S. HRG. 109–867

S. 131, "THE CLEAR SKIES ACT OF 2005"

HEARING

BEFORE THE

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS UNITED STATES SENATE

ONE HUNDRED NINTH CONGRESS

FIRST SESSION

FEBRUARY 2, 2005

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ONE HUNDRED NINTH CONGRESS
FIRST SESSION

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ADDITIONAL MATERIAL

S. 131, "THE CLEAR SKIES ACT OF 2005"

WEDNESDAY, FEBRUARY 2, 2005

U.S. SENATE,
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS,
Washington, DC.

The committee met, pursuant to notice, at 9:15 a.m. in room 406, Senate Dirksen Building, Hon. James M. Inhofe (chairman of the committee) presiding.

Present: Senators Inhofe, Bond, Voinovich, Chafee, Murkowski, Thune, DeMint, Isakson, Vitter, Jeffords, Lieberman, Carper, Clinton, Lautenberg, and Obama.

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

Senator INHOFE. The committee will come to order. We have a policy of starting on time, and we will do that. I see our witness is here on time, as he always is. Thank you.

The committee has had more than 20 hearings examining issues related to motor pollutant legislation. Today's hearing is the final hearing I plan to hold as chairman of this committee on this issue. I intend to mark up this bill 2 weeks from today. We have talked to our committee members. I think we have had enough meetings on this. We had eight of these when I was chairman of the Clean Air Subcommittee, and there is not much more to talk about.

The Clear Skies legislation is the largest reduction in utility emissions ever called for in the history of this Country or by any President, a 70 percent reduction by 2018 in SO_2, NO_X, and mercury. Although the air is much cleaner today than it used to be, with major pollutants being cut in half even as the population and economic activity increased substantially, when it comes to reducing utility emissions, the Clean Air Act is outdated and must be reformed.

Every attempt to set a standard by regulation has resulted in endless litigation. The NOx SIP Call took over 7 years. The NAAQS process took over 10 years when you consider the 1997 proposal was required by the court order. The residual risk program is in worse shape, and the agency's efforts to date to deal with the residual risk have been criticized by the National Academy of Sciences. Regardless of what you think about the NSR program, it has resulted in almost no emissions reductions, and its use in the courtroom will only delay the reductions. The only virtually litigation-free program to reduce utility emissions has been the Acid Rain Program.

The success of the Acid Rain Program is the reason President Bush proposed the Clean Skies Initiative, and the reason Senator Voinovich and myself support it. This program has been practically litigation-free, whether it was in the implementing of regulations or the enforcement. It has been almost completely violation free.

The Clear Skies legislation, S. 131, will cleanup the air by reducing utility emissions faster, cheaper, and more efficiently than the Clean Air Act. Anyone who doubts this either does not understand the legislation or has not paid attention to the endless litigation over the past 15 years. We will hear testimony today from a variety of witnesses in addition to the Administration witness. We will hear from: A well-respected environmental official who is dedicated to solving the Acid Rain problem in New York and New England, the area of the Country where its effects are the most devastating; an analyst for the labor union who is concerned that the alternatives to Clear Skies will cost jobs; and a lawyer for the national group which has brought numerous lawsuits under the current law. Why is it that only the lawyer supports the endless litigation that is in the current act? I think we understand that.

What we are trying to accomplish with this act is to expand the Acid Rain Program in order to achieve the emissions reductions without the endless lawsuits. Maybe that is why so many large environmental organizations, who employ more lawyers than scientists, oppose this bill.

They have thrown a number of unsubstantiated claims at this bill. They say this bill infringes on the States' rights. It does not, it reaffirms them. They claim it rolls back emission reductions the current act will achieve. It does not. It will make new reductions possible. They say the law requires, and we can achieve, a 90 percent reduction in mercury by 2008. It does not, and we cannot given the lack of technology. It just couldn't happen. Most ludicrous of all, they say it will engender lawsuits despite the fact that this bill is based on the litigation-free Acid Rain Program precisely to end litigation and ensure clean air progress.

Last week, the Energy Information Administration released a report examining the economic impacts of mercury regulation. It found that the proposal favored by the national environmental groups, such as the NRDC, to regulate mercury by 90 percent by 2008 would lead to a 26 percent increase in natural gas prices and a 22 percent increase in electricity prices by 2010 if technologies cannot achieve the mandate. EPA says they will not. The result: wholesale exports of American manufacturing jobs overseas, and we have already seen this started.

Given the environmental benefits and predictability of this bill, I would question those who say that we are standing on ideology not to include carbon mandates. Who is standing on ideology? Carbon mandates cannot pass the Senate. We know that, we have had it up several times. To insist that that be a part of this bill would merely put us in a position where we would not be able to have a three pollutant bill.

Finally, I am reminded in this debate of the debate that took place in this committee a few years ago about moving brownfields without Superfund liability reform. Everyone agreed we needed brownfields reform. Most of the Republicans on the committee

wanted liability reform. We were cautioned by the other side that if we were to link both of them together and not let the perfect be the enemy of the good, we all listened and we, the Republicans, said, all right, fine, we won't do that, we will go ahead and do the brownfields without doing the liability reform.

So, I think we have the same situation today, just the tables are turned, and I think that we need to consider this; we need to pass it, we need to get it to the floor, get it to conference, and start cleaning up the air.

[The prepared statement of Senator Inhofe follows:]

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

This Committee has had more than 20 hearing examining issues related to multi-pollutant legislation. Today's hearing is the final hearing I plan to hold as Chairman of this Committee on the issue. I intend to mark up this bill 2 weeks from today because it is past time for Congress to act.

The Clear Skies legislation, is the largest reduction in utility emissions ever called for by an American President, 70 percent reductions is NO_X, SO_2, and mercury by 2018, with major reductions taking place in the first phase over the next 5 years.

Although the air is much cleaner today than it used to be, with major pollutants being cut by half even as the population and economic activity increased substantially, when it comes to reducing utility emissions the Clean Air Act is outdated and must be reformed.

Every attempt to set a standard by regulation has resulted in endless litigation. The NO_X SIP Call took over 7 years. The NAAQS Process took over 10 years when you consider the 1997 proposal was required by court order. The residual risk program is in worse shape, and the agency's efforts to date to deal with residual risk have been criticized by the National Academy of Sciences. And regardless of what you think of the NSR program, it has resulted in almost no emissions reductions, and its use in the courtroom will only delay reductions. The only virtually litigation-free program to reduce utility emissions has been the acid rain program.

The success of the acid rain program is the reason President Bush proposed the Clean Skies Initiative, and the reason Senator Voinovich and myself support it. This program has been practically litigation-free, whether it was in the implementing of regulations or the enforcement. And it has been almost completely violation free.

The Clear Skies legislation, S. 131, will clean up the air by reducing utility emissions faster, cheaper, and more efficiently than the Clean Air Act. Anyone who doubts this either does not understand the legislation or has not paid attention to the endless litigation over the last fifteen years.

We will hear testimony today from a variety of witnesses in addition to the Administration witness. We will hear from: a well-respected environmental official that is dedicated to solving the Acid Rain problem in New York and New England, the area of the country where its effects are most devastating; an analyst for a labor union who is concerned that the alternatives to Clear Skies will cost jobs; and a lawyer for a national group which has brought numerous lawsuits under the current act. Why is it that only the lawyer supports the endless litigation that is the current act?

What we are trying to accomplish with this Act, is to expand the Acid Rain program in order to achieve the emissions reductions without the endless lawsuits. Maybe that is why so many large environmental organizations, who employ more lawyers than scientists, oppose this bill.

They have thrown a number of unsubstantiated claims at this bill. They say this bill infringes on state's rights. It does not, it reaffirms them. They claim it rolls back emission reductions the current act will achieve. It does not. It will make new reductions possible. They say the law requires, and we can achieve, a 90 percent reduction in mercury by 2008. It does not and we cannot given the lack of technology. And, most ludicrous of all, they say it will engender lawsuits despite the fact that this bill is based on the litigation-free Acid Rain program precisely to end litigation and ensure clean air progress.

Last week, the Energy Information Administration released a report examining the economic impacts of mercury regulation. It found that the proposal favored by national environmental groups such as the NRDC to regulate mercury by 90 percent by 2008 would lead to a 26 percent increase in natural gas prices and a 22 percent increase in electricity prices by 2010 if technologies cannot achieve the mandate.

And EPA says they will not. The result: wholesale exports of American manufacturing jobs overseas.

Given the environmental benefits and predictability of this bill, I would question those who say we are standing on ideology not to include carbon mandates. Who is standing on ideology? Carbon mandates cannot pass the Senate. That is the simple truth of the matter. Those who would sacrifice the tangible benefits in cleaner air and improved health achieved in a "3–P" bill simply to make a political statement are the ones clinging to the worst parts of the Clean Air Act, the litigation, not the emissions reductions of the acid rain program.

Thank you.

Senator INHOFE. Senator Jeffords.

OPENING STATEMENT OF HON. JAMES M. JEFFORDS, U.S. SENATOR FROM THE STATE OF VERMONT

Senator JEFFORDS. Thank you, Mr. Chairman, for holding this important hearing.

A decade and a half ago I worked with many of the current members of the committee in crafting the Clean Air Amendment of 1990. We and some of the legends of this committee and this institution—John Chafee, Pat Moynihan, George Mitchell, and others—banded together to write a law that has resulted in great health and environmental benefits. Today, in great contrast, we will debate the merits of S. 131.

I am not putting it mildly when I state that S. 131 eviscerates the Clean Air Act. S. 131, as introduced, represents the biggest rollback of the Act ever presented to this committee. I believe most laws can be improved. Once again, I repeat my willingness to negotiate and to compromise to make improvements in the existing Clean Air Act to increase guaranteed public health and environmental benefits, but S. 131 is not a net improvement.

The Clean Air Act is working, despite the continuing efforts of the Bush administration to undermine it and to protect industry at the expense of public health. I understand that power plant owners want a new law to escape vigorous enforcement of the Clean Air Act, particularly New Source Review. The power plant companies want further delay of legal deadlines to achieve the health-based standards of poor ozone and fine particulate matter. Utilities want to be shielded from reducing toxic air pollutants like mercury and other heavy metals, and from achieving modern emission standards, and most fuel plants want to put off dealing with the global warming forever, but now is not the time to fulfill the polluters' wish list.

Since 1990, more than 70 million tons of pollution have been reduced, and the law is still working, accruing more than $110 million in net benefits every year. Amazingly, those reductions occurred while GDP rose considerably and electricity prices increased by less than 1 percent per kilowatt hour, an incredible success.

S. 131 radically slows that progress and reverses course. S. 131 rewrites major portions of the Clean Air Act to delay attainment of the health-based standards, leaving millions of Americans to breathe dirty air longer. The bill never achieves the emissions reductions claimed by the proponents. The caps are not really caps and the bill is rife with loopholes for polluters and litigation.

This bill takes the efficient market-based system set up in 1990 and dismantles it. The States' ability to rely on Federal action to prevent interstate transport of air pollution is crippled by S. 131.

The current Act's drive for continual improvement of pollution control technology, and for new and modified sources would be stifled. S. 131 actually increases greenhouse gas emissions by 13 percent or more in 2020.

S. 150, the Clean Power Act, my bipartisan bill with 18 co-sponsors, achieves greater pollution reduction faster, and with greater benefits for society, as does Senator Carper's.

Unfortunately, S. 131 and the Administration's proposed interstate rule is much less about obtaining the maximum benefits than it is about providing maximum protection to the utility industry from the requirements of the present Clean Air Act.

S. 131 is really quite a sweetheart deal: All of the permits or allowances to pollute are handed over to industry sources for free. Yes, for free. Under S. 131, the public, who really owns the rights to the air, would see higher medical and insurance costs due to the pollution that lingers longer than the law allows.

Let me leave you with some sobering thoughts. Everyday power plant pollution contributes or causes 68 Americans to die prematurely, 1,000 to have non-fatal heart attacks, and thousands of adults and children to have asthma attacks so severe that they will go to the hospital, and 6.6 million tons of carbon dioxide will add to the already serious dangerous interference with the earth's climate system.

Today, we spend about $1 billion or more of taxpayers' money on homeland security to protect against a certainly dangerous, but uncertain threat. How much will we spend to save lives and protect the quality of lives hurt by pollution? The Clean Air Act sets out air quality and the emissions performance standards aimed at constantly reducing the known threat of certain damage from dangerous manmade emissions.

Our energy sector must do more to meet those standards. They and the Federal Government must invest more seriously and rapidly in cleaner, more efficient technologies to protect health and the environment. S. 131 does nothing to meet those challenges, and allows more pollution than current law.

[The prepared statement of Senator Jeffords follows:]

STATEMENT OF HON. JAMES M. JEFFORDS, U.S. SENATOR FROM THE STATE OF VERMONT

A decade and a half ago I worked with many of the current members of this Committee in crafting the Clean Air Act Amendments of 1990.

We and some of the legends of this Committee and this institution, John Chafee, Pat Moynihan, George Mitchell and others banded together to write a law that has resulted in great health and environmental benefits.

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I believe most laws can be improved. Once again, I repeat my willingness to negotiate and to compromise to make improvements in the existing Clean Air Act to increase guaranteed public health and environmental benefits. But, S. 131 is not a net improvement.

The Clean Air Act is working, despite the continued efforts of the Bush Administration to undermine it and to protect industry at the expense of the public health. I understand that power plant owners want a new law to escape vigorous enforcement of the Clean Air Act, particularly New Source Review. The power plant companies want further delay of legal deadlines to achieve the health-based standards for ozone and fine particulate matter.

Utilities want to be shielded from reducing toxic air pollutants, like mercury and other heavy metals, and from achieving modern emission standards. And most fossil fuel plants want to put off dealing with global warming forever.

But now is not the time to fulfill the polluters wish list. Since 1990, more than 70 million tons of pollution have been reduced and the law is still working, accruing more than $110 billion in net benefits every year.

Amazingly, those reductions occurred while GDP rose considerably and electricity prices increased by less than one cent per kilowatt-hour. An incredible success.

S. 131 radically slows that progress and reverses course. S. 131 rewrites major portions of the Clean Air Act to delay attainment of the health-based standards—leaving millions of Americans to breath dirty air longer.

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S. 150, the Clean Power Act, my tri-partisan bill with 18 cosponsors, achieves greater pollution reduction, faster and with greater benefits for society. As does Senator Carper's.

Unfortunately, the S. 131 and the Administration's proposed interstate rule is much less about obtaining the maximum benefits than it is about providing maximum protection to the utility industry from the requirements of the current Clean Air Act. S. 131 is really quite a sweetheart deal. All of the permits or allowances to pollute are handed out to industry sources for free.

Under S. 131, the public, who really own the rights to the air, would see higher medical and insurance costs due to pollution that lingers longer than the law allows.

Let me leave you with some sobering thoughts. Everyday, on average, power plant pollution will contribute to or cause 68 Americans to die prematurely, 1000 to have a non-fatal heart attack, and thousands of adults and children to have asthma attacks so severe they will go the hospital. And 6.6 million tons of carbon dioxide will add to the already serious risk of dangerous interference with the earth's climate system.

Today, we will spend about $1 billion or more of taxpayer's money on homeland security to protect against a certainly dangerous but uncertain threat. How much will we spend to save lives and protect the quality of lives hurt by pollution?

The Clean Air Act sets out air quality and emissions performance standards aimed at constantly reducing the known threat of certain damage from dangerous manmade emissions.

Our energy sector must do more to meet those standards. They and the Federal Government must invest more seriously and rapidly in cleaner, more efficient technologies to protect health and the environment. S. 131 does nothing to meet these challenges and allows more pollution than current law. It won't make a better tomorrow.

Thank you.

Senator INHOFE. Thank you, Senator Jeffords.

We are going to adhere to the 5 minute rule on opening statements, because we have a long hearing here. So if you all would cooperate I would appreciate it. Don't feel compelled to spend a full 5 minutes if you don't want to.

Senator Isakson, I believe.

Senator ISAKSON. Thank you very much.

Senator INHOFE. By the way, after we are completed with our opening statements, we will conclude opening statements and not go back to them if others come in.

Yes, Senator Isakson.

Senator ISAKSON. Thank you very much, Mr. Chairman. I ask unanimous consent my entire statement be submitted for the record.

Senator INHOFE. All statements will be made a part of the record.

OPENING STATEMENT OF HON. JOHNNY ISAKSON, U.S. SENATOR FROM THE STATE OF GEORGIA

Senator ISAKSON. I am delighted to be here, although this is my second participation as a member of this committee. I understand this is the 24th hearing the committee has held since 1998 on this issue, and I commend the Chairman for his dedication to bring the issue to the floor for us to have a full debate.

It is a critical issue. In the State of Georgia it is a very critical issue. In my State, 28 of 159 counties, including Walker and Catoosa Counties in the mountains, through the metropolitan Atlanta area, down the Chattahoochee River to Muskogee County and the greater Columbus area, are non-attainment for particulate matter; and 22 of those 150 counties in the same area are non-attainment for ozone. The fact is about 60 percent of Georgia's population lives in non-attainment areas. I think the goals of Clear Skies and the goals of this bill are appropriate and will be good for Georgians.

I am especially interested in the benefits for Georgia regarding the transition areas. Under Clear Skies, areas that are projected to meet ozone and fine particulate standards by 2015 as a result of Clear Skies would have a legal deadline to do so. These areas would be designated transitional, rather than non-attainment, and would not have to adopt local measures, except as necessary, to quality for transitional status. Clear Skies will allow many of Georgia's counties to be designated transitional and ultimately in attainment. I believe that, with some minor change protecting States from the threat of lawsuit as a result of these designations, this provision will dramatically benefit not just Georgia, but the Nation.

Clear Skies will help to solve the clean air crisis by responsibly synchronizing the Nation's environmental, energy, and economic policies. By reducing emissions to historic lows and helping to ensure continued access to reliable low-cost electricity, we are implementing a formula that is critical to job creation and to Georgia and to America's global competitiveness, and to the quality of life of the citizens of the State that I represent.

I yield back.

[The prepared statement of Senator Isakson follows:]

STATEMENT OF HON. JOHNNY ISAKSON, U.S. SENATOR FROM THE STATE OF GEORGIA

Thank you, Chairman Inhofe, for holding this hearing. I hope that this hearing, the 24th hearing on this issue by my count since 1998, will underscore the need for Clear Skies. I know that I certainly am hopeful that we can report this legislation out of Committee, and to the floor for a vote where the entire Senate can debate the merits of the bill.

In my state of Georgia 28 of 159 Counties, including Walker and Catoosa Counties in the mountains, through Metro Atlanta, and down to Muscogee County and the Metro Columbus area, are in non-attainment for particulate matter. 22 of 159 counties over the same geographic area are in non-attainment for ozone. In fact, about 60 percent of Georgia's population lives in a non-attainment area. We have impaired waters from high mercury levels and, in a state where we celebrate the outdoors, over half of Georgia's lakes and rivers have mercury-based fish consumption advisories. Coal fired power plants are a large source of these mercury levels. In light of the troubled history of Clean Air Act regulations and the delays that have prevented their full and timely implementation, Clear Skies is the best solution for

reducing toxic power plant emissions by meaningful levels, and for making sure those reductions actually become reality.

As I mentioned in last week's subcommittee hearing, I am especially interested in the benefits for Georgia in the section regarding "Transitional Areas". Under Clear Skies, areas that are projected to meet the ozone and fine particles standards by 2015 as a result of Clear Skies would have legal deadline of 2015 for meeting these standards (i.e., will have an attainment date of 2015). These areas would be designated "transitional" areas, instead of "non-attainment" or "attainment," and would not have to adopt local measures except as necessary to qualify for transitional status). They would have reduced air quality planning obligations and would not have to administer more complex programs. Clear Skies will allow many of Georgia's counties to be designated "transitional", and ultimately in attainment. I believe that, with some minor changes protecting states from the threat of lawsuit as a result of these designations, this provision will dramatically benefit not just Georgia but the nation.

America has made much progress since 1970 and the passage of the Clean Air Act, however we still face major air quality challenges in many parts of the country. Clear Skies is the most important step we can take to address these challenges. Clear Skies will help solve the current clean air crisis by responsibly synchronizing the nation's environmental, energy, and economic policies. By reducing emissions to historic lows and helping to ensure continued access to reliable, low-cost electricity, we are implementing a formula that is critical to job creation and to Georgia and America's global competitiveness.

Congress needs to act now so that we may begin achieving emissions reductions and their related health benefits sooner rather then later. I look forward to working with you Mr. Chairman to pass Clear Skies, and improve our nation's air quality. Thank you.

Senator INHOFE. Thank you, Senator Isakson.

Senator CARPER.

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

Senator CARPER. Thank you, Mr. Chairman, and thanks for holding this hearing.

Mr. Connaughton, welcome. I look forward to getting to know you better and having a chance to talk about some of these issues with you further, beyond our meeting today.

Mr. Chairman, I have two unanimous consent requests, if I could. One, on my way to Washington earlier this week, I was looking through our local paper, the News Journal, and I came across an Associated Press story written by Charles Hanley. It may have appeared in your papers at home. But the headline is, "Warmer World, Shrinking Glaciers;" the sub-headline: "From Alaska to Patagonia, Climate Change is Taking a Toll."

Some of you have heard me say this: I am a Johnny-come-lately on global warming, but I have become convinced over time that something is going on in our world. And to the extent that we begin taking some corrective actions now, not just us in this Country, but nations all over the world, we will be happy that we did, rather than taking some far more Draconian steps later on.

Senator Jeffords has alluded to this. I have been here for 4 years, but the history of this committee, this is a committee that works well across the aisle, Democrats and Republicans. To the extent we get anything done, whether it is brownfields or the earlier Clean Air Act, it is because we work together. If we don't do that in this case as well, we are not going to get much done. In fact, we will end up with the kind of gridlock that has characterized too much of what goes on in Washington in recent years.

Later today I am going to be involved in a meeting with Republican and Democratic Senators on class action reform. Tomorrow there will be a markup in the Judiciary Committee on class action reform. It is a product of literally years of bipartisan effort to hammer out a compromise to bring to the Senate floor, I hope next week, legislation that will provide for, I think, a more level playing field in our legal climate in this Country.

That is a contentious issue and, frankly, so are the issues that are before us today. The only way we have gotten to the point where we are in class action is we decided that the Republicans are not going to do this on their own, or Democrats either. It is going to be a genuine effort to reach across the aisle to work within the committees of jurisdiction and, frankly, to work outside those committees of jurisdiction; for the Administration to play a constructive role and to get us to a point where we are about to take up that legislation and, I think, pass it with a large bipartisan majority.

That example and an earlier example that I cited last week, with the passage of 9/11 legislation, we had Senators Collins and Lieberman really providing what I call the gold standard for Democrats and Republicans working together and working through tough issues. We did that in those instances and, frankly, we need to do it here. I was privileged to spend an hour or so with my dear friend, Senator Voinovich, yesterday in his office to talk through some of these issues to see where we can begin to find common ground, and we are going to make every effort to do that.

Mr. Chairman, I would just urge you to reach out to folks on our side in the same way that George and I have reached out to one another. It may be too late to do that, I hope not, and I would urge you to do that. I would urge my friend, Senator Jeffords, if that hand is extended, that we take it and see how we can move forward.

The issues here are difficult: Should we include carbon? Should we address the issue of global warming or not? I think you have a proposal from Senator Jeffords which is the Kyoto standard and you have a proposal from the Administration that says we are not going to do anything at all. There has to be something in between those two polar positions. There is. I think it is the legislation that Senator Chafee and Senator Gregg and Senator Alexander introduced in the last Congress and will probably reintroduce shortly.

But there has to be a middle ground. There has to be a middle ground between a position that says we are not going to change New Source Review at all and we are going to get rid of it entirely. There has to be some middle ground there where we cannot necessarily get rid of it, but we can improve it.

I would ask unanimous consent for the record to submit this letter that we got today. It is from a legislator in Maryland who is the chairman of the National Conference of State Legislators Environmental and Natural Resources Committee, and it is basically a letter calling on us to not hamstring the States in their efforts to clean up their own air, and asking that we not doctor New Source Review. It doesn't say we shouldn't change it at all, but asks that we not doctor it.

Senator INHOFE. Without objection, it will be a part of the record.

[The referenced document follows:]

Health and Government Operations Committee
Chairman
Public Health Subcommittee
Health Occupations Subcommittee
Minority Health Disparities Subcommittee
Joint Committee on Children, Youth, and Families
Joint Committee on Federal Relations
Children's Environmental Health and Protection Advisory Council of Maryland
Scientific Advisory Committee for the Mid-Atlantic Center for Children's Health and the Environment
Centers for Disease Control & Prevention Public Policy Advisory Committee
Chesapeake Bay Commission
National Conference of State Legislatures
Chairman
Environment & Natural Resources Committee
President's Committee on Mental Retardation

The Maryland House of Delegates
ANNAPOLIS, MARYLAND 21401-1991
JAMES W. HUBBARD

Legislative District 23-A
Prince George's County
County Affairs Committee
Chair Education Subcommittee
Delegation Liaison to the Prince George's County Board of Education

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January 25, 2005

Honorable Thomas R. Carper
Subcommittee on Clean Air, Wetlands & Climate Change
Senate Environment & Public Works Committee
513 Hart Senate Office Building
Washington, D.C. 20510-0801

Dear Senator Carper,

I am a Delegate in the Maryland General Assembly and current chair of the National Conference of State Legislatures' Environment and Natural Resources Committee. My colleagues from around the country and I are aware that you will soon be conducting hearings on amendments to the Clean Air Act. As you consider amendments to this vital statute, we hope you will take into account our concerns as state legislators.

We urge you and your committee to not weaken the existing Clean Air Act. This law is working and with more aggressive enforcement can achieve cleaner, healthier air sooner.

We encourage you to expand the authority of states to deal effectively with all sources of pollution including vessels, locomotives, and aircraft or in the alternative set a deadline for the United States Environmental Protection Agency to set emissions standards for those sources at least as stringent as have been established for motor vehicles and off-road heavy duty engines. Federal preemption of our authority to regulate these significant pollution sources has meant that we are not able to require the reductions needed to achieve air quality standards.

It is essential that Congress also preserve and enhance the authority of downwind states to act against pollution from up-wind states which is contributing to air quality standards exceedances. And the existing law requirement that new investment in old plants which increases pollution emissions be accompanied with new pollution controls needs to be preserved.

The Clean Air Act works and it would work better with strengthened Federal authority to protect public health from air pollution while enhancing state authority to adopt tougher standards or to enforce clean air rules.

In this regard, the attached National Conference of State Legislatures policy on New Source Review and on air quality is instructive. Any reforms to New Source Review should be made "without weakening the requirements intended to reduce emissions from new or modified sources of air pollution…" And any other changes in the law should preserve and expand state authority currently protected in Section 116 of the Act.

Thank you very much for taking into account our concerns.

Sincerely,

Delegate James W. Hubbard

Honorable Beth Kerttula
Alaska House of Representatives

Honorable Sam Ledbetter
Arkansas House of Representatives

Honorable Fran Pavley
California Assembly

Honorable Tom Plant
Colorado House of Representatives

Honorable Harris McDowell, III
Delaware Senate

Honorable Nan Grogan Orrock
Georgia House of Representatives

Honorable Hermina M. Morita
Chair, House Committee on Energy & Environmental Protection
Hawaii House of Representative

Honorable Lawrence Bliss
Chair, Committee on Utilities & Energy
Maine House of Representatives

Honorable Sharon Grosfeld
Maryland Senate

Honorable Elizabeth Bobo
Maryland General Assembly

Honorable Matthew C. Patrick
Massachusetts House of Representatives

Honorable Raymond E. Basham
Michigan Senate

Honorable Liz Brater
Michigan Senate

Honorable Ellen Anderson
Minnesota Senate

Honorable Alice Hausman
Minnesota House of Representatives

Honorable Aaron Peterson
Minnesota House of Representatives

Honorable Deborah Dawkins
Mississippi Senate

Honorable Patrick Dougherty
Missouri Senate

Honorable Jenée Lowe
Missouri House of Representatives

Honorable Sue Dickenson
Montana House of Representatives

Honorable Don Preister
Nebraska Senate

Honorable Reed Gusciora
New Jersey General Assembly

Honorable Mimi Stewart
New Mexico House of Representatives

Honorable Richard Brodsky
New York Assembly

Honorable Joe Hackney
House Majority Leader
North Carolina House of Representatives

Honorable Bob Hagan
Ohio Senate

Honorable Jackie Dingfelder
Oregon House of Representatives

Honorable David Levdansky
Pennsylvania House of Representatives

Honorable Peter Ginaitt
Chair, House Committee on
Environment and Natural Resources
Rhode Island General Assembly

Honorable David Zuckerman
Chair, House Agriculture Committee
Vermont House of Representatives

Honorable James H. Dillard, II
Virginia General Assembly

Honorable Sam Hunt
Washington House of Representatives

Honorable Mark Miller
Wisconsin Senate

From National Conference of State Legislatures Website:

http://www.ncsl.org/statefed/environ.htm

Air Quality

The Clean Air Act Implementation

The National Conference of State Legislatures (NCSL) supports the goals embodied in the Clean Air Act Amendments of 1990 (CAAA). The CAAA represent a major step toward addressing important environmental, air quality, and public health issues. NCSL fully supports CAAA goals and urges the U.S. Environmental Protection Agency (EPA) to proceed diligently with full implementation of the law to achieve clean air for our citizens. It is essential that Congress and the EPA fulfill their responsibilities to facilitate implementation by the states.

NCSL makes the following recommendations:

- Implementation of the CAAA is the responsibility of the states, who have a wealth of experience in implementing control programs. NCSL encourages Congress and the EPA to pay particular attention to the voices of that state expertise and experience.
- Communication with state legislators is of utmost importance because only state legislators can enact enabling legislation for state programs and appropriate state funds. Congress and the EPA should regularly and directly work with state legislators during federal action on air quality issues.
- EPA should work closely with states to ensure states have all regulations, technical assistance and funding necessary for compliance.
- Federal grants authorized under the CAAA provide financial resources to the states for development and implementation of air quality programs and other clean air responsibilities. Congress and the EPA must ensure that states continue to receive adequate funding to cover all costs of program management including monitoring.
- Because the states have existing air pollution control programs to administer with current federal funding, any new air quality programs or responsibilities mandated by Congress or EPA should be accompanied by additional federal funding.

- The CAAA contain many sweeping and general mandates which will involve the exercise of broad discretion and interpretation by the EPA for their implementation. NCSL urges EPA to provide as much administrative flexibility as the law allows in order to achieve clean air goals in the most cost effective and efficient manner.
- Cost-effectiveness should be permitted as a factor in state selection of transportation control measures and emissions control strategies.
- Numerous sections of the CAAA require the EPA to develop regulations and technical guidance for the states to follow in their implementation process. The regulations and guidance are essential to state efforts to implement complete and adequate state programs that fully comply with the CAAA. Often the EPA is very late in publishing regulations and technical guidance for state programs and responsibilities. Such delays leave little or no time between the publication of the documents and the statutory deadlines for state compliance. NCSL urges EPA to meet all deadlines for publication of documents required under the CAAA. NCSL urges Congress to amend the law to replace statutory deadlines for state action with language that provides a specific time period for state compliance after document publication.
- EPA should provide training opportunities for states to help develop the skills and understanding needed to properly implement the CAAA. In addition, EPA should provide informational resources to help the public understand its role in achieving CAAA goals.
- To address ozone nonattainment problems, the CAAA require significant nitrogen oxide (NOx) and volatile organic compound (VOC) emission reductions to be obtained from both stationary and mobile sources. Since any reductions that are not obtained from mobile sources must be obtained from stationary sources, Congress and EPA should take maximum advantage of tools and strategies to reduce emissions from mobile sources including but not limited to promoting alternative fuels and encouraging strict exhaust standards for light duty vehicles.
- Federal highway legislation should be made consistent with CAAA objectives. The EPA and the Department of Transportation (DOT) should work together to ensure coordination of federal policy.
- NCSL urges the adoption of national energy, transportation and other policy that emphasizes energy conservation in order to help achieve the goals of the CAAA. This should include strengthening of emission standards for automobiles as

technologies improve, more energy-efficient lighting, buildings, and transportation, and more research and use of alternative forms of energy.

- NCSL urges the federal government to expeditiously apply the same CAAA requirements to federal facilities and motor vehicle fleets that are required for state facilities and fleets.

Sanctions

- States should not be sanctioned for non-compliance if state's failure to comply was the result of EPA's failure to adhere to CAAA deadlines for promulgation of regulations or technical guidance that provide details and requirements of state programs.
- EPA should have the authority to waive sanctions on states that EPA determines are making reasonable good faith efforts to comply with CAAA requirements and deadlines.

Motor Vehicle Inspection and Maintenance

- States should be granted flexibility to design inspection and maintenance (I/M) programs that achieve air quality targets and should receive full credit for emissions reductions those programs achieve.
- Congress and EPA should not require the states to use specific I/M technologies. Such rigid federal requirements may fail to account for technological advances in emissions testing programs and equipment.

Low Emission Vehicles and Zero Emission Vehicles

- EPA should maintain national Low Emission Vehicle (LEV) standards, referred to as the 49-state car, that are stricter than the law requires. States should be allowed, but not required, to adopt Zero Emission Vehicles (ZEV) requirements.

Transportation Conformity with State Air Quality Plans

- NCSL supports the principles underlying transportation conformity provisions of the Clean Air Act that requires new or revised state transportation implementation plans (TIPs) to conform to the purpose of state air quality plans, also referred to as state implementation plans (SIPs).

- Adequate funding should be made available to cover the cost of the resource-intensive requirements for development, revision and implementation of conforming TIPs.
- In evaluating the emissions budgets submitted by states, EPA should ensure state flexibility in balancing the burden of reduction among all air pollution sources.
- Conformity requirements should be limited to nonattainment areas and areas at risk of becoming nonattainment.

July 2006

From National Conference of State Legislatures Website

http://www.ncsl.org/statefed/environ.htm

New Source Review (NSR) Program

(Joint policy with Energy and Electric Utilities)

The National Conference of State Legislatures (NCSL) urges the Environmental Protection Agency (EPA) to reform the NSR program to achieve improvements that enhance the environment and increase production capacity, while encouraging efficiency, fuel diversity and the use of resources without weakening the requirements intended to reduce emissions from new or modified sources of air pollution. Routine maintenance, repair or replacement activities which are not major modifications should not trigger NSR requirements.

July 2005

NATIONAL CONFERENCE *of* STATE LEGISLATURES

The Forum for America's Ideas

February 8, 2005

Hon. James M. Inhofe, Chair
Senate Committee on Environment & Public Works
410 Dirksen Senate Office Bldg.
Washington, DC 20510-6175

James M. Jeffords, Ranking Member
Senate Committee on Environment & Public Works
456 Dirksen Senate Office Bldg.
Washington, DC 20510-6175

Hon. George V. Voinovich, Chairman
Subcommittee on Clean Air, Climate Change, and Nuclear Safety
Senate Committee on Environment & Public Works
410 Dirksen Senate Office Bldg.
Washington, DC 20510-6175

Hon. Thomas R. Carper, Ranking Member
Subcommittee on Clean Air, Climate Change, and Nuclear Safety
Senate Committee on Environment & Public Works
456 Dirksen Senate Office Bldg.
Washington, DC 20510-6175

Dear Senators:

During the February 2, 2005 legislative hearing of the Senate Environment and Public Works Committee and the January 26, 2005 hearing of the Subcommittee on Clean Air Subcommittee on Clean Air, Climate Change, and Nuclear Safety a communication from Maryland Delegate James Hubbard regarding pending Clear Skies legislation was entered into the record. While Delegate Hubbard serves as the chair of the National Conference of State Legislatures Environment and Natural Resources Committee, I would like to clarify that the communication addressed to Senator Voinovich represents his personal views and those of the attached signators to his letter.

It is NCSL's intention to continue to work with the full Committee membership on Clear Skies and other multi-pollutant legislation on those clean air and environmental federalism issues on which the organization has specific policy.

Thank you for attending to this clarification request.

Respectfully,

Carl Tubbesing
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Senator CARPER. The last thing I want to say is this. My time is almost up. I am just going to stop right here.

Again, I urge a bipartisan effort. I will be happy to engage with the Chairman and others, Democrats and Republicans, on this committee. But if we don't do that, we are not going to get much done.

Senator INHOFE. Thank you very much, Senator Carper.

Senator Vitter.

OPENING STATEMENT OF HON. DAVID VITTER, U.S. SENATOR FROM THE STATE OF LOUISIANA

Senator VITTER. Thank you, Mr. Chairman. I want to thank you and Senator Jeffords for holding the hearings.

Thanks to all of the witnesses for their upcoming testimony.

I am very interested in this issue. It certainly affects Louisiana and communities across Louisiana, as it does communities across the Country, so I look forward to being very involved, proactive and constructive, on this issue. In terms of passing new legislation, I am eager to pass legislation more flexible and which actually allows us to make improvements in air quality in a more efficient and cost effective manner. Unfortunately, under existing law, I think you have a lot of examples contrary to that, including in places like Louisiana. I will give you an example for instance, which is a big case in Louisiana.

In Baton Rouge, as we move from a 1-hour ozone standard to a more stringent 8-hour ozone standard, Baton Rouge's classification could go from severe to marginal. Yet, under existing law, even as that happens, Baton Rouge would be held to the existing severe restrictions under the old 1-hour standard. That seems to be inconsistent and almost nonsensical. The other thing it produces is litigation, which is ongoing and which just adds cost and delay into the whole notion of moving forward and actually producing cleaner air.

So I think from that example and other similar examples across the country, there is a huge amount of room for improvement for increased flexibility, for increased opportunity, for efficiency and cost effectiveness in cleaning up the air and meeting much more stringent standards. I look forward to working toward that goal.

I have a formal opening statement which I will submit to the Record. I will apologize ahead of time, I will have to leave soon to perform my freshman duties of presiding on the Senate floor, but that is no statement contrary to my great interest in this issue.

[The prepared statement of Senator Vitter follows:]

STATEMENT OF HON. DAVID VITTER, U.S. SENATOR FROM THE STATE OF LOUISIANA

Thank you, Mr. Chairman for scheduling today's hearing on the Clear Skies Act of 2005. I also want to thank our witnesses for coming today to testify about this legislation, which is based on one of the more successful programs established by the Clean Air Act.

We have made major strides in the fight for cleaner air since Congress first passed the Clean Air Act in 1970. But we continue to face air quality challenges in different parts of the United States, and Americans still suffer adverse impacts from air pollution. An important next step would be for Congress to enact sensible legislation that will achieve additional health benefits and reductions in air pollution without triggering endless lawsuits.

In cities across the nation, our current approach to regulating air quality has generated ambiguities that have triggered such lawsuits. In Baton Rouge, Louisiana,

for example, a lawsuit has been filed over Federal environmental officials' approach to regulating ozone levels there.

Until 2004, the Environmental Protection Agency applied a so-called "one hour" ozone implementation standard to the city of Baton Rouge. In 2004, however, the EPA replaced its "one hour" standard with a new, more stringent and protective "eight-hour" ozone implementation standard. Baton Rouge, which was classified as a "severe" non-attainment area under the EPA's old ozone implementation standard, is now considered a "marginal" area under the agency's new standard.

To re-classify Baton Rouge as "marginal" under EPA's more stringent standard and yet continue to insist that the city meet the requirements for areas that are designated as "severe" seems to me to be inconsistent—especially when Baton Rouge has not even implemented any of the "severe" requirements. But my constituents in Baton Rouge tell me that this is exactly what the government is requiring of them under the EPA rule implementing the 8-hour standard. Not surprisingly, this situation has resulted in the filing of a lawsuit.

I look forward to hearing from our witnesses on this and other important issues. Once again, thank you, Mr. Chairman for your efforts to organize this hearing.

Senator INHOFE. Thank you, Senator Vitter.

I think by agreement, Senator Obama, that Senator Lautenberg will go next. Is that correct?

OPENING STATEMENT OF HON. FRANK LAUTENBERG, U.S. SENATOR FROM THE STATE OF NEW JERSEY

Senator LAUTENBERG. Thank you, Mr. Chairman. I thank my colleague for deferring. I have a hearing on the soon to be, Secretary of Homeland Defense, so I appreciate it.

The Clean Air Act has been called the most effective environmental law ever written, so I am not sure that it needs fixing. It may need extending, but I don't think it needs the kind of fixing that we are looking at presently. We heard last Wednesday, despite double and triple digit growth in our GDP, energy consumption and population, that clean air programs have succeeded in reducing pollution by 51 percent. We have made significant progress over the years, but we still haven't finished the job.

Last year, Americans in over 450 counties had to breathe unhealthy air that failed to meet the Environmental Protection Agency's health standards for ozone. I have seen the tragic effects of air pollution first-hand. Asthma took my sister's life, and I have watched my 10-year-old grandson, who also has asthma, struggle at times just to breathe. As a father and grandfather, I don't want other members of my family poisoned by the air they breathe, and I don't want anybody else's family to have to breathe that air. That is why I have looked at this new Clear Skies bill and have become more concerned as I examine it.

According to EPA, under the bill before us, about 200 of the dirtiest power plants wouldn't have to cut their emissions at all. In New Jersey, one-third of the ozone and over one-third of the mercury emissions come from other States. But under this bill, we couldn't do anything about that upwind pollution, except hold our breath. Moreover, this bill doesn't require power plants to reduce any of their emissions of 66 deadly toxic pollutants.

Mr. Chairman, I appreciate the hard work that you and Senator Voinovich have put into developing the Clear Skies bill, but on reflection, I think that we are better off sticking with the Clean Air Act and do a better job of enforcing its provisions, and I thank you, Mr. Chairman.

[The prepared statement of Senator Lautenberg follows:]

STATEMENT OF HON. FRANK LAUTENBERG, U.S. SENATOR FROM THE STATE OF NEW JERSEY

The Clean Air Act has been called the "most effective environmental law" ever written. So I'm not sure that the Clean Air Act needs to be "fixed." As we heard last Wednesday, despite double- and triple-digit growth in our GDP, energy consumption and population, Clean Air Act programs have succeeded in reducing pollution by 51 percent.

So we have made significant progress over the years, but we haven't finished the job by any stretch. Last year, Americans in over 450 counties had to breathe unhealthy air that failed to meet the Environmental Protection Agency's health standards for ozone.

I've seen the tragic effects air pollution can have first-hand. Asthma took my sister's life, and I've watched my 10-year old grandson, who also has asthma, struggle just to breathe. As a father and grandfather, I don't want my family to be poisoned by the air they breathe. That's why, the more I've looked at this new "Clear Skies" bill, the more concerned I've become.

According to EPA, under the bill before us, about 200 of the dirtiest power plants wouldn't have to cut their emissions at all. In New Jersey, one-third of the ozone and over one-third of the mercury emissions come from other States. But under this bill, we couldn't do anything about that upwind pollution except hold our breath.

About 10 percent of New Jersey's school kids have asthma, and about 150,000 of them are hospitalized each year, yet the analysis shows that "Clear Skies" would let industry off the hook for meeting vital health standards for three major pollutants until 2025 or even later. Any possible public health reason for such a bill completely escapes me. Moreover, this bill doesn't require power plants to reduce any of their emissions of 66 deadly toxic pollutants.

Mr. Chairman, I appreciate the hard work that you and Senator Voinovich have put into developing the "Clear Skies" bill. But, on reflection, I think we're better off sticking with the Clean Air Act and do a better job of enforcing its provisions.

Thank you, Mr. Chairman.

Senator INHOFE. Thank you, Senator Lautenberg.

Senator Murkowski.

OPENING STATEMENT OF HON. LISA MURKOWSKI, U.S. SENATOR FROM THE STATE OF ALASKA

Senator MURKOWSKI. Thank you, Mr. Chairman. I appreciate the opportunity this morning.

Welcome to Mr. Connaughton and those other witnesses that we will hear this morning.

This is a very important hearing, I think, to all of us. I think it is clear, as you listen to the discussion already, there is not agreement as to what it is that we do next, but I think it is important to take the step, I believe, with the legislation that we have before us, in recognizing that we must begin somewhere.

The Clean Air Act, as Senator Lautenberg has mentioned, together with the amendments that were passed in 1990, has been remarkably successful in improving the Nation's air quality, and one of the most significant chapters in the clean air success story has been the reduction of emissions that contribute to acid rain through the cap and trade policies, which free the industry from the most onerous restraints of a command and control regime.

I am pleased to note that the legislation before us does recognize the success of the Acid Rain Program and carries on that good work by taking the next steps toward further reduction in two key acid rain precursor chemicals, specifically the NOx and the SOx. It will also add a new and equally strict ceiling for mercury and, in the process, will achieve significant additional reductions in fine particulates and ozone.

At the same time, it will provide a measure of certainty for the companies that it affects. It will neither cause massive power cost increases or open the door to excessive delays. If the goal is to reduce pollution, this is the most practical step that can be taken.

Of course, one thing that we do not have in Clear Skies is regulation of carbon dioxide as a pollutant.

Now, many people, many scientists believe very fervently that human-produced CO_2 may cause or aggravate global climate warming, and many point to warming in my State of Alaska or situations up in the Arctic as evidence. But despite what we may see up North, the science on manmade CO_2 as an agent of climate change, including in the Arctic, is anything but undisputed, is anything but conclusive.

Now, we have had rising temperatures. We are seeing changes in the Arctic. That much we know. But the question is what is causing the changes. We have seen periods of higher temperatures and higher CO_2 which have occurred multiple times in the past, raising questions about whether today's experience is truly unique or whether it is part of a cycle.

Temperatures in the Arctic also seem to respond to a several-decade-long cycle which may be tied to an ocean phenomenon called the Pacific Decadal Oscillation. In other words, the warming that we may be seeing in the Arctic may be driven by regular predictable changes in the ocean, instead of by CO_2 stimulated increases in the air temperature. But all of this together just kind of leads us to the place where we are—is there conclusive evidence, is there demonstrable evidence that says that CO_2 is an agent of climate change?

We do know that if we add CO_2 regulation to this bill it will seriously delay action on NOx, SOx, mercury, ozone, and particulates, and that it would impose extraordinary costs by forcing a rapid, large shift toward natural gas. As you know, I have been pushing to get more of Alaska's natural gas to market here in the lower 48 States, but I believe it is better to let gas usage and gas supply grow in unison, rather than cause hardship through steps that create large, unplanned increases in energy costs.

Balancing the need for improved air quality, while avoiding unrealistic demands that would damage our economy and social fabric, is not an easy task. This is a good start this morning, and I appreciate the work, Mr. Chairman, that you and so many others have made on this issue. Thank you.

[The prepared statement of Senator Murkowski follows:]

STATEMENT OF HON. LISA MURKOWSKI, U.S. SENATOR FROM THE STATE OF ALASKA

Thank you, Mr. Chairman. I too would like to welcome and thank our witnesses for taking time to explore the ramifications of this important legislation. I hope we can all agree on the importance of moving forward with this key part of the President's agenda.

The Clean Air Act, together with amendments passed in 1990, has been remarkably successful in improving the nation's air quality. The 2004 EPA annual report notes that since 1970, air pollution overall has been reduced almost 50 percent while economic growth in the U.S. has increased by 160 percent. This is one of the great success stories of the century.

One of the most significant chapters in the Clean Air success story has been the reduction of emissions that contribute to acid rain through "cap and trade" policies that set solid upper limits, but allowed trading in allowances for certain pollutants,

freeing industry from the most onerous restraints of a command and control regime and allowing it to develop more workable methods of reducing pollution.

I'm pleased to note that this bill does recognize the success of the acid rain program and carries on that good work by taking the next steps toward further reductions in two key Acid Rain precursor chemicals emitted by many large electricity generation facilities, especially those using coal. These chemicals are nitrogen oxides (NO_X) and sulphur dioxide (SO_2). It will also add a new and equally strict ceiling for mercury (Hg), an emission which may have a variety of adverse health effects, especially on pregnant women and infants. In the process, it will achieve significant additional reductions in fine particulates and ozone.

At the same time, it will provide a measure of certainty for the companies it affects. Unlike some proposals, and unlike the purely administrative approach which can be stymied by repeated litigation, it will neither cause massive power-cost increases or open the door to excessive delays. If the goal is to reduce pollution, this is the most practical step that can be taken.

Clear Skies is consistent with the recommendations of the National Research Council, which encouraged air quality efforts that are "less bureaucratic," with "more emphasis on results than process." That is precisely what we have in Clear Skies.

One thing we do not have in Clear Skies is regulation of carbon dioxide (CO_2) as a pollutant. As someone said the other day, it is the proverbial "elephant in the room."

CO_2 is recognized as a "greenhouse gas." Many people, including many scientists, believe fervently that human-produced CO_2 may cause—or aggravate—global climate warming. Many point to Arctic areas including much of my State of Alaska and say that physical changes are occurring that prove the case. That being the case, they say, we should treat CO_2 as a pollutant and bring it under the same system we are using for chemicals on which the scientific evidence is undisputed.

However, the science on man-made CO_2 as an agent of climate change including in the Arctic—is anything but undisputed.

CO_2 accounts for .04 percent of the atmosphere. Less than 5 percent of that is attributed to human emissions. The concern is that the earth's ability to scrub CO_2 from the air through the growth of plants and other natural methods of sequestering carbon may be exceeded by the addition of human emissions to natural sources.

Much of the debate over CO_2 goes back to the so-called "hockey stick"—a temperature graph developed for the U.N.'s Intergovernmental Panel on Climate Change, which appeared to show relatively stable temperatures for hundreds of years, then a temperature spike during the 20th Century presumably due to increased CO_2 emissions from internal combustion engines, electrical generation plants, and so on. However, recent published papers indicate it has serious problems, including adjustments that made past temperatures seem cooler than they were, reliance on overly narrow data sets, and worst, mathematical faults in the basic formula, which may be so flawed that it would have produced the same "hockey stick" even if one used it to graph random numbers instead of temperature estimates.

Other research shows that in the Arctic, periods of higher temperatures and higher CO_2 have occurred multiple times in the past, raising questions about whether today's experience is truly unique or just part of a natural cycle.

Temperatures in my part of the Arctic also seem to respond to a several-decade long cycle, which may be tied to an ocean phenomenon called the Pacific Decadal Oscillation. In other words, warming Arctic temperatures and effects such as changes in the ice pack and permafrost structures may be driven by regular, predictable changes in the ocean, instead of by CO_2-stimulated increases in air temperatures.

All these questions about CO_2 as an agent of climate change are still unresolved. Because of that, it is less than wise to rely on claims that there is a scientific "consensus" in which all the questions are answered and all the skeptics hushed.

It does appear clear, however, that adding CO_2 regulation to this bill would seriously delay action on NOx, SO_2, mercury, ozone and particulates, and that it would impose extraordinary costs by forcing a rapid, large shift toward natural gas. While I would very much like to see Alaska's abundant natural gas being utilized in the Lower 48 States, and intend to do everything I can to make that happen, I believe it is better to let gas usage and gas supply grow in unison, rather than cause hardship through steps that create large, unplanned increases in energy costs.

Finally, Mr. Chairman, I want to congratulate both you and Senator Voinovich, the chair of the Clean Air Subcommittee, your very able staffs, and those in the Administration who helped develop the option before us today. Balancing the need for improved air quality while avoiding unrealistic demands that would damage our

economy and social fabric is not an easy task. I believe this is a good start and look forward to a stimulating and informed discussion by our witnesses.

Senator INHOFE. Thank you, Senator Murkowski.

Senator Obama.

Senator OBAMA. My understanding is that my distinguished senior colleague from Connecticut has to chair a committee, so I will defer to him.

Senator INHOFE. Senator Lieberman.

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

Senator LIEBERMAN. Thanks, Mr. Chairman.

Thanks, Senator OBAMA. You are building up a lot of credits with the rest of us this morning.

Thanks, Mr. Chairman, for convening this hearing. I know that we all agree on the need for clean and unambiguous clean air legislation to protect the quality of the air we breathe. It obviously makes sense because it protects the health of our people, it makes sense because it gives business a clear set of rules to live by, and it makes sense because, if we do this in a way that allows us to achieve the greatest gains at the lowest possible cost, it will help our businesses compete in the global marketplace.

Unfortunately, in too many ways, my conclusion is that the Clear Skies Act does not make sense and does not achieve the goals that we wanted to achieve. It damages the existing tools of the Clean Air Act that have worked very successfully and effectively to protect individual States; it drops requirements that EPA update its standards on a regular basis; it ends requirements that best pollution control technology be employed in new facilities; it permits some industries to opt in to Clear Skies provisions that may well be weaker than current Clean Air Act protections; it enacts SO_2 and NOx provisions that are not strong enough; it does virtually nothing to reduce mercury pollution for more than a decade. Of course, as we all know, it does not deal with carbon dioxide emission and, therefore, the problem that to me is real, which is the warming of the globe.

