ethanol. But there is plenty of plant waste out there, and the ability to be smart about it, to be able to feed ourselves and to provide the fuels that we need.

Another thing that he and I agree on is the importance of trying to maximize benefit with respect to costs. There are ways that we heard, very encouraging numbers here in terms of the amount of the cost of implementing these improvements, these ways to reduce our SOx, NOx, mercury, if you will, and the public health benefit that flows from that is really rather extraordinary. We need to keep that in mind.

We started off today's hearing, as you may recall, and I quoted Albert Einstein. I want to close today by quoting three other people. One of those is Winston Churchill. He used to say, and I am going to paraphrase him here, but he used to say, democracy is the worst form of government devised by wit of man except for all the rest. And dealing with these issues, we involve the President, actually a former Governor with whom George and I served, in October 2000, a month before the election, announced in Saginaw, Michigan, that if elected President, he would lead an Administration that would address sulfur dioxide emissions, nitrogen oxide emis-

sions, mercury emissions and carbon dioxide emissions from power plants.

So we had that strong initial thought from a fellow who was going to be elected President shortly after that. And the Congress got involved, we ended up after 7 years not making nearly enough progress on any of those fronts. The courts have now become involved, the Federal court has become involved. So here we have democracy at its best, maybe at its worst, I am not sure. But in any event, what we have done is we have squandered 8 years, I think, unfortunately. It is important we not squander the next 8 years.

I want to close by quoting not Churchill, but two other notable British citizens, Jagger and Richards, who I heard just yesterday on the radio saying these words, can't always get what you want, but if we try sometimes, we can get what need. Here in this Country, among our needs, the utilities need certainty. States need the Federal support to help them meet air quality standards. And the rest of us just need cleaner air to breathe. And if we work hard, and I am certainly fully intent on doing that with Senator Voinovich, to make sure that during our watch, we get this job done and we get started on it sooner rather than later.

To our panel of witnesses, thank you for coming on such short notice. Thank you for helping us to better understand what lies ahead.

Senator VOINOVICH. Would you mind? I know you want to get the last word in.

Senator CARPER. I am always happy to yield to you.

Senator VOINOVICH. I have two mottoes, one of them that I took on when I was mayor of Cleveland was, together we can do it. And Mr. Korleski, we have another motto in Ohio, which is, with God, all things are possible. I think that working together and with God's help and inspiration, I think maybe we can take on some of these things for the benefit of our Country and frankly, the world.

Senator CARPER. And to that, I would say amen and this hearing is adjourned.

[Whereupon, at 12:40 p.m., the subcommittee was adjourned.]

[Additional material submitted for the record follows.]

STATEMENT OF HON. CHRISTOPHER BOND, U.S. SENATOR
FROM THE STATE OF MISSOURI

Mr. Chairman, thank you for holding this hearing today to see what we can do regarding the Clean Air Interstate or (CAIR) [pronounced CARE] regulations recently overturned by the courts.

Those clean air regulations by the Bush administration would have cut smog, soot and acid rain pollution from electric power plants across the eastern half of U.S. by up to 70 percent.

EPA predicted that by the year 2015, CAIR would have provided almost $100 billion in annual health benefits and annually prevented 17,000 premature deaths, millions of lost work and school days, and tens of thousands of non-fatal heart attacks and hospital admissions.

Instead, the court's decision to throw out these rules has thrown these environmental and health benefits into turmoil. Utilities are suspending pollution cleanup efforts, hundreds of communities across America will face dirtier air, and thousands of lives that would have been saved from cardiac and respiratory illness are now in danger.

I hope as we hear testimony from the witnesses, we will remember certain lessons that are already clear. First, the environmental and health protections of these rules would not be at risk if members of this Committee had not blocked efforts to enact

them into law. In 2003, President Bush proposed putting these smog, soot and acid rain pollution cuts into law.

Providing specific statutory authority would have prevented a court from overturning them for that reason, as they have now done. Instead, the Democrat members of this Committee blocked that clean air legislative proposal. Democrats blocked the ability to guarantee new environmental environmental protections on power plants.

Democrats preferred to hold environmental protection hostage to their climate change demands. Others demanded even stricter controls. For some, 70 percent gains were not enough. They wanted 90 percent gains. Now, instead of 90 percent of the loaf of bread, we are left with no loaf of bread, and efforts to cut smog, soot, and acid rain are set back years.

The second lesson of this situation is that "regulate" and "litigate" failed the environment and the people. A strategy to block amending the Clean Air Act, and instead force new regulations under the current Act, and then litigate the details of those regulationshas backfired terribly. Regulate and litigate has left the environment weakened, air quality will be worse then it would have been, and thousands of lives unnecessarily threatened. This failed regulate and litigate strategy is the same that advocates are pressing the EPA to use on carbon dioxide. The environment deserves better, the American people deserve better.