All this has an effect on my constituents in Connecticut, both individuals who suffer from air-induced diseases, such as asthma, and from businesses that are affected by the inadequacy of what exists now and what is being proposed in this legislation.

I know that some have said that we should be realistic and that the choice here in this session is between the Clear Skies Act or nothing. I regret to say that if that is the choice, I would recommend that we do nothing. But there are better choices, and we can achieve them together. Naturally, I believe that the Clean Power Act, which Senator Jeffords and Senator Collins and I and many others have co-sponsored, is a better choice, but I understand that some parts of that are not acceptable to others.

I hope we can find a way to do more than emit a lot of sound and fury that leads to nothing ultimately done in response to a very real and dangerous problem, which is the pollution from various sources of our air. Bottom line, I am convinced we can do better than the Clear Skies Act, and I know that we must in the

public's interest, and I hope together that we can find a way to do that.

Senator Obama, thank you very much.

Mr. Chairman, thank you. I look forward to working with you to find some common ground on an urgent problem.

[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, for convening this hearing to discuss multi-pollutant legislation, which is so important to the health and well-being of the American people.

I know we all agree there is certainly a need for clear and unambiguous Clean Air legislation to protect the quality of the air we breathe. It makes sense because it protects the health of our citizens. It makes sense because it gives business a clear set of rules to live by. And it makes sense to do this in a manner that achieves the greatest gains at the lowest possible cost, to help our businesses compete in the global marketplace.

Unfortunately, in too many ways S. 131, the so-called "Clear Skies" legislation, doesn't make sense.

It damages the tools of the Clean Air Act that have worked so effectively to protect individual states. It drops the requirements that EPA update its standards on a regular basis. It ends requirements that best pollution control technology be employed in new facilities. It permits some industries to "opt-in" to Clear Skies provisions that may be weaker than current Clean Air Act protections.

It enacts SO_2 and NOx provisions that are too weak. It does virtually nothing to reduce mercury pollution for more than a decade. And Clear Skies does nothing to address carbon dioxide emissions and global warming, wasting an opportunity to deal with all pollutants at once—and give industry the *certainty* they need now to tackle pollutants in a clear and cost-effective manner.

The Administration has been telling us that Clear Skies gives states the "tools they need" to combat air pollution. They say that it protects states rights by permitting them to set stricter standards within their own borders. But what they don't mention is that what Clear Skies takes away are the useful tools that states *already have under current law* to fight pollution that comes from outside their borders, from another state upwind.

In Connecticut, we often suffer from ozone smog caused by NOx emissions. Asthmatic children and adults in our state have attacks triggered by ozone and by the fine particles formed from SO_2. Parents who have children come to them in the middle of the night and say three simple words—"I can't breathe"—know just how frightening asthma can be. We can reduce the number of times this happens to children throughout our nation by implementing rigorous and fair pollution standards that can be met with today's technology at an affordable cost. To think that we won't because of Clear Skies should be reason enough to go back to the drawing board and get it right.

The health effects of air pollution go beyond asthma. Each year, nationwide, these particles are also responsible for some 15,000 premature deaths. These are preventable deaths. Does Clear Skies help reduce this number? Probably. What they won't tell you is that protections provided by the Clean Air Act—our *current law*—do a better job of reducing this number farther and faster.

Throughout the country, many of our fish are tainted by high levels of mercury, which in the northeast is caused mostly by mercury emitted by U.S.-based power plants. There should be no debate that mercury, SO_2, and NOx must be reduced decisively and quickly.

What about carbon dioxide? The legislation before us does nothing, absolutely nothing, to begin to address CO_2 emissions. Why? Many in industry have told us that it would be far more cost effective to factor CO_2 requirements into their planning at the same time that they are making changes to control for SO_2, NOx, and mercury.

CO_2 concentrations have been rising due to emissions from power plants, cars and other manmade sources. We have now reached the point where further study without action is both dangerous and costly. There is scientific consensus that global warming is a real and potentially disastrous phenomenon. The rest of the developed world is already taking steps, opening up market opportunities through development of new technologies and new trading markets while the U.S. stands behind

and does nothing. Our businesses that compete in an international marketplace are facing carbon regulation overseas as we speak.

Shame on us if 100 or 200 years from now our grandchildren and great-grandchildren are living on a planet that has been irreparably damaged by global warming, and they ask, "How could those who came before us, who saw this coming, have let this happen?"

Clear Skies falls far short of what is needed, what is achievable, what is cost-effective, and what makes good common sense. Some say be realistic. The choice is between the Administration's Clear Skies or nothing. If that is the choice, I choose nothing. But there are better choices, including the Clean Power Act that Senator Jeffords, Senator Collins and I and many others have introduced. Or there may be some, third alternative. The fact is we can do better than Clear Skies and we must.

Senator INHOFE. Thank you, Senator Lieberman.

Senator Bond.

OPENING STATEMENT OF HON. CHRISTOPHER S. BOND, U.S. SENATOR FROM THE STATE OF MISSOURI

Senator BOND. Thank you, Mr. Chairman, for holding this hearing.

Last week, one of our colleagues defined the Clear Skies debate as jobs versus the environment, and I know that both of them are very important. Jobs and job creation played a major role in the Presidential election. I would say it played a role in my election, too, because I was able to save 5,000 Missouri manufacturing jobs and 20,000 jobs across the Midwest and Southeast.

Jobs are vital to our families. Without a job, families can't survive; heating bills are not paid, food is not put on the table. Without a job, medical insurance is not affordable, medical bills are not paid. A community without jobs cannot afford enough police, cannot afford fire stations and libraries. A community without jobs is a community without a future.

I would say also, without jobs and economic growth, the environment suffers. The environment suffers mightily. I visited East Germany, Poland, and Czechoslovakia before the wall came down, and I saw the economic stagnation under the communist system and the absolutely appalling pollution, the rivers running brown and smelling worse from chemical companies, the haze from power plants that was unregulated. It was appalling. I have seen the same thing in other areas of the world that are not developed. So we have to have economic development along with environmental improvement.

But environmental debates don't have to be solely about jobs versus the environment. I would say that the Missouri example I cited is an example where we protected jobs, the environment, and public safety, to boot. Now, my colleague on this committee from California won't like the example, but I understand where she comes from, literally. Two years ago we stopped a State regulation that would have killed 5,000 jobs in Missouri and 20,000 jobs elsewhere in the Country. That proposal would have cut emissions in lawnmowers, weed whackers, chainsaws by requiring the use of catalytic converters.

Now, such a change would have put manufacturing companies in Missouri and Kentucky and Alabama out of business. Manufacturers would have closed their plants, laid off workers, most likely moved the jobs to China. Fire chiefs and consumer safety advocates were also deathly afraid of the proposal, these catalytic converters,

operating at 1100 degrees only inches from hands or legs. A chainsaw scares me bad enough with a blade, not to worry about being fused into my leg. But firefighters feared a new round of forest and brush fires from operating these superheated engines.

A long story short, we produced a win-win solution. California was allowed to keep its State rule, but we limited the ability to move the rule to other States. We protected the environment by requiring EPA to conduct a new round of national pollution cuts from small engines, and we will have pollution reduction from small engines across the Nation. Consumer safety is protected because the California rule and the EPA rule will be reviewed under the safety requirements of the Clean Air Act.

I think we have a similar opportunity for a win-win with Clear Skies, which offers a balanced approach: it will protect jobs and the environment. It will be the largest ever pollution cut from electric power plants, reducing acid rain causing SO_2 by 70 percent. Clear Skies will reduce smog causing NOx by 70 percent and, for the first time ever, mercury emissions will be reduced by 70 percent.

Clear Skies is not without cost: It will impose a $50 billion mandate on power companies to install new pollution control technologies. But it will prevent costly litigation from delaying environmental improvements and running up costs in the courtroom rather than in cutting pollution. Clear Skies omits a carbon mandate that would drive jobs out of this Country. If you were worried about air pollution and environmental pollution, just drive those jobs to China and India.

Of course, they aren't covered by Kyoto; they will continue to grow in their pollution. The more jobs they steal, the more pollution will blow across to Alaska. If there is manmade CO_2 and environmental changes, Alaska can look to its neighbors south and west. That is where the pollution will come from. But that isn't going to pass, because it would rob our families of jobs, threaten to drive up the heating bills of elderly people, who would have to choose between heating and eating; it would force farmers, putting tremendous burden on them and on other producers.

But I think Clear Skies protects family budgets from steep electric increases, protects jobs, protects manufacturing by attaining clean air standards in almost every local area through power plant regulation alone, and protects transportation by attaining clean air standards in almost every local area through power plant regulation alone. It keeps coal flowing, it avoids a hyper-dependence on extremely expensive and short supply natural gas. It will protect our environment, our workers, and our families, and I urge my colleagues to support the Clear Skies bill.

Senator INHOFE. Thank you, Senator Bond.

Senator Obama, do you want to continue to yield to your colleagues?

Senator OBAMA. If Senator Clinton needed to, I would yield to her happily. But I think she is going to be here for a second.

Senator INHOFE. Fine. You are recognized.

OPENING STATEMENT OF HON. BARACK OBAMA, U.S. SENATOR FROM THE STATE OF ILLINOIS

Senator OBAMA. Thank you, Mr. Chairman, other members of the committee.

I had the occasion of listening to some of the testimony during the subcommittee, and I think that Senator Bond is right to point out that there are economic costs to environmental regulation. I represent a State that depends heavily on the coal industry, particularly in southern Illinois. We have a large chemical industry that has been hurt by high natural gas prices. I think that there is no doubt that when we think about the environment, we have to balance costs and benefits.

There also is a cost when our environment is degraded. As some of you may be aware, my daughter is one of the 230,000 children in Illinois with asthma. Chicago is the second hardest-hit city in the Country from power plant pollution. Every single river and lake in Illinois has an advisory for fish consumption due to the risk of mercury consumption. As I mentioned in the subcommittee, when you have had a daughter who comes into your bedroom in the middle of the night and says she can't breathe, then you are mindful of the fact that even if there are some costs that go along with controlling pollution, those costs may well be worth it.

Now, I recognize that many members of this committee have been frustrated because this issue has been debated for several years. There are no perfect answers to this issue. But there are a few things I think we should all be clear about. The option, at least as I understand it, is not between the Clear Skies Act and doing nothing at all. The question is, is the Clear Skies Act an improvement over the status quo, which is the Clean Air Act? It strikes me that one of the first tasks of our committee should be to take the physicians' axiom to heart, first do no harm.

So, when I am weighing the benefits of Clear Skies, I am not weighing it against no environmental regulation whatsoever, I am weighing it against what would happen if we simply maintain the status quo. It seems to me, at least, that I have not heard any dispute that although Clear Skies would significantly reduce emissions compared to doing nothing whatsoever, that, in fact, it also represents a diminishing level of protection compared to what exists currently. I think that is something that we probably should acknowledge.

The second point that has been raised several times is the issue of attainment, and Chicago is an area that is having difficulty achieving attainment. I am happy to discuss whether or not the mechanisms that we have set up for local communities to attainment are too onerous or too strict or there is too much command and control. While there is some flexibility in terms of how to do this, simply saying that since these communities are having trouble reaching attainment, we shouldn't even try, strikes me as a self defeating attitude. At the very least we should acknowledge that if we are lowering the standards, then there is going to be more air pollution in these communities than there otherwise would be.

A final point I guess I would make is with respect to the issue of litigation, which has come up frequently. I think one of the things that I heard during the subcommittee was the complaint

that the existing rules were consistently tied up in litigation and, as a consequence, we weren't getting sufficient environmental protection, period.

This reminds me a little bit of the kid who murders his parents and then complains about being an orphan. I mean, if companies are initiating litigation because they don't want to be regulated at all, and then they come and complain about the fact that there is too much litigation, that doesn't seem to me a good reason for this committee to make changes on existing law.

I know my time is up, Mr. Chairman, but I guess I would suggest that if we are going to have a debate about this issue, then it should be an honest debate. The fact that there is litigation out there is not, in and of itself, a justification for changing the law. If we are going to change the law, it should be because we are going to strike a better balance between the environment and economic issues than we are currently doing.

Senator INHOFE. Thank you, Senator Obama.

Senator CHAFEE.

OPENING STATEMENT OF HON. LINCOLN CHAFEE, U.S. SENATOR FROM THE STATE OF RHODE ISLAND

Senator CHAFEE. Thank you, Mr. Chairman, for holding this hearing. As you can tell by many of the opening statements, there is a lot of difference of opinion here, particularly between the Chairman and the ranking member. We are going to hear from Mr. Connaughton the benefits of the legislation before us, and then we will hear in the next panel from John Walke, who will testify the bill is far dirtier than simply implementing the Clean Air Act; that the bill is far dirtier than competing legislative proposals; that the bill is far more costly than competing legislative proposals; that global warming is urgent and real; and that delay increases both the danger and the cost.

At the same time, our constituents are saying to us all we want is clean air; we send you to Washington to look after our health. From industry, at the many hearings we have had, all they are saying is give us some certainty. So I think the path that might be best taken is with Senator Carper and somewhere in the middle of some of the differences here so we can give both our constituents their healthy air and industry some certainty.

So thank you, Mr. Chairman, for holding this hearing.

Senator INHOFE. Thank you, Senator Chafee.

Senator Clinton.

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

Senator CLINTON. Thank you, Mr. Chairman. I think the last two statements really sum up my feelings. On the one hand, do no harm. There is significant evidence based on the analysis of this legislation that from many perspectives it would do harm.

But, second, that there ought to be an opportunity for some kind of bipartisan effort that recognizes the costs and also the benefits of perhaps improving on the Clean Air Act.

We have held numerous hearings in this committee on this issue, and one thing that has been established beyond any doubt is that

the human health and environmental consequences of power plant emissions are real and substantial. I think we should just start with that, as opposed to dismissing it or diminishing it. A recent study estimates that current 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 each year. That goes right to the heart of our economic productivity.

Now, in New York these effects are felt throughout our State, and we have perhaps borne the brunt of a lot of the environmental damage over the last decades. One of the other witnesses on the next panel will be the executive director of the Adirondack Council, Brian Houseal, and Dr. Houseal will represent a group that is perhaps one of the most effective advocates for clean air in our Country, and they are here to testify against this legislation, despite their longstanding belief that we could and should do better when it comes to NOx and SOx and mercury.

Mercury pollution is an incredible problem throughout New York and the Country, and we have a lot of work that we could do together, and I am very proud that in New York our Republican Governor, our Democratic attorney general, and our leading utilities came together and reached an agreement about how to cut emissions from coal-fired plants in New York State. It seems to me that is the kind of model that we should be looking to follow here in the Senate.

But Clear Skies does nothing to address the climate change effects of power plant emissions of carbon dioxide; it does not meet the test on any of the pollutants we are concerned about; it includes a weak mercury cap that requires no mercury-specific pollution controls to be added until 2018. In addition, the bill allows unlimited mercury trading, something that I don't think should be permitted. Why should we be in the business of permitting the trading of poison? It ignores the significant evidence of local mercury deposition around power plants.

Clear Skies effectively eliminates Clean Air Act tools such as New Source Review and section 126, tools that States such as New York have relied on to reduce pollution in a bipartisan fashion. Clear Skies weakens pollution control technology standards that apply to new power plants and other industrial sources, reduces protections for national parks. What do we get in return for these changes to the Clean Air Act? Well, we get promised reductions in NOx and SOx that are too small and too slow to enable States and localities to meet the ozone and fine particulate matter standards by the current deadlines. Realizing that caps would be inadequate to reach the ozone standards by the current Clean Air Act deadlines, this legislation simply delays these deadlines by up to 11 years.

So there is just so much in this that sends us backwards. As a Senator from New York, the question for me is simple: Why would I support a bill that delays achievement of clean air goals in my State, while eliminating significant tools that my State has used in the past?

I also want to point out that the cost estimates are very difficult to actually get a handle on, but it is important to recognize that

when the Clean Air Act Acid Rain Program was debated in 1990, there were lots of rather high estimates. The Edison Electric Institute estimated compliance with SOx caps would cost utilities $7.4 billion by 2010; the EPA's estimate was $4.6 billion. In fact, the actual cost was considerably less, between $1.1 and $1.5 billion.

So I think that we can do better. I don't believe this legislation puts us on the right path. I think that if there is an opportunity for legitimate compromise, I want to be part of that. But, if not, I certainly, on behalf of my State, cannot support legislation that turns the clock back instead of forward.

Thank you, Mr. Chairman.

Senator INHOFE. Thank you, Senator Clinton.

We have two more. Senator Voinovich.

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

Senator VOINOVICH. Thank you, Mr. Chairman, for holding this hearing. I am pleased to be here today for our second meeting this year and our 24th hearing since 1998 on multi-emissions issues.

Today, we are here to discuss the Clear Skies Act, and I am sure that Mr. Connaughton will do a good job of outlining the fact that this will reduce power emissions by 70 percent. The beauty of Clear Skies is that the reduction levels and timelines are placed in statute and cannot be delayed. The bill expands the Acid Rain Program, our Nation's most successful clean air initiative, which has had virtually no litigation, 100 percent compliance, and reduced sulfur dioxide emissions by 38 percent below 1990 levels at less than the projected costs.

As I discussed at our last hearing, it is important we put multi-emission legislation in context. We live in a global marketplace. Let us not fool ourselves, environmental and energy policies have a direct impact on our ability to keep and maintain jobs in this Country. Just ask the thousands of Ohioans who are in manufacturing who are no longer working. We simply cannot continue to rely on natural gas for power generation. Our clean air policies have played a major role in the fact that nearly 88 percent of the new power plants built since 1992 have been natural gas fired. We have a chart here that shows how natural gas costs have increased dramatically during the last several years. [See chart on page 35.]

The chemical industry, which is very big in the State of Ohio, at one time was an exporter of products. Today, we have a 9.6 billion deficit. That means that we have gone from a Country that exports chemical products to now that has changed and now we are importing those products.

Annual funding for the Lehigh Program, a program for low-income families, has increased 73 percent since 1999 because of higher heating prices.

This legislation is also needed now because 509 counties were recently designated as non-attainment for the new National Ambient Air Quality Standards for ozone and particulate matter. This is a very serious problem in terms of job growth and capital investment.

Chart 2 will show that under Clear Skies and EPA's new diesel fuel and engine regulations to reduce sulfur, 90 percent of the

counties would come into attainment without any local effort. So we have the counties that are not in attainment. With Clear Skies and the new diesel, you see from that chart that most of them are going to come into compliance because of Clear Skies and the new diesel requirements. These designations are based on stricter standards, not dirtier air. [See chart on page 36.]

I think a lot of people are under the impression that the air is dirtier today. It is much cleaner than it was. Since 1970, while our Nation and economy have grown substantially, emissions of the six main pollutants have decreased by 50 percent. We need Clear Skies to continue at a higher rate this Country's commitment to cleaning up the environment and protecting public health. You can just see our economy has grown, number of miles traveled, more people in this Country, and even during that period we have reduced the six worse toxins by over 50 percent.

The Clean Air Act's highly litigated and cumbersome provisions make it unclear what or when reductions will be achieved. Critics of Clear Skies point to the section 126 petition, NAAQS, and New Source Review program as affected, but history tells a different story. For example, chart 4. This chart shows the timeline for when EPA began considering a new standard for ozone and when State implementation plans are due. Folks, it took 15 years, 15 years to get the new ozone standards that are now for ozone and particulate matter. [See chart on page 37.]

The New Source Review program is far worse. I will quickly run through some of it. Twenty pages of regulations in 1980 defining NCRs turned into 4,000 pages of guidance documents. A 1990 lawsuit and court decision resulted in EPA rulemaking. In 1992 working groups were formed to reform New Source Review, with contradictory proposed changes in 1996 and 1998. EPA filed enforcement actions in 1999, of which several are still being litigated and different courts have reached different opinions in two of these cases.

On top of this, critics have taken out of context two sections of a 208 National Academy of Science interim report to claim that New Source Review, if unchanged, will result in more reductions than Clear Skies. This is absolutely ridiculous. Clear Skies cap all power pollution immediately, while NSR is applied on a case-by-case basis under a standard that now has two different and litigated interpretations.

With all this lengthy litigation, no one really can tell us when the NSR program is going to really take effect. It won't be until 2007 before you have oral arguments on two different cases on NSR. One says that the rule is OK, it complies with the law; the other one says it doesn't comply with the law. So that is what we get from NSR: More lawyers, more litigation.

Until we get passed this rhetoric of the false charges that Clear Skies is less than existing law, we are going to go nowhere. Time is of the essence. If we continue the way we are, folks, we are going to have a stalemate of losses, uncertainty for jobs and our competitive position in the global marketplace, and, more importantly, more importantly, for those of us who are concerned about the environment, uncertainty for our environment and for public health in this Country.

[The prepared statement of Senator Voinovich follows:]

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

Good morning. I am pleased to be here today for our second meeting this year and our 24th hearing since 1998 on multi-emissions issues.

Today we are here to discuss the Clear Skies Act, which would be the most aggressive clean air proposal ever enacted a 70 percent reduction of power plant emissions. In just 3 years, nitrogen oxides would be capped at a reduction level of 59 percent and in 5 years, at a 59 percent reduction level for sulfur dioxide and 29 percent for mercury. As former EPA Administrator Leavitt stated before my Subcommittee on April 1 of last year, the sulfur dioxide and nitrogen oxides reductions "will result in some $50 billion" investment by power plants.

The beauty of Clear Skies is that the reduction levels and timelines are placed in statute and cannot be delayed. The bill expands the Acid Rain Program our nation's most successful clean air initiative, which has had virtually no litigation, 100 percent compliance, and reduced sulfur dioxide emissions by 38 percent below 1990 levels at less than the projected cost.

As I discussed at our hearing last week, it is important that we put multi-emissions legislation in context. We live in a global marketplace. Let us not fool ourselves environmental and energy policies have a direct impact on our ability to keep and maintain jobs in this country.

We simply cannot continue to rely on natural gas for power generation. Our clean air policies have played a major role in the fact that nearly 88 percent of the new power plants built since 1992 have been natural gas fired. [CHART 1] As a result of this increased demand, natural gas prices have doubled their historical price and we now have the highest prices in the developed world. As the second largest consumer of natural gas (quote): "The chemical industry's eight-decade run as a major exporter (ended in 2003) with a $19 billion trade surplus in 1997 becoming a $9.6 billion deficit" (March 17, 2004 Washington Post article).

Tom Mullen from Cleveland Catholic Charities testified in 2002 that we must also consider the devastating impact of increased electricity and home heating costs on the poor and elderly. Annual funding for the LIHEAP program to help low income families with their home heating bills has increased by 73 percent since 1999 due to higher prices.

Clear Skies will keep jobs in America and energy prices stable, by allowing us to keep using coal our most abundant and cheapest energy source. This legislation is needed now because 509 counties were recently designated as in nonattainment for the new National Ambient Air Quality Standards for ozone and particulate matter. As Cincinnati Chamber of Commerce President Michael Fisher stated in testimony on April 1, 2004, "job growth and capital investment are hindered by the nonattainment designation." [CHART 2] Under Clear Skies and EPA's new diesel fuel and engine regulations to reduce sulfur, 90 percent of the counties would come into attainment without any local effort.

These designations are based on stricter standards, not dirtier air. [CHART 3] Since 1970, while our nation and economy have grown substantially, emissions of the six main pollutants have decreased by 51 percent. We need Clear Skies to continue at a higher rate this country's commitment to cleaning up the environment and protecting public health.

We all want cleaner air the important question is how we achieve it. Instead of having this debate, false claims are being made that existing programs are better than Clear Skies. Conrad Schneider from Clean Air Task Force testified last week that: (quote) ". . . existing provisions of the Clean Air Act could potentially require future emission reductions beyond . . . " Clear Skies.

Could potentially require"? This is exactly the point. We need to stop talking about the ideal world and focus on the real world. The Clean Air Act's highly litigated and cumbersome provisions make it unclear what or when reductions will be achieved. Critics of Clear Skies point to the Section 126 petitions, NAAQS, and New Source Review programs as effective, but history tells us a different story:

- In 1997, eight Northeastern states petitioned EPA to force Midwestern states to reduce nitrogen oxides. After four Federal court decisions and EPA retooling, this culminated in the NOx SIP call, which went into effect not in May 1998 but in May 2004 7 years after the process began.
- [CHART 4] This chart shows the timeline for when EPA began considering a new standard for ozone and when State Implementation Plans are due. It took 15 years!

• The New Source Review program is far worse. I will quickly run through some of it:

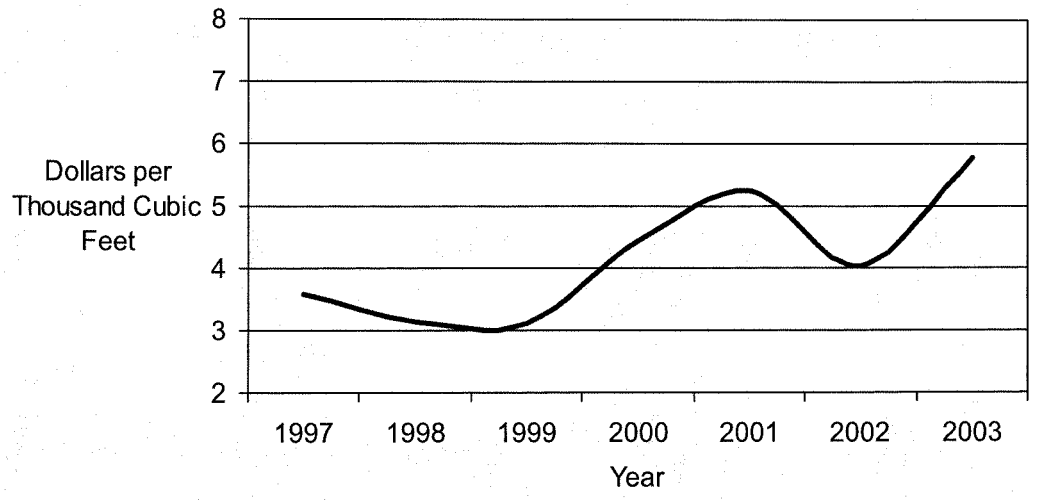
- 20-pages of regulations in 1980 defining NSR has turned into 4,000 pages of guidance documents;
- A 1990 lawsuit and court decision resulted in an EPA rulemaking in 1992;
- Working groups were formed in the 1990's to reform NSR with contradictory proposed changes in 1996 and 1998;
- EPA filed enforcement actions in 1999 of which several are still being litigated and different courts have reached different opinions in two of the cases.
- In 2003, EPA issued two rules to reform the program, both of which have spurred lawsuits. Oral arguments on one of these rules are not expected to occur until at least 2006.
- On top of all this, critics have taken out of context two sentences of a 208 page National Academy of Sciences interim report to claim that the NSR program if unchanged will result in more reductions than Clear Skies. This is ridiculous. Clear Skies caps all power plant pollution immediately while NSR is applied on a case-by-case basis under a standard that now has two different—and litigated—interpretations. With all this lengthy litigation, no one can really tell us what the NSR program will get us—except more lawyers!

Until we get past this rhetoric and the false charges that Clear Skies does less than existing law, we are going to go nowhere. In my opinion, these arguments are just a facade for the real motive of holding up this legislation for the political issue of capping carbon dioxide emissions which cannot pass the Senate and definitely not the House. This will leave us in this stalemate of lawsuits and uncertainty for businesses and more importantly uncertainty for our environment and public health.

Time is of the essence. It is either now or never. I met with several of my colleagues on the other side and plan to keep working with them and every member on this Committee to get something done to reduce sulfur dioxide, nitrogen oxides, and mercury emissions substantially.

I look forward to hearing from the witnesses. Thank you.

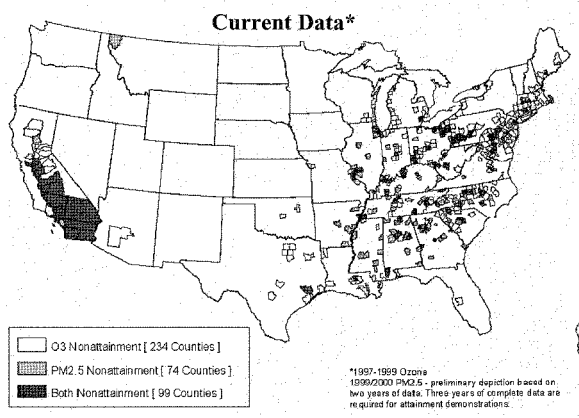
Industrial Price of Natural Gas ($/Mcf), 1997-2003



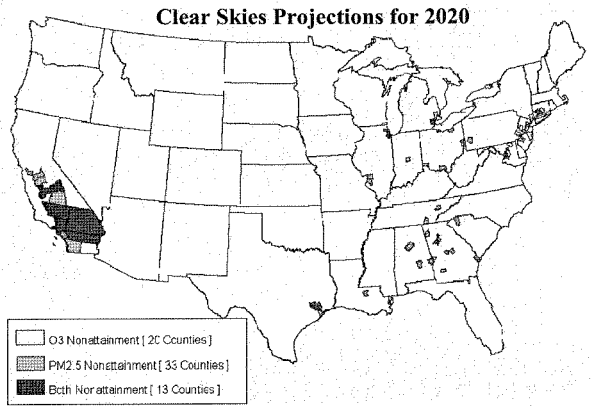
Source: Energy Information Administration, http://tonto.eia.doe.gov/dnav/ng/ng_pri_sum_dcu_nus_a.htm

THE CLEAR SKIES ACT

Delivering Extensive Health Benefits and Widespread Attainment



Clear Skies projections for 2020 show dramatic improvement.



Under Clear Skies, more than 20 million additional people would be breathing air that meets the national standards in 2020.

***Note**: To permit comparisons among various analyses, the air quality data were the most complete and recently available as of mid-2001 (1997-1999 ozone monitoring data and 1999-2000 $PM_{2.5}$ data). More complete and recent air quality data for ozone and fine particles (1999-2001 data) is now available.

Timeline for the Ozone NAAQS

• August 1992	Ozone NAAQS review initiated
• Summer/Fall 1993	Workshops
• Spring 1994	Draft Criteria Document available to public and CASAC
• July 20 and 21, 1994	CASAC meetings to review draft Criteria Document
• March 20 and 21, 1995	CASAC meetings to review revised draft of Criteria Document and Staff Paper
• September 19/20, 1995	CASAC closure on Criteria Document and closure on primary standard section of Staff Paper
• November 28, 1995	CASAC closure letter on Criteria Document to EPA
• November 30, 1995	CASAC closure letter on primary standard section of Staff Paper sent to Administrator
• March 21, 1996	CASAC subpanel meeting on secondary standard section of Staff Paper
• April 4, 1996	CASAC closure letter on secondary standard section of Staff Paper sent to Administrator
• June 12, 1996	EPA publishes Advance Notice of Proposed Rulemaking for Ozone & PM NAAQS
• July 25 – August 8, 1996	Public meetings on Proposed Rulemaking
• Nov. 27 – Dec. 13, 1996	Proposed Decision announced/published in Federal Register; public comment period begins
• January 14 and 15, 1997	Public Meetings in four cities on proposal

Source: John Blodgett and Larry Parker. "Air Quality Standards: The Decisionmaking Process." Congressional Research Service.

Timeline for the Ozone NAAQS (continued)

• March 12, 1997	End of public comment period on proposal
• Winter/Spring 1997	Congressional hearings on the proposed NAAQS
• June 25, 1997	President Clinton endorses the proposed NAAQS
• June 1997	EPA submits proposed final standards to OMB
• July 16, 1997	Administrator signs off on final Ozone & PM NAAQS
• July 18, 1997	Final NAAQS published in Federal Register
• July 18, 1997	First suit challenging the final standards filed in the U.S. Court of Appeals for the D.C. District
• September 16, 1997	Ozone & PM rules become effective
• December 17, 1998	American Trucking Associations v. EPA. argued before D.C. Circuit Court of Appeals
• May 14, 1999	D.C. Circuit Court of Appeals issues decision
• October 29, 1999	D.C. Circuit Court of Appeals denies petition for rehearing
• May 22 and 29, 2000	Supreme Court accepts EPA/Chamber of Commerce appeals
• November 7, 2000	S.C. Oral arguments on American Trucking Associations v. EPA
• February 27, 2001	S.C. issues decision, remanding issue of adequacy of science for standards to Circuit Court
• March 26, 2002	D.C. Circuit Court issues decision, upholding EPA's standards
• April 15, 2004	EPA designates nonattainment areas
• June 2007	States required to submit State Implementation Plans

Source: John Blodgett and Larry Parker. "Air Quality Standards: The Decisionmaking Process." Congressional Research Service.

Senator INHOFE. Thank you, Senator Voinovich.
Senator DeMint.

OPENING STATEMENT OF HON. JIM DEMINT, U.S. SENATOR FROM THE STATE OF SOUTH CAROLINA

Senator DEMINT. Thank you, Mr. Chairman. I want to thank you and Senator Voinovich for your leadership on this issue.

I am convinced that the Clear Skies Act will continue to improve air quality without making it prohibitively expensive to do business in the United States. The Commerce Department is already estimating that it is 22 percent more expensive to do business in this Country than our leading trading partners, and our good intentions when it comes to regulations are clearly hurting people. We must agree on this committee how to balance the quality of air, the quality of our life, with the quality of our jobs.

I don't think anyone on this side is pretending that this bill will solve all the environmental problems that we have, or address all the concerns related to global climate change. But I think if we really look at the legislation, we can agree that this is a big step forward. We do now have a quagmire of antiquated regulations that are open to subjective and arbitrary interpretation. This is not just something we are coming up with here. The power companies and industries that have to deal with this are telling us that the regulations are clearly doing as much, if not more, to promote lawsuits than they are doing to really help us cleanup our air.

I believe the Clear Skies Act does replace piecemeal regulations with a single set of requirements for our three major air pollutants and guarantees that specific emission caps are achieved by deadlines that have been enacted into law. We must translate our good intentions into good regulatory system, and I do believe that the Clear Skies Act is a major step toward not only cleaning up our air, but clearing out our courtrooms and helping to protect the jobs. I encourage all of my colleagues to take a look at the legislation itself, the deadlines, and see that this is a big step forward.

Thank you, Mr. Chairman.

Senator INHOFE. Thank you, Senator.

Senator Jeffords, did you want to make a statement for another member?

Senator JEFFORDS. Senator Baucus contacted me earlier this morning and wanted me to mention that he had hoped to be here, but business in the Finance Committee—and if you have seen the load that he has, you will understand that—has kept him otherwise occupied.

Senator INHOFE. All right. That is fine.

All right, Mr. Connaughton, you have survived that. We will recognize you for a 5-minute opening statement. Can you hold it to that?

Mr. CONNAUGHTON. I am going to do my best, Mr. Chairman.

Senator INHOFE. All right.

STATEMENT OF JAMES L. CONNAUGHTON, CHAIRMAN, COUNCIL ON ENVIRONMENTAL QUALITY

Mr. CONNAUGHTON. Good morning, Senator Jeffords, members of the committee. I think it is fitting that we are here on Groundhog Day. Those of you who know the Bill Murray movie know that we went around and around and around and around, but it did have a happy ending. It had a happy ending with a lot more information, a lot of accommodation, a lot of understanding of each side's views, and I am hopeful that that is where we are going to come out 24-plus hearings later on this issue that we were actually debating since, really, Senator Moynihan led the charge back in the mid–1990s on this idea of a multi-pollution strategy.

I am here before you today to strongly urge the passage of this initiative. The time is now, and if it is not now, the States won't get the assistance they need.

President Bush is dedicated to providing our families and our children with a healthier, more economically vibrant and secure future. Now, important to achieving that future is bringing proven innovative tools to the task, and Clear Skies legislation is just such a tool. It means healthier citizens—and that is paramount—stronger communities—and I will talk about that in a minute—more affordable, reliable, and secure energy; and improved wildlife habitat across America.

First, Clear Skies will significantly expand the Clear Air Act's most innovative and successful program. We are working within the Clear Air Act here—we are not changing it—in order to cut power plant pollution of sulfur dioxide, nitrogen oxides, and, for the first time, mercury by an unprecedented 70 percent in two phases. These cuts in pollution will provide substantial health benefits; they will prolong the lives of thousands of Americans annually; and they will improve the conditions of life for hundreds of thousands of people with asthma, other respiratory illnesses, and heart disease.

Now, I am the son of a pediatrician who worked with inner-city Baltimore populations, and my father is also a chronic asthmatic who, through my entire lifetime, every month I would take him to the emergency room. I have a deep personal reason for being involved in this policy discussion.

Clear Skies will produce these health benefits, though, with greater certainty by imposing a mandatory, permanent multi-pollutant cap on emissions for more than 1300 power plants nationwide. That will reduce pollution by as much as 9 million tons annually at full implementation. Utilities will achieve this by spending more than $52 billion, the single most costly Clear Air Act program in the history of the Clean Air Act, to install, operate, and maintain new, primarily clean coal pollution abatement technology on both old plants and all the new ones. Clear Skies will require only a few dozen government officials to operate it, and will assure compliance through a system that is both easy to monitor and extremely easy to enforce.

Accordingly, the Clear Skies cap and trade approach will give our States the most powerful tool that we can provide to them for meeting our new tough health-based air quality standards for fine particles and for ozone. At the end of last year, EPA completed the

process of informing over 500 counties—and these are major manufacturing counties—that they either do not meet or that they contribute to another county not meeting these standards.

That relatively straightforward act has now triggered a very complex process that will lead later this year to a frenzy of intrastate negotiation and conflict, interstate negotiation and conflict, Federal-State negotiation and conflict, with State and citizen petitions, with lawsuits, and heightened uncertainty in energy markets, producing an avoidable and negative impact on local investment, jobs, and consumer energy bills. Now, that is not a pretty picture. We can get there that way; we did it in the 1990s. But we have a better way.

As a former Governor, the President personally experienced and understands the complexities of developing and implementing State plans to meet air quality standards. That is why he wants a common sense solution. Clear Skies, in conjunction with the cuts we just did on diesel pollution across the entire fleet of diesel engines, is going to provide that solution.

Most counties, as Senator Voinovich indicated, are going to be able to meet these standards without having to do anything more at the local level. For the relative few that remain, for the first time in the history of the Clean Air Act, they will have less work to do. They will have an easier burden at the local level to design the strategies that they need to meet these standards.

This simple approach could save our governments and our communities and the private sector, including environmental groups, literally tens of millions of dollars in negotiating costs alone. Now, that alone is something to be happy about.

But more importantly, Clear Skies is about keeping communities together. The up-front assurance of meeting air standards will give communities the certainty they need not just to keep the manufacturing jobs they have got, but to actually attract new ones back into the places where generations of their families currently live, where they currently live, where they currently play together, and where they currently pray together. This is about keeping communities in our manufacturing centers. The absence of such certainty is what is driving an exodus of jobs out of these communities. They go either to greenfields locations in the United States or, more importantly, they go overseas. We can do better.

We have talked about the affordability issues. I won't go into that further. But I also want to end with let us not forget the huge wildlife habitat benefits of this policy. These are guaranteed emission reductions of sulfur dioxide, nitrogen oxide, and mercury. That is great for our lakes, it is great for our streams, it is great for the Adirondacks.

I just urge this committee to take the moment. Let us live the promise of Groundhog Day, that movie, and let us find that common ground, because it exists. We can find a path forward.

Thank you, Mr. Chairman.

Senator INHOFE. Thank you, Mr. Connaughton.

I noticed that you have charts here. Do you have a presentation that you are going to be making that would be beneficial to this hearing?

Mr. CONNAUGHTON. Well, my chart here is similar to the one Senator Voinovich just put up. I have a second chart, if we get into Q&A, on sort of the relative proportion.

Senator INHOFE. Oh, OK. Well, what I am going to do is I am going to give you some of my time. But I think first Senator Obama asked the question what will happen if we just maintain the status quo. Do you want to answer that question?

Mr. CONNAUGHTON. Yes, I do.

Actually, Senator Obama, I am a Chicago boy of 5 years and did a lot of work in my prior capacity doing environmental management work downstate. I have been in a lot of your manufacturing facilities.

What the status quo means, especially for manufacturing communities, is it means they do not have the reliance that they are going to depend on for affordable and secure energy. We are already experiencing, especially in the manufacturing States, this volatility in natural gas prices that Senator Voinovich has pointed to. That is a direct result of the increase in the use of natural gas to generate energy. They are big hogs of natural gas.

That creates a competition in a constrained market for natural gas that is much better as a feedstock, especially in chemical plants. Like auto parts manufacturers use natural gas as a direct energy source. That is the highest best use for natural gas in manufacturing. By the way, natural gas is the best thing to use, from an efficiency perspective, in people's homes. But every time you push natural gas into electricity generation, you are driving up the costs for these other—and, by the way, farmers, farmers in particular, they like low natural gas prices because that goes right into fertilizer.

What the status quo is about, because we have just seen it in the last 4 or 5 years, is about shifting from coal fire generation to natural gas fire generation. What Clear Skies does is it creates the future for clean coal generation, and not just by putting massive controls on up to 86 percent of existing coal fire generation, but also by making sure that new coal fire generation is the next technology. Now, that is a great tradeoff.

So you get a lot of clean coal and then you get a lot more stability in natural gas. That goes back to my community point. Then if you are in Decatur, Illinois and you are the mayor, you can actually invite manufacturers back in. I have reliable energy, I have clean air; the amenities of my community are what you would want them to be; you have efficiency by doing business here.

That is really what is at stake in this whole discussion, and, again, I look forward to more questions on this point. This question is about meeting clean air standards. We all agree the standards are there, they are solid. We have deadlines. The States have to do it. This is a question of the method by which we get to meeting those air quality standards.

Senator INHOFE. Very good.

Now, Mr. Connaughton, now would be the time if you want to make any kind of reference to your charts and have someone assist you in doing that.

Mr. CONNAUGHTON. Let me quickly have the first one go up.

I just want to note this is for illustrative purposes. These are the 350-plus monitored counties that have to meet the new air quality standards. That is manufacturing America.

Below is a chart that shows you with Clear Skies and the new diesel cuts. Based on EPA modeling, we expect the vast majority of those to meet the standard without having to do additional local controls. Now, those that are left, and there will be some left, they still have to take local action and they still have to meet the standards on time, it is just their burden will be easier. So we are not talking about putting off the date that they have to act, we are just talking about making their burden easier.

And then the second one, if you would. This will actually be the first time in the history of the Clean Air Act that the utilities are going to end up doing more than their share of pollution cuts. Historically, for the last 35 years under the Clean Air Act, when the States have had the lead in cutting pollution, they always go to the utilities last, for all the obvious reasons. Under this scenario, utilities are currently responsible for nearly 69 percent of sulfur dioxide. Well, their share is going to get diminished to 44 percent. What that means is more flexibility for our manufacturers as they want to bring in new high tech facilities. That is what that means.

Now, the same is true—we did the diesel cuts, and the diesel cuts are a massive reduction from the transportation sector for the first time. You all know how hard it is to control transportation at the local level.

With these two programs we are getting the two hardest sectors to control to do more than their share for the first time. That is what we are talking about. So as we look at other legislative proposals, it is really a question of do you want to even go further in doing that. That is what the debate is about. And then we have to figure out the balance, the balance and how that affects these other strategies.

Senator INHOFE. That is very good. Thank you, Mr. Connaughton.

You will recall, I guess it was last year that we had the Catholic Charities man, Tom Mullins, I believe it was, from Ohio came in to talk about the devastating ability that the Jeffords bill—he was referring to your bill at that time, Senator Jeffords—would have on the impact to the elderly and the low-income families, and he described how over half of those residents in Ohio over the age of 65 have annual incomes under 15,000, and these people have a hard time just paying for bare necessities.

A recent book called, "Heat Wave, A Social Autopsy of Disaster in Chicago," chronicled the problems of elderly, low-income Chicago residents in predominantly minority neighborhoods during the heat wave of 1995. Actually, over 700 people died at that time. These are the same types of people that Mr. Mullins was referring to as having problems paying their electricity bills and would be the first harmed by the legislation.

Have you taken all this into consideration? It is something nobody seems to ever want to talk about, but the economic impact that this would have on people.

Mr. CONNAUGHTON. I think the best way to look at this in its most logical and politically understandable terms is what probable

explains why we haven't done as much on power plants in the last 35 years is because the costs of these pollution controls get passed through directly to the consumers that you mentioned, especially the folks on low and fixed incomes.

So especially in our big urban areas the mayors understandably have to make that tradeoff: Do I go after manufacturing sources? Do I go after other sources rather than go after my utilities to get these cuts. I believe, and certainly with my personal talks with a lot of mayors and county officials, that is what drives the fact that the localities haven't acted as much as they could.

Now, we are in a great situation where, if we pursue the 70 percent approach that gets us all the transport issues resolved, the solution is going to be controls on coal. So our projections show that we will continue to see electricity prices stay stable and continue to decline. That is great for people who have—was it Senator Voinovich? No, Senator Bond—to make a choice between heating and eating. And that is very real for a lot of people.

So we can, through this approach, minimize the impact on the pass-through to our consumers, and we can maximize the cost-effectiveness of getting the pollution reductions. I think that is what we should all be after here.

Senator INHOFE. Thank you very much.

Senator Jeffords.

Senator JEFFORDS. Mr. Chairman, before I start my questions, I ask consent that a letter from several religious groups opposing this bill be made a part of the record.

Senator INHOFE. Without objection, so ordered.

[The referenced document follows:]

TESTIMONY OF RELIGIOUS LEADERS IN OPPOSITION TO S. 131—THE CLEAR SKIES ACT OF 2005

As representatives of Christian denominations, we are called to express our grave moral concerns with the proposed changes to the Clean Air Act. After careful review of S. 131, the Clear Skies Act of 2005, we believe the legislation delays the critical action necessary to clean up our nation's air and fails altogether to address the real and present threat of global warming. We urge this committee to adopt amendments that would strengthen standards, speed up implementation, and control emissions of carbon dioxide.

We believe clean air is a basic right and necessity for all life. Our faith teaches that human beings are stewards of God's creation. Unfortunately, we have too often abandoned this sacred responsibility at the altar of human consumption, arrogance and greed, leaving a legacy of pollution that threatens the health of communities and the very future of our planet. Today, we call on our elected leaders to reverse this legacy and enact bold legislation to reduce dramatically the emissions from power plants—the single largest stationary source of air pollution in the United States.

We believe the costs associated with delay and inaction are unacceptable. The tragic toll of premature deaths, asthma attacks, lost days of school and work, polluted waterways and rising global temperatures is the result of an energy policy that is neither just nor moral. The heaviest toll is paid by the most vulnerable in our society including the poor, the elderly, children and pregnant women. Our faith calls us to speak out on their behalf and oppose legislation that would delay efforts to alleviate their suffering.

We have embarked on a campaign within the religious community to educate and mobilize people of faith on the issue of air pollution. In the last year, we have encouraged our 100,000 congregations across the country to reflect on God's sacred gift of air by providing them with theological statements, worship materials, study guides and prayers. In addition, many of our denominations have adopted policy principles on power plant pollution and remain committed to supporting legislation that fulfills our biblically mandated responsibilities of stewardship and justice.

In the Bible, the epistle James teaches us that faith without works is dead. It is not enough to simply proclaim respect and love for God's created world, we must live out that faith through our actions. Today, we call on our elected leaders to join us in defending God's creation by enacting strict emissions controls that will clean the air sooner rather than later and address the impending climate crisis.

We appreciate the opportunity to share our concerns and we look forward to working with the committee to enact meaningful legislation this year.

Sincerely,

REV. BRENDA GIRTON-MITCHELL,
Associate General Secretary for Justice and Advocacy,
National Council of the Churches of Christ in the USA

REV. ELENORA GIDDINGS IVORY,
Director, Presbyterian Church (U.S.A.) Washington Office

MAUREEN SHEA, DIRECTOR,
The Episcopal Church Office of Government Relations

REV. RON STIEF,
Minister and Team Leader, Washington Office,
United Church of Christ Justice and Witness Ministries

KAREN S. VAGLEY,
Director—Washington Office, Evangelical
Lutheran Church in America (ELCA)

JIM WINKLER,
General Secretary, General Board of Church and Society,
The United Methodist Church.

Senator JEFFORDS. Mr. Connaughton, does the President endorse S. 131?

Mr. CONNAUGHTON. We don't take an Administration position until the bills are well evolved and on their way to a vote on the floor, Senator. But we think a lot of very good work has been done by the committee. I think it has incorporated a lot of input from outside groups, mayors, environmental groups, as well as the industry. So, we see very significant progress having been made to sharpen up the elements of this and, in fact, to address a number of the concerns that I have heard from this side of the dais.

Senator JEFFORDS. Could you give us an idea of what changes would be necessary for the President to endorse it?

Mr. CONNAUGHTON. We are still in the negotiation process, Senator, so I don't want to make specific points at this time. Our central concern has been that we attain a 70 percent cap in two phases, and that is in the bill; and the dates of the two phases are consistent with what we are after. Our central concern is this is designed in a way that we don't create an opt-in situation that will dilute the cap.

That has been important to us and some good work has been done there. We want this designed in a way where, if this is producing the result that a current clean air program would otherwise produce, or do better, that that program would be replaced, but then it also retains the essential programs as it applies to the utilities—and this is something we cared about—it also retains the essential components.

For example, the 126 process is kept, but is put in abeyance because we are effectively granting it up front in this first round, but we still have it come back again. That was important to us. It is also important to us to be sure that the bill clarifies that the States retain their full authority to act at the local level to get this remaining increment of pollution reductions that they will need. We

did not want to impede their authority to do so. I think the bill has cleaned that up as well.

So when you ask me, in broad measure, this bill, especially as it has evolved over the last couple of months, is now hitting the core points that we are most interested and concerned about.

Senator JEFFORDS. That means, as I understand it, that you are not endorsing it at this time.

Mr. CONNAUGHTON. Again, we do not take an endorsement of a bill until it is on the floor, but we are very pleased with the progress that has been made under the leadership of Senator Inhofe and Senator Voinovich.

Senator JEFFORDS. Once upon a time in my office you told me that a three-pollutant bill would encourage power companies to invest in less carbon, more energy efficient generation. That is an odd and counterintuitive position, since there would be no carbon pricing or regulatory driver. But if you were accurate, then why does Clear Skies increase greenhouse gas emissions from the power sector by 13 percent, or 425 million tons in 2020?

Mr. CONNAUGHTON. I do not recall that particular quote, but, if you will, I will talk about the carbon implications of Clear Skies. If you put a carbon cap into the utility sector process right now, the rational economic choice for those utility CEOs is to fuel switch to natural gas or to get out of natural gas. That is the rational economic choice. That is because the capital costs of getting the reductions that you would need are a lot cheaper. The up-front capital costs are a lot cheaper through natural gas or through getting other sources, like nuclear, for example.

Coal, we don't have a technology today by which you can capture carbon from coal; it doesn't exist. In fact, the way you know that it is off in the future is the only thing we have going right now is a 2 billion plus investment of Federal taxpayer dollars that the Bush administration is moving forward with to try to find that opportunity for capturing carbon from coal. So that is the other issue, you can't meet a carbon cap by complying through coal.

If, however, we sequence this process and we do a three-pollutant strategy that is based on growing our reliance on clean coal, we can bring forward in the second phase the kind of technology that holds the promise of carbon capture. One of the most notable examples is the integrated gasification combined cycle process. That process, just by starting it up to cut air pollution, has a net efficiency—it is a huge net efficiency. I forget exactly the range, but I think it is 10 to 25 percent. So that alone is a carbon offset in terms of coal fire generation. But it also holds the greater promise, because it is a much smaller engineered unit, it holds the greater promise of cost effectively removing carbon.

Now, to get from here to there you have to have a pathway for a lot of investment in clean coal; otherwise, it will still be stuck in government laboratories, because there is no open market. So the way I see the issue, it is a matter of sequencing. If we can get $52 billion primarily oriented toward bringing online the next generation of clean coal, then we can spend that $2 billion in Federal subsidized research and put it on those units and do our best to find the most cost-effective ways to reduce coal. That is a much more powerful and more sustainable long-term strategy for dealing with

carbon, and it is going to get us to our shared objective. And on this one we do have a shared objective: can we find a path of reducing carbon from coal that makes sense.

Senator JEFFORDS. You stated that the U.S. Conference of Mayors endorsed the cap levels in S. 131. However, the mayors' position is still that until any new programs have been proven over time to be as protective as current Clean Air Act programs, they encourage EPA and the Congress to keep these programs in place, with multi-pollutant legislation as an addition to current clean air law. Why would you imply that they have endorsed this bill to gut the Clean Air Act?

Mr. CONNAUGHTON. Actually, I don't imply that, Senator. My testimony indicated that the mayors specifically endorsed a 70 percent cut in the three pollutants by 2020. They have then come forward and raised some of the same questions I am hearing about changes in other Clean Air Act programs. Now, I have heard many different concepts of what people are getting at with respect to that, and I think a lot of that has been raised with Senator Inhofe and Senator Voinovich. What I am seeing is adjustment of the bill to accommodate those concerns, because we share them. We want to be sure that the States do retain their authorities, the State-based authorities that are given to them under the Clean Air Act to do more.

We also want to be sure we have a 126 process that does not go away. In fact, the NSR process, we have refined the NSR process, but that does not go away either, because we do want to be sure, if new plants come online, that they do go through a review process. In fact, what I have seen in the legislation—and we are negotiating the details of it right now—is the legislation will update the New Source performance standards for coal fire generation for the first time in a long time, which has been something that didn't happen under the prior Administration and we hadn't gotten to it yet. This legislation will do that.

So I think the conversation, Senator, is moving in exactly the direction it should be moving to find that there is balance of tweaks to get the benefits of the Federal top-down mandate, but still reserve the flexibility the States need to implement their local programs.

Senator INHOFE. Thank you, Senator Jeffords.

Senator Isakson.

Senator ISAKSON. Thank you, Mr. Chairman.

Good morning. I apologize for having to be at another meeting during your testimony, but I have been reading it very quickly. Could you put the chart back up for just a second?

Mr. CONNAUGHTON. Sure. The map?

Senator ISAKSON. The map, I am sorry. I want to make sure I understand. At the top of those current 350-plus counties, the bottom, the reduction in the number of counties mean those that are no longer shown have gone into the transition category, is that correct?

Mr. CONNAUGHTON. It means these counties meet the new standard. Now, some of them, I think a small subset of them—I think the transition discussion is about a small subset that, for example, if they have a 2013 date that they are supposed to meet the standard, that our models show that they will meet it in 2014 by reduc-

ing transported air pollution regionally. I think the transition process has tried to get at the point that some places—in fact, I think Georgia has one of them—they need the transported reductions to meet attainment. You couldn't do something locally to meet the standard.

I think that is what they are trying to accommodate. But that is a small subset. Most of the counties that you see are counties that meet the attainment standards on time through the first phase cap, the 2010 cap; and then there is a much smaller set that have to work through meeting the standard with Clear Skies plus some local measures on time; and then this small category of counties that we are talking about in the context of this transitional strategy.

But I want to underscore, from what I understand, the transition provisions will only apply to areas that can demonstrate that they cannot do local controls reasonably to meet the standard, that the transported pollution is what their solution is. That seems to me to be equitable. It is an equitable way—by the way, it is a much better process than what happens under the current structure, because under the current structure there is three, four, five different ways that EPA can and does grant extensions of time.

But as you know, in Georgia, when they grant that extension of time, they exact an even steeper price. I think those are the equities that are being discussed and, again, I think they are to a rational policy outcome that can be achieved and get us to these air quality standards.

Senator ISAKSON. You are correct, one of those areas is in Georgia, and I appreciate your mentioning that.

In the earlier opening statements a statement was made with regard to Clear Skies either exempting or putting off or somehow lowering the requirements on some 200 power plants versus what would be true under the Clean Air Act. In your statement, you said that it would impose mandatory, permanent multi-pollutant caps on emissions for more than 1300 power plants nationwide, reducing pollution by as much as 9 million tons annually at full implementation. Based on everything I have heard and what I have seen, I concur with that statement. I am wondering is there, in going to the Clear Skies bill, any exemption or any lessening of standards on specific plants that you know of?

Mr. CONNAUGHTON. I am not aware of any. We have a number of plants as a result of Federal action or State action that have controls. The entire generation sector that this bill applies to is 1300, and it would place a permanent cap on all of them.

Senator ISAKSON. Collectively.

Mr. CONNAUGHTON. Collectively. Now, to get there, this approach will actually create an incentive for the biggest power plants, with the biggest emissions, to reduce first. The current approach actually creates the opposite incentive. Because it is so expensive and you don't get any credit for doing it, usually you get to those ones last. So, one, it flips that around, so you will see the biggest one—and EPA's modeling bears this out; you can check out their Web site. We expect the biggest ones finally to go first.

Now, it is the case with the trading system that the biggest ones go first and they over-control, they go beyond what they are al-

lowed, because there is a smaller unit for whom it would be much more expensive, potentially technically infeasible to control. What happens is that smaller unit has to pay a price. If they can't put the control on, they have to pay this other unit for the privilege of controlling much further below what they are allowed. That is why the trading system works; it cuts the overall costs, but delivers the same or better performance.

We know that is proven because that is what the Acid Rain Trading Program did, which is again—I have to be careful when you say current law versus this approach. This approach is an expansion of current law. The other is a different set of components under current law. We are talking about whether we move more of our effort to the better tool or keep our effort in the less effective tool.

Senator ISAKSON. Thank you, Mr. Chairman.

Senator INHOFE. Thank you, Senator Isakson.

Senator Carper.

Senator CARPER. Thanks, Mr. Chairman.

Mr. Connaughton, again, welcome. We are delighted that you are here, and thank you for your testimony. Senator Jeffords mentioned earlier that you had visited with him and met with him and presumably with his staff. Have you done that before today with any of the rest of us on our side of the aisle?

Mr. CONNAUGHTON. I have not. This issue has been primarily led by EPA, but Mike Leavitt has gone over to HHS, so I am filling in the role that he would otherwise have played. I am aware that Mike Leavitt, and before that Governor Whitman, had had many conversations with folks on your side of the aisle. As you know, Senator, I look forward to that. I have put in a request to meet with you and I look forward to a longer conversation with you, I think, next week.

I am filling in that role now, and I do look forward to that, and it is important. This is not a partisan issue. In fact, this is really a regional issue. You have the great advantage of being in Delaware and you meet the standards already, so you actually sit in a great site of objectivity. But what we are really trying to work with is the heartland, the manufacturing heartland, as they are really balancing their coal issues, their natural gas issues, and figuring out how to meet those air quality standards.

Senator CARPER. Thank you. I mentioned earlier while driving around Delaware, I think it was Monday, and reading the paper—we only have one statewide newspaper—I read the article that I alluded to earlier, an Associated Press story,"Warmer World, Shrinking Glaciers—From Alaska to Patagonia, Climate Change Is Taking a Toll."

You heard me say earlier today I am a Johnny-come-lately on global warming; I, frankly, didn't give much credence to it for a number of years. I have changed my mind, given what I believe is a growing body of evidence that something is happening here, and we need to take steps sooner rather than later, because if we take them sooner, they can be more measured; if we take them later, they may have to be more Draconian.

Just to ask your own personal opinion, do you share my concern that something is going on with respect to the climate in the world

that we are living in? All this stuff about glaciers going away. I have some seen with my own eyes. Is this fiction? What do you make of it yourself?

Mr. CONNAUGHTON. I do share the concern, as does the President, that this is an issue that we must take very seriously. The National Academy has given us enough advice to warrant that seriousness and the seriousness of the investment that we are making as a Nation and internationally on this effort. There is still a lot of items that the National Academy outlined to us to understand further on the science. I think Senator Murkowski averred to that.

I would also put it in this context: The question is to what extent is man part of this warming? The warming is happening, so we still, as policymakers, have to address that in any event. So we have a combination of understanding the fossil fuel contribution to this issue or not, as well as understanding to the extent we are experiencing these changes, much like what occurred back in the early part of this century. We had some pretty dramatic climate changes in this Country that we had to manage out West. We have to carry the collective set of policy measures forward.

Now, if I may, we are moving forward seriously, and we are actually building on the work that the Clinton administration started in getting the research budgets up to where they needed to be, as well as we have dramatically gone beyond in terms of the technology budgets, as well as the mitigation strategies that we are employing. I would be happy to talk about those now or when we meet next week.

Senator CARPER. Well, let me stay with the issue of carbon. In an earlier exchange you had with one of my colleagues, you talked a little bit about coal gasification. The technology has been around for a long time. We don't have a whole lot of coal gasification plants that have been built. Common sense would seem to suggest, at least to me, that a country that has as much coal in the ground—we have more coal than Saudi Arabia has oil, and yet we are not using it. We have had the technology for years to be able to use the coal in a way that is environmentally safe and friendly, we reduce CO_2 emissions and enable us to reduce our dependence on foreign oil. What do we need to do as a Nation in order to take advantage of that natural resource and the technology that has been here for some time?

Mr. CONNAUGHTON. First, I agree with all the points you just made. So let us talk about a common strategy.

Senator CARPER. My wife rarely does that. It is nice to know that someone does.

Mr. CONNAUGHTON. We have this great opportunity finally in America to deal with the coal issue by making it clean. That is what this is all about. Can we get more coal and rely on it and make it clean? Gasification technology, as you have said, is proven on a small scale in the petrochemical industry, but we are talking about taking it from there and ramping it up to 750 megawatt, 1,000 megawatt generation.

Now, the scale of that engineering and the performance of that engineering is something that we have invested a lot of money in terms of we, the Federal taxpayer. There are two great plants, one

in Florida, the Teka Plant. I don't know if you have been there yet. There is another one in Indiana that is producing hydrogen.

But they are extremely expensive. The cost, just to give you an example, for a 750 megawatt sized power plant, a natural gas plant is $406 million to build it. Pulverized coal is $862 million to build it. Nuclear is $900 million. This is the current technology of nuclear. Integrated gasification is $1.05 billion; it is more expensive than a nuclear plant. And then the only thing more expensive than that is a next generation nuclear plant. So when you are talking about how do you get a utility in either a regulated market or, even harder, in a non-regulated market to make a capital investment that is the second most expensive one, we have to come up with a combination of strategies to do that. This is before you figure out the added technologies you might need to capture and store carbon. This is a cost before you get to the carbon equation.

That is why I am suggesting to you that if we can create this $52 billion private market that is oriented toward coal, that is going to create a very different dynamic for the venture capitalists and the technology innovators of the world to prove up on a big scale this—by the way, there are some other ones too, but gasification is the leading one right now—to prove up on a big scale the availability of this just for the purposes of cutting pollution, harmful air pollution.

And then, when you have several of these built, which we think—EIA suggested we might see 10 to 15 percent of new builds in gasification with the three pollutant approach—we can do that research to capture carbon off of it. That is a lot better than what would otherwise be a 15-year government demonstration project. We can actually apply it to commercially usable, reliable investment. That is what we are trying to get at, but it is a very complicated financing picture, and I am happy to talk to you about it further.

Senator CARPER. Thank you.

Senator INHOFE. Thank you, Senator Carper.

Senator CARPER. Mr. Chairman, I want to yield back the balance of my time.

Senator INHOFE. You did, 2 minutes ago. I hasten to say it is not your fault.

Senator CARPER. Thank you for your generosity there.

Senator INHOFE. All right, let us see. I think it is Senator Murkowski.

Senator MURKOWSKI. Thank you.

Mr. Connaughton, you had the opportunity to come and visit us in Alaska a couple years ago, so I know you have had a chance to come and see the clean skies and breathe the clean air and appreciate what we have to offer up there. We are in a very unique situation, almost a laboratory in the sense that we don't put out a lot of pollutants; and we like it that way.

But where we are geographically, and with the winds and the ocean currents and all that happens in the Arctic, we are subjected to levels of pollution that come across from other countries. We have been talking here about how we can deal with it State to State, but Alaska's problem is more State to country. How do we deal with that?

Mr. CONNAUGHTON. Thank you for the question, and I will start with that it is Alaska that is the benchmark for clean air when we set our standards for the rest of the Country. There is an area in Alaska that is the perfectly clean area of America.

Senator MURKOWSKI. Which one is that?

Mr. CONNAUGHTON. I will let you know.

Senator MURKOWSKI. I need to know which town to brag on.

Mr. CONNAUGHTON. It is near Denali.

The transported air pollution problem, the Asian brown cloud, the way we address that is by us being able to advance new, more affordable clean coal technologies, because it is a given that Asia is going to continue to grow their economy on coal. You can't have a serious discussion about combating air pollution and the Asian brown cloud, and you can't have a serious discussion about climate change and the effects of carbon unless you tackle the issue of how we help Asia get on a technology path that is much more consistent with ours, and at a speed that is faster than the one we have worked our way through since Pittsburgh in the early 1990s.

So it is our belief that if we can get ourselves on a pollution reduction path based on these new advance clean coal technologies that are also more efficient in their delivery of energy, and we can get the price down, we can work much more effectively with our counterparts in Asia, who are less concerned about carbon right now and much more concerned about choking smog and the health effects of that, we can get them to begin to design strategies where it is worth their investment to use good clean coal technology. And that will reduce sulfur, it will reduce nitrogen coming across, it will reduce mercury, and, importantly, it will put them on the same path of, again, creating an investment structure by which we hope, and it looks pretty promising, that we can capture carbon, as well, and put it to good use, rather than vent it to the atmosphere.

We are talking about decadal time scales, but the question is are we doing it in 25 years or are we, on the current path, doing it in 60 or 70 years. And we would prefer to speed that up.

Senator MURKOWSKI. Let me ask you about the conversation a little bit around this table, but certainly in scientific journals. Alaska is being pointed to as the kind of poster child, if you will, for the effects of climate change, the effects of global warming. We are seeing treelines migrating southward; we are seeing erosion the likes of which we haven't seen in decades; we are seeing warmer temperatures. As a skier, we are really annoyed that the rain has come instead of the snow. But we are actually seeing some changes.

We don't dispute, up North, that there is climate change taking place right now. In my opening I made mention to the fact that we don't know whether it is a natural cycle or how much man contributes to the change in temperature that we are seeing. Some are citing to Alaska as proof positive that CO_2 pollutants are causing the climate change that we are seeing. What is your response to that?

Mr. CONNAUGHTON. My response on the science side—I am not a scientist—is to revert back to the National Academy report of 2001 that really has guided our efforts in designing a climate change research strategy that can help us better answer the very questions that you have raised. The United States currently now

invests more in advancing the science of climate change than the rest of the nations of the world combined, and importantly, what the NAS did for us, which was extremely valuable, is they zeroed in on the specific areas where we should be increasing our effort.

One of them is global observation. And we are actually investing a lot more into the observational issues up in your part of the world, because that is a critical region to give us an indicator of what is happening. And then they have given us five or six other research items around which we have formed a 10-year plan that the National Academy fully endorsed. They said this is exactly what we need. In fact, other countries are not teeing off of our research strategy.

So we have to take what we know. We have calibrated our policies with what we know in terms of the range of reasonable actions we can take, both here and with developing country partners, even, that we are doing more of, and then we have to feed more information into it. But it will be much more observation-based and ground-based than it had been in the past. We need to evolve past our projections and into real data base models, and that is where we are going.

Senator MURKOWSKI. We want to work on that collaborative research, though.

Thank you.

Senator INHOFE. Thank you.

Senator Clinton.

Senator CLINTON. Thank you, Mr. Chairman.

Mr. Chairman, I want to publicly thank Mr. Connaughton for his cooperative and collaborative efforts. He and I have worked together on a matter of great concern to New York, and I am delighted to see him here.

I also appreciate the fact that the Administration has not yet endorsed this bill, because I think there are a number of issues that need to be addressed. And let me just briefly refer to several of them and then ask for your response.

First, as I tried to follow the questioning with Senator Isakson, I think that the bottom line with respect to utilities was that you said to Senator Isakson not all plants would install controls, but that the big ones would. Yet I have a list from the EPA which projects that there would be 198 power plants, with an average age of 48 years and an average generating capacity of 280 megawatts, who will not have installed modern pollution control for NOx or SOx before 2020.

Now, that obviously means that 70-year-old power plants with 56,000 megawatts of generating capacity will still be operating with 1950s pollution control in 2020. And I would ask that the Administration consider seriously whether we want to allow 70-year-old plants to operate without controls. And, as I say, this is an EPA projection of coal fire power plants that will not have applied modern NOx and SOx controls under Clear Skies by 2020. I would be happy to provide that to you. I am sure that you can find that for yourself.

Mr. CONNAUGHTON. Would you like me to speak to that issue?

Senator CLINTON. Let me just finish real quickly, because there is another major concern that I have.

As I understand the President's Clear Skies initiative, it started out as a new way to reduce power plant emissions of SOx, NOx, and mercury. Although I might not have agreed with the route that the Administration was taking, it seemed to be a clear statement of purpose.

Yet, S. 131 allows other major industries to opt in to the power plants allowance program and thereby escape major requirements of the Clean Air Act, reducing hazardous air pollution. And we need to know, does the Bush administration now support repeal of existing regulations that reduce cancer-causing and other hazardous pollutants beginning in 2007? The regulations that this would apply to under section 407(j)(1)(b), which permits the opting out provision, would include formaldehyde, acetaldehyde, hydrogen chloride, benzine, other chemicals that have been traditionally regulated.

Again, this seems to be in stark contrast with what the President's initial description of Clear Skies was. And has the EPA provided the Administration with any estimate of how many facilities would qualify for these exemptions and the potential health impact that would flow from those exemptions?

Mr. CONNAUGHTON. Let me take the first question. The design of the cap and trade is such that we will, when all is said and done, I think, capture and control up to 86 percent of the generation. There will be plants left, but, as I indicated, those plants will have paid the price of not putting on control by paying someone else to control even further than they are allowed. That is the way the cap and trade system works. That is what makes it effective.

To the extent there are a few remaining plants out of this 1300, we would expect them to be the smaller ones, not the bigger ones. But I will have EPA do some technical follow-up with you there. And, Senator, if they are in a region where either they are transported pollution or actually in an area that is out of attainment with the standard, the State will still remain free, today, as I understand it under the bill, as a matter of their local strategy, to directly regulate that plant if it is actually impacting their ability to meet the air quality standard.

Senator CLINTON. But, Mr. Connaughton, that means, though, that in New York, for example, we would have to rely on a State in, say, the Ohio Valley to regulate that utility, even though it is clear that there is transported pollution from that unregulated, out of compliance, in light of the larger mission of the bill.

Mr. CONNAUGHTON. You raise a very important point, Senator, however, the cuts are big enough in the first phase that we believe will address nearly all of the transported pollution issue. If not, we have a second phase that will deal with it further. And during that second phase period the State of New York will be able to petition EPA, under the 126 petition——

Senator CLINTON. But, no, we lose the option of 126 and NSR.

Mr. CONNAUGHTON. No, the way they have designed the bill, Senator, is in the first round it goes away, but largely because, the way I look at it, is we have granted it up front. We expect in the next 4 years that most of the major transport States will petition EPA. We expect that. What Clear Skies does is it says you don't need to petition us, we agree, you win; we are going to, up front,

grant you the transport reductions that you otherwise would seek to get through this 4 year process.

Now, after you get through that process, then there is a re-up. We will come back in the second round, after we see what in fact occurs and can get the data we need. So if New York—and this is a legitimate issue that you are raising. So if New York sees in the second round that they still have a transport issue from across the border, they will be able to come back to EPA and petition them for assistance.

Senator CLINTON. I would just respectfully request that you look at the actual language of this bill, because the changes to the 126 test seem very difficult to meet, if not impossible, and it would be very helpful to have a dialog about that, because certainly reading this makes it less than the obvious presumption that you have just described.

Senator INHOFE. Senator Clinton, your time has expired, but you asked two questions. Would you like to have him respond to the second question?

Senator CLINTON. Yes, Mr. Chairman.

Senator INHOFE. We will give him some of our time, then.

Mr. CONNAUGHTON. Uncharacteristically, Senator, it popped out of my head.

Senator CLINTON. Well, it is with respect to the opt-out provisions.

Mr. CONNAUGHTON. I am sorry.

Senator CLINTON. That non-power plant sources of pollution and hazardous chemicals can basically opt in to the new regulatory structure, thereby, in my view, avoiding the regulations that are already in existence.

Mr. CONNAUGHTON. First, I need to begin with we would strongly support the opt-in concept as long as it doesn't dilute the caps. So the goal of this is if we can even more effectively get the pollution reductions under the cap by having other sources opt in, that is great; otherwise, they still have to be subject to current requirements.

With respect to the specific technical issue you have raised, that is not one that I have delved into, but is one that I would be very pleased to look at. We want an opt-in, we want SOx, NOx, mercury. If it has some unintended consequences with respect to these other programs, that is something we should be examining, and I am confident that we can have that in the conversation.

Senator CLINTON. Thank you very much.

Thank you, Mr. Chairman.

Senator INHOFE. Thank you. Thank you, Mr. Connaughton.

Let us see, I think Senator Chafee.

Senator CHAFEE. Thank you, Mr. Chairman.

Thank you again, Mr. Connaughton, for your time and your passion on this issue. The Clear Skies legislation allows for a cap and trade system for mercury, but does not place a cap on per facility emissions. How would this legislation prevent mercury hot spots from occurring in communities near power plants?

Mr. CONNAUGHTON. A couple areas to go through there. This was a significant concern that was raised first with respect to the Acid Rain Trading Program, that there might be hot spots. And locally

heavy concentrations of SO_2 and NOx are an immediate health issue because they are immediately ingested. So it was a real concern then.

Very soon after the early implementation of the Acid Rain Program, it was well established that it reduced hot spots, it reduced the number of areas that had locally heavy concentrations of SO_2. EPA modeling suggests that we would see the same result with respect to mercury, because a chunk of it is a regional issue, and that is what we are going after with Clear Skies, it is addressing the regional disbursal that could buildup locally someplace else.

So to the extent there remains locally heavy concentrations, we would expect, as a general matter, that those locally heavy concentrations would be much lower than they are today. I mean, today there are big hot spots, and in the future we would expect them to be significantly softened.

The final piece, which is very important to us, is to the extent there is a locally heavy concentration that provides some residual risk, we would want to be sure that the States retain the authority, just as they would for SO_2 and NOx, to address that locally remaining risk directly, as need be. So we have tried to layer this to address that concern because it is a shared one.

I would note that we are hopeful that—mercury is new; we have never regulated it before from power plants. So we are hopeful that the cuts are massive enough here that, with the study work that will occur at the Federal and State level, that we will find that we have largely addressed the power plant contribution to that kind of an issue. But we will be steadfast in doing that work to be sure that we aren't getting the outcome that you described.

Senator CHAFEE. Thank you. A lot has been made about the President's pledge in his campaign of 2000, as Governor Bush, to regulate carbon dioxide. Were you part of the discussion to change that position? Certainly, the President has a reputation for taking a position and sticking to it through all of the flack. Were you part of that discussion to reverse course on that?

Mr. CONNAUGHTON. I was not. I had the great privilege of being unanimously confirmed by the Senate in June 2001, and walked in the first day of the job and was informed that I would have the clean air policy, the climate change policy, and the energy project policy all at once. So I was brand new to that whole set of discussions, and I took the political lay of the land as I got it and worked very hard to maximize the constructive outcomes as a result of that.

Senator CHAFEE. Can you shed any light on some of the internal discussions that might have gone one?

Mr. CONNAUGHTON. I think the President, as I recall, wrote a letter to Senator Hagel where he clearly articulated the basic rationale. I think, in sum, it was the concern about the huge economic dislocation in the face of an energy crisis that was driving up especially natural gas prices. It was particularly foreshadowing or particularly insightful when you look at Senator Voinovich's chart that he just put up today.

I don't think anybody thought even then, when gas prices were spiking up to $4, that we would find ourselves at $6.5 or $7 natural gas. So the importance of a well-constructed carbon policy is even

more paramount today than it was then, and that is why, again, I think we have go after the strategy of finding a way to create the transition to cleaner coal technology and find the ways to cut carbon from coal. And as I indicated, Senator, you don't do that with a carbon cap today. Carbon cap today still makes it more economically rational to build a cheaper natural gas plant than go for the more expensive coal plant.

Senator CHAFEE. The Vice President received a fair amount of criticism for the energy task force and who was part of it, and I believe it is still in the court system, who was part of that energy task force, were environmentalists there. You entreated us at the end of your statement to find common ground, and you said that environmental organizations, some of them were supportive of this legislation. Which ones are supportive, and were they part of putting together this bill?

Mr. CONNAUGHTON. A couple things. In terms of the bill that we constructed, we had a lot of input from groups, and EPA has a whole calendar; it was largely produced and created by EPA, so we can share with you the docket of outreach that they have had on this whole policy. One of our most regular interlocutors from the environmental community has been the Adirondack Council, who is here today, so I think I will let them speak for themselves in terms of their views on this. We have had a very constructive and productive set of conversations with them because they were the champions of this approach to begin with, and really saw it through and really produced the great result that we are getting from Acid Rain Trading Program.

I would further note, just in conclusion, we have had so much interface on the Clean Air interstate rule, which is sort of the regulatory side of this same issue, with all the environmental groups as well. So we have had endless discussions docketed on the public record with everybody, and I don't want to leave out the mayors and county officials. They are as critical to this discussion as the non-governmental officials have been. And the unions, the unions, for that matter, they have been through a lot as well.

Senator INHOFE. Thank you very much.

Senator Voinovich.

Senator VOINOVICH. I would like to put this into a big picture context. I come from a State that is in bad shape economically because of loss of manufacturing jobs. Would you agree that our energy costs are globally the highest that we have got in terms of nations that compete with us?

Mr. CONNAUGHTON. They are among the highest, and currently they are among the more volatile, which makes it hard for businesses to do big capital planning.

Senator VOINOVICH. And what we are striving to do here, and I attribute that to the fact that—this is, what, the 7th year that I have been involved with this; before I was a Governor involved in it—that we really haven't harmonized our energy and our environmental and our economic needs to put it on a kind of way of looking at cleaning up the environment, dealing with public health, and also dealing with the economic needs, energy needs that we have in our Country.

And there are some who argue that we need more draconian cuts in emissions for NOx, SOx, mercury, and some want carbon involved. The issue is, the one that you made, is at what place does that force our utilities to go to natural gas. And I would argue that if we don't come up with some kind of compromise here, that we are going to continue to see the loss of jobs overseas. And particularly when you deal with the issue of carbon, everyone says carbon has got to be capped, that if that is the straw that breaks the camel's back, then we continue to have these high energy costs and our businesses go to China or India or some other place.

Those that are concerned about global warming have got to understand that they are going to countries that don't have the environmental regulation that we have here in the United States of America. And I think the global competition has accelerated dramatically in the last several years, which makes this issue so much more important today then ever before.

I would like your comments on that.

Mr. CONNAUGHTON. A State like Ohio needs the air pollution reductions, and we have set the standard. So we know the mark that we want to hit; it has already been set and everybody agrees with it, bipartisan, across all spectrums. There are lawsuits on it. It took 4 years and your long list to get there, but now everyone accepts it.

So what we need is the strategy to hit it right, and that is why 70 percent cut in these two phases addresses the transported air pollution issue. That is the one that is the hardest for the States to deal with. It does it. It just so happens that by picking those marks, you can do it in a way where most of your future is built on clean coal rather than switching to natural gas. That helps with the natural gas dynamic you discussed.

I spent a lot of time in your State, Senator, in fact, once with you, and you have a lot of energy-intensive manufacturing and you have a lot of manufacturing that depends on natural gas as a feedstock. We saw, with last year's price spikes in natural gas, a lot of that production go overseas.

Now, it is one thing for an existing plant to just move it overseas to another plant and shut down temporarily. What is worse, and this is what we are experiencing especially in the big heavy-duty States like Ohio or down in the Gulf, in Louisiana, is when they shut down the plant and they move the whole operation overseas. Those jobs are gone for three generations, and they don't come back again.

And then we have this odd situation where we are buying the product and shipping it back here, which makes no sense from an efficiency perspective. So we have to calibrate how much we get from the power plants as part of this issue of meeting air quality standards against the concern about driving especially, again, the energy-intensive manufacturing elsewhere.

And I do share the concern that you raised about any policy that merely moves our air pollution and greenhouse gases someplace else, because I care about the global issue here, and we don't solve the problem if we are moving greenhouse gases somewhere else, because then they accumulate back in the atmosphere. So we have

just shifted it rather than—and we shouldn't claim credit for it here.

Senator VOINOVICH. One last question. Some of my colleagues keep saying that you don't support the bill. Can you clarify this? For example, the Administration supported the No Child Left Behind in committee. Did you support Healthy Forest when it was in committee?

Mr. CONNAUGHTON. The Administration does not take a position on bills when they are in committee. We take positions on bills when they are on the floor. However, I also made very clear that the Administration likes this bill; we want to see it get out of committee. We think it is making the accommodations that are moving toward meeting all of our concerns, and you have made a lot, which we really thank you for. And we understand you are incorporating a lot of the concerns from folks from the outside. That is exactly what the legislative process is about.

We are strong proponents that this bill move as quickly as possible. And let me underscore that. If we don't get this legislation this year, the States will not have this very powerful tool, and we will go down the path of litigation and conflict that we experienced in the 1990s. We can get there, but getting there is ugly.

This is a lot cleaner. Getting there is like going down a lumbering—18-wheeler truck on the highway in the middle of rush hour. That is what the standard path is. This is like getting into a sleek roadster that is hydrogen powered. We just get to that destination a lot more cleanly.

Senator INHOFE. Thank you very much, Senator.

We have been joined by Senator Thune.

Senator Thune, as you know, we have a rule that we can't have opening statements after the first round is concluded, but you are recognized now for 5 minutes to ask questions of Mr. Connaughton, unless you would rather use that for an opening statement.

Senator THUNE. Well, Mr. Chairman, I would simply say thank you for your leadership on this issue. This is a priority for this committee and something that is of great interest to, I think, everybody in this Country. Those of us out in the upper Midwest also care a lot about finding ways and technologies that will make energy more affordable and more usable, and to take advantage of the great resources that we have in our part of the world to meet the energy needs of this Country, and that we base those solutions upon science; that we use science-based approaches to these issues. I very much look forward to being a part of this process as it moves forward.

I don't have, at the moment, any questions for our witness, but appreciate the testimony and am anxious to see the legislation move and the many other priorities that we have before this committee. I think it says a lot that you have chosen to move this legislation quickly.

Senator INHOFE. We commented several times before you were here that this is the 24th such hearing that we have had, and this is it.

Thank you, Mr. Connaughton. You are an excellent witness and we appreciate your being straightforward, and we will dismiss you at this time.

Mr. CONNAUGHTON. Thank you for your steadfast leadership, Mr. Chairman.

Senator INHOFE. Thank you.

While the other panel is being seated, we have a number of requested UCs. One is to be made a part of the record, and I ask unanimous consent that the Edison Electric Institute statement, the American Highway Users, USA Next—that is a grassroots network representing 1.5 million seniors—and a letter from the attorney general of North Dakota supporting Clear Skies. Without objection, so ordered.

[The referenced documents are not available at time of print.]

STATEMENT OF THE EDISON ELECTRIC INSTITUTE

The Edison Electric Institute (EEI) appreciates the opportunity to submit this statement for the hearing record. EEI has testified before this committee on several occasions in recent years regarding its commitment to passage of comprehensive multi-emission legislation, and that commitment remains strong.

EEI is the association of U.S. shareholder-owned electric companies, international affiliates and industry associates worldwide. Our U.S. members serve more than 90 percent of the ultimate customers in the shareholder-owned segment of the industry, and nearly 70 percent of all electric utility customers in the nation. They generate almost 70 percent of the electricity generated by U.S. electric companies.

In summary, it is EEI's view that sensible multi-emission legislation along the lines of the Clear Skies Act will ensure significant additional improvements in air quality nationwide. The electric power industry will be required to reduce emissions of sulfur dioxide (SO_2), nitrogen oxides (NOx) and mercury by 70 percent from 2002 levels, with substantial cuts required by 2010.

Immediately upon passage of legislation, many companies will be spurred on by the emissions trading program that rewards early reductions and the need to meet the strict SO_2 and NOx emission cuts in Phase 1, which account for three-quarters of Clear Skies' emission reduction requirements, and they will move quickly to design and install emissions control equipment. This is contrary to misleading claims by some stakeholders that Clear Skies' benefits will not accrue until full implementation of Phase 2 in 2018. In fact, legislation will produce earlier, verifiable reductions of SO_2 and NOx than the combination of the Environmental Protection Agency's (EPA) proposed Clean Air Interstate Rule (CAIR)—which will apply to only 29 states and likely take many years to move beyond litigation and state-specific implementation decisions—and reasonably predictable regulations in the future.

Regulation under the Clean Air Act (CAA or Act) is fraught with uncertainty and delay. Power companies are subject to roughly a dozen major air quality programs, often with overlapping or conflicting requirements. In addition, EPA regulations typically are subject to litigation, adding additional uncertainty and delaying air quality improvements. Because of anticipated litigation, and because it will take several years for states and EPA to complete decisionmaking on implementation, the precise requirements of EPA's CAIR and mercury proposals may not be known for a long time.

In contrast, sensible multi-emission legislation will harmonize CAA provisions, immediately establish mandatory emissions requirements, and break the cycle of perpetual litigation, allowing power companies to start implementing new requirements sooner than under continued piecemeal regulation.

THE PROGRESS WE HAVE MADE

The electric power industry has reduced its air emissions significantly in recent years, even as demand for electricity has increased. Attached is a chart highlighting SO_2 and NOx reductions since 1980.

Electric generators have cut SO_2 by 40 percent, with significant reductions over past 10 years due primarily to implementation of the Act's Acid Rain Program (through flue gas desulfurization, or scrubbers, and switching to low-sulfur coal). Reductions will grow to almost 50 percent. The annual cost of the program exceeds one billion dollars.

Electric generators also have reduced NOx emissions by about 40 percent since 1980, with significant reductions over the past 10 years attributable to installation of low NOx burners and/or overfire air to meet the Act's Acid Rain Program requirements, and selective catalytic reduction (SCR) in the eastern U.S. for "NOx SIP

Call" and other programs in the Northeast to address ozone. When completed, our industry will have committed approximately $10 billion to install SCR and will expend hundreds of millions in annual operation costs. As a result, we will reduce NOx by 80–90 percent throughout most of the eastern U.S. during the 2005 summer ozone season.

In addition, controls to reduce SO_2, NOx and particulate matter currently are reducing mercury emissions by about 40 percent.

We have done all of this despite a steady climb in electricity demand, and without sacrificing the reliability and affordability of the electricity that we produce. For example, between 1980–2003 electricity from coal-fueled generation increased 67 percent.

According to EPA, air quality has dramatically improved as a result of these and other industry successes. For example, national average SO_2 ambient concentrations have been cut approximately 54 percent from 1983–2002 (U.S. EPA, Latest Findings on National Air Quality: 2002 Status and Trends Report). Since 1976, the average national ambient NO_2 concentration has fallen 41 percent (Pacific Research Institute's Index of Leading Environmental Indicators, April 2004). While monitoring for fine particles began only recently, average $PM_{2.5}$ levels were reduced 10 percent from 1999 to 2003 (U.S. EPA, The Particle Pollution Report, December 2004). And, a recent EPA report finds that ozone levels in 2003 were at their lowest level nationwide since 1980. (U.S. EPA, The Ozone Report—Measuring Progress Through 2003, April 2004).

Today, we are poised to make dramatic additional reductions through new rules or multi-emission legislation consistent with the scope and framework of Clear Skies. Sensible multi-emission legislation will ensure significant additional improvements in air quality nationwide by requiring the electric power industry to reduce emissions of SO_2, NOx and mercury by 70 percent from 2002 levels, with substantial cuts required by the Phase I deadline of 2010. With such additional reductions, we will have cut by almost 90 percent the emissions of SO_2, NOx and mercury per ton of coal used or kW-hour of electricity generated.

THE CURRENT CLEAN AIR ACT

Coal-fueled electric generators face CAA emission control requirements that are duplicative, contradictory, costly and complex—which creates enormous uncertainty for future investment. The net result of the current regulatory system is a planning nightmare that makes it virtually impossible for electric generators to clearly understand what requirements will be in place for their plants at any point in the future. In addition, there are long construction cycles and large capital expenditures that prohibit us from accurately assessing which plants should be retrofitted with controls, which plants should be switched to different coals or to natural gas, which plants should be retired, and when any of this should take place. The result is a system that threatens the reliability and affordability of our nation's electric supply.

This regulatory morass also puts more pressure on the natural gas supply and delivery systems that already are yielding gas prices of great concern to the nation's industrial, commercial and residential gas, as well as electric customers.

Ironically, the present system also does not advantage those seeking further emission reductions from coal-fueled power plants. The piecemeal approach inherent in the CAA necessarily involves many sequential scientific and technical decisions by EPA and the States. Often, these decisions are challenged by environmental groups and their allies, but may not necessarily be resolved in their favor. Regardless of the substantive outcome of individual rulemakings, prolonged regulatory development inevitably is followed by litigation involving environmental, industry and other stakeholders, causing decisionmaking delays of five or more years for each major rule. This regulatory soup eventually may deliver cleaner air, but the accompanying chaos makes the timing of that environmental progress speculative. Unfortunately, the unpredictability of these rulemakings leads to the far more certain consequences of significantly higher electricity prices and further delays in environmental benefits.

BENEFITS OF MULTI-EMISSION LEGISLATION

In contrast to the current piecemeal approach to regulation inherent in the existing Act, a well-designed multi-emission approach is the best roadmap for further reducing power plant emissions. Such legislation would address SO_2, NOx and mercury, and benefit the environment, states and electric generator customers, employees and shareholders by:

- Providing certainty for the environment through low caps and emissions monitoring.

• Reducing litigation and locking in major emission reductions today, so that control strategies can begin immediately—resulting in cleaner air sooner.
• Substantially reducing the number of ozone and particulate matter non-attainment areas.
• Providing certainty for power companies due to a clear and simplified Clean Air Act, including coordinating reductions so that utilities are able to develop and use innovative multi-pollutant control technology.
• Addressing transported emissions and minimizing interstate conflicts.
• Allowing flexibility through emissions trading.
• Minimizing costs for consumers and cost impacts on shareholders.
• Maintaining coal as a generation fuel and avoiding major new pressures on natural gas supplies.
• Not disrupting reliable power generation.
• Avoiding a patchwork quilt of programs in different states and confusion and competitive issues for regulated sources.
• Providing the time necessary to attract capital for the multi-billion dollar investments needed to meet new requirements.
• Saving jobs at existing coal-fueled power plants and in the mining and rail industries, and creating jobs to construct massive pollution control projects.

Multi-emission legislation that is directionally consistent with the Clear Skies Act has also garnered tremendous support from a diverse group of stakeholders, including the U.S. Conference of Mayors, National Association of Counties, National Conference of Black Mayors, the Alliance for Rural America, several state departments of environmental protection, the National Association of Manufacturers, the U.S. Chamber of Commerce, and a wide range of individual industries.

LEGISLATION IS SUPERIOR TO REGULATION

EPA's CAIR and mercury proposals would reduce SO_2 and NOx by about 70 percent from 2002 levels for 29 states, and would reduce mercury by 30 percent (through MACT) or 70 percent (through cap-and-trade). The CAIR proposal also would contribute significantly toward attainment of the new air quality standards for 8–hour ozone and $PM_{2.5}$. EEI estimates that the combination of the two proposed rules would yield the largest industry investment in emission reductions in CAA history, i.e., $20–$28 billion (NPV 2004–2020, 1999$).

Among EEI's recommendations to EPA are that the new regulations should integrate and streamline existing programs to the maximum extent possible, provide flexibility through unlimited emissions trading, and provide adequate time for implementation. Regarding mercury specifically, sufficient time is needed to implement any program because mercury control technologies are not yet "commercially available." While there continues to be impressive research progress, there also exists minimal operational experience and limited vendor guarantees.

However, there are many reasons why sensible multi-emission legislation would be superior to EPA's proposed regulations, and for a wide range of stakeholders. Compared to the conventional regulatory process, legislation would:
• Yield faster and greater air quality benefits.
• Require the largest single capital investment in air pollution controls in the nation's history.
• Reduce the uncertainty, delays and costs of litigation.
• Provide greater flexibility and cost-effectiveness due to trading, which also would attract other industry participants.
• Provide business planning certainty for power companies since targets and timeframes would be locked in and clearly defined.
• Provide consistency and predictability for states that share responsibility for implementing the CAA, and help reduce interstate conflicts.
• Promote continued use of the nation's abundant and low-cost coal resources and alleviate pressure on the U.S. natural gas supply.

CLEAR SKIES

The Clear Skies Act will require the most ambitious emission reductions ever from power plants. As noted above, it will deliver additional dramatic reductions of power plant emissions in the most cost-effective manner and provide greater business certainty. The emission reductions will be predictable and verifiable due to continuous emissions monitoring and large penalties for non-compliance.

Clear Skies will preserve air quality protections. While it will replace some individual Clean Air Act programs with specific, aggressive caps on emissions of SO_2, NOx and mercury, it will leave the Act's other key provisions in place. For example, legislation will maintain the National Ambient Air Quality Standards for SO_2,

ozone, particulate matter and other substances. These health-based standards comprise the cornerstone of CAA provisions that protect and improve local air quality. In fact, multi-emission legislation will bring the vast majority of non-attainment areas into compliance with new air quality standards. It also will preserve stringent, technology-based standards for new sources of electric generation; retain special requirements for sources located near national parks and wilderness areas; and maintain the rights of state and local governments to adopt more stringent controls on power plants within their borders.

While Clear Skies precludes affected sources from regulating mercury using maximum available control technology standards (instead instituting tight emission caps for the entire industry), it preserves EPA's authority to regulate hazardous air pollutants. Clear Skies allows mercury trading, which will protect human health while also saving electricity customers billions of dollars. For the following reasons, it also will not produce mercury "hot spots":

- Power generation sources now make up about 10 percent of total man-made and natural sources in an area comprising the U.S. and bordering parts of Mexico and Canada. In fact, a 50 percent emission reduction would yield much less than a 5-percent reduction in deposition since a significant portion of U.S. deposition is released by foreign, particularly Asian, sources.
- Basic economics dictate that the largest sources will be controlled first.
- A significant percentage of power plant mercury emissions are elemental mercury, which tends not to deposit nearby and may remain in the atmosphere for months or years before it is deposited to the Earth.
- Notwithstanding predictions to the contrary, no "hot spots" occurred due to SO_2 trading under the Acid Rain Program—the only relevant precedent.
- Modeling by the Energy Information Administration and Brookhaven National Laboratory predict no mercury "hot spots" due to emissions trading.

A deliberate approach to meeting emission reduction goals is essential for continued reliable electric generation and cost-effectiveness. Retrofits of additional SCR systems for NOx, scrubbers for SO_2, and activated carbon and fabric filters for mercury will be needed on over 100 GW of power plants, which is the equivalent of 250 medium sized generation units. Each such installation will require capital expenditures of $60 million to more than $200 million.

A deliberate approach also will provide sufficient time to go beyond mercury "co-benefit" reductions due to installation of SO_2 and NOx controls. Reliable, cost-effective control technologies designed specifically for capturing mercury have not yet been fully developed or tested. It is critical that these technologies are "commercially available" and guaranteed by their vendors.

Clear Skies represents one of the largest construction projects this nation will see, bigger even than the now famous "Big Dig" ($15 billion over 14 years). Equipment installations must be spread over time to ensure reliability and stable prices that will not occur if too many large units are off-line for retrofits at once. A smooth timeline also will provide a steady construction program over the next 15 years. As we found with the NOx SIP Call rule, if controls are pushed within too narrow a time window, aside from increased pressure to switch to natural gas there will be labor and materials shortages and bottlenecks, which will greatly (and unnecessarily) increase costs.

EEI supports the phased approach in Clear Skies. In passing the Clean Air Act Amendments of 1990, Congress afforded the industry a decade to comply with 50 percent reductions of SO_2 and NOx emissions. At the time, Congress understood that defined emission targets set over a reasonable timeframe would result in real environmental improvements. Fast forwarding to the present, 70 percent emission reductions for three different pollutants will be more costly, resource intensive and time consuming. Providing two phases of reductions is consistent with the precedent established in 1990.

OTHER MULTI-EMISSION PROPOSALS

EEI does not support other existing multi-emission legislative proposals. For example, the Clean Air Planning Act would require earlier emission reductions for SO_2, NOx and mercury than Clear Skies, and includes significant carbon dioxide (CO_2) emission reduction requirements. The issue of timing is crucial and these deadlines would be very difficult to meet without sacrificing cost-effectiveness and reliability of electric generation. The bill also would undermine emissions trading by imposing unit-by-unit limits in 2020 for SO_2 and NOx for plants on which construction commenced before August 17, 1971, and establishing unit-by-unit limitations for mercury. The Clean Air Planning Act is modeled to cost $15–30 billion more ($1999, NPV 2004–2020) than Clear Skies. Finally, the Clean Air Planning Act

could reduce electric generator coal use by about 25 percent and increase natural gas use about 25 percent (in year 2020) while Clear Skies would impact fuel use minimally.

A second legislative proposal, the Clean Power Act, would cause even greater economic hardship for the industry and the nation. All of the bill's requirements—including very stringent CO_2 limitations—would be placed on top of the existing Clean Air Act, thereby exacerbating the complexity of the Act. More importantly, the bill would dramatically impact electricity prices, natural gas prices and coal consumption. Finally, the "Outdated Power Plants" provision almost immediately would cancel out the bill's cap-and-trade program.

COAL AND NATURAL GAS

Low-cost, reliable electricity results, in part, from our ability to utilize a variety of readily available energy resources—coal, nuclear energy, natural gas, hydropower, and new renewable energy resources, such as wind, biomass and solar. Fuel diversity is key to affordable and reliable electricity. A diverse fuel mix helps protect consumers and national security from contingencies such as fuel shortages or disruptions, price fluctuations and changes in regulatory practices. A diverse fuel mix takes advantage of regional differences in fuel availability that have evolved over many decades.

While coal fuels slightly more than 50 percent of the generation produced in the U.S., it fuels upwards of 80 percent of the electrical generation in many specific states. These coal-fueled plants help to keep the price of electricity down for consumers and businesses, an extremely important issue in states whose economies are already financially strapped.

Due in part to the complexity and uncertainty of existing clean air regulation, over 90 percent of new power plants built over the past decade have relied on natural gas to produce electricity. Limits on U.S. natural gas supply have contributed to high natural gas prices. As a result, the U.S. industrial sector, which relies heavily on natural gas, has seen an erosion of U.S.-based manufacturing jobs. The regulatory certainty provided by multi-emission legislation will promote continued use of the nation's abundant and low-cost coal resources and alleviate pressure on the natural gas supply.

CONCLUSION

Sensible multi-emission legislation can reduce power plant emissions and improve air quality faster, with greater environmental certainty, and more cost-effectively than continued regulation under current law. EEI supports the Committee's efforts to craft multi-emission legislation that meets environmental goals and provides states and industry with a workable roadmap.

With the economy in the early stages of recovery at the national and state levels, Federal clean air policy must not force increases in the use of natural gas for electric generation. Environmental goals can and must be met, but fuel switching and consumer price increases must be kept to a minimum. That is why EEI supports multi-emission legislation along the lines of Clear Skies. It delivers clean air with certainty, while protecting workers, consumers and industry. A sensible multi-emission bill addressing SO_2, NOx and mercury benefits the environment, states, and electric generators and their customers.

The time to act is now. EEI respectfully requests members of this Committee to take advantage of this unique opportunity to create a new chapter of air quality progress for the American people. EEI pledges its full support, and looks forward to continuing to work with the Committee, the Administration and other stakeholders to help make multi-emission legislation a reality.

Senator INHOFE. Senator Carper had two UCs. One was an article that was in, I believe, yesterday's paper, the Associated Press article having to do with glaciers.

Well, we have lost our Senator from Alaska here, but it is kind of interesting, and I want to have this appear in the record responding to his comments or brought after his article is in.

There have been 160,000—this is kind of fascinating—160,000 glaciers right now. Of the 160,000, only 42 glaciers have been studied for 10 years or more.

The glacier with the longest mass balance record of all is located in Northern Sweden, it has a 50 year record. For the first 15 years

of that it was shrinking, but for the last 35 years it has actually been getting bigger. And I think this is what science is showing us now, that in areas glaciers are receding, in other areas they are actually building.

So I would ask unanimous consent this be made part of the record right after the AP article. Without objection, so ordered.

[The referenced document follows:]

Warmer world shrinking glaciers

From Alaska to Patagonia, climate change is taking a toll

By CHARLES J. HANLEY
Associated Press

CHACALTAYA GLACIER, Bolivia — Up and down the icy spine of South America, the glaciers are melting, the white mantle of the Andes Mountains washing away at an ever faster rate.

"Look. You can see. Chacaltaya has split in two," scientist Edson Ramirez said as he led a visitor up toward a once-grand ice flow high in the thin air of the Bolivian cordillera.

In the distance below, beneath drifting clouds, sprawled 2-mile-high La Paz, a growing city that survives on the water running off the shoulders of these treeless peaks.

Chacaltaya, a frozen storehouse of such water, will be gone in seven to eight years, said Ramirez, a Bolivian glaciologist, or ice specialist.

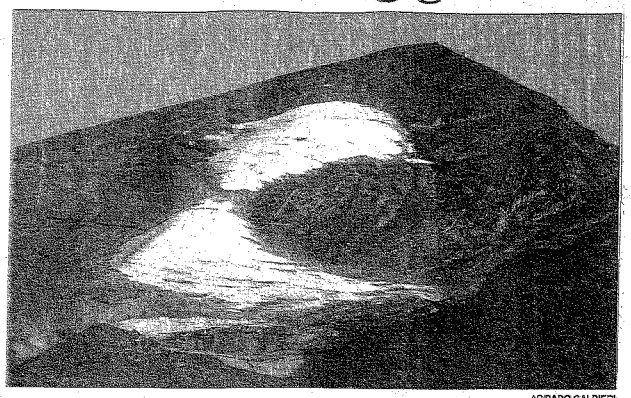
"Some small glaciers like this have already disappeared," he said as melting icicles dripped on nearby rock, exposed for the first time in millennia. "In the next 10 years, many more will."

Worldwide problem

They'll disappear far beyond Bolivia. From Alaska in the north, to Montana's Glacier National Park, to the great ice fields of wild Patagonia at this continent's southern tip, the "rivers of ice" that have marked landscapes from prehistory are liquefying, shrinking, retreating.

In east Africa, the storied snows of Mount Kilimanjaro are vanishing. In the icebound Alps and Himalayas of Europe and Asia, the change has been stunning. From South America to south Asia, new glacial lakes threaten to overflow and drown villages below.

In the past few years, space satellites have helped measure the global trend, but scientists such as Rajendra K. Pachauri, a native of north India, have long seen what was happening on the ground.



AP/DADO GALDIERI

Chacaltaya, a Bolivian ice field that was once the world's highest ski slope, lost two-thirds of its mass in the 1990s. "Look. You can see. Chacaltaya has split in two," scientist Edson Ramirez said.

"I know from observation," Pachauri told a reporter at an international climate conference in Argentina. "If you go to the Himalayan peaks, the rate at which the glaciers are retreating is alarming. And this is not an isolated example. I've seen photographs of Mount Kilimanjaro 50 years ago and now. The evidence is visible."

"Ample" evidence indicates that global warming is causing glaciers to retreat worldwide, reports the Intergovernmental Panel on Climate Change, a U.N.-sponsored network of climate scientists led by Pachauri.

Global temperatures rose about 1 degree Fahrenheit in the 20th century. French glaciologists working with Ramirez and other scientists at La Paz's San Andres University estimate that the Bolivian Andes are warming even faster, currently at a half-degree Fahrenheit per decade.

The warming will continue as long as "greenhouse gases," primarily carbon dioxide from the burning of fossil fuels, accumulate in the atmosphere, say the U.N. panel and other authoritative scientific organizations.

The Kyoto Protocol, an international agreement, mandates cutbacks in such emissions, but the reductions are small and the United States, the biggest emitter, is not a party, arguing that the mandates will set back the U.S. economy.

As that pact takes effect Feb. 16, the impact of climate change is already apparent.

An international study concluded in November that winter temperatures have risen as much as 7 degrees Fahrenheit over 50 years in the Arctic, where permafrost is thawing and sea ice is shrinking. Pacific islands are losing land to encroaching seas, oceans expanding as they warm and as they receive runoff from the Greenland ice cap and other sources.

Those sources include at least one gushing new river of meltwater in western China, where thousands of Himalayan and other glaciers are shrinking. In the Italian Alps, 10 percent of the ice melted away in the European heat wave of 2003 and experts fear all will be gone in 20 to 30 years.

Supplies in jeopardy

Such rapid runoff would do more than feed rising seas. It would end centuries of reliable flows through populated lands, jeopardizing water supplies for human consumption, agriculture and electricity.

In Peru, endowed with vast Andean ice caps and glaciers, 70 percent of the power comes from hydroelectric dams catching runoff, but officials fear much of it could be gone within a decade. Meanwhile, new mountainside lakes are bulging from the melt, threatening to break their banks and devastate nearby towns.