Thank you.

STATEMENT OF HON. BERNARD SANDERS, U.S. SENATOR FROM THE STATE OF VERMONT

Senator Carper, Senator Voinovich, you have convened an important hearing today. As we all know, the recent Court decision, which vacated the Clean Air InterState Rule, has left many worried that the air across much of the country, particularly the northeast, will get worse—not better.

Quite frankly, I think there is widespread agreement that Congress must step in and provide some order when it comes to the Country's air pollution policies. The Bush administration has failed on so many levels when it comes to clean air policy—starting with the so-called, inappropriately, I might add, "Clear Skies" proposal that this Committee voted down in a 2005 bipartisan vote. And, while I would like to say for certain that we won't see any other bad proposals, who knows what the Administration might try in its final days —but we will be watching.

Mr. Chairman, we must seriously address the pollution that is being spewed from power plants. The public health is threatened every single day that we don't. Let me just provide one example: As we know, nitrogen oxides contribute to the formation of ground-level ozone. As we also know, as of June of this year, 132 million people in 293 counties lived in places where ozone was at dangerous levels. In fact, as many as 2,300 premature deaths are caused each year from respiratory and cardiovascular conditions related to ozone. That is just one example. We could also talk about the deaths associated with carbon dioxide, which we all know is the primary contributor to global warming. Or, we could talk about the threat that mercury pollution from power plants poses to pregnant women and our ecosystems, especially aquatic ecosystems. The point is this: Congress must move forward to protect the public health and environment from the pollution that fossil fuel power plants put into the air everyday. The exciting part is that the answers are at our finger tips.

We could be building concentrated solar power plants in the southeast. We could be building more wind power in the Midwest. We could put solar photovoltaic units on roofs all across the country. We could utilize geothermal —both utility scale in the southwest, as well as residential scale all over. We could use our biomass resources more. We should be doing all of it—and if we did, the emissions of harmful air pollutants—the very ones the Clean Air InterState Rule addressed—would be reduced tremendously, if not completely.

Now, I know that the Chairman has spent a significant amount of time and energy on clean air policy and I am sure that he wants to move forward in an expedited fashion to fill the gap left by the Court's recent decision. In fact, as he has mentioned, he has a bill that would reduce emissions of four harmful pollutants —nitrogen oxides, sulfur dioxide, carbon dioxide, and mercury. Sen. Alexander also has a 4P bill. And, I too have a 4P bill. While they differ in some of the details, I think it is pretty clear that there is a strong interest in attacking power plant pollution and I suggest that we get right to business working together to solve the problem.

Let me talk a little bit about my legislation, the Clean Power Act (S. 1201), which is cosponsored by Senators Lieberman, Leahy, Feingold, and Clinton. It is modeled after legislation spearheaded by my predecessor and ardent protector of the environment and the public health, Senator Jim Jeffords. Similar to the Chair's legislation,

the bill would limit the pollution of the four major pollutants emitted by power plants: sulfur dioxide, nitrogen oxides, carbon dioxide, and mercury.

While we wait for a new Administration to put forward a comprehensive approach to addressing global warming, I strongly believe power plants should begin reducing their emissions of greenhouse gases and other pollutants now. While there are some power plants that are reducing emissions of SO_x NO_x, and mercury, the technology exists for them to make deeper reductions —reductions that would be more protective of the public health and environment. And, the legislation specifies the levels that these pollutants must drop to.

Additionally, the Clean Power Act lays out a roadmap for how many of the required reductions in emissions of harmful pollutants can actually be made. For example, the bill would increase the use of renewables like wind and solar by establishing a Renewable Portfolio Standard of 20 percent by 2020. I find this to be a rather modest goal. It also would establish a carbon dioxide performance standard for new power plants that would prevent the construction of traditional carbon dioxide-intensive coal plants. In addition, it seeks to implement an energy efficiency performance standard that would reduce electricity use by 9 percent by 2020. I think that it is many of these policies that make my legislation preferable to other similar pieces of legislation.

Before I finish my remarks, I want to mention that I am glad that a variety of national organizations support my legislation, including the Clean Air Task Force, National Wildlife Federation, Environmental Defense, National Environmental Trust, the American Lung Association, Natural Resources Defense Council, and Environment America (formerly US PIRG).

Again, Mr. Chairman, I think that the Congress must step in to bring some order to clean air policy and after we hear from today's witnesses, I hope that we get right down to business.