Here in impoverished Bolivia, the government has barely begun to plan for climate change.

Tomas Quisbert, a hydrological engineer with the water company serving the 2 million people of the La Paz region, said 95 percent of its supplies come from the mountains, either rain runoff or glacier melt.

Ramirez and fellow scientists are seeking government support to do a complete assessment of water in the La Paz basin, linked to computer modeling of future regional climate and its impact.

They'll soon move on from 17,500-foot-high Chacaltaya as it shrinks toward oblivion. But in 13 years of intense study of the glacier, the scientists have gathered a rich lode of data representative of countless small glaciers across the region.

A rugged hour's drive up from La Paz, with a simple mountain lodge beside it, Chacaltaya was once the world's highest ski slope. But no one has skied down its tongue of snow-coated ice since 1998. The melt has exposed rock right across its midsection, splitting the glacier in two.

It covers an area of less than 15 acres, with ice less than 26 feet thick. Ramirez said it lost two-thirds of its mass in the 1990s alone, and is now probably a mere 2 percent the size it once was.

Melting picks up

Chacaltaya and other Andean glaciers had been retreating since the 18th century, when the "Little Ice Age" ended locally, but the rate has picked up dramatically in recent decades, melting three times faster since the 1980s than in the mid-20th century.

Although rising temperatures are an underlying factor, glaciologists find a complex cycle at work: A warming Pacific Ocean has created disruptive El Niño climate periods more frequently and powerfully, reducing precipitation, including snows to replenish glaciers. Less snow also means glaciers that are less white, more gray, absorbing more heat. Newly exposed rock walls then act like an oven to further speed melting.

Whatever the regional wrinkles, "it's a global view," said Lonnie Thompson, one of the world's foremost glaciologists.

"It's a very compelling story," he said. The glaciers – "water towers of the world" – are the most visible indicators that we are now in the first phase of global warming, Thompson said.

1/31/05

Senator INHOFE. Well, we have a very distinguished panel.

We have—thank you for your patience, I might add.

Brian, is it called Houseal?

Mr. HOUSEAL. Houseal.

Senator INHOFE. Houseal. I am sorry. My staff is wrong for the first time this year. The executive director of Adirondack Council; John Walke, the Clean Air Director, Natural Resources Defense Council; and Abraham Breehey, legislative representative, Government Affairs, International Brotherhood of Boilermakers.

We will go ahead and start with your opening statements. We will start with you, Mr. Houseal.

STATEMENT OF BRIAN HOUSEAL, EXECUTIVE DIRECTOR, ADIRONDACK COUNCIL

Mr. HOUSEAL. Good morning. Thank you, Mr. Chairman and committee members, for the opportunity to testify today. I am Brian Houseal, the executive director of the Adirondack Council.

The Adirondack Council is a privately funded, not-for-profit organization, with 18,000 members dedicated to ensuring the ecological integrity and wild character of the Adirondack Park, a 6-million-acre mix of public and private land, equal in size to the State of Vermont.

Adirondack Park has suffered some of the greatest damage in the Country from acid rain due to its geography and geology. Prevailing winds bring power plant emissions from outside New York, where they are deposited as rain, snow, and fog. The acid deposition then leaches nutrients from the soil, affecting tree growth and often killing our spruce, fir, and sugar maples.

Acid rain has reduced the pH of many of our lakes to the same level as vinegar. Approximately one-quarter of the park's 2800 lakes and ponds are biologically dead; they don't sustain their native plant and animal life. The Adirondacks are not alone. Acid deposition affects every State along the Appalachian Mountain chain and the eastern seaboard.

Although the 1990 Clean Air Act amendments began to lessen the impacts of acid rain, the problem has not been solved. Early data have shown a slight improvement in the acid neutralizing capacity of a handful of our lakes. This evidence, along with reports from government agencies and nonprofit research organizations, indicate that the 1990 amendments targeted the right pollutants to combat acid rain but did not sufficiently reduce the pollution levels.

Today we are here to make three requests of your committee. First, action to stop acid rain must be taken this year. Second, any legislation must be as good as or better than as the Environmental Protection Agency's Clean Air interstate rule. Third, no individual State's current enforcement mechanism should be eroded.

Action is long overdue to help the forests, water, and wildlife of places like the Adirondacks to recover. Studies have also shown that approximately 25,000 U.S. citizens die annually because of power plant pollution. We need progress this year.

In the late 1990s, New York Senator Moynihan proposed legislation with significant emissions reductions that was considered neither politically nor economically feasible. However, we now know that this level of reductions is possible on both counts. The Moy-

nihan bill became the floor that other proposals would have to exceed. Numerous members of this committee have introduced legislation that goes beyond what Senator Moynihan first suggested.

Today we have a new floor, in the form of EPA's Clean Air Interstate Rule. CAIR represents reductions of 65 percent of nitrogen emissions and 70 percent of sulfur emissions, and is scheduled to be finalized in March. Any legislation that is passed must buildupon the floor established by CAIR.

Lower emission caps and earlier compliance dates would obviously serve to speed up the environment's recovery. Lowering the cap on sulfur dioxide would also have a significant co-benefit by reducing mercury emissions. We would like to see deeper cuts in caps on mercury; however, we do not agree with the proposed trading regime due to the demonstrated neurotoxicity of mercury in both animal and human populations.

This bill does not include reductions in carbon dioxide, one of the major ingredients of global climate change. While we are very concerned about the serious environmental impacts that are already underway, we do not think that this incremental legislative step of ending acid rain should be delayed while carbon is further debated.

We support New York Governor's Pataki's 12–State greenhouse gas initiative, and we are very hopeful that the U.S. Senate will act soon upon the McCain-Lieberman bill. It was very interesting today to hear Senator Clinton portray our position as opposed to acid rain legislation and Mr. Connaughton say that we are for acid rain legislation. The energy industry holds one extreme; the environmentalists have another extreme. We have staked out the radical middle, sir.

We urge the committee members to carefully consider if it is necessary to make other changes to the existing Clean Air Act that could have a negative impact on the very successful and effective Acid Rain Program started by the EPA Clean Market Division 15 years ago. We would also encourage you to consider strengthening provisions and continue funding that expand the mandates for rigorous chemical monitoring at the smokestacks and expand it to ecological monitoring on the ground.

Enforcement tools currently used by the States to clean up their air should not be diminished in any way. These tools are crucial to a successful cap and trade program. A prime example came last month, when New York Governor Pataki and Attorney General Spitzer announced an agreement with some of New York's largest and dirtiest coal-fired power plants to settle potential violations of New Source Review requirements. This action will result in the largest reductions in air pollution ever attained in New York.

In closing, the Adirondack Council first testified before this committee about acid rain in October 1999, on the same day Governor Pataki announced that he would enact the toughest acid rain regulations in the Country. After court challenges, those rules went into effect in 2004 with year-round nitrogen controls and further sulfur reductions. New York has taken exhaustive measures to clean up its own plants. We are now asking the rest of the Country to do the same.

Thank you for the opportunity to testify.

Senator INHOFE. Thank you, Mr. Houseal.

Mr. Walke.

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

Mr. WALKE. Mr. Chairman and members of this committee, I appreciate this opportunity to appear before you.

In April 2001, the utility industry's top air pollution lobbyist addressed a coal industry group telling them, in a speech later published on the Internet and attached to my written testimony, that EPA was planning to require air pollution reductions from coal-burning power plants. But the lobbyist assured his colleagues that he and his friends 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.

The lobbyist promised that the weaker, slower cleanup requirements would be something that we could all live with and that someone else can't undo. He noted the Administration's voluntary global warming policies and said, "The President needs a fig leaf."

The so-called Clear Skies bill before this committee is the legacy of the plan that the power lobbyists proudly described in 2001. S. 131 would harm public health and worsen global warming, and should not become law. To put it simply, the bill before you chooses polluters over the public. Current law requires delivery of clean air by 2009 for smog and 2010 for soot pollution. The Administration's bill allows those deadlines to be pushed back to 2022, and it undermines the tools available to States and EPA to achieve even that lax deadline. Enforcing today's Clean Air Act will achieve cleaner air sooner.

The bill's backers claims lawsuits create uncertainty in carrying out current law. In evaluating this claim, it is worth remembering that polluters bring most of those lawsuits. The shortest way to prevent lawsuits, of course, is to eliminate laws. But that is not an effective way to regulate those who elevate their own profits above the public health. Enforcing the Clean Air Act promises more effective cleanup than certainty of moving backwards with this legislation.

Without conceding our fundamental concerns with expressing human deaths and adverse health effects in monetary terms, it is also important to note that as of 2020 the public health costs of the Administration's bill will exceed those of EPA's earlier stronger proposals by $61 billion per year. Moreover, EPA's proposal would only cost industry $3.5 billion more per year in implementation expenses. In other words, the Administration is promoting a bill that as of 2020 costs the public $15 in health damage for every one dollar saved by industry. Where is this Administration's claimed commitment to cost benefit analysis when the benefits to the public vastly outweigh the cost to industry?

Let me address four other secrets in the bill that are worth noting. The biggest lie behind this bill is the claim that it will cut power plant pollution 70 percent by 2018. It will not. EPA and the Energy Department have told us plainly that this legislation will not achieve actual pollution reductions of 70 percent until sometime after 2025. Chairman Connaughton's testimony this morning

did not disagree with that. Enforcing today's Clean Air Act will cleanup power plant pollution more than a decade sooner than S. 131, enabling 159 million additional Americans to breathe healthy air by the end of this decade. Second, the bill exempts more than half of the Nation's coal-fired power plant units from toxic mercury control. Mercury is a potent neurotoxin now present at unhealthy levels in the blood of nearly 5 million American women of childbearing age. The Country's 1100 coal-fired power plants are the largest source of that mercury. Yet the bill's cap and trade program to control mercury emissions simply exempts 582 of those plants. As a result, the claimed 70 percent reductions in power plant mercury emissions are entirely fictional. Half of the plants must reduce their mercury pollution, but the remainder need not make any reductions at all.

Further, due to other gimmicks that I detail in my written testimony, even the plants subject to some controls will not achieve 70 percent reductions. And whatever those reductions end up being, they will occur after 2025, not by 2018, as promised. Enforcing today's law would deliver far deeper mercury cuts at every power plant in the Country and would achieve those necessary cuts by 2008.

Third, the Administration's bill exempts as many as 69,000 dirty non-utility units from regulations already adopted by EPA to control air toxics other than mercury, including arsenic, lead, and carcinogens like formaldehyde. You heard me correctly. Although advertised as a power plant bill, this legislation actually confers unprecedented favors on oil refineries, chemical facilities, and other industrial categories.

By ostensibly agreeing to reduce smog-causing emissions by 30 percent by 2010 and 50 percent by 2018, an agreement with no teeth due to clever loopholes in the bill, polluters can gain exemptions from air toxic regulations already on the books. Those exemptions could increase air toxic emissions by as many as 74,000 tons per year compared to enforcing existing standards.

Fourth, the bill introduces fatal loopholes into the Acid Rain Trading Program, stripping away safeguards and accountability measures that are integral to its effectiveness, enforceability, and reliability. Power plants are the largest source of global warming pollution in the United States, responsible for 40 percent of U.S. carbon dioxide emissions. Yet the Administration's bill allows those emissions to grow unchecked.

In the 2 years since the bill's introduction, it has become increasingly obvious that the failure to address CO_2 emissions is out of sync with scientific and economic reality. While there are pockets of denial left in the business and political worlds, even leaders in the electric power industry recognize the obvious. Listen to American Electric Power: "Enough is known about the science and environmental impact of climate change for us to take actions to address its consequences. Delay only increases the danger we face, and at the same increases the cost of addressing that danger later."

We can do three things to limit CO_2 emissions from the electric sector. First, produce and use electricity more efficiency; second, dramatically increase our reliance on renewable energy resources; third, pursue methods to capture and permanently store CO_2 from

the fossil energy sources we continue to use. Deployment of all three of these technologies will be stimulated by the market's signal from a limit on power sector CO_2 emissions. All three will languish if Congress ignores CO_2 in a power plant bill.

The Administration's policy of ignoring CO_2 limits will lock our children and grandchildren into two truly bad choices: Either dangerously high CO_2 levels or crash reductions later. This Congress must do better. Thank you.

Senator INHOFE. Thank you, Mr. Walke.

Mr. Breehey.

STATEMENT OF ABRAHAM BREEHEY, LEGISLATIVE REPRESENTATIVE, GOVERNMENT AFFAIRS DEPARTMENT, INTERNATIONAL BROTHERHOOD OF BOILERMAKERS

Mr. BREEHEY. Mr. Chairman, Mr. Jeffords, thank you for the opportunity to present our views on this important bill. My name is Abraham Breehey. I am the legislative representative for the International Brotherhood of Boilermakers, Iron Ship Builders, Blacksmiths, Forgers, and Helpers.

The Boilermakers are the principal union responsible for the installation, maintenance, and repair of industrial boilers, as well as the installation of the pollution control equipment utilized to achieve the emission reductions that are the goals of this legislation. Our members have a dual concern: First and foremost, to have safe, productive workplaces; and, second, to ensure the sensible implementation of clean air standards that foster a market for our labor while protecting the environment.

The Boilermakers have a significant interest in ensuring the latest control technology is used to meet Federal multi-pollutant emission standards. As an EPA analysis of the engineering factors affecting the installation of pollution control technology notes, the labor requirements needed to retrofit scrubbers to remove SO_2 for a 500 megawatt utility include about 150,000 boilermaker manhours.

Similarly, a retrofit of SCR NOx control technology of 500 megawatts requires as much as 350,000 manhours of construction labor, with about half that amount available for boilermakers. However, the vast majority of our manhours are generated providing maintenance and upgrades to existing coal-fired electric utilities. Too often under the status quo this work is being put off or abandoned.

This legislation requires $52 billion in investment to meet air quality standards, a significant portion of which will be paid in wages to Boilermakers and other union craftsmen. We believe it provides a clear path forward for new plant construction, sets standards that are both technologically feasible and no doubt within the current labor capacity.

We believe this legislation achieves a significant balance in that it provides a protective approach on clean air that maintains the competitiveness of our industrial facilities, keeping Boilermakers and other union members' work from being outsourced. By ensuring a continued role of coal in our energy mix and providing greater regulatory certainty, this legislation will promote stable energy

prices that are necessary for the economic growth that creates good paying manufacturing and industry jobs.

I know we all agree that America's workers are the most productive in the world. However, we are forced to succeed under competitive disadvantages. Regulatory policies that delay efficiency improvements or might lead to fuel switching from coal to natural gas would only exacerbate our problems keeping good paying jobs here at home.

The Boilermakers Union promotes the expansion of the Acid Rain Program cap and trade system for SO_2 to NOx and mercury as suggested under this legislation because it sets predictable deadlines that are achievable with current technology.

Workplace safety is a cornerstone of the Boilermakers National Joint Apprenticeship Program. Our members work together with our employers to limit workplace injury and promote efficient operations. Too often important work is delayed due to the uncertainty of the regulatory and permitting process. Power generating facilities operate most efficiently when they undertake repair and replacement projects on a regular basis.

The varying interpretations of the requirements of New Source Review often forces facilities to delay maintenance while they await EPA approval. Further, the threat of litigation too often acts as a deterrence to capital investments that create work and maintain safe facilities for our members. S. 131 will also prevent the litigation and delay associated with the U.S. EPA rulemaking proceedings. The bill's approach to mercury emissions will avoid the need for a controversial EPA mercury rule, while ensuring the use of cost-effective emissions trading as a means to achieve significant emission reductions.

We specifically support the use of a co-benefits approach for the first phase of mercury control to enable more accurate measurements of the control capabilities of existing technology and allow time for advanced mercury specific control to mature in time to meet the final 2018 cap. Further, the caps, timetables, and incentives of the Clear Skies Act will result in high emissions reduction goals through the application of technology, as opposed to fuel switching.

Sections 455 and 475 provide for early action reduction credits to encourage NOx and mercury reductions, respectively, through the application of technology. Certainly the Boilermakers will realize significant benefits from these provisions, but the implications of widespread fuel switching to costly natural gas would be devastating across the manufacturing sector. An important benefit of this legislation is that it fosters reliable, affordable energy generated from coal.

In conclusion, our union believes that among the greatest challenges that the Senate is faced with this year is maintaining the competitiveness of American manufacturing in the global marketplace. Since its peak in 1998, the United States has lost 3 million manufacturing jobs. There is a palpable anxiety among working families across the Country.

Our union is committed to providing the highly skilled labor needed to power the American economy, and we believe that the legislation proposed by Senators Inhofe and Voinovich sets our fa-

cilities on a path forward toward an affordable, stable, and domestically produced energy supply. I know our members look forward to continuing our role in this important debate.

Again, thank you for this opportunity.

Senator INHOFE. Thank you, Mr. Breehey, for an excellent statement.

Mr. Houseal, you were here when Senator Clinton said that you do not support this bill. Could you clarify that for the record? Do you support the bill as it is being passed out of committee?

Mr. HOUSEAL. Sir, as my testimony indicated, I think there could be some positive changes to the legislation, and to go on record, we have said that we would support any legislation that would stop acid rain.

Senator INHOFE. OK. Very good.

Mr. Walke, there are so many things in your statement that totally contradict everything that Mr. Connaughton said, so I am going to ask unanimous consent that the record be held open so he can respond to some of your comments, and I am sure you would have no qualms with that.

Mr. WALKE. No, sir.

Senator INHOFE. Mr. Walke, do you really believe that there is technology in place that would allow lignite-fired power plants to have a 90 percent reduction by 2008?

Mr. WALKE. Senator Inhofe, there was an excellent presentation yesterday that I believe your staff and others here attended by the Institute of Clean Air Companies that demonstrated tremendous advances in mercury pollution control technology for all types of coal, lignite, bituminous, sub-bituminous, and the rest. And the Clean Air Act, if enforced today by EPA, would give a compliance window for that technology to be installed by 2008, with the law providing the opportunity for an extension of 2009 if technology were not available.

So what the vendors have said and what State air regulators have said is that the availability of activated carbon injection technology with scrubbers and other types of technology by the time the compliance deadlines will arrive under EPA's rulemaking authority will achieve far, far greater reductions than the 29 percent cuts that this bill would allow to occur for an additional 13 years.

As to any particular control level, EPA has yet to tell us what that will be. My organization has advocated for a 90 percent level, and I have entered into the record through my testimony comments that we provided to EPA to address those technologies.

Senator INHOFE. And, once again, what percentage of reduction would that be by 2008, the hearing that you had yesterday, or the briefing, what did they come up with?

Mr. WALKE. The presentation yesterday, to my knowledge, did not address your specific question by the specific date of 2008, so I don't know that that question was answered yesterday.

Senator INHOFE. OK. They are just saying that there is technology out there, but it doesn't say—the question I had for you was do you believe that a 90 percent reduction could—I have been handed a note by someone who attended that. They said that the vendors only promised 50 percent strict limits and 70 percent if

flexible implementation, and that is what this bill does. But it is 50 percent reduction according to a staffer who was there.

Mr. WALKE. The vendor is referring to authority under the current Clean Air Act to extend the deadline by an additional year, or even an additional 2 years with Presidential involvement, which I think is what they said would kick that up to a 70 percent. But, again, I don't believe that that precise question was answered, and I will have to look in our comments that were filed with EPA to see if it was answered there.

Senator INHOFE. That is fair enough.

Mr. Breehey, do you support the Clear Skies bill as it is written right now to be passed out of committee?

Mr. BREEHEY. Yes, Mr. Chairman.

Senator INHOFE. All right.

I have a very distinguished group here for the national prayer breakfast from Uganda, and I am going to have to run out and say hello to them, so I am going to ask Senator Voinovich if you would preside for just a moment.

Senator Jeffords.

Senator JEFFORDS. Thank you, Mr. Chairman.

I would like to ask each of you if you would like to take a minute or two to respond to anything that you have heard from the Senators or the first witnesses here.

Mr. HOUSEAL. I am sorry, Senator, I didn't get the question.

Senator JEFFORDS. If you have something that you would like to relate to us relative to the first witnesses, we would be happy to hear you.

Mr. HOUSEAL. To further reflect on my answer to Senator Inhofe, the members of this committee have introduced several bills over the years that would address the issue of acid rain, and we have endorsed one bill which is actually in the House introduced by our New York Republican delegation, Sweeney McHugh, House Bill 227, and would certainly urge this committee to come to a compromise on the proposed bill and work with the House as well to get something through.

Senator JEFFORDS. Mr. Walke.

Mr. WALKE. Senator Jeffords, I would like to address a statement that Chairman Connaughton made earlier in the panel, where he indicated that, to his knowledge, there were not exemptions from regulations that would be bestowed upon the affected units covered under this bill. As I detailed in my testimony, we have 582 of the 1100 power plants nationwide that would need not adopt any mercury controls.

And because of the quite clever way the bill is structured, in fact, some untold number of other power plants could escape smog and soot controls as well under the cap because of the opt-in provisions that Senator Clinton was referring to. The truth is that EPA doesn't know how many power plants would be exempt or well controlled under this, because they haven't even analyzed this bill with the really devastating effect of the opt-in provisions.

So I would encourage this committee to call upon EPA to fully analyze all provisions of the bill that is before this committee and to describe the impacts of those as compared to enforcing current law, which we believe will protect the public better.

Senator JEFFORDS. Thank you.

Mr. BREEHEY. Senator, as Mr. Connaughton discussed at length, one of our primary concerns is the impact of any clean air legislation on fuel switching to natural gas that will drive up manufacturing costs and increase the outsourcing of U.S. jobs. So we support the Administration's perspective on that particular issue and believe that the bill that Mr. Inhofe has put forward will go a long way to addressing it.

Senator JEFFORDS. Mr. Walke, why do you think that until now no real effort has been made to mark up Clear Skies or move it through Congress, since it was first introduced at the request of the President July of 2002?

Mr. WALKE. Well, my view is that it was the responsible opposition of this Congress that prevented the bill from being taken up seriously in the past 2 years, and that realizing that EPA moved forward with regulations under its current authority under the Clean Air Act that would actually protect the public sooner and to a greater degree.

I think that case is made even tenfold today, where we have a bill before us that is dramatically weaker and worse than the bill that was even introduced in the year 2001. So I am hopeful that with EPA facing deadlines to act in March, 2 months from now, that we will actually have rules that are issued that will protect the public and that Congress will move on to other business and not go forward with this bill.

Senator JEFFORDS. Mr. Walke, also, according to the most information that is available today, power plants are the source of significant non-attainment in many parts of the Country. They are also the most cost-effective control options that States and local governments will rely upon to achieve attainment. What do you believe are the most cost-effective control options that will allow attainment to be reached on schedule?

Mr. WALKE. Senator, plainly, deeper reductions from the power plant sector are more cost-effective than the other cleanup measures that States would have to resort to in order to clean up their air. EPA has found in the past that cost-effective reductions from power plants are $2,000 a ton, and if we were to adopt that same metric today, we would be cleaning up power plant emissions by 90 percent within the next 5 years, not by 70 percent over the course of the next two decades.

The truth is that the Administration low-balled the requirements that they were willing to impose upon the power sector, which resulted in a scandalously low cost-effectiveness dollar figure of $700 a ton. The DC area has submitted controls that would require three to five to $7,000 of tons of reductions from other industry sectors, and we can do better and more cost-effectively with power plants.

Senator JEFFORDS. Thank you, Mr. Chairman.

Senator VOINOVICH [assuming Chair]. Mr. Houseal, as you know, some of my colleagues and witnesses claim that Clear Skies is a rollback of existing Clean Air Act provisions. I would just like you to comment on that.

Mr. HOUSEAL. We agree with the cuts as presented in the Clear Skies bill that are in front of you today, and in terms of a rollback,

I would agree with Mr. Walke's comment that we have a floor available for us right now, which is the Clean Air Interstate Rule, and a deadline of March, so that if this bill is above that floor, I think we have a positive step forward here.

Senator VOINOVICH. And your position is the one that you have maintained for several years. I will never forget your organization being criticized by the Clean Air Trust. You got the villain of the month award because you said let us do something about three Ps or three Es, and let us discuss carbon at some other time, but let us get on with it so we can do something about our problem.

Mr. HOUSEAL. That is correct. If Congress had moved in 1995, when the first EPA study came out indicating further reductions were necessary in NOx and SOx, and if it had happened that year, I think the discussion today would be much different about a multi-pollutant bill. It is indeed unfortunate when we recognize that at the time of the Kyoto protocols the Senate voted it down 95 to 0. That was bipartisan. And more recently there has been slightly more progress with the McCain-Lieberman bill. But obviously the political will is not yet with us to have a bill.

Senator VOINOVICH. You want us to move on.

Mr. HOUSEAL. Let us move on and get acid rain cured and have the debate about CO_2.

Senator VOINOVICH. Mr. Walke, as I stated in my opening statement, I hoped that we could move passed many claims against the bill and have a construction discussion about the legislation. Instead you have levied many attacks against this legislation that I disagree with, and I am glad the Chairman is going to leave the record open so we can get at that. But one of the things that bothers me about your testimony is this issue of sinister motives by those of us that are involved in this bill.

You just said the clever way the bill was constructed.

I want you to know that I was the chief environmentalist in the House of Representatives in Ohio. I want you to know that I was the father of the Ohio Environmental Protection Agency. I want you to know that when I was Governor of Ohio, we moved forward and we got every county to achieve the ambient air standards.

I care about the people of Ohio. I care about the fact that I don't believe that we have been moving rapidly enough to do something about our environmental needs and our public health needs, and I am very concerned about the fact, because we haven't harmonized our energy and environmental and economic needs, that many Ohioans today have been hurt economically. So I just want you to understand that.

First, you claim that more can be done under the existing Clean Air Act. I won't go into this again, but as I laid out in my opening statement, the current Act NSR Section 126 have not worked well in terms of meeting its deadlines. And I am glad that Mr. Connaughton clarified what we are doing in that area, and we would be glad to work on that area.

Second, you cite an EPA staff proposal that is much stronger than Clear Skies. There is a long history on the Straw proposal. I would just quote from a recent article in the issue of Washington Monthly entitled, "Partly Sunny, Why Enviros Can't Admit that Bush's Clear Skies Initiative Isn't Half Bad." One EPA career offi-

cial said, "We created the business as usual scenario of what would happen under the Clean Air Act out of whole cloth. To be honest, we wanted to scare the hell out of the industry. Early on, said EPA staffer John Bachman, we became convinced that we couldn't do the Straw proposal."

Third, you state, "It is absurd to think that starting afresh with a new, untested legal framework would reduce future litigation delays." As you cite Mr. Schneider's testimony from last week, that two dozen rules are required to implement Clear Skies, so there are going to be extensive litigation. I hate to argue with you on this point, since your organization seems to be an expert on litigation, but I disagree.

The rulemakings required are those that are required under the Acid Rain Program, and they were not litigated. Clear Skies contains provisions to assure the reductions. There is a prohibition against legal challenges of the annual allowance allocations and a default allowance procedure in case of any problems. And, most importantly, the emission caps and compliance deadlines to Clear Skies are set in statute and cannot be disputed, delayed, or legally challenged.

Fourth, you claim that the Jeffords–Carper bill gets faster reductions without more cost. This doesn't make sense. If you look at the 2004 analysis of all three bills by the Energy Information Administration, those two bills cause more unemployment, higher natural gas and electricity prices, and lower coal use than Clear Skies.

Fifth, you attack the transitional provision in the bill. This provision follows the National Academy of Sciences recommendation that "the implementation of air quality regulations should be less bureaucratic, with more emphasis on results and the process."

Mr. Breehey, you made reference to that in terms of your people. It is stop, start, and you have no certainty there.

I have run out of my time, but let me quote from Administrator Browner's testimony October 1, 1997, before a joint committee hearing of the House Committee on Commerce. She said, "Our next implementation in this effort, NAAQS, is a regional strategy, it is designed to target major utilities for pollution reductions through a market-based cap and trade program. Once this plan is given a chance to work, we believe that the vast majority of cities that based on current data would not meet a more protective health standard would be able to go through this strategy without any additional new local pollution controls or measures. The States will receive a transitional classification. This classification will enable them to avoid undue local planning requirements and the restrictions on economic growth."

Now, that is not from Christy Todd-Whitman or Mike Leavitt; it is from Carol Browner, October 7, 1997.

Senator INHOFE [resuming Chair]. Thank you very much, Senator Voinovich.

And I thank the panel. I thank you for your patience. The first panel went a little bit longer than it was supposed to. We appreciate your service very much.

We are adjourned.

[Whereupon, at 11:52 a.m., the committee was adjourned.]

[Additional statements submitted for the record follow:]

STATEMENT OF HON. MAX BAUCUS, U.S. SENATOR FROM THE STATE OF MONTANA

Mr. Chairman, Ranking Member Jeffords, thank you for holding this hearing today on S. 131, the Clear Skies bill. This issue is very important, to the country and to my state of Montana.

I believe we have an opportunity to craft a bi-partisan bill in this Committee. But, this is not a simple task. It will require difficult negotiations and a lot of hard work. We have to listen to each other, rather than talking past each other. We've held a lot of hearings, but we've had very little discussion about what was said at those hearings.

I don't think there's a lot of disagreement over the basic principles in this debate. Cleaner air and a healthier environment; greater certainty for business; more efficient regulation; reduced costs of compliance. That's our goal, to take what we've learned from the implementation of the Clean Air Act Amendments of 1990, and craft a better program that reduces pollution and enhances our global competitiveness. The question, of course, is how do we achieve this? Certainly, there is a significant difference of opinion among members of this Committee as to what is the best approach.

But, a difference of opinion doesn't mean a good compromise is out of our reach. It certainly doesn't mean that we shouldn't even try to find common ground. That's what we're here for in this Committee. That's what I want to see.

In order to do this, though, we need to build some trust. There needs to been an understanding that this isn't a take it or leave it situation, that the legitimate concerns of members of this Committee about this legislation will not be ignored or dismissed, but considered and, where possible, addressed.

Will we all be able to agree on what is the best way forward? Probably not. But, I think we can do better than an even split, or a bare majority. We should be shooting for as strong a bi-partisan vote as possible that will help this bill survive on the floor. We have to do that if we're serious about actually accomplishing something this year. We still need 60 votes to pass anything in this body.

Personally, I have a few simple criteria for any multi-pollutant bill: First, it must represent a clear and positive step forward on clean air as compared to the status quo. I understand that we're facing very different challenges now than we did in 1990, even if we just consider the significant changes that have occurred within the utility industry during that time. New challenges call for a new approach, such as a sound multi-pollutant bill, but we have to make sure that we maintain and improve upon the Clean Air Act's success at reducing air pollution nationwide.

Second, legislation must not harm, and if possible, must promote, the development of Montana coal. Montana sits on the largest coal reserves in the nation. These coal reserves represent an enormous economic potential for my state, in royalties, revenue and jobs. Unfortunately, we just haven't been able to develop the markets for our low-sulfur coal that our friends and neighbors in Wyoming have. I would like to see if there's a way we can fix that problem. Additionally, there are a lot of proposals out there right now to develop new power plants in Montana that burn Montana coal. Of course, not all of them will be built. But I want to be sure that any legislation treats new plants fairly and provides sufficient incentives for them to be built. New plants are cleaner and more efficient than older plants, particularly those plants that are 40 and 50 years old. Efficient and clean should be rewarded, not penalized, particularly if we want to continue to advance clean coal technologies to ensure that coal has a robust future.

Third, the legislation must substantively address carbon dioxide. I think we can put together a strong package that passes the laugh test and pushes the technology envelope without penalizing coal or harming our economy. I think such a package would win the support of a majority of Senators on this Committee and on the floor.

Right now, it's too soon for me to confirm whether Clear Skies satisfies the first two criteria; I know that it does not satisfy the third. However, I'm confident that we can find a compromise if, again, we work hard and talk to each other. And, if we have the time to work something out. A rush to mark-up, without laying any foundation for a bi-partisan compromise to take to the floor, is not a strategy for success. This is frustrating because I want a good bill. It's the right thing to do and I think we can get it done.

I would like to associate myself with the earlier comments of Senator Carper, where he noted that there is a great deal of room for negotiation on this bill, in terms of caps and timelines, regulatory relief and CO_2. I have a great deal of regard for both Senator Voinovich and Senator Carper, the Chairman and Ranking Member of the Clean Air Subcommittee. They are both former Governors, they know how to get things done. They have both indicated their willingness to start a dialog and

find a compromise. I fully support their efforts and will do everything I can to help ensure they succeed.

Mr. Chairman, let's set this Committee up to succeed. I think we're close on so many issues but the process needs time work itself out. Let's give it that time to see what can be done. It will be time well spent and I think it will only help this bill's prospects going forward.

Thank you, Mr. Chairman.

STATEMENT OF HON. BARBARA BOXER, U.S. SENATOR FROM THE STATE OF CALIFORNIA

Mr. Chairman, I appreciate having a hearing before this Committee on the challenges of cleaning up the air. It is, however, unfortunate that you have chosen to focus this hearing on legislation that would actually increase pollution.

Significant progress has been made since the Clean Air Act was enacted in 1970—U.S. emissions of smog forming pollutants have decreased more than 50 percent while economic growth has increased well over 150 percent. However, there is there is still much to be done to clean up our air.

Dangerous levels of pollution are causing thousands of premature deaths, hundreds of thousands of asthma attacks, neurological disorders, and other illnesses each year, especially in our children, our most vulnerable population.

According to the EPA, hospital admissions for asthma alone increased approximately 30 percent between 1980 and 1999. Further, one in six women of child bearing years has dangerous levels of mercury—a potent neurotoxin that threatens the health of developing fetuses, children, and other vulnerable populations in her system.

These are the issues that we should be addressing today—how to reduce pollution and its public health and environmental effects.

If the administration and this committee's leadership were serious about addressing pollution, this committee would not be discussing S. 131, a wholesale roll back of the Clean Air Act. We would be discussing Senator Jeffords' bipartisan Clean Power Act, S. 150, which takes on the challenge of protecting public heath by aggressively reducing power plant emissions while keeping the Clean Air Act in tact.

Although Senator Inhofe presents his bill as addressing power plant pollution—that is not the purpose of this bill. Make no mistake, the purpose of S. 131 is to undermine and unravel the Clean Air Act, undoing three decades of progress in cleaning up our air, under the guise of a power plant bill.

Contained in S. 131 is virtually every roll back that industry has fought for since the passage of the Clean Air Act. S. 131:

- Delays implementation of public health air quality standards 5–17 years;
- Repeals air toxic regulations for power plants and more than 73,000 other facilities, including emissions of cancer-causing pollutants such as formaldehyde, benzene, arsenic, toluene and lead;
- Makes it harder for states to clean the air by removing states' tools, such as the requirements that old, industrial facilities, including power plants, install modern pollution controls when they make significant changes that result in an increase in air pollution or that they offset pollution increases; and
- Ignores emissions of carbon dioxide, the main cause of global warming.

Each year of delay in cleaning up our air takes an unnecessary toll on our public health, welfare and the environment. The solution is not to defer deadlines and weaken regulations, but, rather, to accelerate industry compliance with the current Clean Air Act.

Proposals such as S. 131 that fall short of protecting public health or that seek to use the power plant debate to unravel the current Clean Air Act should be soundly rejected because they do not address the fundamental issue—the threat to the health of our communities from air pollution.

Remember, S. 131 is not really about power plants, S. 131 is about dismantling the Clean Air Act. It is an industry wish list that not only fails to adequately address power plant pollution, but which would result in at least 21 million tons of additional pollution placing public health and the environment at risk.

We cannot, and will not, let the Clean Air Act be unraveled to appease a powerful lobby. We can and should have an open, honest bipartisan discussion about the threat that air pollution poses to public health and the environment and the steps that we can take to clean the air. I look forward to that discussion.

STATEMENT OF JAMES L. CONNAUGHTON, CHAIRMAN, U.S. COUNCIL ON ENVIRONMENTAL QUALITY

Mr. Chairman, Senator Jeffords and members of the Committee. I appreciate the opportunity to appear before you today to strongly urge passage of the President's Clear Skies Initiative. President Bush is dedicated to providing our families and children with a healthier, more economically vibrant and secure future. Important to achieving that future is bringing proven, innovative tools to the task. Clear Skies legislation is just such a tool, and means healthier citizens, stronger communities, more affordable, reliable and secure energy, and more vibrant wildlife habitat across America.

Clear Skies will significantly expand the Clean Air Act's most innovative and successful program in order to cut power plant pollution of sulfur dioxide, nitrogen oxides and, for the first time, mercury by an unprecedented 70 percent in two phases. These cuts in pollution will provide substantial health benefits, prolonging the lives of thousands of Americans annually, and improving the conditions of life for hundreds of thousands of people with asthma, other respiratory illnesses, and heart disease.[1] As the son of a pediatrician who is also a chronic asthmatic, my passion for this policy is deeply personal.

Clear Skies will produce these health benefits with greater certainty by imposing a mandatory, permanent, multi-pollutant cap on emissions from more than 1300 power plants nationwide, reducing pollution by as much as 9 million tons annually at full implementation. Utilities will achieve this by spending more than 52 billion dollars to install, operate and maintain new, primarily clean coal pollution abatement technology on both old and new power plants. Clear Skies will require only a few dozen government officials to operate and will assure compliance through a system that is easy to monitor and easy to enforce.

Accordingly, the Clear Skies cap and trade approach will give our states the most powerful, efficient and proven tool available for meeting our new, tough, health-based air quality standards for fine particles and ozone. At the end of last year, EPA completed the process of informing over 500 counties that they either do not meet or that they contribute to another county not meeting the new standards. That relatively straightforward act has now triggered a very complex process that will lead later this year to a frenzy of intrastate negotiation and conflict, interstate negotiation and conflict, Federal-state negotiation and conflict, state and citizen petitions, lawsuits, and heightened uncertainty in energy markets, producing an avoidable and negative impact on local investment, jobs and consumer energy bills. Not a pretty picture.

As a former Governor, the President personally experienced and understands the complexities of developing and implementing state plans to meet air quality standards. That is why he places a premium on practical, common sense solutions. Clear Skies, in conjunction with the Bush Administration's new rules cutting diesel engine pollution by more than 90 percent, provides that solution. Most counties will be able to meet the new standards without having to take any new local measures beyond the Clear Skies power plant reductions. For the relative few that remain, their burden will be substantially lighter and their likely challenges local ones. This simple approach could save governments and the private sector tens of millions of dollars in negotiations, litigating and otherwise inevitable delay in meeting air quality standards.

Clear Skies will also help keep communities together. Up front assurance of meeting air standards will give communities the certainty they need to keep and attract manufacturing jobs in the places where generations of their families currently live, work, play, and pray. The absence of such certainty could exacerbate the breakup of communities experiencing the exodus of industrial jobs to either "greenfields" locations in the United States or, even more consequentially, overseas.

Clear Skies will also make communities stronger economically by helping to keep energy affordable, reliable, and domestically secure for their businesses and homes particularly important to those least able to afford their energy needs. The market-based trading approach will substantially cut the overall cost of compliance that is passed on to consumers and shareholders. In addition, the specific cap levels in Clear Skies—endorsed by organizations such as the U.S. Conference of Mayors and National Association of Counties—are calibrated to encourage utilities to put controls on coal rather than switch to natural gas in order to comply. That minimizes

[1]Further detail about these benefits can be found in the materials accompanying this testimony and on the EPA and White House Web sites (*www.epa.gov/clearskies* and *http://www.whitehouse.gov/ceq/clear*__skies.html).

the overall impact on energy prices. Forcing fuel switching to natural gas, by contrast, maximizes it.

Finally, Clear Skies will help our ecosystems and wildlife thrive. It will eliminate chronic acidity in the Adirondacks and virtually eliminate it in other Northeastern lakes. It will improve long-term conditions in streams, rivers, lakes and bays. It will vastly improve visibility in many of our parks and other scenic locations.

Mr. Chairman, for these reasons, a broad array of state, regional and local officials, as well as unions and non-governmental organizations, have endorsed the approach to meeting air quality that Clear Skies delivers. We look forward to the Congress delivering Clear Skies.

RESPONSES OF JAMES L. CONNAUGHTON TO ADDITIONAL QUESTIONS FROM SENATOR INHOFE

Question 1. In the testimony submitted by Mr. John Walke, Natural Resource Defense Council, he states that a 2001 EPA document, entitled "Comprehensive Approach to Clean Power: Straw proposal and Supporting analysis for Interagency Discussion," shows that 115 counties will still be in non-attainment in 2010 and that 66 counties will be in non-attainment by 2020. These estimates, however, appear to conflict with estimates included in EPA's 2003 analysis of the Clear Skies Act of 2003 "Section B: Human Health and Environmental Benefits." In that analysis, EPA concludes that only 45 counties (27 counties for the 8-hour ozone standard and 18 for the $PM_{2.5}$ standard) will remain in non-attainment out of a total of 419 counties deemed to be in non-attainment based on 1999 to 2001 data. This represents close to a 90 percent reduction in the number of non-attainment areas. Please explain to the Committee which set of estimates provides the most accurate prediction of nonattainment counties likely to remain based on existing information?

Response. In general, EPA's most recent modeling estimates are based on more up-to-date air quality and emissions data and improved modeling systems. The estimates in EPA's 2003 analysis are EPA's best estimates of how many counties will attain the standards or continue to monitor non-attainment in 2020 under the provisions of the Clear Skies Act of 2003.

Question 2. Of the 45 counties that will remain in non-attainment, please list the counties and provide information on when the Agency expects that these counties will reach attainment based on the Agency's current models. For each county, please include information on the deadline assigned to the county in the recently promulgated implementation rules for the 8-hour and the $PM_{2.5}$ standards. How many of these counties does EPA believe. will not attain the standard by their assigned deadline based on the Agency's current models?

Response. The Clean Air Act requirement that states meet the National Ambient Air Quality Standards (NAAQS) is unchanged in Clear Skies legislation. By providing national and regional reductions in pollution, Clear Skies would assist local areas in reaching attainment. However, EPA cannot predict when some counties will actually reach attainment, because EPA's modeling does not take into account the local-level controls that could be adopted by areas to help them reach attainment. Clear Skies modeling may predict that a county will monitor non-attainment in 2020 with existing control programs and the Clear Skies Act of 2003 power sector reductions; however, the county must attain the air quality standards through imposition of local or State-level controls.

There are 38 counties in all that EPA projects will not meet the standards in 2020 without adoption of state or local control measures: 27 counties projected to monitor non-attainment for 8-hour ozone and 18 counties projected to monitor in non-attainment for $PM_{2.5}$ (see table below). Seven of these counties are projected to monitor nonattainment for both pollutants. The attainment deadlines for these 38 counties depend on several factors.

All $PM_{2.5}$ non-attainment areas are required to attain the standards "as expeditiously as practicable" and no later than 5 years from the effective date of designation, i.e., April 2010. The Administrator may grant an area an extension from 1 to 5 years (i.e., up to April 2015) based on the severity of the air quality problem and the availability of emissions reduction options.

The attainment deadlines for the 8-hour ozone non-attainment areas depend on whether they are subject to Subpart 1 or Subpart 2 of the Clean Air Act. All 27 of these counties are subject to Subpart 2 of the Clean Air Act. Subpart 2 ozone non-attainment areas are classified according to the severity of their pollution problem. They must attain as expeditiously as practicable but no later than the maximum deadlines listed in the ozone implementation rule. These deadlines are the

following number of years after the effective date of designation (which was 6/15/04 for each of the 27 areas):

Marginal - 3 years after designations, or 2007
Moderate - 6 years after designations, or 2010
Serious - 9 years after designations, or 2013
Severe - 15 or 17 years after designations, or 2019 or 2021
Extreme - 20 years after designations, or 2024

For each of the 27 Subpart 2 counties which are projected to monitor nonattainment for ozone in 2020 based on Clear Skies and existing control programs alone, the maximum statutory attainment date is listed in the table below. To meet these attainment deadlines, States will have to impose additional controls. The Administrator may grant up to two one-year extensions of the attainment deadlines for any $PM_{2.5}$ or 8-hour ozone non-attainment area that has experienced only a minimal number of exceedances in its attainment year and for which the State has met all the requirements in its State implementation plan for the relevant area. In addition, if the State believes the area cannot attain by the maximum attainment date, the State may request that the area be reclassified to a higher classification, which would give it a later attainment date.

STATE	COUNTY	$PM_{2.5}$: Counties projected to monitor non-attainment in 2020 w/Clear Skies + existing programs THUS must take local action	Ozone: Counties projected to monitor non-attainment w/ Clear Skies + existing programs THUS must take local action	Both: Counties projected to monitor non-attainment in 2020 w/Clear Skies + existing programs THUS must take local action	Maximum statutory attainment date for ozone Subpart 2 counties
AL	Jefferson Co	1			
CA	Fresno Co	1	1	1	2013
CA	Kem Co	1	1	1	2013
CA	Merced Co	1			
CA	Stanislaus Co	1			
CA	Tulare Co	1			
CA	Los Angeles Co	1	1	1	2021
CA	San Bernardino Co	1	1	1	2021
CA	Orange Co	1	1	1	2021
CA	Riverside Co	1	1	1	2021
CA	San Diego Co	1			
GA	De Kalb Co	1			
GA	Fulton Co	1			
IL	Cook Co	1			
MI	Macomb Co		1		2010
MI	Wayne Co	1	1	1	2010
OH	Cuyahoga Co	1			
OH	Jefferson Co	1			
PA	Allegheny Co	1			
CA	Ventura Co		1		2010
CT	Fairfield Co		1		2010
CT	Middlesex Co		1		2010
CT	New Haven Co		1		2010
NJ	Hudson Co		1		2010
NJ	Hunterdon Co		1		2010
NJ	Middlesex Co		1		2010
NY	Bronx Co		1		2010
NY	Richmond Co		1		2010
NY	Westchester Co		1		2010
NJ	Camden Co		1		2010
NJ	Gloucester Co		1		2010
NJ	Mercer Co		1		2010
NJ	Ocean Co		1		2010
PA	Bucks Co		1		2010
PA	Montgomery Co		1		2010
TX	Galveston Co		1		2010
TX	Harris Co		1		2010
WI	Kenosha Co		1		2010

Question 3. S. 150, the Clean Power Act requires a 90 percent reduction in mercury emissions by 2010 with no emission trading. If units are not allowed to trade emissions, what would happen to individual units that cannot reduce emissions by 90 percent? How many coal-fired units are at risk of not being able to reliably meet a 90 percent reduction requirement by 2010?

Response. Mercury specific control technologies are not expected to provide 90% control on all key combinations of coal type and control technology in this timeframe. Power companies and technology vendors, with substantial support from the Department of Energy (DOE), are working to develop and commercialize technologies that are specifically designed to control mercury emissions from coal-fired power plants. One of the most promising technologies is Activated Carbon Injection (ACI). However, except for testing purposes, no coal burning power plant is using ACI or any other technology designed to control mercury emissions. A limited number of full-scale ACI evaluations have been conducted for short periods of time on units representing a fraction of the boiler population. DOE is now implementing a second phase of field testing, focusing on longer-term, full-scale field-testing on a wide range of coal and device configurations. These longer-term tests will provide information important to subsequent commercial demonstration projects. Once ACI is commercially available, additional time will be necessary to enable this technology to be deployed widely in the power sector.

Thus, there could be a significant number of units that would be unable to comply with a 90 percent reduction by 2010 and would likely shut down. The Energy Information Administration (EIA) analysis shows that the early timing and stringency of the emissions limits in the Clean Power Act combined with the birthday provision in the bill leads to the largest resource cost and electricity price impacts among the three bills they modeled in May 2004 (S.1844, S.843 and S.366)[1]. The stringent emission caps, particularly the CO_2 cap, cause a large decline in coal generation. New coal capacity additions through 2025 would amount to only 3 gigawatts under the Jeffords bill, and nearly 125 gigawatts of existing coal plants would be retired. Relative to the reference case[2], coal generation would be 35.3 and 54.7 percent lower in 2010 and 2025, respectively, under the Jeffords bill. Coal production tracks this decline. Relative to the reference case, coal production declines by 623.4 million tons (45.4 percent) in 2020 and 771.6 million tons (50.4 percent) lower in 2025.

Question 4. Does EPA believe there is sufficient data, including full-scale test results of sufficient duration, to say with confidence that there are now commercially available technologies for lignite or sub-bituminous coal plants that can reliably achieve a 90 percent reduction in mercury emissions? Is EPA aware of any vendors that have guaranteed a 90 percent reduction in mercury emissions from either lignite or sub-bituminous powered coal plants? If there are guarantees available, how substantial are the penalties for failure to achieve the performance requirement? What would happen to the utility versus the vendor if the performance level was not achieved under legislative proposals, such as the Clean Power Act of 2005?

Response. Power companies and technology vendors, with substantial support from the DOE, are specifically working to develop and commercialize technologies that are designed to control mercury emissions from coal-fired power plants. One of the most promising technologies is Activated Carbon Injection (ACI). However, except for testing purposes, no coal burning power plant is using ACI or any other technology designed to control mercury emissions because the technology has not been fully demonstrated. A limited number of full-scale ACI evaluations have been conducted for short periods of time on units representing a small fraction of the boiler population. DOE is now implementing a second phase of field testing, focusing on longer-term, full-scale field-testing on a wide range of coal and device configurations. These longer-term tests will provide information important to subsequent commercial demonstration projects. Once ACI is commercially available, additional time will be necessary to enable this technology to be deployed widely in the power sector.

In terms of guarantees, assumption of risk is a contractual arrangement between the seller (vendor) and purchaser (utility). The level of risk a vendor will be willing

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[1] Analysis of S. 1844, the Clear Skies Act of 2003; S. 843, the Clean Air Planning Act of 2003; and S. 366, the Clean Power Act of 2003, May 2004, Energy Information Administration, Office of Integrated Analysis and Forecasting, U.S. Department of Energy.

[2] The reference case in the EIA May 2004 analysis is based on the reference case in the Annual Energy Outlook 20041, and it incorporates final regulatory action under existing laws. However, consistent with standard EIA practice requiring policy neutrality in baseline projections, it does not include pending or proposed actions at the time of the analysis, such as standards for mercury emissions from power plants or actions that might be taken to comply with the revised National Ambient Air Quality Standards for ozone and fine particulates.

to assume is unknown as this is a matter that would be subject to negotiation between the contracting parties, however, failure of the utility to comply with Clear Skies requirements would subject the company to serious penalties.

Question 5. If legislation does not pass and if litigation delays the implementation of the CAIR rule, how much more costly will it be for states and locals areas to attain the 8-hour ozone and $PM_{2.5}$ standards? How likely will it be that more areas will fail to meet their attainment deadlines? Will these areas be forced to bump-up to higher categories in order to avoid sanctions? What would happen to areas that are unable within the next three years to submit an implementation plan that can demonstrate attainment by the required deadline?

Response. We do not know how much more costly it would be for states and local areas to attain the 8-hour ozone and $PM_{2.5}$ standards if litigation delays the implementation of CAIR and legislation does not pass nor can we predict how likely it would be that areas would fail to meet their attainment dates or whether ozone nonattainment areas would be forced to bump up to a higher classification in the event of litigation delaying implementation of CAIR. Our experience with passage of the Acid Rain Program and the NOx SIP Call illustrate our preference for legislation instead of rulemakings. Litigation did not delay the Acid Rain Trading Program at all, while litigation did delay the NOx SIP Call over a year in most states and even longer in other states.

If EPA determines that a state fails to submit within three years of designation an implementation plan that demonstrates attainment by the required deadline, or if EPA disapproves a submitted plan, then two sanction clocks would start. Eighteen months after the clock is started, if the State has not submitted the plan where EPA found it had failed to do so, or if EPA has not approved a plan where it has disapproved the submission, sources in the area subject to the nonattainment new source review requirements would be subject to an increased offset requirement. If the deficiency has still not been corrected, six months later, the area would be subject to limitations on federal highway funding. In addition, EPA is required to promulgate a Federal Implementation Plan (FIP) no later than 24 months after it has found the state failed to submit the plan or it has disapproved the plan and that obligation remains until EPA has approved the required plan. EPA may grant extension(s) of the attainment deadline for Subpart I ozone nonattainment areas and all $PM_{2.5}$ nonattainment areas (which are also covered under Subpart 1 of the Clean Air Act) for up to 5 years beyond the original 5-year attainment deadline if in its attainment demonstration, the state justifies such an extension based on the severity of the pollution in the area and the availability and feasibility of control measures.

Question 6. In your testimony, you state that mandatory caps on CO_2 emissions will not produce a favorable economic climate for investing in new clean coal technologies, such as IGCC, which are more efficient (less CO_2 producing) and which hold the potential of allowing for future sequestration of CO_2 emissions. You also state, however, that these technologies are significantly more expensive to build when compared to traditional fossil fuel or nuclear powered electricity. What is the Administration currently doing to encourage the adoption of technologies, such as IGCC? How important is regulatory certainty to encouraging the construction of IGCC and other comparable next generation clean coal technologies?

Response. Under Clear Skies, the power sector will spend more than $52 billion to install, operate, and maintain pollution abatement technology on both old and new power plants. The cap-and-trade system encourages investment in innovative pollution control technologies as we have seen under the Acid Rain Trading Program.

This investment future is enhanced by DOE's Office of Fossil Energy research and, through programs such as FutureGen, development of future gasification concepts that offer significant improvements in efficiency, fuel flexibility, and economics. Tomorrow's IGCC plants could conceivably process a wide variety of low-cost fuels, handling not only coal but also biomass, municipal and other solid wastes, or perhaps combinations of these feed stocks. DOE is currently investigating new gasifier configurations that can adapt to variances in fuel composition, heating values, ash content, and other factors. DOE is also working with its private sector partners to develop a new, potentially low-cost configuration for a future gasifier-based advanced circulating fluidized-bed technology. Finally, DOE is looking to develop lower-cost ways to produce the oxygen used in the gasification process, including use new innovations in ceramic membranes to separate oxygen from the air at elevated temperatures.

In addition, significant improvements in overall project economics can be obtained through actions to make the siting and permitting of IGCC plants more predictable

and efficient. Pursuant to Executive Order 13212, the Task Force on Energy Project Streamlining has begun a review of existing Federal permitting processes to identify potential opportunities to make such processes more efficient, and is consulting with States and interested private parties in an effort to reduce the barriers to deployment for IGCC and comparable clean coal technologies.

RESPONSES OF JAMES L. CONNAUGHTON TO ADDITIONAL QUESTIONS FROM SENATOR LAUTENBERG

Question 1. Eight million New Jerseyans live where ozone health standards are being violated, yet one-third of our ozone comes from upwind. Why does this bill take away my state's ability to reduce out-of-state pollution that threatens our health?

Response. Changes to the Clean Air Act interstate transport provisions are designed to ensure that transported pollution is controlled from the power sector and preserve the flexibility and cost-effectiveness of the trading program. Clear Skies reductions are greater or equal to the reductions over the next decade that could be requested of downwind states that submitted petitions today. This is why the President's Clear Skies legislation would not subject affected units to additional reductions as a result of section 126 petitions until 2012.

The cap and trade approach to reducing emissions from the power generating sector is the most efficient and effective route to reduce transported air pollution from this sector. The Acid Rain Trading Program's outstanding success demonstrates the benefits of this approach. Clear Skies provides the power generation sector with certainty about upcoming regulations and promises the public a mandatory program to reduce air pollution.

Question 2. About 10 percent of New Jersey's school kids have asthma, and about 150,000 of them are hospitalized each year. Why does "Clear Skies" let industry off the hook for meeting the health standards until 2025 or even later? Does the president believe that we should aim to still protect the health of our children?

Response. The Clean Air Act air quality goals, the National Ambient Air Quality Standards (NAAQS), are unchanged under the Clear Skies proposal. New Jersey is required to put in place a State Implementation Plan that will bring New Jersey into attainment with the new NAAQS for ozone and fine particulate matter on time. Clear Skies, by mandating enforceable emission caps for power plants, will help New Jersey attain these air quality standards.

Clear Skies will provide significant air quality benefits to Northeastern states. Interstate ozone transport would be significantly reduced under these cap levels. The proposal recognizes the unique circumstances of various regions of the country while retaining the economic benefits of national emission allowance markets. The SO_2 and NOx reductions required under Clear Skies in those states having or contributing to ozone nonattainment will address the problem of ozone and particulate matter nonattainment and transport on or ahead of schedule.

Question 3. I'm sure you've taken your family to one of our national parks, where most of us expect to enjoy fresh air and beautiful vistas, yet shockingly the air in many of our National Parks is hazy and doesn't meet the ozone health standard (Including Yosemite, the Great Smoky Mountains, and Shenandoah). Why does Clean Skies remove the Clean Air Act's special protections for national parks?

Response. Due to Clear Skies and the suite of diesel rules, major parks in the east are expected to come into attainment for smog by 2015, to see substantial improvements in visibility, and reductions in acid rain. The Department of Interior and the National Park Service have been working collaboratively with EPA, States, Tribes, and stakeholders for many years to develop comprehensive pollution control strategies that will benefit the national parks.

Clear Skies will modify certain Clean Air Act programs and retain important environmental backstops. Given the substantial and cost effective improvements in regional pollution which the President's Clear Skies Act could achieve, it is appropriate to consider ways to streamline the regulatory process for sources affected by the caps, while still providing appropriate protection for class I areas such as national parks. Accordingly, the President's Clear Skies legislation simplifies new source review because the Clear Skies mandatory caps and 70% reduction make such programs largely redundant. At the same time, the legislation maintains the requirement that new or modified sources be assessed as to whether they would affect any air quality related values, including visibility, in class I areas. Because the major visibility impacts of well controlled single sources occurs relatively near the source, the requirement is limited to facilities located within 50 km of the area.

RESPONSE OF JAMES L. CONNAUGHTON TO ADDITIONAL QUESTION FROM SENATOR VOINOVICH

Question 1. Some critics of Clear Skies claim that it is less stringent than existing law, and they advocate simply for the Clean Air Interstate Rule and Clean Air Mercury Rule. Is existing law better for the environment and are the rules better than Clear Skies legislation?

Response. Clear Skies is not less stringent than existing law. Clear Skies does not change the new, more stringent health-based air quality standards that the federal government set and the states must now meet. What Clear Skies provides is an effective tool to help the states get there with certainty. Clear Skies will significantly expand the Clean Air Act's most innovative and successful program in order to cut power plant pollution of sulfur dioxide, nitrogen oxides and, for the first time, mercury by 70 percent in two phases. These cuts in pollution will provide substantial health benefits, prolonging the lives of thousands of Americans annually, and improving the conditions of life for hundreds of thousands of people with asthma, other respiratory illnesses, and heart disease.

Clear Skies will produce these health benefits with greater certainty than the Clean Air rules because Clear Skies imposes a mandatory, permanent, multi-pollutant cap on emissions from more than 1,300 power plants nationwide, reducing pollution by as much as 9 million tons annually at full implementation.

RESPONSES OF JAMES L. CONNAUGHTON TO ADDITIONAL QUESTIONS FROM SENATOR BAUCUS

Question 1a. Will Clear Skies provide adequate incentives for the construction of new, cleaner coal-fired power plants? If yes, why and how? How many new coal plants are projected to come on-line under Clear Skies versus the status quo?

Response. Analyses by the Energy Information Agency (EIA) and the Environmental Protection Agency (EPA) show that Clear Skies helps maintain coal as an important fuel source. EIA and EPA both predict increases in coal production. EIA analysis shows, under the Clear Skies bill modeled in May 2004, that new coal capacity additions through 2025 amount to 92 gigawatts under Clear Skies compared to 108 gigawatts in the reference case. EIA projections show an increase under Clear Skies of new, cleaner, more efficient Integrated Gasification and Combined Cycle (IGCC) additions to nearly 26 gigawatts compared to the reference case projection of only 14 gigawatts of IGCC capacity additions by 2025. Both EIA and EPA projections show that power generators are expected to rely primarily on the addition of emissions control equipment to comply with the emission caps—little fuel switching from coal to natural gas is projected. In fact, EPA modeling projects that coal-fired generation will increase 9% by 2020 compared to 2003 levels. When EPA modeled Clear Skies with EIA assumptions for natural gas prices and electricity growth, coal-fired generation was projected to increase by roughly 54% compared to 2003 levels. The EPA 2003 analysis of Clear Skies shows that approximately 5.2 gigawatts of coal-fired capacity comprised mostly of small units under 100 megawatts will no longer be economic to maintain. Using EIA assumptions for natural gas prices and electricity growth leads to about 0.4 gigawatts of coal-fired capacity that is no longer economic to maintain. EIA and EPA also project a small effect on national electricity prices under Clear Skies.

To compare, EIA's May 2004 analysis shows that fewer new coal plants will be constructed under the Carper bill than under the Inhofe Clear Skies bill and the reference case. New coal capacity additions through 2025 range from 21 gigawatts to 35 gigawatts under the Carper bill analysis. Under the Jeffords bill, new coal plant additions are much lower while retirements are higher compared to the reference case. New coal capacity additions through 2025 amount to only 3 gigawatts under the Jeffords bill, and nearly 125 gigawatts of existing coal plants are retired.

Question 1b. Could and/or should Clear Skies be improved to provide greater incentives for new coal-fired plants, and do more to encourage the retirement of older, less efficient facilities with no pollution controls? Can the Administration recommend any proposals along these lines?

Response. Clear Skies is designed to cut emissions from the power sector thus assisting the states in meeting new stringent air quality standards for ozone and particulate matter while ensuring a diverse energy future for the U.S., including coal use.

Flexibility of compliance choices for the power sector, maintenance of fuel diversity, and the cost savings passed on to consumers through low electricity prices are the benefits of the approach taken in Clear Skies, particularly when compared with

the other proposals that support more stringent targets, shorter compliance periods, or command and control regulatory approaches. Low electricity prices are maintained under Clear Skies. EPA and EIA analysis shows that the power sector will rely heavily on emission control technologies under Clear Skies to meet the caps; EPA's analysis of the Clear Skies Act of 2003 projected that 80 percent of coal-fired capacity would have either SO_2 or NOx controls by 2020. Emissions trading will provide flexibility to the sector to keep their resource costs low. Coal is maintained as an important fuel source, thereby avoiding excessive pressure on natural gas prices; EPA and EIA both predict coal generation will grow under Clear Skies and natural gas consumption under Clear Skies tracks the reference case.

In addition, President Bush pledged during the 2000 campaign to invest $2 billion over 10 years to fund research into clean coal technologies and is on track to exceed that goal by more than 50%. The 2006 Budget provides $286 million, an increase of $13 million over 2005 enacted levels, for the President's Coal Research Initiative to improve the environmental performance of coal power plants by reducing emissions and improving efficiency. This includes:

- $68 million for the Clean Coal Power Initiative, of which $18 million is allocated to continue development of FutureGen, the coal-fueled, near-zero—emissions electricity and hydrogen generation project announced by the President in February 2003;
- A commitment to FutureGen beyond 2006, by proposing a $257 million advance appropriation for 2007 to provide the Federal share of FutureGen for several years; and
- $218 million for research and development of other clean-coal technologies, such as Integrated Gasification Combined Cycle systems, carbon sequestration, and next-generation turbines.

Question 1c. How will Clear Skies promote the deployment of advanced clean coal technologies, like IGCC, that currently face barriers to commercialization? Please be specific.

Response. Under Clear Skies, the power sector will spend more than $52 billion to install, operate, and maintain pollution abatement technology on both old and new power plants. The cap-and-trade system encourages investment in innovative pollution control technologies as we have seen under the Acid Rain Trading Program.

This investment future is enhanced by DOE's Office of Fossil Energy research and development of future gasification concepts that offer significant improvements in efficiency, fuel flexibility, and economics. Tomorrow's IGCC plants could conceivably process a wide variety of low-cost fuels, handling not only coal but also biomass, municipal and other solid wastes, or perhaps combinations of these feed stocks. DOE is currently investigating new gasifier configurations that can adapt to variances in fuel composition, heating values, ash content, and other factors. DOE is also working with its private sector partners to develop a new, potentially low-cost configuration for a future gasifier-based advanced circulating fluidized-bed technology. Finally, DOE is looking to develop lower-cost ways to produce the oxygen used in the gasification process, including use new innovations in ceramic membranes to separate oxygen from the air at elevated temperatures.

In addition, significant improvements in overall project economics can be obtained through actions to make the siting and permitting of IGCC plants more predictable and efficient. Pursuant to Executive Order 13212, the Task Force on Energy Project Streamlining has begun a review of existing Federal permitting processes to identify potential opportunities to make such processes more efficient, and is consulting with States and interested private parties in an effort to reduce the barriers to deployment for IGCC and comparable clean coal technologies.

Question 2. How many facilities nation-wide that currently have not installed any pollution control equipment will install some form of pollution control equipment under Clear Skies? Where are the majority of these facilities located?

Response. EPA's analysis of the Clear Skies Act of 2003 projects that an additional 270 units that currently do not have any advanced pollution controls to reduce emissions of SO_2 and NOx will install controls to meet the emission reduction requirements of Clear Skies. Currently, roughly 55 percent of coal-fired capacity does not have advanced pollution controls for either SO_2 or NOx removal (i.e., a scrubber or SCR). EPA's analysis of the Clear Skies Act of 2003 projected that 80 percent of coal-fired capacity would have either SO_2 or NOx controls by 2020. The additional pollution controls projected to be installed for Clear Skies are geographically dispersed throughout the country. Clear Skies results in emission reductions where they are needed most and where they will have a high impact on attainment

of air quality standards; in the highest emitting regions of the country such as the Mid-West, the Mid-Atlantic, and the South.

Question 3a. Specifically, how will Clear Skies impact Montana coal production compared to the status quo? This includes Montana coal shipped out-of-state, as well as Montana coal consumed in-state for power production. Please explain your answer. If Clear Skies maintains current production levels, or decreases production, please explain how that outcome might be changed.

Response. Although we have not performed similar analysis for S.131, EPA's 2003 analysis of the Clear Skies Act of 2003 projected that that coal production in Montana will increase from today's production levels.

Question 3b. How will S. 131 impact air quality in Montana?

Response. Although we have not performed similar analysis for S. 131, EPA modeling of the President's 2003 Clear Skies Act projected that all counties in Montana would meet the 8-hour ozone and fine particle standards by 2020. Lincoln County would be brought into attainment with the fine particle standards by 2020 under existing programs. In addition, Clear Skies would reduce fine particle concentrations throughout the state and would prevent degradation of visibility in Montana's parks, ensure nitrogen deposition does not increase, and reduce mercury deposition.

Question 4. I understand that EPA staff has verified an analysis performed by Westmoreland Resources, Inc. (WRI) that shows that market pressure created by implementation of Title IV of the Clean Act (CAA) will force the closure of the Absaloka Mine, owned by the Crow Tribe and operated by WRI. The market advantage that the Crow coal has had is that it is 300 miles closer by rail to customers in the Midwest than other producers of western low-sulfur coal. As successive phases of the Clean Air Act have been implemented, the Crow have lost customers to the point where now it has one customer who purchases 90% of the mine's production. This customer operates a scrubbed plant which emits SO_2 below its permitted levels and is among the lowest emitting coal plants in the country. Losing this customer would close the mine.

Please confirm this verification.

Response. EPA agrees that the rising price of Title IV allowances is predicted to encourage the owners of the unit that the Crow Tribe is supplying to switch to a lower sulfur coal. Representatives of the Crow Tribe have explained to EPA that they are investigating other customers, including a new nearby coal plant and the possibility of building a plant on the reservation. EPA has not done any analysis of these scenarios or their impact on the Crow Tribe's mine.

Question 5. I also understand that EPA staff agreed with the WRI analysis showing that granting the Crow Tribe and WRI relief will have negligible impacts on the SO_2 emissions of the primary surviving customer of the Absaloka mine. This customer operates a scrubbed plant in the Midwest that emits SO_2 below its permitted levels. This customer will coal source switch for economic purposes only—no tangible environmental gain will be had for closing the Crow Nation's main source of income. This relief will not increase emissions; switching coal will decrease emissions in a negligible amount.

Please confirm this verification.

Response. According to the information provided by the Crow Tribe, the switch to lower sulfur coal would result in about a 50% reduction in emissions (11,000 tons). EPA has not analyzed the environmental benefits of that reduction. However, this switch to low sulfur coal would not produce a net nationwide increase in emissions, since the customer would presumably free-up allowances for sale on the market. The impact of specific relief to the tribe on emissions at the customer's plant and the cap-and-trade program in general would depend on the nature of the relief being provided.

Question 6. What has been the cumulative net cost (total cost minus the value of allowances distributed to them) of compliance incurred by electric generating unit owners under Title IV of the Clean Air Act Amendments of 1990?

Response. The costs of Title IV are not typically estimated in this manner. Several outside experts have provided estimates of the cost of Title IV, and their estimates of the annualized costs of Title IV are in the range of $1 billion to $3 billion for 2010 when the program is to be fully implemented. OMB's 2003 Report to Congress on the Costs and of Federal Regulation reports EPA estimates that annual cost of Title IV's SO_2 reductions ranged between $1.1 billion and $1.9 billion (2001$); EPA estimates of the NOx program's annual costs added $0.4 billion.

Question 7. How will S.131 impact visibility in National Parks and other Public Lands, and on air quality in existing Class I areas? What is the scientific basis for

setting a 51 kilometer distance from Class I areas beyond which advanced pollution control requirements would not be required for new or modified sources? How does this distance comport with the requirements?

Response. Although EPA has not analyzed how S. 131 would impact visibility in National Parks and other public lands or air quality in existing Class I areas, EPA's analysis of the effects of the President's Clear Skies legislation on visibility in these areas and found that the Clear Skies Act of 2003 would benefit the ecosystems and air quality in national parks across the country, especially in the eastern states.

The 2003 analysis projected benefits due to improvements in visibility in National Parks and Wilderness areas in many Class I areas in the Southeast (including Shenandoah and Great Smoky Mountain National Parks), the Southwest, and California. The reductions in acid rain, eutrophication, mercury deposition and regional haze from Clear Skies would also improve these resources. By addressing air pollution from a regional perspective, the transport of air pollution into national parks and wilderness areas would be reduced. We expect that S. 131 would have similar types of benefits to National Parks and Class I areas.

Clear Skies would require all new facilities governed by Clear Skies to have, at a minimum, the level of modern pollution controls as specified in section 481 (National Emission Standards for Affected Units). Subsequent review by the Federal Land Manager of facilities within the 50 km of a National Park or other Class I area would ensure a review of potential impacts of new sources to avoid significant local effects.

RESPONSES OF JAMES L. CONNAUGHTON TO ADDITIONAL QUESTIONS FROM SENATOR OBAMA

Question 1. Section 407(j)(1)(A): Please provide an estimate of the number of sources in Illinois that could potentially opt-in under this provision and specifically which hazardous air pollutants these sources may be withdrawing from regulation under Section 112 of the Clean Air Act. Please also provide an estimate of the amount of these pollutants that could be emitted under this provision and compare it with current emissions as currently regulated.

Response. We cannot provide this data at the State level, because EPA only estimates emissions from source categories at the national level.

Question 2. What safeguards could be added to Clear Skies to ensure the trading process does not create mercury hot spots?

Response. The Agency believes that a cap and trade system, coupled with States' ability to control sources further, will effectively address any local risks from power plants.

EPA analysis suggests that large coal-fired utility units—those that tend to have relatively high emissions of the type of mercury that can deposit locally—have greater local-scale deposition footprints than medium-sized and smaller coal-fired utility units. The trading of allowances is likely to involve large utility units controlling their emissions more than required and selling allowances to smaller units, rather than the reverse scenario. This prediction arises from the basic economics of capital investment in the utility industry. Under a trading system where the firm's access to capital is limited, where the up-front capital costs of control equipment are significant, and where emission-removal effectiveness (measured in percentage of removal) is largely unrelated to plant size, it makes more economic sense for the utility company to allocate pollution-prevention capital to its larger facilities than to the smaller plants. Any economies of scale of pollution control investment will result in investment at the larger plants.

Second, the types of mercury that are deposited locally are controlled by the same equipment that controls criteria air pollutants (fine particles, SO_2, and NOx). As utilities invest in equipment to comply with the Clear Skies SO_2 and NOx requirements, the Agency expects a "co-benefit" in mercury controls as particulate controls, scrubbers, and SCR systems are installed on an increasing percentage of coal-fired utility units. The type of mercury that is most difficult to control is the elemental form of mercury that is most likely to be transported long distances from utility units. Effective control of this type of mercury may require significant investment in mercury-specific control technologies that are now only in the development stage. Considering the economies of mercury trading, utility units that have significant emissions of the elemental mercury may become buyers of allowances from plants that can cost-effectively control mercury. Consequently, the economics of the trading system are likely to favor controls of mercury that are likely to be deposited locally, thereby reducing any local hot spots. In addition, Clear Skies does not change Clean Air Act authority that allows States to adopt more stringent performance standards.

Question 3. How will Clear Skies help states meet Clean Water Act requirements for impaired water bodies?

Response. EPA analysis of the environmental impacts of the Administration's Clear Skies Act of 2003 projected that the required reductions in emissions of SO_2, NOx, and mercury would result in significant reductions in acid deposition and deposition of nitrogen and mercury. All three types of deposition are responsible for or contribute to water quality impairments. EPA's 2003 modeling of Clear Skies shows that implementation of Clear Skies would virtually eliminate chronic acidification in Adirondack lakes and improve other areas of the Northeast and Southeast.

Question 4. Under Clear Skies Illinois may have difficulty demonstrating attainment for the new 8-hour ozone and $PM_{2.5}$ standards. Please provide an analysis of other source categories that that can help Illinois meet these deadlines at a cost comparable to power plant reductions?

Response. EPA's analysis shows that reductions from power plants are currently the most cost-effective measures that can be taken to demonstrate attainment for the new 8-hour ozone and $PM_{2.5}$ standards. EPA does not have comprehensive cost-effectiveness information for ozone precursors (NOx and VOC), direct $PM_{2.5}$, and $PM_{2.5}$ precursors (SO_2, NOx, VOC). Also, the cost-effectiveness of measures will vary from state to state depending on measures already in place. Moreover, it is difficult to rank measures by cost effectiveness ($/ton) when comparing direct $PM_{2.5}$ sources with sources whose emissions form $PM_{2.5}$ only after reactions occur in the atmosphere. However, the local reduction measures listed below may help Illinois meet their deadlines.

For the proposed CAIR rule, EPA conducted an analysis of available local measures (see pp 46 to 56 of http://www.epa.gov/air/interstateairquality/tsd0162.pdf). The following measures, taken from this study, are examples of options states have the power to adopt as part of Implementation Plans under current law and under S. 131:

Examples of direct PM measures:

1. Programs to require or encourage retrofit controls for on-road, off-road, and stationary source diesel engines.
2. Programs to curtail use of woodstoves on high-PM days and to encourage replacement of older high-emitting woodstoves with cleaner-burning woodstoves.
3. Emissions limitations (for example RACT for major sources) for industrial sources of $PM_{2.5}$.
4. Regulations to ban open burning of refuse, and programs to improve enforcement of bans which are already in place.

Examples of SO_2 reduction measures for categories other than electric power generation:

5. Emissions limitations for coal-fired industrial boilers.
6. Greater emission reductions for petroleum refineries.
7. Emission limitations for sulfuric acid plants not currently meeting NSPS standards.

Examples of NOx reduction measures for categories other than electric power generation:

8. Emission limitations reflecting low NOx burners for industrial boilers.
9. Requirements for emission reductions from cement kilns.
10. RACT measures for major sources of NOx.

Examples of VOC control measures:

11. Adopt more stringent limits for architectural and industrial maintenance coatings.
12. Requirements to prevent emissions from underground storage tanks at gasoline service stations.

RESPONSES OF JAMES L. CONNAUGHTON TO ADDITIONAL QUESTIONS FROM SENATOR JEFFORDS

Question 1. Please provide by February 16, 2005, for the Committee's business meeting at which Clear Skies is expected to be marked up, an Administration analysis of the substantive changes to current laws, regulations and programs made by S. 131, if it were enacted, including the potential impact on state authorities.

Response. S. 131 would not affect a state's ability to regulate sources within its borders. The EPA does not have an analysis of all the other substantive changes to current laws, regulations and programs made by S. 131.

Question 2. Please provide a list of the ten most cost-effective control options that states have the power and authority to adopt, under current law and under S. 131,

as part of a State Implementation Plan to attain the ozone and $PM_{2.5}$ NAAQS by the deadlines specified in the Clean Air Act.

Response. The EPA does not have comprehensive cost-effectiveness information for ozone precursors (NOx and VOC), direct $PM_{2.5}$, and direct $PM_{2.5}$ precursors (SO_2, NOx, VOC). Also, the cost-effectiveness of measures will vary from state to state depending on measures already in place. Moreover, it is difficult to rank measures by cost effectiveness ($/ton) when comparing direct $PM_{2.5}$ sources with sources whose emissions form $PM_{2.5}$ only after reactions occur in the atmosphere.

For the proposed CAIR rule, EPA conducted an analysis of available local measures (see pp 46 to 56 of http://www.epa.gov/air/interstateairquality/tsd0 162.pdf). The following measures, taken from this study, are examples of options states have the power to adopt as part of implementation plans under current law and under S. 131:

Examples of direct PM measures:

1. Programs to require or encourage retrofit controls for on-road, off-road, and stationary source diesel engines.

2. Programs to curtail use of woodstoves on high-PM days and to encourage replacement of older high-emitting woodstoves with cleaner-burning woodstoves.

3. Emissions limitations (for example RACT for major sources) for industrial sources of $PM_{2.5}$.

Examples of SO_2 reduction measures for categories other than electric power generation:

4. Emissions limitations for coal-fired industrial boilers.

5. Greater emission reductions for petroleum refineries.

6. Emission limitations for sulfuric acid plants not currently meeting NSPS standards.

Examples of NOx reduction measures for categories other than electric power generation:

7. Emission limitations reflecting low-NOx burners for industrial boilers.

8. Requirements for emission reductions from cement kilns.

9. RACT measures for major sources of NOx.

Examples of VOC control measures:

10. Adopt more stringent limits for architectural and industrial maintenance coatings.

11. Requirements to prevent emissions from underground storage tanks at gasoline service stations.

Question 3. Please compare the difference in lives saved or premature deaths avoided and the number of people living in nonattainment areas as would occur between implementation of the Clean Air Interstate Rule as proposed and S. 131 as introduced for the following years: 2010, 2015, and 2020.

The Clean Air Act requirement that states meet the National Ambient Air Quality Standards (NAAQS) is unchanged in Clear Skies legislation. By providing national and regional reductions in pollution, Clear Skies would assist local areas in reaching attainment of the air quality standards. Cap and trade systems have also been shown to encourage early reductions in emissions. Such reductions could assist areas with near-term attainment dates. EPA modeling of the President's Clear Skies legislation in 2003 shows dramatic attainment under the reductions. Of over 350 monitored counties which had violations, the 2003 analysis indicated that all but 38 counties would be in attainment by 2020 solely with operation of the Clear Skies Act of 2003 and state and federal Clean Air Act programs already in existence. In addition, of the counties that monitored nonattainment with the $PM_{2.5}$ standard in the 2003 analysis, about 70% were expected to come into attainment by 2010. Should areas not come into attainment with these reductions from the power sector, they will still have to take additional local steps. Depending on the area, the Clear Skies reductions may make the burden on the need for additional local controls lighter.

Question 4. If S. 131 were to be enacted as introduced, please describe the responsibility that a designated "transitional area" would have to ensure that its pollution did not cause or contribute to nonattainment in downwind areas, prior to and after such designation?

Response. For transitional non-attainment areas, S. 131 does not change area specific requirements with respect to the need to address transport. Under S. 131, all areas-attainment, non-attainment, and transitional—would fall under the national and regional caps that are intended to reduce power sector SO_2 and NOx contributions to transport affecting $PM_{2.5}$ and ozone nonattainment. S. 131 would not eliminate the fundamental requirements that sections 110 and 126 impose on States re-

garding the need to address emissions from sources other than affected units under S. 131 that contribute significantly to nonattainment in downwind states.

Question 5. According to EPA, the Clean Power Act, S. 150, when compared to the predecessor of S. 131, would prevent 13,000 fewer lives from ending prematurely in 2010, and 18,000 in 2015. Is that still accurate? How does S. 131 compare to S. 1844 or S. 2815 in avoiding premature mortality?

Response. The Environmental Protection Agency (EPA) has not yet analyzed S. 131 with respect to the impact on statistical life. EPA has committed to provide this information under S. 131, S. 150, S. 485, S. 843 and the Manager's Amendment for 2010 and 2015.

However, as you know, the Clean Air Act requires that states meet Federal air quality standards designed to protect human health. States must meet the new national, health-based air quality standards for ozone and $PM_{2.5}$ standards by requiring reductions from many types of sources. Clear Skies legislation and other multi-pollutant bills provide a Federal program to cut emissions from the power generation sector. The reductions from the power sector are substantial and cost-effective, so in many states, the reductions are large enough to meet the air quality standards. Some areas may need to take additional local actions. Depending on the area, the Clear Skies reductions may make the burden lighter on the need for additional local controls.

Question 6. Why does the Administration's Clear Skies proposal result in an increase in greenhouse gas emissions from the power sector by 13% or by 425 million tons in 2020 from today's levels, according to EPA projections?

Response. Greenhouse gas emissions will increase from the power sector over the next 15 years regardless of whether Clear Skies is enacted or not, as a result of an expected 1.5–2.0% per year growth in electricity demand to support a growing economy. Based on previous analysis of the Clear Skies Act of 2003, EPA believes most of this electricity demand will meet with new natural gas and coal-fired generation plants, as fossil fuels are expected to remain the cheapest sources of electricity for the country. This expected increase in fossil-fired generation, and not Clear Skies, is responsible for the projected increase in greenhouse gases in 2020.

The President's Clear Skies proposal does not specifically address greenhouse gas emissions from the power sector, but it will encourage cleaner, more efficient electric generation technologies that produce fewer air pollutants and greenhouse gases than technologies in use today. This approach is consistent with the President's overall aim to reduce the greenhouse gas intensity of the U.S. economy by 18% by 2012 compared to 2002, as the first step in a global, long-term effort to slow the growth of our greenhouse gas emissions and, as science justifies, to stop and then reverse the growth of emissions. The Bush Administration is carrying out a broad range of innovative domestic and international policies and programs to achieve this goal, and work in partnership with other developed and developing nations on a common approach to addressing global climate change.

Question 7. A reasonable estimate of achieving attainment for the $PM\text{-}_{2.5}$ standard in all areas by the statutory deadline of 2010 is avoiding 25,000 premature deaths, 4,000 to 7,000 thousand heart attacks, and hundreds of thousands of asthma attacks each year. Could you provide the Committee with an estimate of the total annual health costs, including Medicare and Medicaid, associated with delaying attainment of the national air quality standards in all currently designated nonattainment areas by a year, and a separate estimate of the impact of the specific delays in attainment such as provided for in the designation of "transitional areas" in S. 131?

Response. We do not have an analysis that would allow us to provide the requested estimates.

Question 8. The Energy Information Administration analysis (May 2004) from last year says that Clear Skies (S. 1844) never achieves a 70% reduction in emissions. Do you agree with this analysis? If not, please describe the errors in that analysis that need correction.

Response. In the Energy Information Agency (EIA) May 2004 analysis of S. 1844, emissions of nitrogen oxides (NOx) are projected to fall to 1.79 million tons by 2025, meeting the target called for in the bill. Projected emissions of sulfur dioxide (SO_2) and mercury (Hg) did not meet the bill's emission cap targets by 2025. For SO_2 this occurs in the analysis because power companies reduce emissions early by banking 18.81 million tons before the first phase of the program. Early reductions are one of the most significant environmental benefits of a cap and trade program that allows banking. The power sector would then use the banked allowances during the Clear Skies compliance period. The bank balance is projected to fall to 12.33 million

tons in 2017 and further to 5.11 million tons in 2025. In 2025, SO_2 emissions are projected to be 3.62 million tons, 0.62 million tons above the 3.0 million ton cap that began in 2018. EIA predicts that if the usage of banked allowances were to continue at the rate seen between 2020 and 2025, the 5.11 million tons of banked allowances remaining in 2025 would be exhausted in 2030 or 2031. It is highly likely that the 3.0 million ton cap would be reached soon after 2030–31. This gradual decline of SO_2 emissions is consistent with the implementation of the Acid Rain program. For Hg, the 15-ton cap called for in 2018 and beyond was not achieved because power generators are expected to reduce their mercury emissions prior to 2010 to take advantage of the early credit program. Between 2004 and 2009, a total of 42 tons of early reductions occurs because of the early credit program. Also, the $2,875.50 per ounce ($35,000 per pound) allowance price safety valve is triggered. Hg emissions in 2025 are projected to be 29 tons, 14 tons above the cap. If advancements in mercury control technologies lower the costs of control, as expected, for most plants and coals below the safety valve, then further reductions would occur.

Emissions banking results in early reductions as companies over-control their emissions early in the program and bank allowances for future use. Banked allowances can be used at any time so they provide flexibility for companies to respond to growth and changing marketplace conditions over time and, although banking can result in emissions above the cap level in the later years of the compliance period, because the cap is permanent banking does not result in an increase in cumulative emissions. This is an important trade-off for early reductions.

Question 9. As the Chairman of the Council on Environmental Quality, you have the primary responsibility of ensuring the implementation of the National Environmental Policy Act or NEPA. That Act requires all Federal agencies to include in every recommendation or report on proposals for legislation and other major Federal actions a detailed statement for the public by the responsible official on alternatives to the proposed action. What alternatives did the Federal government present to the public when it sent up Clear Skies for Congress' consideration in July 2002 and again in February 2003?

The President's Clear Skies legislation was not subject to NEPA. NEPA requires Federal agencies to prepare an environmental impact statement on "every recommendation or report on proposals for legislation or other major Federal actions significantly affecting the quality of the human environment . . . ." 42 U.S.C. § 4332(2)(C). The President is not a Federal agency. (See 40 C.F.R. § 1508.12 "Federal agency' means all agencies of the Federal Government. It does not mean the Congress, the Judiciary, or the President . . . .") In this particular case, Congress exempted federal agencies drafting legislation for the President from NEPA under Section 7(c)(1) of the Energy Supply and Environmental Coordination Act of 1973, 15 U.S.C. § 793(c)(1). ("No action taken under the Clean Air Act [42 U.S.C.A. § 7401 et seq.] shall be deemed a major Federal action significantly affecting the quality of the human environment within the meaning of the National Environmental Policy Act of 1969.") Moreover, the Constitution vests exclusively in the President the authority to submit for the consideration of Congress such measures as he deems necessary and expedient, and in aid of that function, the President may direct that his subordinates in the executive branch provide him advice and assistance.

Notwithstanding NEPA requirements, the Administration has provided for the public and for Congress' consideration extensive modeling by EPA and EIA on the President's Clear Skies bill and other multi-pollutant alternatives such as Senator Carper's bill and your bill. Administrator Johnson has also committed to provide further analysis of S. 131, S. 150, S. 485, S. 843 and the Manager's Amendment per his letter to Chairman Inhofe on May 26, 2005. Further, EPA proposed two rulemakings, the Clean Air Interstate Rule and the Clean Air Mercury Rule, which are similar to Clear Skies. These rulemakings included an extensive and detailed technical analysis and lengthy public comment periods.

EPA and EIA Analyses of Clear Skies and Multi-pollutant Legislation

- EIA December 2000 "Analysis of Strategies for Reducing Multiple Emissions from Power Plants: Sulfur Dioxide, Nitrogen Oxides, and Carbon Dioxide"
  http://www.eia.doe.gov/oiaf/servicerpt/powerplants/pdf/sroiaf(2000)05.pdf
- EIA July 2001 (Congressman McIntosh request) "Analysis of Strategies for Reducing Multiple Emissions from Electric Power Plants: Sulfur Dioxide, Nitrogen Oxides, Carbon Dioxide, and Mercury and a Renewable Portfolio Standard"
  www.eia.doe.gov/oiaf/servicerpt/epp/pdf/sroiaf(2001)03.pdf
- EIA Sept 2001 (Smith/Voinovich/Brownback request) "Reducing Emissions of Sulfur Dioxide, Nitrogen Oxides, and Mercury from Electrical Power Plants"
  http://www.eia.doe.gov/oiaf/servicerpt/mepp/index.html

• EPA economic analysis of various multi-pollutant scenarios requested by Smith/Voinovich/Brownback June 8, 2001 "Analysis of Multi-Emissions Proposals for the U.S. Electricity Sector"
http://www.epa.gov/air/meproposalsanalysis.pdf
• EPA economic analysis of various multi-pollutant scenarios requested by Jeffords/Lieberman October 31, 2001 "Economic Analysis of a Multi-Emissions Strategy"
http://www.epa.gov/air/jeffordslieberm.pdf
• EIA economic analysis of the Jeffords bill October 2001"Analysis of Strategies for Reducing Multiple Emissions from Power Plants: Sulfur Dioxide, Nitrogen Oxides, and Carbon Dioxide"
http://www.eia.doe.gov/oiaf/servicerpt/powerplants/index.html
• EPA comprehensive modeling to support Clear Skies announcement Feb 2002 "2002 Technical Support Package for Clear Skies; Section G: Summary of the Models used for the Analysis"
http://www.epa.gov/air/clearskies/tech—sectiong.pdf
• EIA/EPA modeling of the Clear Skies mercury provisions Spring-Fall 2003 Testimony before Senate EPW committee (S. Hrg. 108–359) July 29, 2003
http://www.access.gpo.gov/congress/senate/senate09sh108.html
• EPA Clear Skies updated comprehensive analysis July 11th 2003 "The Clear Skies Act Technical Support Package"
http://www.epa.gov/air/clearskies/03technical—packagetofc.pdf
• EIA economic analysis of Carper and Jeffords bills September 2003 "Analysis of S. 485, the Clear Skies Act of 2003, and S. 843, the Clean Air Planning Act of 2003"
http://www.eia.doe.gov/env/utility.html
• EIA economic analysis of Inhofe-Voinovich Clear Skies 2003, Carper and Jeffords bills May 2004 "Analysis of S. 1844, the Clear Skies Act of 2003; S.843 the Clean Air Planning Act of 2003; and S.336, the Clean Power Act of 2003"
http://www.eia.doe.gov/oiaf/servicerpt/csa/executive—summary.html

Question 10. My tri-partisan bill, the Clean Power Act of 2005, which has 18 cosponsors, achieves more net benefits in 2010 and 2020 than S. 131, as does Senator Carper's. Does the Administration support maximizing net benefits?

Response. EPA's 2003 analysis shows that all three multi-pollutant bills—Clear Skies legislation, the Clean Power Act (CPA), and the Clean Air Planning Act (CAPA) would bring a significant number of areas into attainment with the fine particle ($PM_{2.5}$) standard when compared with continued implementation of existing Clean Air Act programs. In 2010, Clear Skies is projected to bring 42 additional counties into attainment; the Clean Air Planning Act would bring 48 additional counties into attainment; and the Clean Power Act would bring 53 additional counties into attainment. EPA's analysis of nitrogen oxide (NOx) emissions and ozone shows that there would be no incremental ozone attainment benefits from the Jeffords bill and the Carper bill over those projected for Clear Skies in 2010 or 2020.

However, as you know, this does not mean that the three bills would result in different levels of air quality: the Clean Air Act requires that states meet Federal air quality standards. States must meet the new national, health-based air quality standards for ozone and $PM_{2.5}$ standards by requiring reductions from many types of sources. Clear Skies legislation and other multi-pollutant bills provide a Federal program to cut emissions from the power generation sector. The reductions from the power sector are substantial and cost-effective, so in many states, the reductions are large enough to meet the air quality standards. Some areas may need to take additional local actions. Depending on the area, the Clear Skies reductions may make the burden on the need for additional local controls lighter.

The different approaches in the Jeffords bill and the Carper bill would, however, cost Americans significantly more than Clear Skies. The Carper bill program costs are 53% higher in 2010 ($6.6 billion) and 57% higher in 2020 ($9.9 billion) than Clear Skies. On a net present value basis, for the period 2005 to 2030, the cumulative cost of Senator Carper's bill is projected to be $82.7 billion—57% more than the net present value of the cumulative cost of the Clear Skies legislation for the same period ($52.5 billion). The projected cost differences are even greater for the Jeffords' bill. Relative to Clear Skies, CPA's program costs are projected to be almost 300% higher in 2010 ($16.5 billion). In addition, pursuing sharp reductions in CO_2 from the electricity generating. sector alone would cause a dramatic shift from coal to natural gas. The Jeffords bill is projected to increase electricity prices 39% in 2010 and 50% in 2015, whereas Clear Skies is projected to have only a small impact on electricity prices.

The compliance dates and control levels of CPA and CAPA will also increase the cost to American consumers. In constructing the Clear Skies Act, we were conscious of not extending beyond the limits of available labor and other construction resources even though Clear Skies requires very substantial increases in installation of advanced pollution controls. CPA and CAPA require even more control technology installations in a very short time frame, which could hinder electricity reliability.

Question 11. Under S. 131, what is likely to be the maximum number of major sources that could obtain an exemption from the air toxics requirements of the current Clean Air Act to use maximum available control technology? Considering those facilities, what is the approximate number of tons of HAPs currently emitted by those facilities and how much more would their annual emissions under S. 131 be than under current applicable maximum achievable control technology requirements of section 112 of the Clean Air Act for those same sources?

Response. EPA has not analyzed S. 131 with respect to the number or type of facilities that might take advantage of opting into the trading program. EPA does not have a database nor does it have a modeling tool that could predict which facilities would voluntarily opt-in.

Question 12. Serious criticism has been leveled against the Administration for failing to follow an open and transparent process as required by EPA guidance and Executive Orders in the development and setting of the mercury reduction goal in Clear Skies and in the proposed mercury rule. Did you at any time instruct or otherwise encourage any CEQ or any EPA employees or appointees to disregard EPA guidance on rulemakings, or the directives in any of the Executive Orders, including no. 12866 on regulatory review and no. 13045 on children's health?

Response. The EPA finalized a rule to control mercury emissions from the power sector on March 15 and we have followed guidelines for a proper rulemaking. Criticism of the rulemaking was addressed by Assistant Administrator Jeff Holmstead in his response letter to the EPA Office of Inspector General. It can be viewed at http://www.epa.gov/oig,/reports/2005/20050203–2005–P–00003.pdf

Question 13. You indicated that the cost to utilities to comply with the Clear Skies legislation would be approximately $52 billion. What is expected to be the cumulative value of the allowances allocated to utilities in the same time period that they spend this $52 billion? What is expected to be the cumulative value of allowances to non-utilities participating in the program compared to their costs of compliance?

Response. It is important to understand that the estimated cost of compliance with Clear Skies 2003 only includes the capital, operations and maintenance, and fuel use costs. We do not assume any costs associated with the use of allowances. This is because most of the value of the allowances is given to power companies. This cost does not have a significant impact in the early years of the program because the 2003 legislation included an auction that was phased in. The power companies are then required to surrender allowances as part of compliance; thus on net, allowances do not represent either a cost or an expense. This could be different for individual power companies.

Question 14. Please describe the effect, if any, that enactment of S. 131 would have on ongoing legal actions related to EPA regulations, programs, enforcement, or guidance, including New Source Review, New Source Performance Standards, and Hazardous Air Pollutants.

Response. We have not analyzed the effect of enactment of S. 131 on ongoing legal actions.

Question 15. What is the cumulative total of the President's budget requests, including FY06, for the FutureGen program and how much has been appropriated for this program to date?

Response. FutureGen is a Presidential initiative to build the world's first integrated sequestration and hydrogen production research power plant. The $1 billion dollar project is intended to create the world's first zero-emissions fossil fuel plant. When operational, the prototype will be the cleanest fossil fuel fired power plant in the world. The FY 2004 budget included $9 million to initiate FutureGen, and the FY 2005 budget included another $18 million for FutureGen consistent with the funding profile contained in the Department of Energy's March 2004 Report to Congress. The President's FY 2006 Budget requests another $18 million to continue FutureGen, as well as ensures that the $257 million in unexpended funds available from prior years' clean coal projects are available to fund future clean coal activities, beginning with FutureGen. The total Federal contribution to FutureGen is expected to be $500 million in direct funding for FutureGen, and another $120 million from DOE's carbon sequestration programs.

Question 16. An Associated Press report from December cited you and Secretary Leavitt as saying that President Bush had made a decision to finalize the Clean Air Interstate Rule by mid-March 2005, unless Congress passes the Administration's proposed Clear Skies Act by then. Did the President tell you or anyone else in the White House that he had made a decision to issue the Clean Air Interstate Rule by March unless Congress enacts Clear Skies by such date? Is it still the Administration's intention to promulgate the final rule by that date?

Response. The EPA finalized the Clean Air Interstate Rule and the Clean Air Mercury Rule by March 15, 2005.

Question 17. Has the Agency or the Administration analyzed setting more stringent caps than those in S. 131 that were as cost-effective or had greater net benefits? For instance, moving the SO_2 emissions cap to 3 or 2 million tons in 2012 instead of 2018. If so, please provide these analyses.

Response. Extensive modeling has been done on the President's Clear Skies bill, Senator Carper's bill and Senator Jeffords bills since 2001 by EPA and EIA and all of these analyses are publicly available:

- EIA economic assessments of various multi-pollutant scenarios, December 2000 and July 2001 (Congressman McIntosh request), September 2001 (Smith/Voinovich/Brownback request)
- EPA economic analysis of various multi-pollutant scenarios (Smith/Voinovich/Brownback request), 2001
- EPA economic analysis of various multi-pollutant scenarios (Jeffords/Lieberman request), 2001
- EIA economic analysis of the Jeffords bill, October 2001
- EPA comprehensive modeling to support Clear Skies, February 2002
- EPA costibenefits assessment of the Jeffords bill, June 2002
- EPA Clear Skies updated comprehensive analysis, July 2003
- EIA economic analysis of Carper and Jeffords bills, September 2003
- EPA cost/benefit assessment of Carper and Jeffords bills, October 2003
- EIA economic analysis of Inhofe-Voinovich Clear Skies 2003, Carper and Jeffords bills May 2004

Question 18. S. 131 eliminates the National Acid Precipitation Assessment Program and that program's reporting requirement. As you may know, section 103(j) of the Clean Air Act requires the Administration to submit a report to Congress every two years showing acid deposition trends and every four years recommending the reduction in deposition rates that must be achieved in order to prevent adverse ecological effects. The last report was in 1998. Please provide by March 1, 2005, the status of these reports and any working drafts of the four-year report that are available.

Response. The NAPAP Report is currently undergoing interagency review.

Responses of James L. Connaughton to Additional Questions from Senator Murkowski

Question 1. Mr. Connaughton, we in Alaska are lucky to have avoided many of the air pollution problems evident in more populous states. In fact, it has been suggested that much of the pollution that can be found in our state is transported from overseas. To what degree is pollution from other countries an issue and what can we do about it?

Response. It is well established that the growing economies of East Asia are a large and growing source of pollution, and that these pollutants can be transported over large distances in the atmosphere. The Bush Administration is partnering with these nations, such as China and India, to develop and deploy cleaner, more efficient energy technologies that will provide more energy with fewer emissions that can be transported across the Pacific to North America.

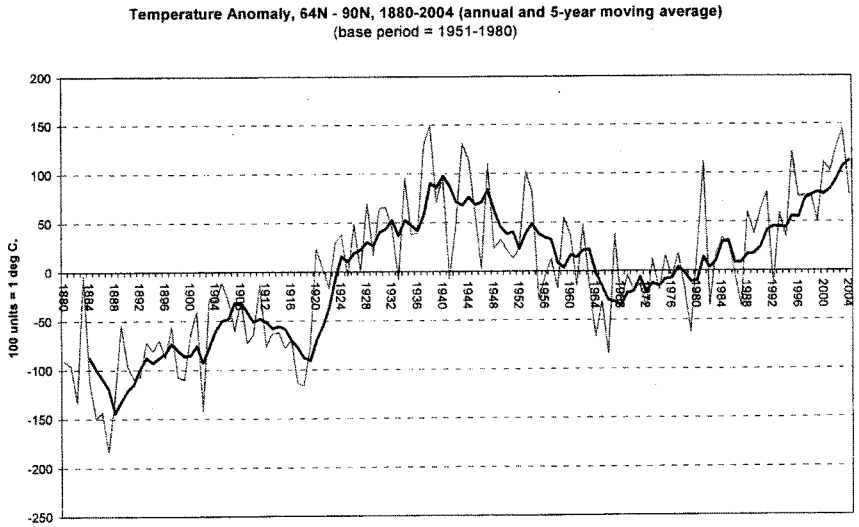
Question 2. There has been a lot of discussion in the media about whether human-caused CO_2 is aggravating global warming. We are seeing events in Alaska that may be temperature-related, such as changes in ice cover in the Arctic Ocean, changes in the flora and fauna of different areas, insect infestations, and erosion, among others. Other than the general category of "global warming," what other credible explanations exist for these events?

Response. The IPCC notes that "even without changes in external forcing, the climate may vary naturally, because, in a system of components with very different response times and non-linear interactions, the components are never in equilibrium and are constantly varying." An example of such internal climate variation is the

El Niño and La Nina-Southern Oscillation (ENSO), resulting from the interaction between atmosphere and ocean in the tropical Pacific.

Of importance to Alaska is the Pacific Decadal Oscillation (PDO), which is a natural oscillation of sea surface temperature in the North Pacific with a 20–30 year cycle. It has been linked to major changes in the productivity of northeast Pacific marine ecosystems, prevailing atmospheric winds and the average "storm track" location which affects erosion patterns, and the temperature of water entering the Arctic Ocean through the Bering Strait which affects the extent and thickness of Arctic sea ice. These natural cycles are being intensely studied through the Climate Change Science Program, and improved understanding of these cycles will yield improved climate forecasts on seasonal-to-decadal time scales.

A sense of the natural variability of Arctic temperature can be obtained through an examination of the following diagram, which is based on data from the Global Historical Climatology Network, and is available from GISS.



This figure shows that today's temperatures were comparable to those in the late 1930s. The highest annual temperature for the area between 64° N and 90° N occurred in 1938, while the 2000–2004 had the highest 5-year period.

Question 3. Are you familiar with the papers that have raised questions about the "hockey stick" graph used by the IPCC? In your view, what effect do these questions have on the overall issue of the relationship between anthropogenic CO_2 and climate change?

Response. These questions are the focus of one of the "synthesis and assessment reports" that will be published as part of the Climate Change Science Program. The ongoing debate of reconstructing climate over the past 1000–2000 years underscores the need to invest in new knowledge on natural climate variability, including developing and deploying comprehensive and sustained global observations of the climate system through programs such as the U.S.-led Global Earth Observation System of Systems (GEOSS) international partnership.

Question 4. I recently had a conversation in which a colleague suggested that we should act to reduce CO_2 and commented that "other countries" are already doing it. Russia and the EU were specifically mentioned. Are other countries around the world actually taking the same level of action on CO_2 that is recommended by U.S. proponents of Kyoto? Is the estimated effect on their economies the same as it would be on ours?

Response. While the EU as a whole had 2002 emissions that were 2.5% below their 1990 levels, some individual EU members, such as Spain, Portugal, and Ireland had emissions increase at a faster rate that the U.S. over that same period of time. Many of the emissions reductions counted by the EU in their aggregate

total come from improvements of efficiency within high-emitting industries in Germany, and from a switch (for other policy reasons) from coal to natural gas within the U.K. In the case of Russia, a significant decline in economic activity since 1990 has resulted in significant emissions reductions.

Question 5. It has been suggested that stronger controls—as suggested in other proposed bills—would harm the economy by causing a larger and more rapid shift to alternative fuels such as natural gas. But I represent a state with abundant natural gas that we would like to market. Why would an immediate, largescale shift to natural gas NOT be in our best interest?

Response. As documented in recent studies from the National Petroleum Council and the American Gas Foundation, we currently do not have enough natural gas supply within the Lower 48 and Alaska to meet our current needs. This has led to consistent upward price pressure on natural gas, augmented only by a modest increase in domestic production and in imports of LNG. These increased natural gas prices have already affected industries that rely on natural gas as a feedstock, such as chemicals, pharmaceuticals, and plastics. Even with access to the abundant natural gas supplies in Alaska and no change in emissions controls, we would be facing significantly higher future prices for natural gas.

Unlike competing proposals that would result in shifts of capital investments from coal to natural gas, the Clear Skies legislation is designed to ensure that electricity generators are able to obtain financing and perform installation of the necessary pollution control equipment cost effectively. Clear Skies will ensure that our economy continues to grow and create new jobs, while other proposals would result in exports of jobs and revenue overseas to where natural gas is cheaper. More stable domestic markets for natural gas are in the long term interests of the nation and the state of Alaska.

Responses of James L. Connaughton to Additional Questions from Senator Vitter

Question 1. Is there a basis in the CAA to require that an area implement requirements that would not be applicable under the 8-hour classification and are not part of an approved SIP? Isn't it true that anti-backsliding under the CAA involves holding in place the requirements found in a SIP or Applicable Implementation Plan and applying the requirements of the 8-hour standard?

Response. The Clean Air Act does not expressly address the interplay between obligations that applied for a standard and the new obligations that arise when that standard has been revised. In the preamble to the proposed and final rule to implement the 8-hour ozone standard, EPA explained that in designing a transition from the 1-hour ozone standard to the 8-hour standard, we looked to various CAA provisions concerning anti-backsliding to ascertain Congressional intent. These provisions included section 110(1), section 193, subpart 2 of part D of Title I together with the classification process under section 181, and section 172(e). See the April 30, 2004 (69 FR 23951 at 23972) and the June 2, 2003 proposal (68 FR 32819) for a detailed discussion of the rationale. EPA concluded that Congress intended 1-hour ozone nonattainment areas to remain obligated to adopt and implement those control obligations mandated by Congress for the area's 1-hour classification. Thus, under our anti-backsliding regulation, areas must continue to implement control obligations that applied for purposes of the 1-hour standard and to adopt any control obligations that applied but that the area had not yet adopted. States may modify or remove control obligations in the SIP that were not mandated by Congress so long as the State demonstrates that removal or modification will not interfere with attainment or maintenance of the 8-hour ozone standard or interfere with any other applicable requirement.

Question 2. If the City of Baton Rouge continues to be classified as severe under the 1-hour standard, major sources of VOCs in the nonattainment area would be subject to the imposition of penalty fees if the area fails to attain the standard by the attainment date. Have the major sources in any other city in the United States ever been required to pay fees under this standard?

Response. The CAA Section 185 fees provision applies to ozone nonattainment areas classified as severe or extreme when such an area fails to attain the standard by its attainment date. Since severe and extreme areas have attainment dates of November 15, 2005 or later, no such area has yet failed to attain the 1-hour standard by its 1-hour attainment date. The Phase I Rule to implement the 8-hour ozone NAAQS (69 FR 23951) provides that once the 1-hour standard is revoked in June 2005, EPA will no longer make findings of whether areas attain the 1-hour standard and also provides that the section 185 fee provisions will no longer apply for pur-

poses of failing to attain the 1-hour standard. On June 29, 2004, EPA received a Petition for Reconsideration that requested that the Agency reconsider, among other issues, the section 185 fee issue because EPA had not proposed that these provisions would no longer apply once the 1-hour standard is revoked. EPA granted the petition and issued a proposal seeking comment on the portion of the Phase I Rule that addressed the continued applicability of the section 185 fees (February 3, 2005; 70 FR 5593). This proposal reiterated EPA's belief that once the 1-hour standard is revoked, the section 185 fee provisions of the CAA should no longer apply for failure to attain the 1-hour standard because there will be no "applicable" 1-hour attainment date. EPA plans to take final action on this issue by mid-May 2005.

Question 3. On January 25, 2005, I requested that CEQ furnish my office with a detailed analysis of how S. 131, "the Clear Skies Act of 2005" would impact the State of Louisiana (and Baton Rouge in particular) as compared to existing law. When can we expect to receive that information?

Response. The EPA has not analyzed the impact of S. 131 on states; however, EPA has provided detailed analysis of state-by-state effects of the Administration's Clear Skies legislation. The Louisiana analysis can be found at http://www.epa.gov/air/clearskies/state/la.html.

STATEMENT OF BRIAN HOUSEAL, EXECUTIVE DIRECTOR, ADIRONDACK COUNCIL

Good morning. Thank you, Mr. Chairman and Committee members, for the opportunity to testify before you today. I am Brian Houseal, the Executive Director of the Adirondack Council.

The Adirondack Council is a privately funded, not-for-profit organization dedicated to ensuring the ecological integrity and wild character of the Adirondack Park. This year, the Adirondack Council and our 18,000 members are celebrating our 30th anniversary of protecting the Adirondack Park. We have been fighting to stop acid rain for 25 of those 30 years.

New York's 6-million acre Adirondack Park is the largest park of any kind in the lower 48 states. It is nearly three times the size of Yellowstone National Park and roughly the size of Vermont. It contains the largest assemblage of old growth forest east of the Mississippi River. The Park contains over 1,500 miles of rivers and 30,000 miles of streams and brooks. It also has 46 mountain peaks of over 4,000 feet tall. The nearly three million acres of public land has been protected by our state constitution as "Forever Wild" for over 100 years, with one million acres being classified as Wilderness.

The Adirondack Park has suffered some of the greatest damage from acid rain due to its geology and geography. Prevailing winds bring power plant emissions from outside New York into the Adirondacks where it is deposited in many forms including acid rain, acid snow and acid fog. The acid deposition then leaches nutrients out of the soil affecting the growth of vegetation. On many mountaintops, 80 percent of the lush red spruce and balsam fir forests have turned brown and died as the soil has been poisoned. Sugar maples and the maple syrup industry are also profoundly affected by acid rain.

Acid rain has reduced the pH of some of our lakes to the same level as vinegar. Approximately one quarter of the Park's 2,800 lakes and ponds are biologically dead, meaning they can no longer sustain their native plant and animal life. Those lakes and additional waterways are further impacted seasonally by "spring shock," a phenomenon that occurs when the winter snowpack melts and sends a high level of nitrogen into the water.

Haze obscures the view for hikers who climb to the tops of the state's highest peaks. Whiteface Mountain, a place where the air should be clean, crisp, and healthy, is out of compliance for national air quality standards. Without Federal action, our Park will not recover and our ecosystems will continue to be unhealthy and unproductive.

Acid rain affects all parts of the state, not just the Adirondack Park. A recent study found that many locations where historic marble, limestone and sandstone buildings are being eaten away by acid rain are in New York State. Albany, Buffalo, New York City, Rochester, and Syracuse all made the list of the top 20 areas ("The Effect of Acid Rain/Budget Cuts on Helping Our Community Treasures." DOC Communications, July 31, 2003). Our cities and our heritage can no longer withstand the effects of this pollution.

In addition, grape growers from Long Island to the Finger Lakes note that their harvests are diminished in vitality each year as the nutrients needed to grow vines and fruit are depleted from the soil by polluted rain and snow. The Long Island Pine Barren, the Catskill Park, the Taconic Mountain Ridge near Massachusetts and the

Hudson Highlands are all suffering extensive environmental damage from decades of acid rain.

The damage that sulfur and nitrogen pollution causes is far from a regional issue. It is an issue of national, even international importance. Excess nitrogen in waters and in soils—"nitrogen saturation"—can be found in the Northeast and in West Virginia's Allegheny Mountains, Tennessee's Great Smoky Mountains, Colorado's Front Range of the Rockies and even as far west as the San Bernardino and San Gabriel Mountains of California. Studies conducted in the Shenendoah National Park show that fish species richness, population density, condition, age distribution, size and survival rate were all reduced in streams no longer able to neutralize acidity.

Estuaries along the entire east coast suffer from airborne inputs of nitrogen that can make up nearly 40 percent of the total nitrogen loaded into their systems. In estuary systems such as Long Island Sound, Narragansett Bay, Chesapeake Bay and Tampa Bay in Florida, nitrogen-based pollution is overloading the water with nutrients. This causes "eutrophication"—an overabundance of algae. When algae dies and decays, it depletes the water of precious oxygen needed by all aquatic animals. This condition is known as hypoxia. These blooms are associated with fin fish kills, shellfish kills and human illness.

Acid rain is also falling on the District of Columbia. Acid rain is eating away at the marble of the Capitol building and many of the great monuments on the mall. The Lincoln memorial corrodes more every year. So it is with buildings and monuments throughout the Capitol. The monuments to the fallen on the great battle sites of the Civil War, Gettysburg and Vicksburg, lose their inscriptions and carved features from the acid bath they endure each rainy day. The Statute of Liberty simply slowly melts away, day by day. This is why the fight to stop acid rain has been joined by many of the nation's prestigious organizations dedicated to historic preservation.

Although the 1990 Clean Air Act Amendments have begun to lessen the impacts of acid rain, the problem has clearly not been solved. Some early data has shown a slight improvement in the acid neutralizing capacity (ANC) of a handful of our lakes. This evidence, along with a litany of reports from government agencies and non-governmental organizations indicates that the 1990 amendments targeted the right pollutants to combat acid rain, but did not reduce the pollution levels sufficiently.

Today, we are here to make three requests as you consider new legislation in order to help solve the acid rain problem. First, action to stop acid rain must be taken this year. Second, it must be as good as or better than the Environmental Protection Agency's Clean Air Interstate Rule (CAIR). Finally, no individual state's current enforcement mechanisms should be eroded.

The Adirondack Council has been actively calling for further reductions in the emissions that cause acid rain for almost a decade since the EPA first reported in 1995 that further reductions beyond the 1990 Clean Air Act Amendments would be necessary. In 1997, we encouraged then-New York Senators Moynihan and D'Amato to introduce legislation that would stop the damage and start the recovery process. That roughly translated into an additional 50 percent reduction in sulfur emissions below the phase 2 levels and a 70 percent cut in nitrogen from 1990 levels, including a year-round cap-and-trade program. This bill was later sponsored by New York's entire Congressional delegation and reintroduced several times through 2002 when it was sponsored by our current New York Senators Clinton and Schumer.

The Council has testified before this committee twice before on the problem of acid rain since the Moynihan bill was first introduced. It has now been 10 years since EPA's 1995 report detailing the need for additional cuts to help places like the Adirondacks recover. Something must be done this year to stop acid rain. Studies have shown that approximately 25,000 U.S. citizens die annually because of power plant pollution. In essence, the lack of action by Congress since the first time that the Adirondack Council testified here over 5 years ago has resulted in roughly 133,000 lives being needlessly cut short. We need progress this year—you cannot come home empty-handed yet again. Action is long overdue. While I am honored to testify before you and this committee, I would be even more honored if the problem was solved this year and I did not have to return again to testify.

In the late 1990s the Moynihan proposal was considered neither politically nor economically feasible. However, we now know that this level of reductions is possible on both counts. For several years now, the Moynihan bill, once considered a radical notion, has become the "floor" that other proposals would have to exceed. Numerous members of this committee have introduced or soon will introduce legislation, all of which go beyond what Senator Moynihan first suggested.

Today, we have a new "floor" in the form of the Clean Air Interstate Rule (CAIR). CAIR represents a reduction of 65 percent of nitrogen emissions and 70 percent of

sulfur emissions respectively from current levels in 29 eastern states plus the District of Columbia. This rule, proposed by the Environmental Protection Agency in December 2003, is scheduled to be finalized in March. Any legislation that is passed must buildupon the floor established by CAIR. In order to achieve this, Clear Skies would have to be amended to move the compliance dates up from 2018 to 2015. We believe this is possible as it would follow the model of the 10-year phase-in of the Clean Air Act Amendments of 1990. Even lower emissions caps and compliance dates would serve to speed up the recovery process of our lakes, streams and mountains. Lowering the cap on sulfur dioxide further would also produce a significant co-benefit in terms of reducing mercury emissions.

We would like to see deeper cuts for mercury, and do not agree with the proposed trading scheme due to the demonstrated neurotoxicity of mercury in both human and wildlife populations.

This bill does not include reductions in carbon dioxide one of the major ingredients of global climate change. While we are very concerned about the serious environmental impacts that are already underway, we do not think that progress on ending acid rain should be delayed while carbon is further debated. We support Governor Pataki's twelve-state Regional Greenhouse Gas Initiative (RGGI), and the McCain-Lieberman bill, which we are hopeful the Senate will act on soon.

While we support CAIR, we would like to see legislation to ensure more legal certainty in the cap levels and timelines. We have witnessed numerous regulations tied up in the court system for many years. Another benefit of legislation is that reports to Congress on the progress of the program, along with funding necessary to expand the chemical and ecological monitoring of sensitive ecosystems like the Adirondacks, can be mandated. We would encourage you to consider strengthening these provisions of the legislation as it is marked up in the near future.

We would also urge the committee members to carefully consider whether or not it is necessary to make other changes to the existing Clean Air Act. While we understand the need for regulatory certainty for industry compliance, changing programs such as regional haze, Section 126 petitions, and rigorous monitoring from continuous emissions monitoring systems (CEMS) should be closely examined. Including new requirements such as early reduction credits (ERC's), opt-ins and safety valve provisions could also have a negative impact on the effectiveness of the successful acid rain program started by EPA and the Clean Air Markets Division fifteen years ago.

Enforcement tools currently used by the states to clean up their air should not be diminished in any way. A prime example of the usefulness of these enforcement tools came last month from New York's Governor George Pataki and Attorney General Eliot Spitzer, two men who have done a great deal to protect the Adirondack Park from acid rain. They announced an agreement with the current and former owners of some of New York's largest and dirtiest coal-fired power plants to settle potential violations of the Clean Air Act's New Source Review (NSR) requirements. These settlements will result in the largest reductions in air pollution ever attained through a settlement in New York.

Last week, our Governor and Governor Schwarzenegger of California sent you a letter stating, in part, "These states, like ours, will need all the tools available under the Act to craft effective strategies to meet the standards," [referring to 8-hour ozone and particulate matter ($PM_{2.5}$) standards.] We wholeheartedly agree with their position, which was also echoed by Massachusetts Governor Mitt Romney.

The Adirondack Council first testified before this committee on the need to address acid rain in October 1999. On that same day, Governor Pataki announced that he would enact the toughest acid rain regulations in the country. After several court challenges, those rules went into effect on October first of 2004 with year-round nitrogen controls, and a month ago, further sulfur reductions. New York's regulations mirror the Moynihan legislation. New York has now taken exhaustive measures to clean up its own plants. We are now asking the rest of the country to do the same.

Thank you again for allowing me to testify here today.

RESPONSE OF BRIAN L. HOUSEAL TO ADDITIONAL QUESTION FROM SENATOR INHOFE

Question. Do you believe that if the CAIR rule is delayed from litigation that it will achieve SO_2 reductions equal to Clear Skies?

Response. If CAIR is the subject of litigation, we hope that it will be implemented without a stay, in order to start the reductions as scheduled while the specific issues related to the litigation are resolved. Previous court decisions related to EPA Clean Air Act regulations have proceeded in this manner.

As the CAIR rule is only a regional program and Clear Skies is national, the approximately 70 percent reductions in both for sulfur and nitrogen are similar in nature. The overall emissions reductions in Clear Skies may be greater over time, insofar as it covers the entire country.

In order to ensure the eastern states see the benefits of the proposed reductions, east and west regions could be established for sulfur similar to the nitrogen program in Clear Skies.

However, early reduction credits and opt-ins may have the unintended consequence of eroding the goal of 70 percent reductions in the Clear Skies bill.

RESPONSE OF BRIAN L. HOUSEAL TO ADDITIONAL QUESTION FROM SENATOR JEFFORDS

Question. Do you support S. 131 as introduced?

Response. We support the intent of the legislation to reduce the pollution that causes acid rain and we also support the mechanism by which this is achieved, the successful cap-and-trade program. As S. 131 will be the vehicle for clean air legislation in the Senate this year, we respectfully request that the bill be improved before it is passed by the committee. These improvements include: making the reductions of sulfur dioxide and nitrogen oxides deeper and sooner; increasing the ratio of avoided emissions necessary for power plants to receive an allowance through the early reduction credit (ERC) program; and, determining if it is necessary to make any changes to new source review (NSR), Section 126 petitions, and continuous emissions monitoring systems (CEMS) requirements. We also urge you to also make deeper cuts for mercury but do not support the trading of mercury as it is a neurotoxin and has localized effects on both human and wildlife populations.

RESPONSES OF BRIAN L. HOUSEAL TO ADDITIONAL QUESTIONS FROM SENATOR LAUTENBERG

Question 1. The Acid Rain Program's cap and trade approach has been very successful. Would this bill's cap and trade system be as protective of public health as that program?

Response. This bill uses the successful Acid Rain Program cap and trade system administered by the EPA's Clean Air Markets Division over the past 15 years for sulfur dioxide and replicates it for nitrogen oxides. Public health will be improved by mandating deep cuts in these emissions as soon as possible. The faster and deeper the cuts, the better the results will be for public health and the environment.

Question 2. As someone who came out of the corporate world, I can appreciate the importance of making sound investments in new technologies. Is the cap and trade system in Clear Skies as cost-effective at reducing pollution as other approaches?

Response. Yes, the 1990 Clean Air Act amendments provided clear results. EPA's acid rain program has nearly 100 percent compliance and costs for industry to comply were a fraction of the original estimates. In addition, the program is run by only a handful of EPA staff.

The reductions mandated by the amendments were easily obtained by the industry ahead of schedule. In fact, that is why new legislation is necessary. Industry over-complied with the requirements and now have a "bank" of excess allowances to use. Further cuts are necessary to provide the health and ecological benefits anticipated in 1990.

New source review (NSR) can be an effective tool in terms of reducing power plant emission at individual plants. However, this is a long process and produces uncertain outcomes. Cap-and-trade is more certain and provides reductions for an entire airshed, which can help the Adirondacks recover from acid rain. Both cap-and-trade and NSR should be available as resources to clean up the air.

Question 3. Clear Skies proposes giving many industries a free pass when it comes to reducing hazardous air pollutants—some of them known to cause cancer. What impacts do you foresee from this dramatic retreat from Clean Air Act protections?

Response. The Adirondack Council claims no expertise in this area. It is our opinion that current Clean Air Act standards should not be weakened and the trading of mercury should not be allowed.

Question 4. My entire home State of New Jersey was recently declared "out of attainment" for nitrogen oxides, which help form ozone and damage lungs—especially of kids. Do you believe this bill will improve New Jersey's air quality?

Response. Insofar as this bill includes year-round controls on nitrogen oxides, New Jersey's air quality should improve. A 70 percent reduction in both sulfur and nitrogen should help New Jersey meet its attainment goals. We do not believe that any one proposal is a "silver bullet," but think that cap-and-trade programs will limit interstate pollution, allowing individual states to take further actions on their own to meet the necessary requirements.

Testimony of John D. Walke

Clean Air Director
Natural Resources Defense Council

Hearing on S. 131, the "Clear Skies Act of 2005"
U.S. Senate Committee on Environment & Public Works

February 2, 2005

NRDC
THE EARTH'S BEST DEFENSE

CONTENTS

SUMMARY:
THIS BILL HARMS THE PUBLIC,
HELPS BIG POLLUTERS, AND
WORSENS GLOBAL WARMING

The Bush Administration calls this bill the "Clear Skies Act." The only thing clear about it is the fact that it breaks the Clean Air Act's promise to deliver clean air without more delay; minimize emissions of poisons like mercury; protect states from out-of-state polluters; and make old plants meet modern cleanup standards when they are refurbished.

In his testimony before this Committee in April 2003, my colleague David Hawkins said that the Bush Administration owed Congress and the American people straight answers to three questions:

- Why should the public accept the enormous toll of preventable death and illness that will occur under the "Clear Skies" bill?
- Why should Americans suffer tens of billions of dollars each year in health costs that could be avoided at a fraction of that cost?
- Why don't the American people have a right to expect much deeper and quicker reductions in power plant pollution than the "Clear Skies" bill will provide?

Those questions remain unanswered.

This bill turns its back on the public and embraces polluters. It is no surprise that the bill does this, because it is the brainchild of the polluters. How do we know this bill was produced by the polluters? Their lobbyist told us so. In April 2001, the power industry's top air pollution lobbyist in Washington addressed a coal industry group. Unbeknownst to him, his talk was being transcribed, and later would be posted at www.aeci.org/wcta/spring2001/shea.htm.[1]

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. Never fear, the lobbyist assured his colleagues, he and his friends 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 so-called "Clear Skies" bill is the legislation that the power lobbyist proudly described in April 2001.

In my testimony today, I will emphasize three major policy failures in the Administration's bill:

- The bill lets power companies and other polluters continue inflicting enormous harm on the public.
- The bill weakens – and in many cases eliminates altogether – major air quality safeguards in the Clean Air Act.

[1] The transcript is attached to this testimony.

- The bill worsens global warming by encouraging the power sector to make significant capital investments in plant modifications that exacerbate, rather than control, CO_2 emissions.

Senators who preceded you on this Committee cared about the harm caused by continuing delays in cleaning the air. They accordingly wrote laws requiring the prompt achievement of health standards. Now, in an effort to accommodate the power industry, the Bush Administration has introduced a bill that delays achievement of those health standards. If you vote for this bill, you are telling the American people that you don't care about that. Prior Senators enacted laws requiring highly polluting old plants to meet modern cleanup requirements. The Administration's bill eliminates that protection. If you don't care about that either, then vote for this bill. Current law protects states from being polluted by upwind emitters. The Administration's bill weakens that protection too. Vote for this bill if you don't care. Your predecessors wrote current law to require prompt minimization of poisons like mercury, using the advanced technology created by American ingenuity. The Administration's bill brings an end to that approach. If you don't care, vote for this bill.

I. THE BILL HARMS THE PUBLIC AND HELPS BIG POLLUTERS.

Air pollution from power plants imposes a staggering toll of death, disease, and environmental contamination on the American people.

Power plant emissions of sulfur dioxide (SO_2) and nitrogen oxides (NO_x) create dangerous concentrations of fine particles and ozone (soot and smog) that 159 million people in this country are forced to breathe.[2] 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.[3]

Power plants also emit mercury, which acts as a potent brain poison (neurotoxin) even in very small amounts. The 430 coal-fired power plants in the United States together constitute the country's largest source of mercury air pollution.[4] Those plants emit approximately 48 tons of mercury into the air each year.[5] That pollution falls from the air and washes into lakes, rivers, and coastal waters, where it concentrates in fish. As a result, forty-eight states have had to issue warnings concerning mercury contamination of local fish. A more ominous result is that one in twelve women of childbearing age has mercury levels above EPA's safe health threshold.[6] Nationally, this translates into nearly 4.9 million women of childbearing age.[7] In January 2004, an EPA scientist highlighted published research indicating that mercury levels in the developing fetus may be higher than those in the mother, and estimated that approximately 630,000 babies are born each year in this country with the risk of brain injury from mercury poisoning.[8]

The Administration's bill allows power plant owners to continue to exact an unacceptable and unjustifiable toll of preventable death and illness. Measured against any of the various alternatives – including faithful enforcement of the current Clean Air Act and implementation of a proposal developed by EPA in 2001 – the Administration's bill will, from its enactment through 2020, be 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.[9]

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[2] American Lung Association, "State of the Air: 2004," available at http://lungaction.org/reports/stateoftheair2004.html.

[3] 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.

[4] National Wildlife Federation, "Mercury Deposition: Clean the Rain" (Jan. 7, 2005), available at http://www.nwf.org/nwfwebadmin/binaryVault/CTR%20latest%20developments.PDF.

[5] *Id.*

[6] Centers for Disease Control, "Second National Report on Human Exposure to Environmental Chemicals" (Jan. 2003); Susan E. Schober, *et. al*, "Blood Mercury Levels in U.S. Children and Women of Childbearing Age, 1999-2000," *Journal of the American Medical Association,* 289: 1667-74 (2003).

[7] Derived by the Clean Air Task Force from 2000 census data and fertility data from the National Center for Health Statistics.

[8] "EPA Doubles Estimates of Children With Mercury in Blood," *InsideEPA* (Jan. 30, 2004).

[9] Clean Air Task Force, "2003-2020 Health Damages Estimates for Clear Skies Initiative and Straw Proposal" (May 2, 2003).

A. The Bill Is Far Dirtier Than Simply Implementing the Clean Air Act.

1. The Administration Has Effectively Conceded That Implementing the Clean Air Act Would Achieve Steeper, Faster Pollution Cuts than This Bill.

In two pending rulemakings, the so-called "Clean Air Interstate Rule" ("CAIR") and a rule restricting hazardous air emissions from electric utilities, EPA concedes that it can achieve reductions on the same order as those promised in the bill – and on the same schedule – without any new legislation.[10] Moreover, the pollution cuts prescribed in those proposed regulations are far more modest than what the current Clean Air Act actually requires. For instance, the final CAIR will need to mandate far deeper (though still cost-effective) cuts in SO_2 and NO_x.[11] For its part, the final hazardous air pollutant rule will need to mandate the installation of maximum achievable control technology ("MACT") for mercury on all electric utility units.[12] With that addition, the final mercury rule would, between now and 2025, remove nearly 400 more tons of toxic mercury from the air than will the Administration's bill.[13]

Even assuming, for the sake of argument, that the Clean Air Act does not require EPA's two proposed rules to be strengthened, implementation of the Act still promises cleaner air faster than the Administration's bill, because – as described in section I.F. of this testimony – the bill eliminates a host of vital air quality safeguards found in the current Act.

In a vain attempt to make its bill appear less dirty, the Administration has compared full enforcement of its bill with zero enforcement of the Clean Air Act. This zero-enforcement baseline, which EPA Assistant Administrator Holmstead has candidly called the "Rip Van Winkle scenario,"[14] considers only the power plant pollution limits already on the books – principally the SO_2 reductions required by the 1990 Acid Rain Program and the NO_x reductions ordered under the 1997 "NO_x SIP Call." In other words, the Rip Van Winkle scenario assumes that EPA and the states went to sleep in 1997, and that they will never wake up.

But the existing Clean Air Act requires far more than perpetual slumber. EPA and the states must bring America's cities and counties into compliance with the national ambient air quality standards for soot and smog before the end of this decade.[15] EPA concedes that meeting those health standards will require steeper and faster reductions in power plant SO_2 and NO_x emissions than assumed in the Rip Van Winkle scenario.[16]

2. The Administration's Complaints about Clean Air Act Litigation Delays Are Unavailing.

Industry lobbyists claim that implementing the Clean Air Act would entail litigation delays, but the truth is that the critical legal questions surrounding the authority that EPA will exercise in the existing Act to regulate power plants have been answered already. For example, although industry managed to impose substantial litigation delays on EPA's "NO_x SIP Call"[17] and section 126 rulemakings,[18] EPA can now rely

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[10] 69 Fed. Reg. 4566 (Jan. 30, 2004); 69 Fed. Reg. 12398 (Mar. 16, 2004).
[11] Clean Air Task Force, *et al.*, Comments on Proposed Interstate Air Quality Rule (Mar. 30, 2004).
[12] NRDC, *et al.*, Comments on Proposed NESHAP or NSPS for Electric Utilities (Apr. 30, 2004).
[13] *Id.*
[14] Mr. Holmstead so characterized the Administration's baseline assumptions in a presentation to the National Association of Regulatory Utility Commissioners in Washington on February 24, 2003.
[15] 69 Fed. Reg. 23858 (Apr. 30, 2004); 70 FR 944 (Jan. 5, 2005).
[16] 69 Fed. Reg. 23951 (Apr. 30, 2004); EPA Press Release, "EPA Announces Final Designations for the First Fine Particle Standard" (Dec. 17, 2004).
[17] 63 Fed. Reg. 57356 (Oct. 27, 1998); *Michigan v. EPA*, 213 F.3d 663 (D.C. Cir. 2000).

on the D.C. Circuit's affirmation of those rulemakings[19] in implementing its new CAIR, which relies on the same statutory authority.

It is absurd to think that starting afresh with a new, untested legal framework would reduce future litigation delays. Indeed, as the Clean Air Task Force's Conrad Schneider noted in his testimony before this Committee's Air Quality Subcommittee last week, the Administration's bill calls for about two dozen new EPA and Department of Energy determinations, each of which will engender controversy, and each of which will be subject to judicial review.[20] Most obviously, the bill's interstate petition program prevents EPA from regulating upwind states' power plant pollution unless the agency first makes the impossible determination that emissions reductions from those sources would be more cost-effective than reductions from all other upwind sources of SO_2 and NO_x, including industrial sources, small businesses, on-road vehicles, and off-road vehicles.[21] This fact-intensive determination is litigation bait that will enable industry to keep the agency and petitioning downwind states in court for years.

Additionally, contrary to the claims of some industry lobbyists, these litigation opportunities will not be consolidated into one early lawsuit that resolves all legal questions and grants certainty for the remainder of the law's implementation. Rather, the agency determinations will be made at staggered intervals over the two-decade course of the bill's implementation. The bill does purport to limit challenges to "the calculation of the allocation for any unit or facility, and the determination of any values used in such calculation,"[22] but even the terms of that provision are sufficiently vague to result in judicial involvement. Why should this treasure trove of new legal questions lessen affected groups' litigiousness? The far more likely scenario is an endless round of court cases challenging aspects of the Administration's bill and its implementing regulations. The wrangling and uncertainty would stretch well into the second decade of implementation.

In short, the litigation history of EPA's earlier interstate air pollution rulemakings provides no support for the Administration's bill. That history – and particularly industry's central role in each of the legal dramas – is instructive for a different reason, though: As discussed in section I.F.3, below, the Administration's bill appears carefully crafted to overturn the court rulings that upheld those health-protective rulemakings. Having lost in the D.C. Circuit, industry has persuaded the Administration to overturn EPA's Clean Air Act authority to require "highly cost effective" emissions reductions from upwind pollution sources – authority the agency needs if it is to remedy attainment problems and address adverse health conditions in downwind states. To accomplish this purpose, section 3(a)(3) of the Administration's bill completely overhauls 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.[23]

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[18] 64 Fed. Reg. 28250 (May 25, 1999); 65 Fed. Reg. 2674 (Jan. 18, 2000); *Appalachian Power Co. v. EPA*, 249 F.3d 1032 (D.C. Cir. 2001).

[19] *Michigan*, 213 F.3d at 674-81 (upholding EPA approach requiring NO_x emissions reductions by an amount achievable with "highly cost-effective controls"); *Appalachian Power Co.*, 249 F.3d at 1048-51 (upholding methodology by which EPA reached its findings of "significant contribution" to nonattainment of the "1-hour" ozone rule under section 126, based upon application of "highly cost-effective" controls).

[20] On this point, it bears noting that even the Acid Rain Trading Program, which fixed SO_2 caps and compliance deadlines, nevertheless faced three lawsuits – all from industry. *American Mun. Power-Ohio v. EPA*, 98 F.3d 1372 (D.C. Cir. 1996); *Indianapolis Power & Light v. EPA*, 58 F.3d 643 (D.C. Cir. 1995); *Madison Gas & Elec v. EPA*, 25 F.3d 526 (7th Cir. 1994).

[21] S. 131 Sec. 3(a)(6) (adding Clean Air Act § 126(d)(2)(B)(i), (ii)).

[22] S. 131 § 403(a)(2).

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

B. The Bill Is Far Dirtier than Competing Legislative Proposals.

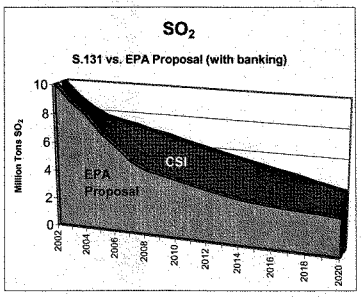
EPA developed the original "Clear Skies" proposal in August 2001.[24] After intense lobbying by the power sector, the White House rejected the EPA targets and timetables. In place of EPA's proposal, the Administration advanced a plan that permits industry to continue to pollute longer, and at higher levels. The following chart summarizes the larger pollution loads allowed by the Administration's bill:

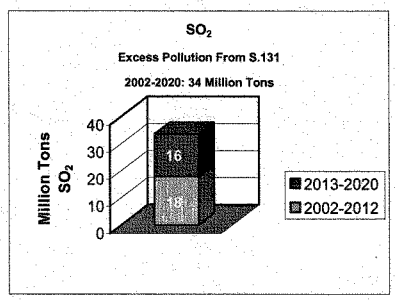
"Clear Skies" Bill v. EPA 2001 Proposal

	Sulfur Dioxide (SO_2)	**Nitrogen Oxides (NO_x)**	**Mercury (Hg)**
EPA Proposal	2 million tons in 2010	1.9 million tons in 2008 1.25 million tons in 2012	24 tons in 2008 7.5 tons in 2012, with 70% facility-specific reduction
Clear Skies Act	4.5 million tons in 2010 3 million tons in 2018	2.1 million tons in 2008 1.7 million tons in 2018	34 tons in 2010 15 tons in 2018

(Figure 1)

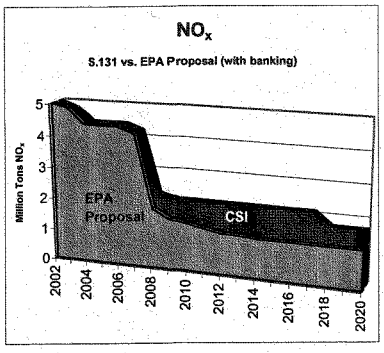
The differences in the amount of pollution allowed by these two plans, year-by-year and cumulatively out to 2020, are huge. For example, the Administration's bill results in 18 million excess tons of SO_2 through 2012, and 34 million through 2020. For NO_x, the bill results in 3 million excess tons through 2012 and 8 million through 2020:[25]

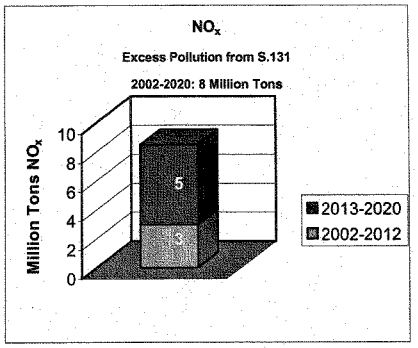




[24] EPA, "Comprehensive Approach to Clean Power: Straw Proposal and Supporting Analysis for Interagency Discussion" (Aug. 3, 2001), *available at* www.catf.us/publications/other/EPA_Straw_Proposal.pdf.

[25] These figures are based on EPA analyses using the Integrated Planning Model ("IPM"), the standard modeling tool used by all stakeholders in the power plant debate. The figures show the pattern of emissions expected under the two plans, including the impact of "banking," which results in some reductions below the caps in early years in order to offset emissions at levels above the caps in later years.

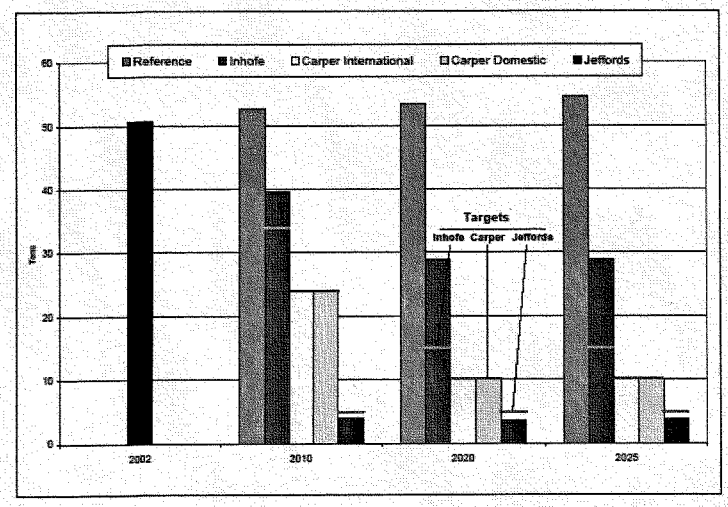




(Figures 2 through 5)

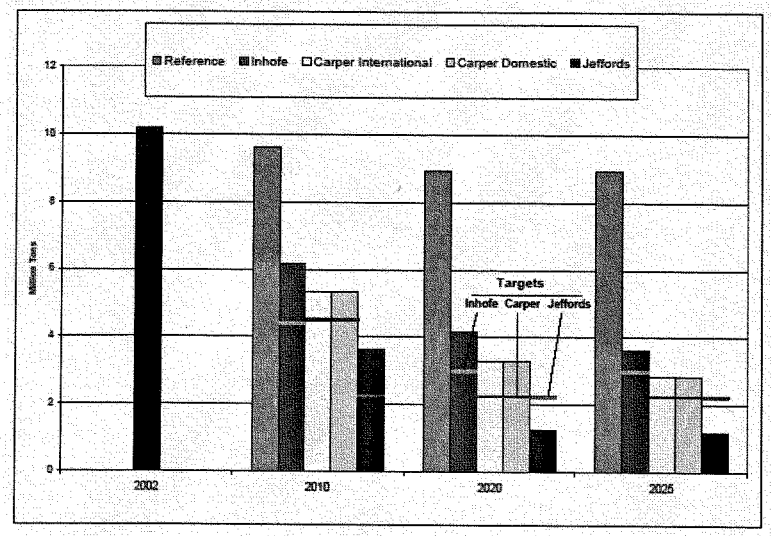
In the following charts prepared by the Energy Information Administration, the Administration's bill appears similarly weak in comparison to the proposed Clean Power and Clean Air Planning Acts:

Figure ES2. Electricity Sector Mercury Emissions in Alternative Cases



Source: National Energy Modeling System, inbase.d040904a, incs3pws.d040904a, inca4p.d040904a, inca4plo.d040904a, and injf4p.d041604a.

Figure ES1. Electricity Sector SO_2 Emissions in Alternative Cases



Source: National Energy Modeling System, inbase.d040904a, incs3pws.d040904a, inca4p.d040904a, inca4plo.d040904a, and injf4p.d041604a.

(Figures 6 and 7)[26]

In the nine months since these comparisons were made, the NO_x cap in the Administration's bill has been further inflated by 100,000 tons-per-year in each of the two implementation phases.[27]

The Administration does not contend that technology is unavailable to meet the more stringent SO_2 and NO_x caps associated with EPA's original proposal. It is undisputed that the necessary technology is proven and commercially available. Instead, the Administration contends that a bottleneck of labor, chiefly skilled boilermakers, will prevent meeting the deadlines of tighter legislation.

The Administration's claim does not withstand scrutiny. In reality, the available labor supply is more than sufficient to meet the deadlines outlined in the original EPA proposal:

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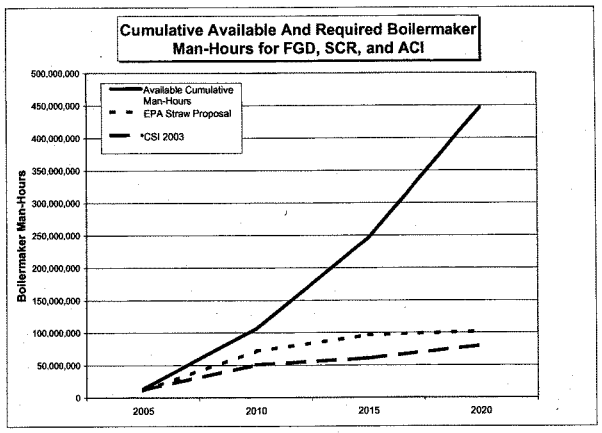
[26] Figures 6 and 7 are reproduced from page ix of Energy Information Administration, "Analysis of S. 1844, the Clear Skies Act of 2003; S. 843, the Clean Air Planning Act of 2003; and S. 366, the Clean Power Act of 2003" (May 2004), available at http://tonto.eia.doe.gov/FTPROOT/service/sroiaf(2004)05.pdf.

[27] S. 131 § 453.



(Figure 8)[28]

C. The Bill Harms Public Health.

The additional pollution from power plants under the Administration's bill leaves scores of cities and counties out of attainment of the national ambient air quality standards for soot and smog – the Clean Air Act's bedrock measures of public health protection.

- EPA's analysis shows that the Administration's bill leaves 115 counties – home to 79 million Americans – in violation of these public health standards in 2010.[29] Even in 2020, two years after the bill's delayed second-phase deadline, 66 counties with 61 million residents remain in violation.[30]

- The stronger power plant emission restrictions in the EPA proposal bring 85 percent of eastern counties with unhealthy soot levels into timely compliance with the fine particle standard, and 90 percent of eastern counties with unhealthy smog levels into timely compliance with the ozone standard.[31] Greater power plant pollution reductions also reduce population exposure in the remaining counties, and make it substantially easier for those areas to attain the health standards with reasonable controls on other sources.

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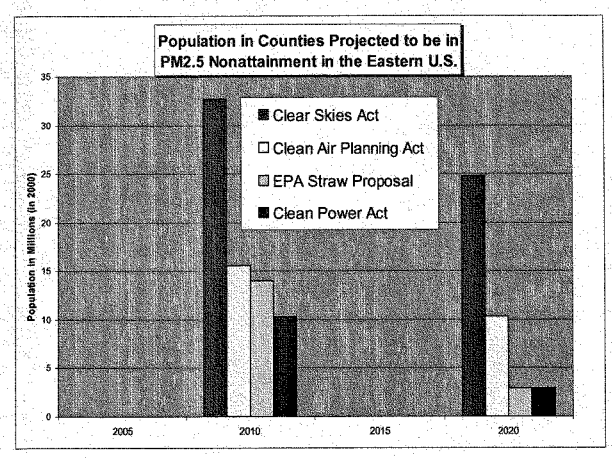
[28] Figure 8 is reproduced from Page 14 of the written testimony delivered on January 26, 2005 to this Committee's Subcommittee on Clean Air, Climate Change, and Nuclear Safety by Conrad G. Schneider on behalf of the Clean Air Task Force, Clear the Air, National Environmental Trust, and U.S. Public Interest Research Group ("the Schneider Testimony"). Please also see Appendix 1 of that testimony. *See also* Clean Air Task Force, *et al.*, Comments on Proposed Interstate Air Quality Rule (Mar. 30, 2004), at 26-32.

[29] EPA, "Comprehensive Approach to Clean Power: Straw Proposal and Supporting Analysis for Interagency Discussion" (Aug. 3, 2001), *available at* http://www.catf.us/publications/other/EPA_Straw_Proposal.pdf.

[30] *Id.*

[31] *Id.*

Owing to its loose caps and delayed implementation deadlines, the Administration's bill offers the least help – among all the legislative proposals – to states and regions seeking attainment:



(Figure 9)[32]

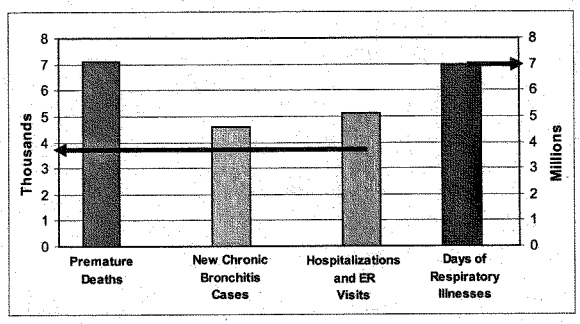
Ohio, Georgia, and Illinois are among the states that face a noticeably bleaker attainment situation due to the bill's laxer, slower power plant emission curbs.

Under the Administration's bill, large numbers of Americans will continue to die prematurely or to suffer illness caused by excessive power plant pollution. Figure 10 shows EPA's estimates of the additional premature death toll and illness in the year 2020 under this bill, as compared to the 2001 EPA proposal:[33]

- 7100 additional premature deaths;
- 4600 additional chronic bronchitis cases;
- 5100 additional hospital stays and ER visits; and
- 7 million additional days of respiratory illness.

[32] Figure 9 is reproduced from Page 16 of the Schneider Testimony.
[33] EPA, "Comprehensive Approach to Clean Power: Straw Proposal and Supporting Analysis for Interagency Discussion" App. A at 3 (Aug. 3, 2001), *available at* http://www.catf.us/publications/other/EPA_Straw_Proposal.pdf; EPA, "CSI Technical Support Package" 29 (Sept. 2002), *available at* www.epa.gov/clearskies.

Greater Health Damages Under "Clear Skies" (additional cases in 2020 compared to EPA proposal)

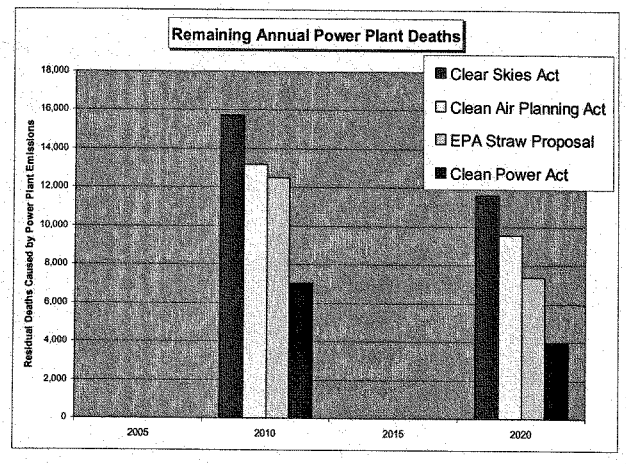


(Figure 10)

The number of cumulative additional premature deaths and illnesses that the Administration's bill allows is even more staggering. Using EPA methods, the Clean Air Task Force calculates that between 2008 and 2020, the bill allows, as compared to the EPA proposal, more than 100,000 additional premature deaths and millions of additional asthma attacks and other illnesses.[34]

Each of the current, alternative legislative proposals also results in significantly fewer deaths per year in 2020 as compared to the Administration's bill – roughly 2,000 fewer in the case of the Clean Air Planning Act and nearly 8,000 fewer in the case of the Clean Power Act:

[34] Clean Air Task Force, "2003-2020 Health Damages Estimates for Clear Skies Initiative and Straw Proposal" (May 2, 2003).

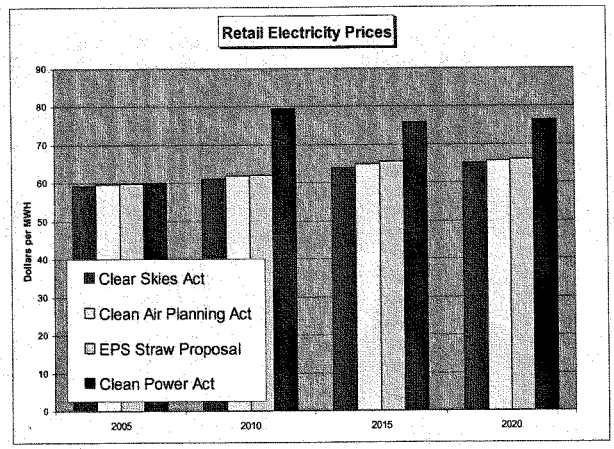


(Figure 11)[35]

D. The Bill Is Far More Costly than Competing Legislative Proposals.

The Clean Air Task Force has commissioned a comparison of these proposals using EPA's own traditional power system cost modeling, emission dispersion modeling, and cost-benefit methods – and employing consultants routinely retained by EPA to do this work. In all cases, the model assumptions were calibrated to run "apples to apples" comparisons with EPA's 2003 modeling of the Administration's bill. The analysis shows that the alternative, tighter caps and timetables result in very little additional retail cost of electricity. This result is especially notable since the Clean Air Planning Act and Clean Power Act also include carbon caps that the Administration's bill and the original EPA proposal do not:

[35] Figure 11 is reproduced from Page 7 of the Schneider Testimony.

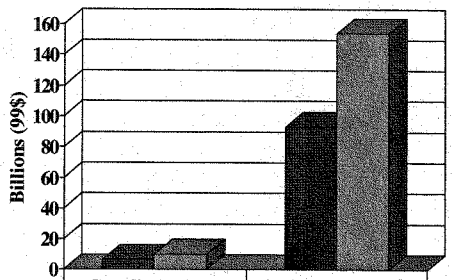


(Figure 12)[36]

Without conceding our fundamental concerns with expressing human deaths and adverse health effects in monetary terms, we note that as of 2020, the public health costs of the Administration's bill exceed those of the EPA proposal by $61 billion per year.[37] Moreover, the EPA proposal's public health savings come at the relatively small annual price of $3.5 billion in implementation expenses.[38] In other words, the Administration is promoting a bill that – as of 2020 – costs the public $15 for every $1 saved by industry:

[36] Figure 12 is reproduced from Page 9 of the Schneider Testimony.
[37] U.S. EPA, "Comprehensive Approach to Clean Power: Straw Proposal and Supporting Analysis for Interagency Discussion" (Aug. 3, 2001), *available at* http://www.catf.us/publications/other/EPA_Straw_Proposal.pdf.
[38] *Id.*

"Clear Skies" Would Save Industry $3.5 Billion in 2020 but Inflict $61 Billion in Public Health Costs



	Compliance Costs (billions 99$)	Health Costs Avoided (billions 99$)
S.131	$6.5	$93
EPA (8/01)	$10	$154

(Figure 13)

E. The Bill Will Not Reduce Power-Plant Pollution 70 Percent by 2018.

In his 2003 State of the Union speech, President Bush claimed that his air pollution plan "mandates a 70-percent cut in air pollution from power plants over the next 15 years," that is by 2018.[39] That claim was false then, and it is false today.[40] Analysis by EPA and the Department of Energy demonstrates that the Administration's legislation will not achieve the 2018 "caps" in the bill, actual pollution reductions of 70 percent, until some time after 2025 – due to the bill's emissions banking and "safety valve" features. And the only reason that EPA and DOE identified the year 2025 was that this represented the limit of their predictive model; even under their assumptions, the ultimate achievement dates could fall well after 2025.

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[39] *Available at* http://www.whitehouse.gov/news/releases/2003/01/20030128-19.html.

[40] Indeed, the falseness of the claim was evident even to members of President Bush's audience. Representatives Allen, Capps, Markey, and Pallone wrote the President a letter in July 2003, "urg[ing] him to correct [his] statement ... [or to] direct EPA to modify the Clear Skies proposal to be in accordance with" his pollution abatement predictions. Letter from Representatives Allen, Capps, Markey, and Pallone, to President Bush 1 (July 31, 2003) ("EPA modeling makes clear that the goal to reduce emissions by 70 percent will not be achieved over the next 15 years (by 2018) as you stated. A September 2002 EPA analysis indicates that in 2020 your proposal would achieve slightly less than a 65 percent reduction in emissions. EPA predicted that even 18 years after enactment, emissions reductions would still fall approximately 945,000 tons of pollution short of a 70 percent reduction."). Characterizing the differences between the President's overly rosy prediction about "Clear Skies" and the bill's likely real world effects as "startling[]," the Representatives reminded the President that "Congress and the public need to be able to rely on the veracity of [his] statements in order to evaluate the competing policies and proposals." *Id.* at 2. "Based on EPA modeling," they continued, the prediction "in the State of the Union appears to fail this test." *Id.*

For instance, the Energy Information Administration has stated explicitly that "[i]n [] Clear Skies [], mercury emissions are not projected to reach the 2010 or 2018 cap levels because of the mercury safety valve. . . . [I]n 2025 they are 29 tons" (*i.e.*, nowhere near the 15 tons that the bill promises to achieve seven years earlier than 2025).[41]

It is important to note too that EPA and DOE conducted their analyses using an earlier version of the bill (S.485) – before industrial units were allowed to "opt in" to the bill's trading system and regulatory relief,[42] and before the bill granted "early reduction" credits to utilities and non-utilities alike.[43] Those two additions undermine President Bush's claim above even further:

- To the extent that non-utility units opt-in to the bill, power plants will not be required to reduce their emissions overall by 70 percent – the greater the degree of non-utility participation in the trading system, the weaker the level of reduction required by power plants.

- Because opt-in unit participation is voluntary; because opt-ins generate additional allowances in the trading system based upon inflated pollution baselines and reductions they would have undertaken anyway; and because additional allowances are created through early reduction credits – the overall effect of these features is to ensure that the bill's 70 percent reduction caps will not be met. Stated differently, these quiet abuses and inherent frauds in the trading system design have the effect of raising the caps so that the bill requires less than 70 percent reductions.

- Just as EPA and DOE found that the utility industry's use of emissions banking and the safety valve will push ultimate achievement of the 70 percent cap until some time after 2025, the generation of additional, fraudulent allowances through opt-ins and early reduction credits pushes attainment of the caps out even further into the future.

If you read the Administration's more recent descriptions of its bill very carefully, you will observe a retreat from the claim that the bill will reduce power plant pollution 70 percent by 2018. Instead, Administration officials make one of several differently worded claims – depending upon whether it is in their present interest to be opaque.

In one version of this dodge, EPA simply fails to specify the date by which the 70 percent reductions will be achieved: "The President's Clear Skies Act would cut power plant emissions of these pollutants by 70 percent, eliminating 35 million more tons of these pollutants in the next decade than the current Clean Air Act."[44] This statement is from EPA's "Legislative Information" Web page concerning the bill, and nowhere on this page does it stipulate by when these reductions supposedly will occur. Testimony by former EPA Administrator Christine Todd Whitman before this Committee on April 8, 2003 followed this same "speak no evil" approach when her entire testimony meticulously avoided answering this most basic of questions.[45]

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[41] Energy Information Administration, "Analysis of S. 485, the Clear Skies Act of 2003, and S. 843, the Clean Air Planning Act of 2003" (Sept. 2003), *available at* http://www.eia.doe.gov/oiaf/servicerpt/ccs/pdf/sroiaf(2003)03.pdf.
[42] S. 131 § 407.
[43] *Id.* § 407(f)(4).
[44] *Available at* http://www.epa.gov/air/clearskies/legis.html.
[45] *Available at* http://www.epa.gov/air/clearskies/testimony.html. While not answering the question, former Administrator Whitman's testimony nonetheless confirmed the untruthfulness of the claim that the Clear Skies bill would achieve actual emissions reductions of 70 percent by 2018: "Because sources can reduce emissions early,

In a legalistic variation on the refusal to specify the date by which 70 percent reduction are accomplished, EPA fact sheets simply note that SO_2, NO_x and mercury emissions are "capped" at their required levels "starting in 2018."[46] But EPA and DOE both have told us that the 2018 "caps" will not be met in 2018, and won't even be met by 2025. Nowhere does this EPA fact sheet tell the public when the 70 percent pollution reductions actually will be achieved – for the simple reason that EPA does not know. Again, the carefully worded statements in EPA's fact sheets avoid the claim that the Administration's plan will reduce power plant pollution 70 percent by 2018. Considering that the vast majority of Americans do not understand how pollution caps work in conjunction with emissions banking, it is highly misleading for the Administration's propaganda in favor of Clear Skies to fail to explain that the 70 percent cap will not reduce pollution by this amount until well after 2018, with two Administration agencies recognizing this will not occur until some time after 2025.

It is thus doubly disconcerting that some proponents of the Administration's bill are still claiming that it will reduce power plant pollution 70 percent by 2018. It will not. The American people and members of Congress deserve a more accurate description of what this bill will and will not accomplish.

F. The Bill Weakens the Clean Air Act.

The Administration's bill takes with one hand while it also takes with the other. In addition to allowing more pollution than public health can tolerate, the Administration's bill weakens or outright appeals all of the specific programs and requirements in the current Clean Air Act that are effectively reducing power plant pollution today and that will reduce it further tomorrow.

The deletions, exemptions and weakening provisions in the Administration's bill do great damage to fundamental precepts of the Clean Air Act that have helped deliver cleaner air for over thirty years.

- Current law requires cleanup of polluted areas as quickly as practicable, but the Administration's bill grants automatic delays to 2015, and effective delays until 2023.

- Current law requires EPA to adopt rules to minimize toxic pollution from power plants, but the Administration's bill repeals most of those requirements and replaces them with a weak performance requirement for mercury that is delayed ten years from the current law's schedule.

- Current law requires new sources locating in polluted areas to meet state-of-the-art pollution standards and avoid making existing health problems worse, but the Administration's bill exempts all sources (even those not covered by any cap) from those requirements until 2015, allowing more than a decade's worth of new pollution sources to make air quality worse.

- Current law gives states victimized by interstate pollution effective rights to remedy that pollution, but the Administration's bill makes those remedies ineffective against power plants and prohibits any reductions from power plants under these provisions until 2012.

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earn allowances for those actions, and use those allowances later, actual emission levels will be higher than the cap in the first years of [the first and second program] phases." *Id.*, sec. II, note to Table I.

[46] *Available at* http://www.epa.gov/air/clearskies/CSA2003shortsummary2_27_03_final.pdf (for example, "annual sulfur dioxide emissions for affected units are capped at 4.5 million tons starting in 2010 and 3.0 million tons starting in 2018").

- Current law requires new and modified power plants to limit pollution increases to avoid turning clean air areas into polluted areas, but the Administration's bill repeals this safeguard except for a narrow 30-mile circle around certain National Parks and wilderness areas.

- Current law requires new and modified power plants to meet up to date emission performance standards to protect areas with clean air, but the Administration's bill repeals this safeguard for nearly all existing plants and replaces it with a more polluting performance standard for new plants.

The Administration defends all of these dismantling provisions as eliminating programs that are not required since its plan establishes new national caps for certain power plant pollutants. But the current Administration ignores what the George H.W. Bush Administration recognized—that national caps cannot protect local air quality and must not override the tools that are in the law to protect communities from pollution increases that harm local air quality. Neither that Bush Administration nor Congress sought to repeal the tools that protect local air quality when enacting the acid rain cap program in 1990. Repeal of those tools is no more justified now.

1. The Bill Delays Existing Deadlines for Meeting Public Health Standards.

The Clean Air Act currently requires attainment as expeditiously as practicable but not later than 5 years after designation (subject to another 5-year extension, again conditioned on passing the "expeditious as practicable test").[47] Because designations for the new 8- hour ozone and PM2.5 standards were made in 2004 and 2005, respectively, the Clean Air Act currently allows citizens to compel their states to adopt measures that will ensure attainment no later than 2009 (for ozone) or 2010 (for PM2.5). The current law also allows downwind states to use CAA §126 to petition for more timely pollution abatement and attainment planning in upwind states.

The Administration's bill postpones the attainment deadline for the country's unhealthy air areas by six years or more. As long as states could show that their polluted areas would attain the smog and soot standards by 2015, those areas would be labeled "transitional" rather than "nonattainment" and be granted automatic extensions of the deadlines to meet health standards.[48] Since the requirement to attain the standards "as expeditiously as practicable" applies only to nonattainment areas,[49] states would be under no obligation to bring air quality into line with the health-based standards any earlier than 2015.

What is more, under the Administration's bill, there is no meaningful remedy for continued nonattainment. If an area is still violating an air quality standard in 2015, EPA makes a determination more than a year later (in 2017), and the responsible state submits a new state implementation plan up to three years after that – in 2020.[50] The state then has at least until 2022 to achieve the air quality standard by implementing its plan.[51] In other words, the Administration's bill forces as many as 159 million Americans to breathe harmful amounts of air pollution for six to eleven years longer than current law allows.[52]

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[47] 42 U.S.C. § 7502(a)(2)
[48] S. 131 Sec. 3(a)(2)(A)(iii) (adding Clean Air Act § 107(d)(1)(A)(iv)).
[49] 42 U.S.C. § 7502(a)(2).
[50] S. 131 Sec. 3(a)(3) (adding § 110(r)(3)).
[51] *Id.*; *see also* 42 U.S.C. § 7410(a), (b).
[52] Current law permits limited postponement of the 2009 deadline only where the EPA makes an appropriateness determination "considering the severity of nonattainment and the availability and feasibility of pollution control

By labeling hundreds of polluted counties "transitional" rather than "nonattainment," the Administration's bill also allows every major industrial source built or modified in those areas to make health problems worse by evading the lowest achievable emissions rate ("LAER") and offset requirements of current law. Under current law, anyone wishing to build or modify a major source of air pollution in a "nonattainment" area must ensure that the source employs state-of-the-art methods to minimize its pollution (LAER) and must offset any added emissions so as not to degrade the already poor air quality in the area.[53] This requirement applies not just to power plants, but to all other major air pollution sources (oil refineries, chemical plants, manufacturing facilities, etc.) as well.[54]

Under the Administration's bill, these health safeguards no longer apply in areas relabeled "transitional." In other words, the Administration's bill makes it easier for the owners of oil refineries, chemical facilities, and power plants to churn out additional pollution in hundreds of counties where the air is already unhealthy to breathe. It is important to emphasize that while the Administration's bill caps only power plant emissions, the bill creates this loophole for all major industrial sources. Amazingly, the Administration has not offered a word of justification for this remarkable assault on the Act's public health safeguards.

The bill would also weaken the prevention of significant deterioration (PSD) program requirements that keep clean air areas from being degraded – by repealing the program as it relates to power plants and opt-in units. Instead of having to show protection of PSD increments (in the law since 1977), a new or modified plant would only have to show noninterference with the health standards. As a result, a new or modified power plant could increase emissions that degrade air quality all the way up to the level of the health standards.

2. The Bill Weakens Existing Safeguards against Hazardous Air Pollution.

The Administration's bill allows unrestricted emissions trading of mercury, something never before allowed under the Clean Air Act for any hazardous air pollutant. The current Clean Air Act requires mercury reductions at each power plant, based on the emissions reductions achievable through advanced technologies applied to individual emissions units. By allowing mercury trading, the bill allows some power plants not to reduce their emissions at all. Instead, they can buy mercury emission allowances from other power plants and do nothing to stop contamination of local lakes and streams. Some plants can even increase their mercury emissions.

Indeed, EPA's own analyses of the Administration's bill acknowledge 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 2008 MACT standard.[55] This dirtier outcome would not be allowed if the plant-specific MACT standard remained in effect. EPA's data also show that parts of New England, the Great Lakes, Gulf Coast region and other areas receive only very small reductions in mercury deposition under the bill.[56]

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measures." 42 U.S.C. § 7502(a)(2)(B). *See also id.* § 7502(a)(2)(C), (D). The Administration's bill does not condition the availability of the 2015 postponement on any such determination.

[53] 42 U.S.C. §§ 7502(c)(5), 7503(a)(2), (c).

[54] *Id.* § 7502(c)(5).

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

[56] *Id.*

What is more, the Administration's bill exempts from the mercury cap all coal-fired electric generating units that emit 50 pounds-per-year or less of mercury.[57] Fifty-two percent of the nation's coal-fired electric generating units qualify for that exemption.[58] That is, the bill exempts 52 percent of the country's coal-fired units from the mercury cap. These units emit 5.2 tons annually, which is equivalent to about one sixth of the total 2010-2017 mercury cap in the Administration's bill and one third of the 2018 cap. It is also approximately 10 percent of current power-plant mercury emissions in this country. The exemption applies even to units that are part of a multi-unit power plant that collectively emits more than 50 pounds-per-year of mercury. For example, the bill exempts all five of the units at a massive generating station in Wabash, Indiana, even though the plant collectively emits 134 pounds-per-year of mercury.

Not only does the bill exempt 52 percent of all mercury-emitting power-plant units, it fails to require compensatory reductions from the 48 percent that remain in the trading program, thus hitting public health twice. That is, the touted 70 percent reductions are entirely fictional; 48 percent of plants must reduce their emissions 70 percent, while the remainder need not make any reductions at all. With respect to the polluters exempted from the mercury cap, the bill fails even to require that they monitor their mercury emissions.

Even for the units that are not exempt from the caps, the bill requires no mercury controls until 2010 (a two-year delay over the current law) and substitutes much weaker mercury caps in place of the plant-by-plant "maximum achievable control technology" ("MACT") requirement.[59] For 2010 through 2017, the bill's 34-ton cap represents merely the mercury reductions incidental to the bill's phase-one caps for SO_2 and NO_x.[60] Mercury cuts beyond these incidental reductions are not achieved until 2018. In other words, the Administration's 3-pollutant bill is effectively a 2-pollutant bill until 2018.

Also repealed with mercury MACT is the current law's requirement that EPA establish MACT standards for all hazardous air pollutants emitted by power plants, not just mercury. For hazardous pollutants other than mercury, the bill leaves only the authority to set "residual risk" standards through a complex risk-based process, but the earliest that those regulations are permitted to take effect is 2018 – a full 10 years after the MACT compliance deadline of the current Clean Air Act. Moreover, the bill repeals the Clean Air Act's "residual risk" protections entirely for mercury without regard to any health risks that remain under the bill's weaker mercury caps.[61]

Because unrestricted trading of mercury emissions could lead to toxic hotspots where mercury contamination increases, the Clean Air Act – as well as other legislative proposals (notably the Clean Power and Clean Smokestacks Acts) – prohibit mercury trading. Hotspot risks under the Administration's bill are made worse by the fact that the bill does not require continuous emissions monitoring systems ("CEMS") for mercury.[62] EPA itself has identified continuous monitoring and reporting as design features essential to the environmental integrity of the acid rain trading program.[63] Mercury emissions trading is allowed even without continuous monitoring so long as the Administrator

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[57] S. 131 § 471(2)(C).
[58] 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.
[59] S. 131 § 473.
[60] *Id.*; "Electric Utilities Seeking Changes in Administration Clear Skies Measure," BNA Daily Environment Rep. (Jan. 28, 2003).
[61] S. 131 Sec. 3(a)(5)(A) (amending Clean Air Act § 112(c)(1)).
[62] S. 131 § 405(a)(2)(B).
[63] Testimony of Jeffrey Holmstead, Assistant Administrator, Office of Air & Radiation, U.S. EPA, Before the Subcommittee on Public Health of the Committee on Health, Education, Labor and Pensions, United States Senate, at 4-5, September 3, 2002.

determines that CEMS for mercury with "reasonable vendor guarantees" are not commercially available.[64] The responsible approach would be to make any mercury trading (if some carefully limited program were shown to prevent hotspots) contingent on the development of reliable continuous monitoring systems for the pollutant.

Finally, with regard to all non-mercury air toxics, including human carcinogens, the Administration's bill exempts as many as 69,000 industrial units (boilers and process heaters, plywood and composite wood product manufacturing units, reciprocating internal combustion engines, and stationary combustion turbines) from the Clean Air Act's mandate of deep emissions reductions by 2008.[65] The result is to override the removal of as many as 74,000 tons-per-year of toxic and even carcinogenic chemicals from the air we breathe.[66]

3. The Bill Weakens Existing Safeguards for States.

The Administration claims that its bill preserves states' authority to enact additional control requirements as necessary to meet air quality standards or control requirements. Further, responding to concern that the bill repeals the new source review program and other important clean air protections, the Administration protests that states remain free to adopt similar provisions that are more stringent than those imposed federally. In support of these assertions, the Administration cites the bill's three savings provisions,[67] which purport to leave states free "to adopt or enforce any regulation, requirement, limitation, or standard ... that is more stringent than a regulation, requirement, limitation, or standard in effect under [any] provision of th[e bill]."[68]

But there is a little-discussed fly in this ointment. A glossed-over provision of the bill, subsection 406(f), provides that "no State or political subdivision thereof shall restrict or interfere with the transfer, sale, or purchase of allowances under this title."[69] The reach of this language is unclear, but at the very least it can be read to preempt the most likely state actions, including: (1) adoption of more stringent state-specific emissions caps (any such caps would, in effect, prevent state sources from transferring or selling allowances to out-of-state sources); (2) readoption of a new source review-like program (any source-specific restrictions would necessarily limit affected sources' ability to transfer or sell their allowances); and (3) narrow regulation of or negotiation with specific, offending plants (again, such regulations or agreements would interfere with the plants' use of their allowances). In short, the bill's purported savings clauses may "save" very little, leaving states powerless to undo the bill's damage to the quality of their air and the health of their citizens.

Further, the bill drastically limits states' ability to protect their citizens from upwind polluters. Pollution from power plants in upwind states is responsible for violations of the soot and smog standards in many downwind states. The delay of attainment deadlines through the "transitional area" scheme described above would assure that many such downwind states receive more pollution transported from upwind areas over the next 17 years.

The Administration's bill exacerbates this problem by eliminating, as a practical matter, downwind states' ability to control pollution transported from upwind sources. Section 126 of the existing Clean Air

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[64] S. 131 § 405(a)(2)(B)(i).
[65] *Id.* § 407(j)(1)(A).
[66] *See* http://www.epa.gov/ttn/atw/rice/ricefactsheetfnl.pdf; /boiler/bolersfactsheetfnl.pdf; /plypart/plywoodfactfinal.pdf; turbine/turbine_fs.pdf.
[67] S. 131 §§ 463(c), 481(j), 483(e).
[68] *Id.* § 481(j).
[69] *Id.* § 406(f).

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 D.C. Circuit has twice reviewed EPA rulemakings under this provision, upholding the agency's determination to require reduction of upwind emissions that "contribute significantly" to downwind pollution.[70] In doing so, the court affirmed EPA's rejection of far more onerous and unmanageable approaches pushed by industry and opposing upwind states.[71]

The bill effectively reverses those court decisions, establishing a new, insurmountable test the agency must pass before it may assist affected downwind states. Specifically, EPA must first find that emissions reductions from upwind power plants would be at least as cost-effective as reductions from each other principal source of NO_x and SO_2, including "industrial boilers, on-road mobile sources, ... off-road mobile sources,[72] and any other category of sources that the Administrator may identify."[73] Needless to say, the time and expense of developing a methodology to make such a determination, implementing that methodology, and then defending the final cost-effectiveness determination in court would be prohibitive: No rule regulating upwind states' power plant emissions would ever issue.

Moreover, even if EPA and the downwind states could pass this new extreme test, the bill prohibits requiring emission reductions from power plants before 2015, no matter how compelling the evidence that the plants are causing serious health problems in downwind communities. This stands in stark contrast to the expedited relief structure of the current Clean Air Act. As EPA has noted:

> Section 126 provides a tool for downwind states, the entities with most at stake, to force EPA to confront the issue directly. It also sets up an abbreviated, and hence potentially faster, process to achieve emission reductions. . . . . In contrast [to the SIP process] Congress required very expeditious EPA action on a [section 126] petition and from 3 months up to three years for sources to comply.[74]

"Congress provided section 126 to downwind States as a critical remedy to address pollution problems affecting their citizens that are otherwise beyond their control, and EPA has no authority to refuse to act under this section."[75] Ignoring the need for such a remedy, the Administration's bill instead saddles downwind, polluted states with insurmountable barriers to relief.

4. The Bill Eliminates Existing Safeguards against Pollution Hotspots.

Under the Administration's bill, a power plant can pollute at any level so long as it buys sufficient pollution allowances from other plants.[76] The fact that power plant pollution may decline nationwide, however, provides no protection to the communities affected by a plant whose emissions stay level, or even increase, because of its owner's reliance on emissions trading. The "new source review" (NSR) provisions in the Clean Air Act provide important protection against the emergence of "pollution havens" or "hotspots" in response to an emissions trading system. NSR requires any person planning to build a

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[70] *See Michigan v. EPA*, 213 F.3d 663 (D.C. Cir. 2000) (upholding NOx SIP Call approach); *Appalachian Power Co. v. EPA*, 249 F.3d 1032 (D.C. Cir. 2001) (upholding same approach in section 126 rulemaking).

[71] *See Michigan* at 213 F.3d at 675-680; *Appalachian Power* 249 F.3d at 1044-1051.

[72] These particular provisions place states in an impossible situation, since the Clean Air Act elsewhere *preempts* states from controlling emissions from on-road vehicles and engines, CAA § 209(a), and nonroad vehicles and engines, CAA § 209(e). States may control these mobile sources of emissions only by adopting California standards. 42 U.S.C. §§ 7507 & 7543(e)(2).

[73] S. 131 Sec. 3(a)(6) (adding § 126(d)(2)(B)(i), (ii)).

[74] 65 Fed. Reg. 2674, 2681 (Jan 18, 2000).

[75] *Id.* (emphasis added).

[76] S. 131 § 403.

new major pollution source, or to change an existing one in a way that will cause an emissions increase, to demonstrate that the source will use the most effective pollution control methods available and that its emissions increase will not degrade air quality locally, in downwind communities,[77] or in National Parks.[78]

The Administration's bill eliminates federal new source review provisions for power plants and any non-power-plant facilities opting into the emissions trading scheme.[79] If the bill is enacted, companies will be free to cause even massive pollution increases by building new plants or expanding old ones without adopting up-to-date pollution controls or determining whether air quality will worsen locally or downwind.

5. The Bill Replaces Requirements for Up-To-Date Technology with Obsolete Standards.

In place of repealed requirements for case-by-case determination of up-to-date pollution control performance, the Administration's bill substitutes a requirement that EPA establish certain emissions standards that apply to new power plants.[80] The bill sets these standards at much more polluting levels, however, than the emissions levels of plants being built today. In other words, these standards are already obsolete and behind the curve of current requirements. For example:

- For boilers and integrated gasification combined cycle ("IGCC") plants, the bill sets an SO_2 emissions limit of 2.0 lb/MWh.[81] Three recently issued permits for coal-fired boilers set SO_2 emissions limits of 1.0, 1.2, and 1.0 lb/MWh, respectively.[82]

- For boilers and IGCC plants, the bill sets a NO_x emissions limit of 1.0 lb/MWh.[83] Three recently issued permits for coal-fired boilers each set NO_x emissions limits of 0.7 lb/MWh.[84]

- For boilers and IGCC plants, the bill sets a PM emissions limit of 0.2 lb/MWh.[85] Three recently issued permits for coal-fired boilers set PM emissions limits of 0.12, 0.15, and 0.15 lb/MWh, respectively.[86]

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[77] 42 U.S.C. §§ 7475, 7501-7503. Current law requires a company to demonstrate that the planned construction or other change will not cause or contribute to pollution in excess of certain maximum allowable increases and maximum allowable concentrations that are separated from the NAAQS by a safety margin. 42 U.S.C. § 7475(a)(3)(A). The administration's bill simply requires a demonstration that the planned activity will not cause or contribute to a violations of – or inability to achieve – the NAAQS itself. S. 131 § 483(c)(1), (2).

[78] Current law requires a company to demonstrate that the planned construction or other change will not degrade visibility or other air quality related values at any national park. 42 U.S.C. § 7475(a)(5), (d). If the administration's bill were enacted, such a demonstration would not be required unless the plant in question were located within fifty kilometers of a park. S. 131 § 483(b). This despite the fact that emissions from major pollution sources have been shown to have a negative impact on parks as far as 700 kilometers away. *See* Gebhart, K., "Preliminary Particulate Sulfur Source Attributions for BRAVO by Trajectory Mass Balance Regressions" (presentation for BRAVO conference call on November 21, 2002) (analysis on file with the Clean Air Task Force).

[79] *See* S. 131 § 407(K) ("An affected unit shall not be considered a major emitting facility or major stationary source, or a part of a major emitting facility or major stationary source for purposes of compliance with the requirements of parts C and part D of title I, for the 20-year period beginning on the date of enactment of the Clear Skies Act of 2005.").

[80] *Id.* § 481(b)(1), (c)(1), (d).

[81] *Id.* § 481(c)(1)((A).

[82] Wygen 2 plant in Wyoming; Roundup plant in Montana; IPP plant in Utah.

[83] S. 131 § 481(c)(1)(B).

[84] Wygen 2 plant in Wyoming; Roundup plant in Montana; IPP plant in Utah.

The bill does not place obligate EPA to update these already-obsolete emissions standards until eight years after the agency incorporates them into its regulations.[87] Even then, the bill gives the agency discretion to avoid reviewing and updating the standards.[88]

This is a sharp contrast with current law, under which the case-by-case review of LAER and (in areas other than nonattainment areas) "best available control technology" (BACT) assures that emission performance for new and modified plants keeps pace with improvements in pollution control capabilities. Because of BACT and LAER, the state-of-the-art in industrial pollution control has repeatedly graduated to successively higher levels of environmental performance as sources were built or modified over the last two decades.

For example, a review of EPA's database for BACT and LAER determinations reveals that over just the past ten years, the state-of-the-art in NO_x emissions controls for utility boilers and furnaces has advanced from no controls ("good combustion practices") to low NO_x burners to selective catalytic reduction ("SCR") to selective non-catalytic reduction ("SNCR") and circulating fluidized bed ("CFB").[89] Recent determinations by permitting authorities show that further improvements are in the wings.[90]

As EPA and the courts have recognized, Congress intended the Clean Air Act to perform this "technology-forcing" function.[91] The Administration's bill erases that function, leaving in its place static emissions standards that do not even represent the state-of-the-art in pollution control today.

EPA Assistant Administrator Holmstead has acknowledged in testimony delivered before this Committee that the new source review requirements have not adversely impacted construction or investment associated with new power plants. He testified that:

> With regard to the energy sector, EPA found that the NSR program has not significantly impeded investment in new power plants or refineries. For the utility industry, this is evidenced by significant recent and future planned investment in new power plants.[92]

This Committee should recall that in 1990, the first President Bush did not seek to repeal these safeguards when he sought a cap and trade program for SO_2 from power plants, and Congress did not enact such a repeal. Those programs have worked in tandem for the past thirteen years. The Act's safeguards for local air quality have not interfered with the acid rain cap and trade program and have not

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[85] S. 131 § 481(c)(1)(C).
[86] Wygen 2 plant in Wyoming; Roundup plant in Montana; IPP plant in Utah.
[87] S. 131 § 481(e)(1).
[88] *Id.* § 481(e)(2).
[89] *See* http://cfpub1.epa.gov/rblc/cfm/basicsearch.cfm.
[90] *See, e.g,.* Letter from Richard L. Goodyear, Permit Programs Manager, State of New Mexico Air Quality Bureau, to Larry Messinger, Mustang Energy Company (December 23, 2002), at 1-2 ("The analysis must include a discussion of the technical feasibility and availability of IGCC and CFB for the proposed site in McKinley County . . . .").
[91] *See* "Background Statement on the Environmental Protection Agency's Top-Down Policy" (June 13, 1989) (citing S. Rep. No. 95-252, 95th Cong., 1st Sess. 31 (1977)), *reprinted in*, 3 A Legislative History of the Clean Air Act Amendments of 1977 at 1405; 123 Cong. Rec. A9171 (remarks of Senator Edmund G. Muskie), *reprinted in* 3 Legislative History at 729. *See also WEPCO v. EPA*, 893 F.2d 901, 909 (7th Cir. 1990).
[92] Testimony delivered by Assistant Administrator Jeffrey Holmstead to the United States Senate Committee on Environment and Public Works on July 16, 2002.

prevented the very large economic savings provided by the cap and trade mechanism. Experience proves that both programs can work together and this Congress should not ignore that fact.

6. The Bill Eliminates Existing Protections for National Parks.

The Administration's bill exempts owners of new and modified power plants from the obligation to meet up-to-date pollution performance standards (BACT) and examine the impacts of any added pollution on National Parks or wildernesses – called "Class I areas" – (except those within 30 miles of the plant). The bill also eliminates the role of the federal land manager (typically the National Parks Service Superintendent for a National Park) in assuring that the air quality of these treasured lands is protected.

Under current law, if a new or expanded pollution source could affect a Class I area, the federal land manager has an opportunity to review the draft permit and an accompanying air quality analysis to assure that factors relevant to protecting national parks and wilderness areas are taken into consideration, and that harmful effects are mitigated. The federal land manager's review is eliminated under the Administration's bill for all plants farter than 30 miles from each park or wilderness.

The Administration's bill also repeals the current Clean Air Act program to lift the haze shrouding the Nation's parks by obligating the states to require the best available retrofit technology ("BART") on all major sources of air pollution built between 1962 and 1977 that contribute to the haze.[93] The bill exempts all opt-in units and all power plants – the primary contributor to park haze – from the BART requirement.[94] In so doing, the bill lets off the hook those intransigent companies that have not yet installed the best available retrofit technology on their plants.

If the Administration elected to enforce the requirement, instead of lifting it, the installation of BART on just the largest power plants would reduce annual SO_2 emissions by 4.5 million tons, and annual NO_x emissions by 1.9 million tons.[95] Those reductions alone would be equivalent to what the Administration's bill will purportedly achieve in its entire 8-10 year first phase.

In addition, EPA has before it a remand from the courts to issue a new rule to protect clean air in the Nation's parks; if EPA does its job properly, we can substantially reduce power plant pollution in the West as well as the East.

7. The Bill Gives the Energy Department Veto Power over Public Health Protections.

For the first time in the 35-year history of the Clean Air Act, the Administration proposes to grant the Department of Energy unilateral authority to relieve power plants from air pollution control obligations and the public health protections that these controls accomplish. The Administration's bill relegates the EPA to a subordinate, meaningless "consultation" role. In the name of ensuring "reliability" of an electric company or system – a vague and undefined term – Section 409 allows DOE to grant any industrial polluter (in the power sector or otherwise) a one-year extension from the requirements of the SO_2, NO_x or mercury trading programs.[96]

Worse, the dirtiest power plants – those that will be installing pollution control technology on 25 percent or more of their coal-fired capacity – are granted automatic one-year extensions from the SO_2,

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[93] 42 U.S.C. § 7491(b)(2)(A).
[94] S. 131 §§ 407(K), 483(a).
[95] MSB Associates, analysis using EPA list of BART eligible sources exceeding 750 MW (analysis on file with the Clean Air Task Force).
[96] S. 131 § 409(a)(4).

NO_x and mercury deadlines, regardless of whether they meet the criteria that allow DOE to grant such an extension.[97] It appears that very many companies would qualify for this relief.

For any company that does not meet the 25% test, DOE is authorized to grant the petition on other grounds, including a claim that prices for needed equipment are not "fair."[98]

Moreover, the bill effectively allows even these one-year extensions to be lengthened to two years, if DOE fails to act with 180 days on a "reasonably complete petition" – also an undefined term.[99] Considering the avalanche of self-serving petitions that companies can be predicted to submit, and the notorious record of bureaucratic inaction at DOE (especially when it serves the interests of the power sector), we believe petitioning companies will see their obligations to install pollution controls routinely delayed by two years.

There is no limitation in the bill on the number of entities, or amount of nationwide emissions, for which DOE could grant this regulatory relief, potentially throwing the bill's compliance deadlines and allowance system into disarray. Outrageously, the bill provides no criteria that even allow – much less require – DOE to deny such petitions on grounds related to harm to air quality, public health, ecosystems, or national parks. The only concerns of the bill are polluting industry's concerns.

Finally, the bill allows any industrial polluter to file multiple petitions with DOE during any year that an affected unit cannot meet its allowances obligations for SO_2, NO_x or mercury for that year, to borrow pollution allowances from the following year.[100] The result of this scheme is to allow any source to pollute more in any given year than the trading program would otherwise allow, exacerbating local air quality for that year, and even allowing the compliance caps in the bill to be disregarded. The bill does not require the increased allowances to be offset with decreased allowances elsewhere, in order to ensure that the overall caps will be met. And again, the bill provides no criteria that would allow DOE to deny such petitions on grounds related to harm to air quality, public health, ecosystems, or national parks.

None of the foregoing provisions, allowing DOE interference with the SO_2, NO_x or mercury trading programs, and harm to public health and air quality, is remotely allowed by today's acid rain trading program. As discussed elsewhere in my testimony, section 409's DOE veto authority is just one of many unjustifiable features of the Administration's bill that flout the structure and success of the acid rain trading program.

G. The Bill Departs from the Acid Rain Trading Program Model and Seriously Undermines That Model's Credibility and Accountability.

S. 131's proponents claim that the bill adopts the successful model of the acid rain trading program in Title IV of the Clean Air Act. This is incorrect. As I will explain, S. 131 departs from the basic role played by the acid rain program in the 1990 Amendments. Moreover, the bill does damage even to that role by eliminating or undermining the integrity and key accountability measures of the acid rain trading program, while introducing loopholes and destabilizing elements that Title IV does not contain. Indeed, S. 131 strips away safeguards and accountability measures that are integral to the effectiveness, enforceability and reliability of a national cap-and-trade program. The overall result is that the proponents of the bill cannot claim the successes of the acid rain program as a justification for their bill. To the contrary, the history and success of the acid rain trading program necessitate opposition to S. 131.

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[97] *Id.* § 409(a)(3)(E).
[98] *Id.* § 409(a)(3)(A).
[99] *Id.* § 409(a)(2)(A).
[100] *Id.* § 409(b).

1. The Bill Strips Necessary, Local Air Quality Protections that Work in Concert with a National Cap-and-Trade Program.

As discussed above, S. 131 repeals or weakens an array of statutory safeguards protecting local and downwind communities from harmful smog and soot pollution, as well as toxic air pollution. When Congress adopted the Clean Air Act amendments in 1990, it either added, retained, or strengthened each of these safeguards. The safeguards have helped to protect communities against local pollution increases that have occurred even as the acid rain program's national SO_2 cap has been met and its NO_x provisions have been implemented.

Local pollution increases are documented in a new report entitled "Pollution on the Rise: Local Trends in Power Plant Pollution,"[101] which analyzes EPA data on power plants emissions of SO_2 and NO_x from 1995 to 2003 – the period during which the acid rain trading program was operational. The report found that:

- "More than half (54 percent) of the nation's dirtiest power plants increased their annual soot-forming SO_2 emissions from 1995 to 2003, even while annual SO_2 emissions from power plants decreased by 10 percent nationwide"; and

- "Thirty-eight (38) percent of the nation's dirtiest power plants increased their annual smog-forming NO_x emissions from 1995 to 2003, even while annual NO_x emissions from power plants declined by 29 percent nationwide."[102]

The increases in SO_2 at individual plants occurred under the acid rain program – and would occur at many plants under S. 131 – because a national cap-and-trade program allows any given power plant to pollute at any level so long as it buys sufficient pollution allowance credits from other plants.[103] The current Clean Air Act guards against these local pollution increases – which exacerbate already unhealthy air in nonattainment areas, and degrade air quality in attainment areas – with the federal new source review program. As noted earlier, NSR requires any person planning to build a new major pollution source, or to change an existing one in a way that will cause an emissions increase, to demonstrate that the source will use the most effective pollution control methods available and that its emissions increase will not degrade air quality locally, in downwind communities,[104] or in National Parks. The acid rain trading program wisely retained this safeguard; S. 131 eliminates it, failing to protect the public against local pollution increases.

2. The Bill Weakens Accountability Mechanisms that Preserve the Integrity of a Cap-and-Trade Program, and Allows for Accounting Fraud that Undermines the Caps.

The bill abandons critical features of the acid rain trading program that have been integral to the integrity, accountability, and therefore success of that program.

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[101] U.S. Public Interest Research Group, ""Pollution on the Rise: Local Trends in Power Plant Pollution" (Jan. 2005), http://uspirg.org/uspirgnewsroom.asp?id2=15501&id3=USPIRGnewsroom&.

[102] One important caveat to this is that there was no cap on NO_x emissions under the acid rain title.

[103] S. 131 § 403.

[104] 42 U.S.C. §§ 7475, 7501-7503. Current law requires a company to demonstrate that the planned construction or other change will not cause or contribute to pollution in excess of certain maximum allowable increases and maximum allowable concentrations that are separated from the NAAQS by a safety margin. *Id.* § 7475(a)(3)(A). The Administration's bill simply requires a demonstration that the planned activity will not cause or contribute to a violations of – or inability to achieve – the NAAQS itself. S. 131 § 483(c)(1), (2).

a. Inadequate monitoring renders the trading programs for SO_2, NO_x and mercury unverifiable and untrustworthy.

Whereas the acid rain trading program today requires continuous monitoring of emissions and emissions reductions to ensure a reliable, verifiable allowance market, S. 131 abandons this requirement in favor of lenient monitoring incapable of accurately tracking emissions.

The acid rain program requires each unit to monitor its emissions of SO_2, NO_x and CO_2, requiring a continuous emissions monitoring system (CEMS) in most instances. EPA explains that:

> The emissions monitoring and reporting systems are critical to the program. They instill confidence in allowance transactions by certifying the existence and quantity of the commodity being traded and assure that NOx averaging plans are working. Monitoring also ensures, through accurate accounting, that the SO2 and NOx emissions reduction goals are met.[105]

The bill appears to retain CEMS and alternative emissions monitoring systems for SO_2 and NO_x emissions from affected units that are electric generating units currently subject to Title IV. For all affected units covered by the new mercury trading program, and all opt-in units, however, S. 131 allows monitoring that is not continuous, and that does not provide information with the same precision and reliability as that provided by CEMS. For example:

- For opt-in units, CEMS are not required "for compliance monitoring by units of less than 250 mmBtu heat input or equivalent product output capacity";[106]
- For opt-in units, CEMS "for compliance monitoring by units of between 250 mmBtu and 750 mmBtu heat input or equivalent product output capacity" may be waived by the EPA Administrator based on a mere determination that "a CEMS requirement is not necessary to generate reliable data for compliance determinations";[107]
- If EPA fails to promulgate timely allocations regulations by 2008 or thereafter, affected units may use "reasonable industry accepted methods" for monitoring NO_x emissions rather than CEMS;[108]
- For mercury emissions, the bill allows monitoring that is only "reasonably of the same precision [and] reliability" as that provided by CEMS, a watering-down of Title IV requirement for alternative monitoring;[109] and
- Opt-in units that are "boilers or process heaters, industrial furnaces, kilns or other stationary sources," belong to one of the four source categories that qualify for the bill's regulatory relief from air toxics (NESHAP) regulation, and have mercury emissions covered by the trading program need only have "monitoring and compliance requirements that would be applicable to such units under the NESHAP."[110] The glaring problem with this approach is that monitoring under NESHAPs is not remotely capable of monitoring emissions continuously, or with the same precision and reliability as continuous monitoring – for the simple reason that NESHAPs do not allow trading of hazardous air pollutant allowances.

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[105] http://www.epa.gov/airmarkets/arp/overview.html
[106] S. 131 § 407(d)(5)(C)(i).
[107] *Id.* § 407(d)(5)(C)(ii).
[108] *Id.* § 454(a)(5)(B).
[109] *Id.* § 405(a)(2)(B)(iv).
[110] *Id.* § 407(j)(1)(B).

b. The opt-in and "early reduction" provisions for other sources damage the integrity of the trading program and effectively authorize emissions above the caps.

An overarching point to understand before examining each of the deficiencies below is the enormous breadth of "units" allowed to "opt in" to the bill's pollution trading programs for SO_2, NO_x and mercury, as well as the bill's regulatory relief from existing protections like NSR and BART. This understanding is critical because the fundamental flaws of the opt-in provisions are compounded tenfold by the enormous number of units that can participate.

The bill's definition of a "unit" that may qualify for "opt in" status is so broad that it includes any source that emits SO_2, NO_x or mercury and that opts in to the bill under section 407's "Election for Additional Units."[111] This opens the election to a wide range of equipment in all sorts of industries, subject only to the requirement that the unit vent its emissions only through a stack or duct. Thus, polluting equipment at oil refineries, chemical plants, pharmaceutical plants, steel foundries, auto assembly plants, cement kilns, and other manufacturing facilities are be eligible to elect. Owners or operators of these units can then qualify for the weakened control requirements and regulatory relief contained in the bill, as explained below.

Voluntary participation and self-selection ensure gaming and worsen emissions performance. S. 131 allows pollution sources other than electric utilities to opt in to the bill's trading provisions, and regulatory relief, on a voluntary basis. This self-selection process ensures participation by sources whose expected operations will create an apparent emissions reduction when compared to an artificially high "baseline." This results in a defect commonly referred to as the creation of "anyway tons" – sources are allowed to generate allowances for emissions reductions that would have occurred without the program. Indeed, as drafted, the bill allows credits to be generated even when the reductions are legally required.[112] The opt-in sources can then sell those allowances to other affected units in the trading programs, relieving those power plant units of the need to undertake emissions reductions. Such opt-in sources would not be over-controlling to generate additional emissions reductions for the allowance market; rather, they would flood the allowance system with business-as-usual reductions or – worse, bogus reductions as explained below.

Voluntary participation and self-selection by industrial sources also ensures that facilities whose emissions are expected to remain high simply will not opt in. They will remain dirtier than if they were required to participate in a mandatory industry sector trading program like the acid rain program. Rather than the cost-effective emissions reductions the Administration advertises, therefore, the bill's cap-and-trade regime actually achieves emissions increases that exact a significant public health toll.

Inflated pollution baselines for opt-in units produce bogus allowances that do not reflect actual emissions reductions. Sources opting in to the allowance markets for NO_x, SO_2 or mercury – and the regulatory relief afforded by the bill – must first establish their "baseline" emissions. These baselines are then used to determine the allocation of allowances to opt-in units for their participation in the trading programs. To oversimplify, a unit's baseline emissions are essentially a function of the unit's heat input or product output, on one hand, and the unit's emissions rate for the respective pollutant, on the other.

Section 407(d) of the bill provides opt-in units with a menu of options from which to select the method of establishing their baseline emissions. These baseline options are designed to allow

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[111] *Id.* § 402(32).
[112] *Id.* § 407(f)(1)(B)(ii).

manipulation to create high emission entitlements – that is, opt-in units' baseline emissions may be manipulated and inflated well above their normal actual emissions, to enable plant owners and operators to receive higher numbers of emissions allowances (rights to emit). In turn these bogus allowances permit higher amounts of emissions in the overall trading scheme. Because this flood of higher, artificial allowances from opt-in units may be traded to power plants and other affected units, the effect is to create additional authorizations to emit above the caps. Stated differently, the infusion of bogus allowances from opt-in units effectively raises the caps above the levels claimed by the administration.

These baseline manipulations occur in a variety of ways under the bill.[113] For example, units can run hard for three years and generate a baseline much higher than any prior operations. Also, the allocations[114] permit use of emission rates in effect during the heat input period chosen by the source. This allows sources to take advantage of currently lax emission limits to run hard, increase actual emissions, and create huge baselines. Thus, units now operating at low capacity or with emission rates below allowables can easily increase emissions by a factor of two or more. This not only increases actual emissions, but also generates bogus extra allowances for those sources – allowances that can then be transferred when the sources slow or shut down, relieving other affected units of their emissions reduction obligations, and thereby raising the caps above touted levels.

The bill allows unlimited "shutdown" credits, creating bogus allowances that do not reflect actual emissions reductions. The bill's limitation on shutdown credits is substantially weaker than the corresponding provision in the current acid rain program.[115] Section 410 of the current Clean Air Act allows shutdown credits only for units that shut down as a result of the "replacement of thermal energy from the unit designated under this section, with thermal energy generated by any other unit or units subject to the requirements of this title."[116] This thermal energy limitation was designed to allow an industrial process heat source to be replaced by a (more efficient) cogeneration unit. By eliminating the thermal energy constraint, the new bill allows unlimited shutdown credits to be created and transferred from any opt-in source to any other unit subject to the requirements of "this subpart."

These shutdown credit provisions, when combined with the inflated baseline provisions, allow for older sources to run hard for 3 years, opt in, then later shut down and create an enormous stream of added allowable emissions that can be transferred to any other unit in the cap programs. The term "replacement" thus becomes meaningless as a constraint.

The bill allows mercury "early reduction" credits to be generated by opt-in units without limit, and even above the cap levels – effectively increasing the mercury caps. The bill's objectionable early reductions provisions for mercury emissions bear special examination. Section 475 allows the generation of early reduction credits for mercury emissions:

- Above cap levels, effectively raising the phase I and phase II mercury caps;
- Without any limitation on total mercury early reduction credits, rendering indeterminate the actual reductions achieved from the power sector or under the bill;
- Already required by state laws or regulations, obviating the benefits of those state mercury reductions, allowing windfall sales of mercury allowances from reductions already required by

[113] S. 131 § 407(d)(3).
[114] *Id.* § 407(f).
[115] *Id.* § 407(l), at 65.
[116] 42 U.S.C. § 7651i(f).

state law, and permitting other affected units to maintain high mercury levels or even increase those levels from allowance purchases;

- From incidental mercury reductions occurring anyway as a result of SO_2 or NO_x reductions, allowing discredited "anyway tons" to undermine the integrity of allowances and, again, raise the mercury cap levels.

As with the bill's other provisions allowing opt-in participation in the allowances scheme, the voluntary and self-selecting nature of the system makes it hard if not impossible to quantify how much actual reduction in mercury emissions the bill accomplishes. Certainly the reductions will not reach the phase I and phase II amounts claimed, due to the array of flaws described above.

* * * * *

The effect of all this is that S. 131 re-introduces a host of loopholes, accounting gimmicks, free-rider problems and accountability defects that rightfully caused trading approaches to be held in low regard until the acid rain program corrected these deficiencies in the 1990 Clean Air Act amendments. This bill strips the acid rain trading program model of the very integrity that has justified public confidence in the program.

Among the competing legislative proposals before this Committee, the bill that can most legitimately claim the mantle of the successful acid rain trading program is the Clean Power Act, S.150 – not the Clear Skies Act. The bipartisan Clean Power Act co-sponsored by Senators Jeffords, Lieberman and Collins adopts a national cap-and-trade program for SO_2 and NO_x, while prohibiting trading of the dangerous hazardous air pollutant, mercury – just as the 1990 Clean Air Act Amendments did. The Clean Power Act preserves the safeguards against local, regional and upwind pollution damage, in the form of the NSR, regional haze, and section 126 interstate pollution programs – just as the acid rain program did. Moreover, the Clean Power Act maintains the accountability mechanisms and integrity of the acid rain trading program for its SO_2 and NO_x trading programs. In stark contrast, the Clear Skies Act fails on all these scores.

II. THE BILL ALLOWS UNLIMITED GROWTH IN CARBON DIOXIDE FROM POWER PLANTS, WORSENING GLOBAL WARMING

Electric power plants are the largest source of global warming pollution in the United States, responsible for 40 percent of U.S. carbon dioxide (CO_2) emissions. Yet the administration bill does not contain any provision to reduce these emissions, or even limit their growth. This is not just an omission; it is a choice that will take us down the wrong path increasing costs for consumers and locking us in to risky emissions growth. In the two years since introduction of the original administration bill, it has become increasingly obvious that the failure to address CO_2 emissions is out of sync with scientific and economic reality.

A. Global Warming Is Real and Urgent.

In the two years since the last hearings on the administration's bill, scientific evidence has only strengthened on the reality of global warming and urgency of beginning to curb the carbon dioxide pollution that is causing it.

The administration's own 2002 Climate Action Report concluded that unless global warming emissions are reduced, average temperatures could rise another 3 to 9 degrees Fahrenheit in the United States by the end of the century[117] – with far-reaching effects:

- Higher temperatures will worsen air pollution.[118]
- Sea levels will rise, flooding coastal areas.[119]
- Heat waves will be more frequent and intense.[120]
- More droughts and wildfires will occur in some regions, more heavy rains and flooding in others.[121]
- Species will disappear from historic ranges as habitats are lost.[122]

The administration's report, Our Changing Planet 2004-2005, released in August 2004, highlighted additional research findings:

- Using improved climate models, scientists have confirmed that observed global temperatures during the 20th Century can be explained only when the effect of heat-trapping gases is included along with natural factors. A similar analysis for North America reached the same conclusion, showing that natural factors alone could not explain the warming observed since 1950.
- The Arctic is warming much faster than the world as a whole. From 1981 to 2001 the Arctic region warmed by 1.1 degree Fahrenheit. In the high latitude region of North

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[117] U.S. Department of State, *U.S. Climate Action Report – 2002* 84 (2002), *available at* http://yosemite.epa.gov/oar/globalwarming.nsf/UniqueKeyLookup/SHSU5BWHU6/$File/uscar.pdf.
[118] *Id.* at 107.
[119] *Id.* at 103.
[120] *Id.* at 84, 107.
[121] *Id.* at 86, 89, 96-97, 100-101.
[122] *Id.* at 90-92, 97-98.

America the warming was even greater -- a staggering 3.6 degrees Fahrenheit in just twenty years.

- Much of the excess heat trapped by carbon dioxide and other global warming pollutants is stored in the ocean, delaying the increase in surface temperatures that will eventually be seen. Consistent with available observations, climate models show that the rate of ocean heat storage has more than tripled since 1950.

- Recent work provides compelling evidence that the severe drought that has affected the Western United States since 1998 is part of a persistent climate pattern that was strongly influenced by the tropical oceans. Unusually cold sea surface temperatures in the eastern tropical Pacific occurred together with unprecedented warmth in the western Pacific and Indian Oceans. Climate model simulations demonstrate that this pattern of sea surface temperatures is ideally suited to produce an atmospheric circulation pattern conducive to producing drought in the western United States.

- Analyses based on a large number of studies of plants and animals across a wide range of natural systems worldwide have found that many species have shifted their geographic ranges or changed temperature-sensitive behaviors -- such as migration, flowering, or egg-laying -- in ways consistent with reacting to global warming. The balance of evidence from these studies suggests that impacts of global warming are discernible in animal and plant populations.

The robust scientific consensus was re-stated again last year in the Arctic Climate Impact Assessment[123] – an international scientific report accepted by the U.S. government. According to the most conservative estimates in the Arctic Climate Impact Assessment, about half the summer sea ice in the Arctic is projected to melt by the end of this century, along with a significant portion of the Greenland Ice Sheet, as the region warms an additional 7 to 13 degrees Fahrenheit by 2100. Rising sea levels have already been observed and are predicted to accelerate as warming continues. Additional findings include:

- In Alaska, Western Canada, and Eastern Russia average winter temperatures have increased as much as 4 to 7 degrees F in the past 50 years, and are projected to rise 7-14 degrees F over the next 100 years.

- Polar sea ice during the summer is projected to decline by 50 percent by the end of this century with some models showing near-complete disappearance of summer sea ice. This is very likely to have devastating consequences for polar bears, ice-living seals, and local people for whom these animals are a primary food source. At the same time, reduced sea ice extent is likely to increase marine access to some of the region's resources.

- Warming over Greenland will lead to substantial melting of the Greenland Ice Sheet, contributing to global sea-level rise at an increasing rate. Greenland's ice sheets contain enough water to eventually raise sea level by about 23 feet.

- In the United States, low-lying coastal states like Florida and Louisiana are particularly susceptible to rising sea levels.

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[123] Statement by Dr. Robert W. Corell, Chair, Arctic Climate Impact Assessment, before the Committee on Commerce, Science, and Transportation, United States Senate (November 16, 2004).

- If the Arctic Ocean becomes ice-free in summer, it is likely that polar bears and some seal species would be driven to extinction.

- Arctic climate changes present serious challenges to the health and food security of some indigenous peoples, challenging the survival of some cultures.

- Over the next 100 years, global warming is expected to accelerate, contributing to major physical, ecological, social, and economic changes. The Assessment documented that many of these changes have already begun.

In December 2004, the scientific journal Nature reported groundbreaking findings linking global warming pollution and the European heat wave of 2003 that killed more than 15,000 people. Emissions of carbon dioxide and other global warming pollutants have already at least doubled the risk of extreme heat waves like the one experienced in 2003, according to a team of scientists led by Peter Stott at the British Met Office.[124] They also find that as greenhouse gas emissions continue to rise, 2003 temperatures will become the norm by the 2040s, with half of the summers being even hotter than last year's. A companion paper describes this work as "a breakthrough" – "the first successful attempt to detect man-made influence on a specific extreme climatic event."[125]

These findings dramatize the liability risks for companies that emit large amounts of CO_2 and other greenhouse gases, according to a third paper by Myles Allen (a physicist) and Richard Lord (an attorney).[126] Global warming pollution, they say, has "loaded the weather dice" – raising the chances of repeating the weather conditions of summer 2003 by a factor of two to four, with higher risks to follow as emissions continue to rise. To be sure, one cannot say that a particular heat wave definitely would not have happened absent the increased pollution, just as one cannot be 100 percent sure that a particular case of lung cancer was due to smoking. But one can say that global warming is increasing the number of extreme heat waves just as smoking increases the number of lung cancer cases. As a result, they conclude, "it will become increasingly hard to argue that any resulting damage was unforeseeable." They predict a rise in litigation to limit emissions and determine who pays for the damage caused by global warming.

Last month Senator Olympia Snowe, with her co-chair British Member of Parliament Steven Byers, issued an international report underlining the urgency of action. They said:

> The vast majority of international scientists and peer-reviewed reports affirm that climate change is a serious and growing threat, leaving no country, however, wealthy, immune from the extreme weather events and rising sea levels that scientists predict will occur, unless action is taken.[127]

Their report concluded: "To avoid foreclosing climate stabilization options and to prevent dangerous climate change, vigorous action to reduce global emissions must start now."[128]

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[124] Stott, *et al.*, "Human Contribution to the European Heatwave of 2003," *Nature* (432:610), Dec. 2, 2004.
[125] Schär and Jendritsky, "Hot News from Summer 2003," *Nature* (432:559), Dec. 2, 2004.
[126] Allen and Lord, "The Blame Game: Who Will Pay for the Damaging Consequences of Climate Change?" *Nature* (432:551), Dec. 2, 2004
[127] *Meeting the Climate Challenge: Recommendations of the International Climate Change Taskforce*, foreward, http://www.americanprogress.org/atf/cf/{E9245FE4-9A2B-43C7-A521-5D6FF2E06E03}/CLIMATECHALLENGE.PDF
[128] *Id.* at 2.

Also this January, the National Commission on Energy Policy – with members from a range backgrounds, including the electric power industry – endorsed a program of mandatory limits on greenhouse gas emissions coupled with incentives for new technologies including coal gasification plants that capture and permanently store carbon underground.[129] Their formula drew support from the United Mineworkers and Senator Robert Byrd.

While there are pockets of denial left in the business and political worlds, more and more industry leaders and elected officials are recognizing that scientific consensus makes action on global warming both inevitable and increasingly urgent. These voices include leaders in the electric power industry itself. For example:

- American Electric Power, the nation's largest power company: "Enough is known about the science and environmental impacts of climate change for us to take actions to address its consequences."[130] Linn Draper, AEP's former CEO: "Eventually, you're going to have to have a hard cap of some kind."[131] AEP senior vice-president Dale Heydelauf: carbon constraints are "inevitable."[132]

- John Rowe, CEO of Exelon Corp.: "We accept that the science on global warming is overwhelming." And: "There should be mandatory carbon constraints."[133]

- Jim Rodgers, CEO of Cinergy Corp.: "One day we will live in a carbon-constrained world."[134]

- Wayne Brunetti, CEO of Xcel Energy: "Give us a date, tell us how much we need to cut, give us the flexibility to meet the goals, and we'll get it done."[135]

In the two years since this bill was last considered, there also has been major change in political opinion. Here in this body, a bi-partisan group of 43 Senators voted in 2003 for the Climate Stewardship Act, a cap-and-trade program for global warming pollution covering all the major industrial sectors, including electric power.

Most dramatically, more than a dozen states – led by governors of both parties – are pursuing initiatives to directly limit global warming pollution from power plants and vehicles, to increase energy efficiency, and to require an increasing percentage of power generation from clean, renewable energy sources.

B. Delay Increases Both the Danger and the Cost.

Delay in addressing the 40 percent of U.S. CO_2 emissions that comes from U.S. power plants increases the danger we face, and at the same time, increases the cost of addressing that danger later.

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[129] National Commission on Energy Policy, *Ending the Energy Stalemate* (2004), http://64.70.252.93/O82F4682.pdf
[130] American Electric Power, *Position Paper on Global Climate Change* 1 http://www.aep.com/environmental/climate/docs/Climate_Change_Position_Paper.pdf
[131] *A Pre-emptive Strike on Global Warming*, (New York Times, May 15, 2001).
[132] *AEP and Cinergy To Outline Ways to Cut Emissions*, Wall Street Journal (Feb. 19, 2004), p. A8.
[133] *Global Warming*, Businessweek, Aug. 16, 2004.
[134] "Cinergy: Awakening a Sustainability Giant," GreenBiz, http://www.greenbiz.com/news/reviews_third.cfm?NewsID=27409
[135] *Global Warming*, Businessweek, Aug. 16, 2004.

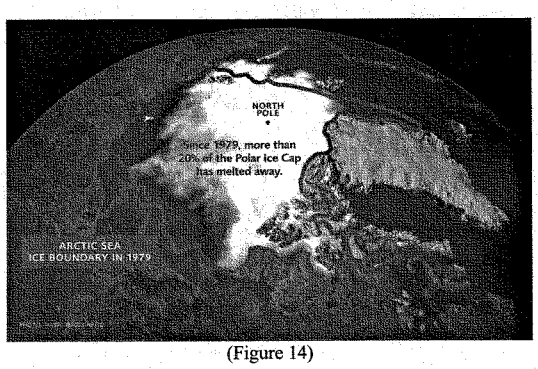
Unlike conventional pollution problems, global warming is a problem with enormous built-in inertia. Conventional pollutants wash out of the air within a few days or weeks, meaning that atmospheric pollution levels come down almost immediately after emission reductions are put in place. In contrast, CO_2 stays in the atmosphere for hundreds of years. Once the atmospheric concentration of CO_2 and other greenhouse gases has been raised, it stays raised. As a practical matter, it will take generations, even centuries, to lower the concentrations once they are raised. This means that loading the atmosphere with greenhouse gases is, for all practical purposes, irreversible. For all practical purposes, you cannot go backwards.

These time lags mean that managing the threat of global warming is like navigating the Titanic – to avoid colliding with the iceberg we have to start altering course long before we arrive there. While we may not know now exactly how close we are to the iceberg or how severely our ship will be damaged from striking it, it is a fact that if we steam ahead with our current energy systems until we have a global body count, we will have locked ourselves and our children into unavoidable, large-scale damage.

Two years ago, President Bush said: "I reaffirm America's commitment to the United Nations Framework Convention and its central goal, to stabilize atmospheric greenhouse gas concentrations at a level that will prevent dangerous human interference with the climate." The President acknowledged that this requires us to "slow, stop, and reverse" the trend of increasing CO_2 emissions.

But the President has offered only a voluntary plan that, even if fully achieved, will result in emissions growth of 14 percent between 2002 and 2012 – virtually the same rate of emissions growth as occurred in the decade before. Let us consider whether that is enough to give Planet Earth better prospects than the Titanic.

Before the industrial revolution, the atmosphere contained about 270 parts per million (ppm) of CO_2. At present, atmospheric CO_2 has increased to more than 380 ppm. Many scientists believe we are already seeing concrete impacts of global warming at this level. As just one example, we have lost 20 percent of polar ice cap since 1979. Many would consider that we are already in the realm of "dangerous human interference with the climate."



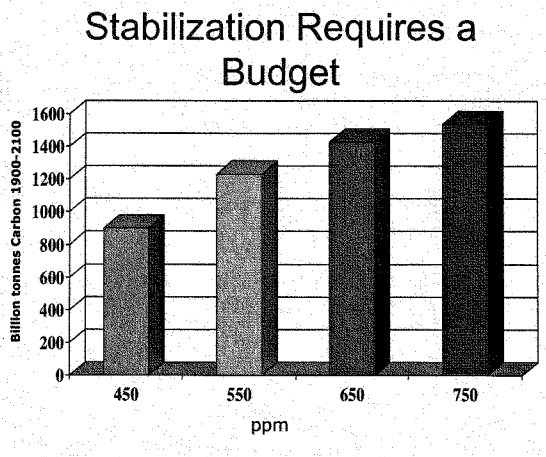
(Figure 14)

The critical question is how high we are prepared to allow concentrations of CO_2 and other greenhouse gases to rise. 450 ppm? 550 ppm? 650 ppm? Or even higher? Unfortunately, we cannot put the world on "pause" while we do more research. Even as we debate exactly what adverse impacts on

temperatures, weather patterns, sea level, human health, and ecological systems would occur at each of these levels, is it not obvious that higher concentrations mean greater risk of "dangerous human interference with the climate"?

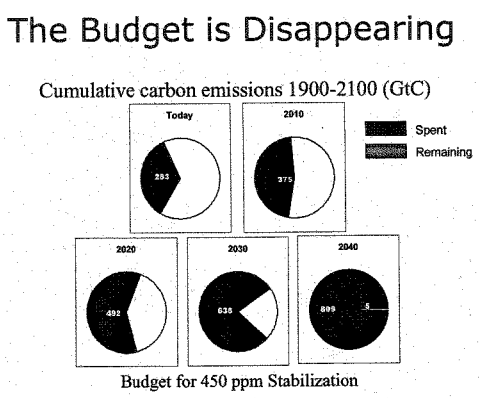
For the very reason that we do not know exactly what will happen at each higher level, conservative principles should lead us to be extremely cautious about irrevocably committing the world to ever higher CO_2 concentrations.

With that as a starting point, we must recognize that for each possible concentration target, there is only a specific amount of CO_2 that can be emitted. The figure below shows for each of these concentrations, the maximum tonnage of CO_2 that can be emitted on a global basis over the two centuries from 1900 through 2100.



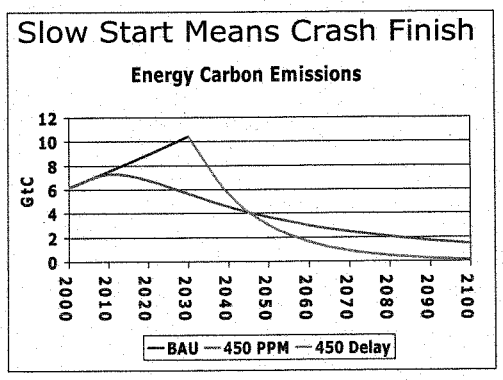
(Figure 15)

The next figure illustrates how fast we are eating up these budgets. We have already used up nearly half of the 200-year budget for a goal of avoiding more than 450 ppm CO_2. And because emissions – both here in the U.S. and in the world as a whole – are increasing, the entire budget runs out by 2040. The picture is not much different for more "relaxed" targets: For a goal of not exceeding 550 ppm, on present emission trends the budget runs out only a decade later.



(Figure 16)

Once we grasp these two facts – that for any given CO_2 concentrations there is only a limited budget of CO_2 emissions available, and that you can't go backwards once atmospheric concentrations have risen – the costs of delaying emission reductions become clearer: Unrestrained emissions growth is eating up the global carbon budget, locking us into two bad choices – either dangerously high CO_2 levels or crash reductions later.



(Figure 17)

In this figure, the green line shows an emissions path consistent with not exceeding 450 ppm, in which we start to reduce emissions in the next few years. Compare this with the red and purple line, also consistent with a 450 ppm limit, but where we do not start reducing emissions until later. The slower start

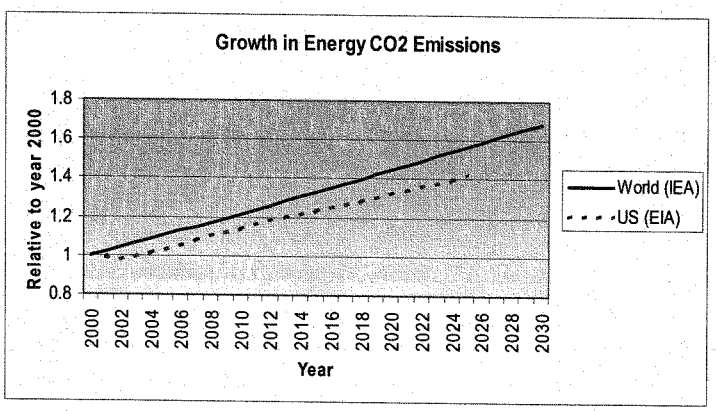
means that not exceeding 450 ppm requires reductions on a crash basis later on, with far more potential for economic disruption.

Advocates of delay argue against acting until we know exactly how harmful a given increase in CO_2 concentrations will be. The CO_2 we emit may cause a temperature rise at the high end of published estimates, the low end, or in between; the damage done by a specific temperature rise also may be larger or smaller. But once we know for sure, it will be too late to change course. The fact is that continuing on our current path will commit us to an outcome that we will not be able to undo.

Such a choice is not responsible. Delay will turn what is still a manageable threat into a runaway, unmanageable problem. In the national security context, the administration has no difficulty understanding that waiting until a danger has fully developed runs the risk of foreclosing our ability to avert that danger. This logic applies strongly to global warming. If we wait until this danger has fully developed, it will be too late to prevent.

The problem of delay is particularly intense with respect to the electric power sector. Power plants have extremely long lives. There are plants still operating in the U.S. today that are more than 60 years old. New plants built in the next 20 years will still be operating in the third quarter of this century, and their cumulative emissions will determine how much the climate warms. While we procrastinate, energy demand keeps growing and more investments are made in power plants that are no less carbon-emitting than yesterday's plants.

The U.S. Energy Information Administration forecasts that the United States will build the equivalent of over 1350 medium-sized fossil energy power plants between now and 2025 (405,000 MW).[136] The path we are on today will result in skyrocketing emissions of CO_2 in the U.S. and globally. Figure 9 shows current forecasts for the U.S. and the world over the next 25-30 years: U.S. emissions are projected to increase by 40% and world emissions by nearly 70% over 2000 levels. These emissions will stay in the air for hundreds of years making the task of protecting the climate that much harder and more expensive.



[136] U.S. Energy Information Administration, Annual Energy Outlook 2003.

(Figure 18)

C. There Is a Cleaner Energy Path.

We can do three things to limit CO_2 emissions from the electricity sector. First, produce and use electricity more efficiently. Second, dramatically increase our reliance on renewable energy resources. Third, pursue methods to capture and permanently store CO_2 from the fossil energy sources we continue to use.

If these technologies are rapidly deployed, we can move U.S. electric generation onto an emissions pathway for the next several decades that represents this sector's fair share of a national and global strategy for keeping CO_2 concentrations under 450 ppm. All three of these methods will be stimulated by adopting a program to limit CO_2 emissions from the power sector. All three will languish if Congress ignores CO_2 in a power plant bill.

A word in particular is due about coal gasification and carbon storage. Technologies in commercial operation today demonstrate it is feasible to capture CO_2 from coal-based power plants in a form that can be kept out of the atmosphere provided that suitable geologic repositories are developed. In the U.S. today we inject over 30 million tons of CO_2 annually into oil fields to recover additional oil. Yet, only about 20 percent of that CO_2 is supplied by power plants. Rather it is pulled out of natural CO_2 reservoirs and piped hundreds of miles to be stuck back in the ground.

Because industrial CO_2 can still be emitted to the air in unlimited amounts for free, there is no adequate economic incentive to use and optimize existing technology to capture these emissions. Nor is there an adequate incentive to invest to bring down the costs of today's gasification and CO_2 capture systems.

Ironically, the current policy procrastination makes U.S. coal industry's future a very uncertain one. No one believes that action on global warming can be delayed indefinitely and this is making investors leery of large new investments in conventional coal-fired power plants. On the other hand, without a policy program to limit CO_2 emissions over time, the uncertainty is too great for most investors to develop and plan to deploy advanced coal technologies like gasification and capture systems. That is why there is growing understanding in the power sector and the coal industry that we must face up to the need for carbon limits.

American delay in adopting these technologies also leads to delay by other countries, especially rapidly industrializing developing countries. Per capita electricity consumption and CO_2 emissions in these countries is as little as $1/10^{th}$ to $1/20^{th}$ our own. Yet their electric generating sectors are growing rapidly. It is as important to move them to new technologies – including coal gasification and carbon capture – as it is to move to these technologies here at home. Action here at home will help show that it is both feasible and important to reduce CO_2 emissions in developing countries too. And, action here at home will give American companies the technological experience and know-how to capture the market for these technologies in developing countries.

D. Voluntary Programs Will Not Work.

The administration and its allies point to a hodgepodge of voluntary programs and modest public investments in new technology. But without a real market signal, such as that provided by real limits on CO_2 emissions, these efforts are not sufficient even to stem the steady increase in power plant CO_2 emissions.

The president's voluntary target, announced last year, is phrased as a reduction in the nation's "emissions intensity"– the amount of carbon pollution per dollar of economic output. But the administration's target lets total carbon pollution keep increasing every year. In fact, even if the administration's target is met, total U.S. global warming emissions will increase by 14 percent between 2002 and 2012 – exactly the same rate as they grew in the 1990s.[137]

Past voluntary efforts have failed to cut carbon pollution. In one Department of Energy program, power companies claimed to have made nearly 140 million tons of "reductions" even as their total global warming emissions skyrocketed by 420 million tons. Instead of making real investments to reduce their overall pollution, most power companies simply claimed credit for business-as-usual actions – and thus made no real difference in rising emission trends.[138]

The power sector's latest voluntary pledge, announced in December 2004, would let total CO_2 emissions from power plants grow by 13 to 16 percent between 2000 and 2010 – even more than overall U.S. emissions.[139]

Without the real market signal from a limit on emissions, the administration's policy of voluntary programs and small investments in technology R&D is an expensive, inefficient, and ineffective strategy for changing emissions trends. The plain fact is that in the absence of a real market signal, voluntary programs and modest subsidies alone will not significantly change power sector emission trends.

E. We Need Real Policies Now to Send a Real Market Signal.

To avoid reaching concentrations that are several times pre-industrial levels, we will need to change the technology we use to generate electric power. Given that the electric power sector is the country's largest emitter of global warming pollution, accounting for 40 percent of U.S. CO_2 emissions, there is no other way to proceed. In the decision whether to include CO_2 in a power plant emission control bill, this Congress will either stimulate investors to get serious about developing and using new climate-friendly power technology or send them a signal to procrastinate.

Including provisions to limit CO_2 in a power plant bill can speed the process of bringing advanced technologies to market; leaving CO_2 out will keep that activity on the back burner.

The administration and many in Congress have resisted including a binding limit on CO_2 in power plant legislation out of an apparent belief that any binding cap will have unacceptable impacts on electricity rates and fuel diversity. That is not correct. Analyses discussed in NRDC's testimony to the full Committee in June 2002 show that it is possible to craft legislation that limits power plant CO_2 with modest impacts on the economy.[140]

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[137] NRDC (2002), "Untangling the Accounting Gimmicks in White House Global Warming, Pollution Plans," http://www.nrdc.org/globalWarming/agwcon.asp.

[138] NRDC (2001), "Reported 'Reductions,' Rising Emissions: The Failure of Voluntary Commitments and Reporting to Reduce U.S. Electric Industry CO_2 Emissions," http://www.nrdc.org/globalWarming/reductions/execsum.asp.

[139] Climate Vision Memorandum of Understanding Between the United States Electric Power Sector and the Department of Energy (Dec. 13, 2004), http://www.climatevision.gov/sectors/electricpower/pdfs/powerpartners_mou.pdf

[140] See Testimony of David G. Hawkins on S.556, June 12, 2002.

For example, even the administration's own analyses conclude that some versions of binding CO_2 caps would have very modest impacts on electricity rates and fuel use, even when using a number of conservative (and we believe, flawed) assumptions.[141] In September and October 2001, both EPA and EIA analyzed a binding carbon cap for the electric sector using a set of requirements specified by Chairman Voinovich, former Senator Smith, and Senator Brownback.[142] Among the scenarios examined by EIA and EPA were requirements to cut SO2 , NOx, and mercury emissions by 75 percent from 1999 levels in two stages (2007 and 2012) and to cap power sector CO_2 emissions at forecasted 2008 levels.[143]

EIA's report calculated this set of requirements would result in an average electricity rate of 7.1 cents per kwh, compared to a 1999 average electricity rate of 6.7 cents per kwh. EIA projected coal consumption in 2020 would be the same as in 1999.[144]

The key point is the need to set a schedule now for limiting and then decreasing emissions of CO_2. By adopting a schedule now, you can provide the maximum lead-time for the industry and achieve long-term reductions at the most gradual rate of change. By adopting a schedule for limiting carbon emissions you put market forces to work to deliver the clean energy resources we will need to meet economic growth without disrupting the climate that strongly influences the quality of life in our country and others around the globe.

In sum, failure to include CO_2 limits in a power plant bill has real costs. It would keep the U.S. and the world on a path of accelerating CO_2 emissions – a path that is unacceptably risky given what we already know about the potential of global warming to change our lives for the worse. It would steer investments at the margin to patching up old, existing capacity that should be replaced with modern, efficient systems. And it would continue the policy uncertainty that operates as an obstacle today to business planners considering what energy investments they should pursue.

By acting now to adopt a schedule for limiting CO_2 emissions we can change behavior both here and abroad and make it easier to address global warming. With U.S. leadership, we can design new energy projects to rely on climate-friendly technology. Doing so will expand our options to reconcile aspirations for improved economic well-being around the world while preserving the climate we all depend on to provide us with a hospitable place to live.

In conclusion let me suggest it is time for all sides to stand down from the posturing of past years on this issue and adopt a more pragmatic approach. There are many sensible policies that can be adopted to start limiting CO_2 emissions and there are many compelling reasons to do so. Working together, members of both parties and the administration would be able to identify a path forward that all could embrace and all could point to as a real accomplishment. NRDC will work with you to help make that happen.

[141] A number of flaws in the administration's analyses of "four-pollutant" bills are described in NRDC's testimony of June 12, 2002 at the full Committee hearing on S.556, the Clean Power Act. *Id.* Testimony of David G. Hawkins at 12-16.

[142] Energy Information Administration, "Reducing Emissions of Sulfur Dioxide, Nitrogen Oxides, and Mercury from Electric Power Plants," September 2001. ("EIA S-V-B report") and U.S. EPA, "Analysis of Multi-Emissions Proposals for the U.S. Electricity Sector," October 2001.

[143] Letter of June 8, 2001 from Senators Smith, Voinovich, and Brownback to John Weiner, EIA, reproduced in EIA S-V-B report at Appendix A. Compliance with the CO_2 cap could be achieved with on-system reductions or credits for "sinks" enhancements or reductions from other source categories. EIA's report calculated costs assuming that only CO_2 emission reductions from U.S. energy facilities would be used for compliance.

[144] While this result represents a decrease in coal consumption from no-control forecasts, EIA's report assumed no penetration of coal- gasification technology in the electric sector, even by 2020. This is inconsistent with the Department of Energy's programmatic goals for this technology. EPA's report on the S-V-B scenario forecasts smaller price and fuel impacts than EIA's, due to EPA's broader assumed trading options than EIA assumed.

RESPONSES BY JOHN WALKE TO ADDITIONAL QUESTIONS FROM SENATOR INHOFE

Question 1. Please disclose a listing of the number and caption of all cases filed by the Natural Resources Defense Council as plaintiff or as one of other plaintiffs against the U.S. Environmental Protection Agency seeking any action or relief under any section of the Air Pollution Prevention and Control Act, ("Clean Air Act," 42 U.S.C. s. 7401 et seq.) since January 1, 1985.

Question 2. Please disclose a listing of the number and caption of all cases against the U.S. Environmental Protection Agency wherein the Natural Resources Defense Council is a named party since January 1, 1985.

Response. The Natural Resources Defense Council's ("NRDC") mission is "to safeguard the Earth: its people, its plants and animals and the natural systems on which all life depends," "to restore the integrity of the elements that sustain life," and "to defend endangered natural places."[1] Toward those ends, we pursue litigation challenging Environmental Protection Agency ("EPA") rulemakings and other agency activities when the agency violates environmental or public health statutes or otherwise fails to perform its mission of "protect[ing] human health and the environment."[2]

The first table below identifies cases since 1985 in which NRDC has challenged an EPA rulemaking or other action. The table does not include attorneys fees cases (of which there have only been a few) nor cases in which NRDC intervened in support of the agency. (For our methodology in compiling this table, please see footnote 3.)

Following this table of NRDC cases is a comparable table of cases since 1985 in which industry has challenged an EPA action. In virtually every such case, industry has sought not to assist EPA in performing its mission of protecting public health and the environment but instead to thwart and delay the agency's efforts. Due to time constraints, the list is significantly underinclusive, not least because it excludes (1) district court cases that were never appealed, and (2) the many cases—including a significant number of NRDC's case—in which an industry party did not file the original complaint but did subsequently intervene against the agency. Despite that shortcoming, the list's relative length (339 industry-filed cases, versus 92 cases in which NRDC has opposed the agency) is quite telling. (For our methodology in compiling the table of industry cases, please see footnote 4.)

[1] NRDC: About Us,*http://www.nrdc.org/about/default.asp.*
[2] About EPA, *http://www.epa.gov/epahome/aboutepa.htm#mission.*

NRDC CASES (Clean Air Act cases in **bold**):[3]

	COURT	CASE NUMBER	CASE TITLE
1.	1st Circuit	85-1915	NRDC v. EPA
2.	2d Circuit	87-6124	**NRDC v. NY Dept of Environmental Conservation**
3.		88-6142	**EDF v. Thomas**
4.		88-6210	**NRDC v. Thomas**
5.	"	92-6060	**American Lung Ass'n v. EPA**
6.	"	00-6232	NRDC v. Muszyns
7.	"	02-4005	Riverkeeper v EPA
8.	"	03-4470	Waterkeeper v EPA
9.	EDNY	92-1494	**NRDC v. EPA**
10.	SDNY	86-0603	**NRDC v. Thomas**
11.	"	87-0505	**NRDC v. NY Dept of Environmental Conservation**
12.	"	94-8424	NRDC v. Fox
13.	"	04-8858	West Harlem Environmental Action v EPA
14.	3d Circuit	85-3530	NRDC v. EPA
15.	"	87-5904	American Lung Ass'n of NJ v. Kean
16.	4th Circuit	90-2447	**NRDC v. EPA**
17.		92-2520	NRDC v. EPA
18.	D. Md.	03-2444	NRDC v EPA
19.	EDVA	91-0058	NRDC v. EPA
20.	"	02-0050	**NRDC v. Reilly**
21.	5th Circuit	97-60042	Texas Oil & Gas Ass'n v. EPA
22.	"	02-60017	**BCCA Appeal Group v EPA**
23.	6th Circuit	93-3473	BP Exploration & Oil v. EPA
24.	9th Circuit	86-7390	NRDC v. EPA
25.	"	87-7103	Nader v. EPA
26.	"	88-4339	Northwest Food Processors Ass'n v. Reilly
27.	"	89-70135	NRDC v. EPA
28.	"	90-70671	NRDC v. EPA
29.	"	91-70234	Les v. Reilly
30.	"	00-70014	Environmental Defense Center v EPA
31.	"	00-70890	NRDC v EPA
32.	"	01-16111	San Francisco Baykeeper v Whitman
33.	"	02-70177	**Medical Alliance for Healthy Air v EPA**
34.	NDCA	98-4825	Heal the Bay v Leavitt
35.	"	99-3701	NRDC v Browner
36.	WDWA	04-0099	United Farm Workers v EPA
37.	D.C. Circuit	80-1067	NRDC v. EPA
38.	"	80-1607	NRDC v. EPA
39.	"	80-2103	**Duquesne Light Co. v. EPA**
40.	"	84-1629	**NRDC v. EPA**
41.	"	84-5566	NRDC v. Thomas
42.	"	85-1150	**NRDC v. EPA**
43.	"	85-1294	**NRDC v. Thomas**
44.	"	85-1488	**NRDC v. Thomas**
45.	"	85-1839	NRDC v. EPA
46.	"	85-1840	NRDC v. EPA

[3] Methodology: We have responded to these questions by conducting an exhaustive search of federal case databases on The Environmental Law Reporter ("ELR") website and Westlaw, and by reviewing NRDC's active case records. On the ELR website, we entered "Natural Resources Defense Council" into the Plaintiff-Defendant Name Search field. On Westlaw, we searched the "ALLFEDS" database, entering "Natural Resources Defense Council" (or "NRDC") and "Environmental Protection Agency" (or "EPA") into the "title" field of our search, and limiting the result to post-1985 cases. We then excluded cases in which NRDC intervened in support of an EPA rule and cases that solely involved attorneys fees.

47.	"	86-1305	**NRDC v. Thomas**
48.	"	86-1658	Hazardous Waste Treatment Council v. EPA
49.	"	87-1438	**NRDC v. EPA**
50.	"	88-1606	American Petroleum Inst. v. EPA
51.	"	88-1657	NRDC v. EPA
52.	"	90-1160	Hazardous Waste Treatment Council v. EPA
53.	"	91-1168	**State of NY v. Reilly**
54.	"	91-1294	**NRDC v. Reilly**
55.	"	91-1338	American Water Works Ass'n v. EPA
56.	"	92-1003	Sierra Club v. EPA
57.	"	92-1137	**NRDC v. Reilly**
58.	"	92-1303	**Clean Air Implementation Project v EPA**
59.	"	92-1371	NRDC v. EPA
60.	"	92-1535	**NRDC v. EPA**
61.	"	94-1044	**Environmental Defense Fund v. EPA**
62.	"	94-1380	**Delaware Valley Citizens' Council for Clean Air v Browner**
63.	"	94-1421	NRDC v. EPA
64.	"	94-1647	**NRDC v. Browner**
65.	"	94-1692	**Conservation Law Foundation v EPA**
66.	"	95-1241	**Delaware Valley Citizens' Council for Clean Air v Browner**
67.	"	96-1316	**Delaware Valley Citizens' Council for Clean Air v Browner**
68.	"	97-1440	**American Trucking Associations v EPA**
69.	"	97-1686	**Sierra Club v EPA**
70.	"	97-1727	**NRDC v Browner**
71.	"	98-1363	**Environmental Defense Fund v Browner**
72.	"	01-1227	**Amerada Hess Corporation v EPA**
73.	"	01-1426	NRDC v EPA
74.	"	02-1387	**State of New York v EPA**
75.	"	03-1361	**Massachusetts v EPA**
76.	"	03-1380	**State of New York v EPA**
77.	"	04-1048	**NRDC v Leavitt**
78.	"	04-1323	**NRDC v EPA**
79.	"	04-1385	**NRDC v EPA**
80.	"	04-1438	**NRDC v EPA**
81.	DDC	75-1698	NRDC v. EPA
82.	"	82-2137	**NRDC v. Thomas**
83.	"	83-2011	**NRDC v. EPA**
84.	"	84-3587	**NRDC v. Thomas**
85.	"	89-2980	NRDC v. Reilly
86.	"	90-0694	NRDC v. EPA
87.	"	92-1378	NRDC v. EPA
88.	"	99-2976	**NRDC v Whitman**
89.	"	02-2239	**American Lung Association v Whitman**
90.	"	03-0778	**American Lung Association v Leavitt**
91.	"	03-1982	Sierra Club v EPA
92.	"	04-1295	NRDC v EPA

INDUSTRY CASES:[4]

	COURT	CASE NUMBER	CASE TITLE
1.	1st Cir.	87-1529	Appeal of Sun Pipe Line Co.
2.	"	89-1070	Puerto Rican Cement Co., Inc. v. EPA
3.	"	90-1715	All Regions Chemical Labs, Inc. v. EPA
4.	"	92-2359	Puerto Rico Sun Oil Co. v. EPA
5.	"	93-1597	Caribbean Petroleum Corp. v. EPA
6.	"	95-1780	Pan American Grain Mfg. Co., Inc. v. EPA
7.	"	98-1036	Ass'n of Intern. Auto. Mfrs. v. Mass. Dept. of Envtl. Protection
8.	2nd Cir.	87-4120	Asbestec Const. Services, Inc. v. EPA
9.	"	87-5022	In re Combustion Equipment Associates, Inc.
10.	"	87-6289	Al Tech Specialty Steel Corp. v. EPA
11.	"	92-6154	Hickey's Carting Inc. v. EPA
12.	"	96-6186	Revere Smelting & Refining Corp. v. Browner
13.	3rd Cir.	84-3701	Koppers Co., Inc. v. EPA
14.	"	85-5097	Lone Pine Steering Committee v. EPA
15.	"	85-5524	Wheaton Industries v. EPA
16.	"	86-3157	Vineland Chemical Co., Inc. v. EPA
17.	"	87-3220	West Penn Power Co. v. EPA
18.	"	87-3419	West Penn Power Co. v. EPA
19.	"	87-3502	Ausimont U.S.A. Inc. v. EPA
20.	"	88-1821	Davis Enterprises v. EPA
21.	"	88-3178	Solar Turbines Inc. v. Seif
22.	"	90-1040	Boarhead Corp. v. Erickson
23.	"	90-3648	P.H. Glatfelter Co. v. EPA
24.	"	91-1692	Beazer East, Inc. v. EPA
25.	"	91-3785	ALM Corp. v. EPA
26.	"	92-3636	Municipal & Indus. Disposal Co. v. Browner
27.	"	93-1196	Chem Service, Inc. v. Envtl Monitoring Systems Lab, EPA
28.	"	93-3249	Thermalkem, Inc. v. EPA
29.	"	96-3364	Southwestern Pennsylvania Growth Alliance v. Browner
30.	"	97-7494	Fertilizer Institute v. Browner
31.	"	98-3071	Duquesne Light Co. v. EPA
32.	"	98-6178	Penn Fuel Gas, Inc. v. EPA
33.	"	98-6321	Star Enterprise v. EPA
34.	"	99-5662	W.R. Grace & Co. v. EPA
35.	"	00-3711	Sultan Chemists, Inc. v. EPA
36.	"	03-3028	Grine v. Coombs
37.	4th Cir.	84-1183	Reynolds Metals Co. v. EPA
38.	"	84-1288	Kennecott v. EPA
39.	"	85-2262	National Coal Ass'n v. EPA
40.	"	87-1091	Shanty Town Associates Ltd. Partnership v. EPA
41.	"	87-3529	Champion Intern. Corp. v. EPA
42.	"	89-2180	Westvaco Corp. v. EPA
43.	"	89-2905	Tabb Lakes, Ltd. v. U.S.
44.	"	90-1488	P.H. Glatfelter Co. v. EPA
45.	"	90-2034	West Virginia Coal Ass'n v. Reilly
46.	"	92-1786	Monongahela Power Co. v. Reilly
47.	"	93-1768	Ethyl Corp. v. EPA
48.	"	93-2146	Appalachian Energy Group v. EPA
49.	"	93-2195	Owen Elec. Steel Co. of South Carolina, Inc. v. Browner
50.	"	93-2384	Southern Dredging Co., Inc. v. U.S.

[4] Methodology: To generate this table, we searched Westlaw's "ALLFEDS" database for cases since 1985 with "Environmental Protection Agency" or "EPA" in their title field. We then eliminated all duplicates, all district court cases, and all cases that could not quickly be identified as "an industry plaintiff" v. EPA.

51.	"	95-3099	Southern Dredging Co., Inc. v. U.S.
52.	"	96-1386	Technology & Management Services, Inc. v. EPA
53.	"	97-1756	Wheeling-Pittsburgh Steel Corp. v. EPA
54.	"	97-2059	Trinity American Corp. v. EPA
55.	"	00-1423	National Ass'n of Home Builders of U.S. v. U.S. Army Corps
56.	5th Cir.	84-4573	American Petroleum Institute v. EPA
57.	"	85-2827	Matter of Commonwealth Oil Refining Co., Inc.
58.	"	85-4513	Texas Mun. Power Agency v. EPA
59.	"	85-4877	Halogenated Solvents Industry Alliance v. Thomas
60.	"	85-4899	American Cyanamid Co. v. EPA
61.	"	86-4161	Shell Chemical Co. v. EPA
62.	"	86-4276	Dow Chemical v. EPA
63.	"	86-4739	Marathon Oil Co. v. EPA
64.	"	86-4877	Texas Mun. Power Agency v. Administrator of EPA
65.	"	87-4835	American Petroleum Institute v. EPA
66.	"	87-4849	Chemical Mfrs. Ass'n v. EPA
67.	"	88-4257	General Motors Corp. v. EPA
68.	"	88-4361	Ciba-Geigy Corp. v. EPA
69.	"	88-4710	Chemical Mfrs. Ass'n v. EPA
70.	"	89-1002	Voluntary Purchasing Groups, Inc. v. Reilly
71.	"	89-4596	Corrosion Proof Fittings v. EPA
72.	"	91-8080	Matter of Bell Petroleum Services, Inc.
73.	"	95-60228	Marine Shale Processors, Inc. v. EPA
74.	"	96-60874	American Forest and Paper Ass'n v. EPA
75.	"	97-60042	Texas Oil & Gas Ass'n v. EPA
76.	"	98-60495	Central and South West Services, Inc. v. EPA
77.	"	99-60694	Newell Recycling Co., Inc. v. EPA
78.	6th Cir.	84-3229	J.V. Peters & Co., Inc. v. EPA
79.	"	85-3822	Cincinnati Gas & Elec. Co. v. EPA
80.	"	85-3872	Granger Land Development Co. v. Thomas
81.	"	86-3982	National-Southwire Aluminum Co. v. EPA
82.	"	87-3003	Winzeler Excavating Co. v. Brock
83.	"	87-3474	Navistar Intern. Transp. Corp. v. EPA
84.	"	88-2269	Greater Detroit Resource Recovery Authority v. EPA
85.	"	88-3070	Armco, Inc. v. EPA
86.	"	89-4006	Navistar Intern. Transp. Corp. v. EPA
87.	"	90-3762	J.V. Peters and Co., Inc. v. Reilly
88.	"	90-3837	Lake Cumberland Trust, Inc. v. EPA
89.	"	90-5435	Barmet Aluminum Corp. v. Reilly
90.	"	93-3473	BP Exploration & Oil, Inc.(93-3310) v. EPA
91.	"	93-3878	Southern Ohio Coal Co. v. Department of Interior
92.	"	94-3179	Allsteel, Inc. v. EPA
93.	"	96-3479	Stone Container Corp. v. EPA
94.	"	96-3761	Southwestern Pennsylvania Growth Alliance v. Browner
95.	"	97-32900	Central Wayne Energy Recovery, L.P. v. EPA
96.	"	97-3489	Spitzer Great Lakes Ltd., Co. v. EPA
97.	"	98-1595	Michigan Peat, a Div. of Bay-Houston Towing Co. v. EPA
98.	"	98-3399	Michigan Manufacturers Ass'n v. Browner
99.	"	00-2008	Steeltech, Ltd. v. EPA
100.	"	01-1154	Michigan Peat v. EPA
101.	"	02-3628	Citizens Coal Council v. EPA
102.	7th Cir.	83-3053	Cerro Copper Products Co. v. Ruckelshaus
103.	"	84-1168	Bethlehem Steel Corp. v. EPA
104.	"	84-1799	Cisco v. EPA
105.	"	84-2378	Brant Const. Co., Inc. v. EPA
106.	"	85-1753	Outboard Marine Corp. v. Thomas
107.	"	85-2119	Northside Sanitary Landfill, Inc. v. Thomas
108.	"	87-3057	Chicago Ass'n of Commerce and Industry v. EPA
109.	"	88-1395	American Paper Institute, Inc. v. EPA

110.	"	88-1833	National-Standard Co. v. Adamkus
111.	"	88-3264	Wisconsin Elec. Power Co. v. Reilly
112.	"	89-1352	Hoffman Group, Inc. v. EPA
113.	"	89-1405	Inland Steel Co. v. EPA
114.	"	89-1751	American Paper Institute, Inc. v. EPA
115.	"	89-3411	Bethlehem Steel Corp. v. Bush
116.	"	90-2152	Roll Coater, Inc. v. Reilly
117.	"	90-3810	Hoffman Homes, Inc. v. Administrator, EPA
118.	"	91-1077	North Shore Gas Co. v. EPA
119.	"	92-4067	Monsanto Co. v. EPA
120.	"	93-2131	Madison Gas & Elec. Co. v. EPA
121.	"	94-2005	Employers Ins. of Wausau v. Browner
122.	"	95-1657	South Holland Metal Finishing Co. v. Browner
123.	"	03-2215	Enviro Tech Intern., Inc. v. EPA
124.	8th Cir.	84-1024	Monsanto Co. v. Ruckelshaus
125.	"	84-2458	Aero-Master, Inc. v. EPA
126.	"	86-1592	Solid State Circuits, Inc. v. EPA
127.	"	87-1529	Arkansas Poultry Federation v. EPA
128.	"	98-1795	Missouri Limestone Producers Ass'n, Inc. v. Browner
129.	"	98-3775	Harmon Industries, Inc. v. Browner
130.	"	04-1221	Titan Wheel Corp. of Iowa v. EPA
131.	9th Cir.	83-7831	Western Oil and Gas Ass'n v. EPA
132.	"	84-6456	Halaco Engineering Co. v. Costle
133.	"	85-3518	Wyckoff Co. v. EPA
134.	"	86-7126	Riverside Cement Co. v. Thomas
135.	"	86-7693	State of Ariz. v. Thomas
136.	"	88-1900	Mobil Oil Corp. v. EPA
137.	"	88-3609	Farmers Union Cent. Exchange, Inc. v. Thomas
138.	"	88-4339	Northwest Food Processors Ass'n v. Reilly
139.	"	88-7184	Pacificorp v. Thomas
140.	"	89-15845	Koppers Industries, Inc. v. EPA
141.	"	89-70175	Alaska Miners Ass'n v. EPA
142.	"	89-70194	Chevron U.S.A., Inc. v. EPA
143.	"	89-70428	Boise Cascade Corp. v. EPA
144.	"	91-16435	Fairchild Semiconductor Corp. v. EPA
145.	"	93-70094	Imperial Irr. Dist. v. EPA
146.	"	94-70419	Systech Environmental Corp. v. EPA
147.	"	95-70034	Western States Petroleum Ass'n v. EPA
148.	"	97-15596	A & W Smelter and Refiners, Inc. v. Clinton
149.	"	97-55561	Dunn-Edwards Corp. v. EPA
150.	"	97-71117	Industrial Environmental Ass'n v. Browner
151.	"	98-70315	B.J. Carney Industries, Inc. v. EPA
152.	"	99-36033	ARCO Environmental Remediation, L.L.C. v. Department of Health and Environmental Quality of Montana
153.	"	99-70945	Exxon Mobil Corp. v. EPA
154.	"	00-15700	Borden Ranch Partnership v. U.S. Army Corps of Engineers
155.	"	02-16990	Pacific Gas and Elec. Co. v. California
156.	10th Cir.	82-2036	Yaffe Iron and Metal Co., Inc. v. EPA
157.	"	83-1014	American Min. Congress v. Thomas
158.	"	83-2226	American Min. Congress v. Thomas
159.	"	83-2338	Quivira Min. Co. v. EPA
160.	"	83-2380	National Cattlemen's Ass'n v. EPA
161.	"	85-1039	Phillips Petroleum Co. v. EPA
162.	"	86-1047	Katzson Bros., Inc. v. EPA
163.	"	90-9545	Arco Oil and Gas Co. v. EPA
164.	"	92-8042	Sinclair Oil Corp. v. Scherer
165.	"	97-9506	American Forest & Paper Ass'n v. EPA
166.	"	97-9556	HRI, Inc. v. EPA
167.	"	98-1380	Aztec Minerals Corp. v. EPA

168.	"	99-1534	Amoco Oil Co. v. EPA
169.	11th Cir.	85-7331	Marshall Durbin Co. of Jasper, Inc. v. EPA
170.	"	86-5008	B & B Chemical Co., Inc. v. EPA
171.	"	86-7459	Sanders Lead Co., Inc. v. Thomas
172.	"	96-3605	Bouchard Transp. Co., Inc. v. Updegraff
173.	"	00-12310	Tennessee Valley Authority v. EPA
174.	"	00-15936	Tennessee Valley Authority v. Whitman
175.	"	02-13562	Alcoa, Inc. v. EPA
176.	D.C. CIR.	79-1112	Chemical Mfrs. Ass'n v. EPA
177.	"	80-2036	Kennecott Corp. v. EPA
178.	"	80-2103	Duquesne Light Co. v. EPA
179.	"	81-2276	Motor Vehicle Mfrs. Ass'n of U.S., Inc. v. EPA
180.	"	83-2259	Eagle-Picher Industries, Inc. v. EPA
181.	"	84-1586	Northside Sanitary Landfill, Inc. v. Thomas
182.	"	85-1206	American Min. Congress v. EPA
183.	"	85-1326	Union Oil Co. of California v. EPA
184.	"	85-1654	United Technologies Corp. v. EPA
185.	"	85-1839	Natural Resources Defense Council, Inc. v. EPA
186.	"	85-5793	Ciba-Geigy Corp. v. EPA
187.	"	86-1433	Chemical Mfrs. Ass'n v. EPA
188.	"	86-1696	Bristol Metals, Inc. v. EPA
189.	"	86-1718	Chemical Mfrs. Ass'n v. EPA
190.	"	87-1049	McLouth Steel Products Corp. v. Thomas
191.	"	87-1334	A.L. Laboratories, Inc. v. EPA
192.	"	87-1487	Petro-Chem Processing, Inc. v. EPA
193.	"	87-1705	Anderson Shipping Co. v. EPA
194.	"	87-5096	Industrial Safety Equipment Ass'n, Inc. v. EPA
195.	"	87-5381	Alyeska Pipeline Service Co. v. EPA
196.	"	88-1155	American Iron and Steel Institute v. EPA
197.	"	88-1490	Chemical Waste Management, Inc. v. EPA
198.	"	88-1511	National Recycling Coalition, Inc. v. Reilly
199.	"	88-1581	Chemical Waste Management, Inc. v. EPA
200.	"	88-1606	American Petroleum Institute v. EPA
201.	"	88-1608	Steel Bar Mills Ass'n v. EPA
202.	"	88-1788	Mobil Oil Corp. v. EPA
203.	"	89-1289	National Tank Truck Carriers, Inc. v. EPA
204.	"	89-1297	Waste Management of Illinois, Inc. v. EPA
205.	"	89-1404	Fertilizer Institute v. EPA
206.	"	89-1428	American Forest and Paper Ass'n v. EPA
207.	"	89-1499	American Paper Institute, Inc. v. EPA
208.	"	89-1514	Chemical Mfrs. Ass'n v. EPA
209.	"	89-1629	Solite Corp. v. EPA
210.	"	90-1003	Allied-Signal Inc. v. EPA
211.	"	90-1004	Ethyl Corp. v. EPA
212.	"	90-1230	Chemical Waste Management, Inc. v. EPA
213.	"	90-1253	Linemaster Switch Corp. v. EPA
214.	"	90-1443	Hazardous Waste Treatment Council v. Reilly
215.	"	90-1508	Rollins Environmental Services (NJ) Inc. v. EPA
216.	"	90-1542	Murray Ohio Mfg. Co. v. EPA
217.	"	90-1543	Apache Powder Co. v. U.S.
218.	"	90-1549	LeHigh Portland Cement Co. v. EPA
219.	"	90-1556	Bradley Min. Co. v. EPA
220.	"	90-1558	B & B Tritech, Inc. v. EPA
221.	"	90-1560	General Signal Corporation v. EPA
222.	"	90-1568	Hexcel Corp. v. EPA
223.	"	90-1573	Tex Tin Corp. v. EPA
224.	"	90-1574	National Gypsum Co. v. EPA
225.	"	91-1148	International Fabricare Institute v. EPA
226.	"	91-1221	Horsehead Resource Development Co., Inc. v. Browner

227.	"	91-1538	Steel Manufacturers Ass'n v. EPA
228.	"	91-1645	General Elec. Co. v. Reilly
229.	"	91-5241	Givaudan Corp. v. Reilly
230.	"	92-1064	Ethyl Corp. v. Browner
231.	"	92-1085	Tex Tin Corp. v. EPA
232.	"	92-1126	3M Co. (Minnesota Min. and Mfg.) v. Browner
233.	"	92-1211	Mobil Oil Corp. v. EPA
234.	"	92-1403	Engine Mfrs. Ass'n v. EPA
235.	"	92-1407	Nickel Development Institute v. EPA
236.	"	92-1629	Safety-Kleen Corp. v. EPA
237.	"	93-1178	Chemical Mfrs. Ass'n v. EPA
238.	"	93-1187	Leather Industries of America, Inc. v. EPA
239.	"	93-1197	Indianapolis Power & Light Co. v. EPA
240.	"	93-1325	Texas Mun. Power Agency v. EPA
241.	"	93-1631	Appalachian Power Co. v. EPA
242.	"	93-1758	Ciba-Geigy Corp. v. EPA
243.	"	93-1807	General Elec. Co. v. EPA
244.	"	93-1860	Chemical Waste Management, Inc. v. EPA
245.	"	94-1170	Alabama Power Co. v. EPA
246.	"	94-1502	American Petroleum Institute v. EPA
247.	"	94-1505	Ethyl Corp. v. EPA
248.	"	94-1516	Ethyl Corp. v. Browner
249.	"	94-1558	Engine Mfrs. Ass'n v. EPA
250.	"	94-1683	American Petroleum Institute v. EPA
251.	"	94-1752	National Elec. Mfrs. Ass'n v. EPA
252.	"	95-1006	National Mining Association v. EPA
253.	"	95-1070	Chemical Mfrs. Ass'n v. EPA
254.	"	95-1093	Florida Power & Light Co. v. EPA
255.	"	95-1163	Com. of Va. v. EPA
256.	"	95-1230	American Portland Cement Alliance v. EPA
257.	"	95-1244	National Grain Sorghum Producers Ass'n, Inc. v. EPA
258.	"	95-1249	Dithiocarbamate Task Force v. EPA
259.	"	95-1286	Horsehead Resource Development Co.
260.	"	95-1290	American Mun. Power-Ohio v. EPA
261.	"	95-1348	American Iron and Steel Institute v. EPA
262.	"	95-1449	American Petroleum Institute v. EPA
263.	"	95-1538	OZ Technology Inc. v. EPA
264.	"	95-1559	RSR Corp. v. EPA
265.	"	95-1610	Mead Corp. v. Browner
266.	"	95-5282	Huls America Inc. v. Browner
267.	"	96-1233	Cement Kiln Recycling Coalition v. EPA
268.	"	96-1334	Montrose Chemical Corp. of California v. EPA
269.	"	96-1392	Motor & Equipment Mfrs. Ass'n v. Nichols
270.	"	96-1422	Arteva Specialties S.a.r.l. v. EPA
271.	"	96-1497	Appalachian Power Co. v. EPA
272.	"	96-5188	Troy Corp. v. Browner
273.	"	96-5203	Troy Corp. v. Browner
274.	"	96-5324	American Forest Paper Ass'n, Inc. v. EPA
275.	"	97-1044	Columbia Falls Aluminum Co. v. EPA
276.	"	97-1121	Appalachian Power Co. v. EPA
277.	"	97-1440	American Trucking Associations, Inc. v. EPA
278.	"	97-1470	Metech Intern., Inc. v. EPA
279.	"	97-1486	National Coalition of Petroleum Retailers v. EPA
280.	"	97-1651	George E. Warren Corp. v. EPA
281.	"	97-1720	Montrose Chemical Corp. of California v. EPA
282.	"	98-1027	General Motors Corp. v. EPA
283.	"	98-1190	Molycorp, Inc. v. EPA
284.	"	98-1196	Arizona Public Service Co. v. EPA
285.	"	98-1368	Association of Battery Recyclers, Inc. v. EPA

286.	"	98-1400	Molycorp, Inc. v. EPA
287.	"	98-1446	Star Enterprise v. EPA
288.	"	98-1512	Appalachian Power Co. v. EPA
289.	"	98-1525	Lignite Energy Council v. EPA
290.	"	98-1561	American Petroleum Institute v. EPA
291.	"	98-1627	Chlorine Chemistry Council v. EPA
292.	"	99-1146	Arizona Public Service Co. v. EPA
293.	"	99-1200	Appalachian Power Co. v. EPA
294.	"	99-1236	Chemical Mfrs. Ass'n v. EPA
295.	"	99-1255	Ethyl Corp. v. EPA
296.	"	99-1268	Appalachian Power Co. v. EPA
297.	"	99-1322	American Portland Cement Alliance v. EPA
298.	"	99-1325	National Lime Ass'n v. EPA
299.	"	99-1348	American Corn Growers Ass'n v. EPA
300.	"	99-1401	Alliance of Auto. Mfrs., Inc. v. EPA
301.	"	99-1420	Alliance of Automobile Mfrs. v. EPA
302.	"	99-1433	Slinger Drainage, Inc. v. EPA
303.	"	99-1457	Cement Kiln Recycling Coalition v. EPA
304.	"	99-1458	American Portland Cement Alliance v. EPA
305.	"	99-1537	Pharmaceutical Research and Mfrs of America v. EPA
306.	"	00-1014	Georgia-Pacific Corp. v. EPA
307.	"	00-1149	Antek Instruments L.P. v. EPA
308.	"	00-1218	American Forest and Paper Ass'n Inc. v. EPA
309.	"	00-1243	Appalachian Power Co. v. EPA
310.	"	00-1270	Husqvarna AB v. EPA
311.	"	00-1288	American Chemistry Council v. EPA
312.	"	00-1302	Cement Kiln Recycling Coalition v. EPA
313.	"	00-1320	American Farm Bureau Federation v. Whitman
314.	"	00-1389	Atlantic Richfield Co. v. EPA
315.	"	00-1394	General Elec. Co. v. EPA
316.	"	00-1423	Cement Kiln Recycling Coalition v. EPA
317.	"	00-1542	Rogers Corp. v. EPA
318.	"	01-1039	Indianapolis Power & Light Co. v. EPA
319.	"	01-1052	National Petrochemical & Refiners Ass'n v. EPA
320.	"	01-1216	American Chemistry Council v. EPA
321.	"	01-1296	American Forest and Paper Ass'n Inc. v. EPA
322.	"	02-1057	CropLife America v. EPA
323.	"	02-1089	Crete Carrier Corp. v. EPA
324.	"	02-1230	Rubber Mfrs. Ass'n v. EPA
325.	"	02-1242	General Motors Corp. v. EPA
326.	"	02-1290	Utility Air Regulatory Group v. EPA
327.	"	02-1294	Honeywell Intern., Inc. v. EPA
328.	"	02-1326	Safe Food and Fertilizer v. EPA
329.	"	02-1342	American Petroleum Institute v. EPA
330.	"	02-1371	Honeywell Intern., Inc. v. EPA
331.	"	03-1020	Independent Equipment Dealers Ass'n v. EPA
332.	"	03-1142	Brick Industry Ass'n v. EPA
333.	"	03-1168	Utility Air Regulatory Group v. EPA
334.	"	03-1217	American Fiber Manufacturers Association, Inc. v. EPA
335.	"	03-1455	Carus Chemical Co. v. EPA
336.	"	03-5114	General Elec. Co. v. EPA
337.	"	04-1004	American Chemistry Council v. EPA
338.	"	04-1186	Union Elec. Co. v. EPA
339.	"	04-1189	Alcoa, Inc. v. EPA

Question 3. Please disclose a listing of the number of consent agreements involving the U.S. Environmental Protection Agency to which the Natural Resources Defense Council has been a party since January 1, 1985 including a listing of all parties involved and the terms of each agreement.

Response. Consistent with NRDC's mission, described above, the organization occasionally enters into consent decrees with EPA. These judicially enforceable agreements limit litigation delays and assist EPA in protecting public health and the environment in a timely and mutually acceptable manner.

NRDC does not have a data base identifying all of the consent decrees to which the organization has been a party. The Department of Justice does, however, publish notices of EPA consent decrees in the Federal Register. In addition, when EPA initiates a rulemaking pursuant to a consent decree, it identifies the decree in the rulemaking notice published in the Federal Register. Together, those two categories of notices should identify the terms of, and parties to, each consent decree between EPA and NRDC since the beginning of 1985. For the convenience of the Committee, we have searched Westlaw's Federal Register data base for all post-January 1, 1985 notices containing the terms "Natural Resources Defense Council," "Environmental Protection Agency," and "consent decree." Due to time constraints, we have not further winnowed this list. It is therefore significantly overinclusive, as it includes all decrees that *mention* EPA and NRDC, whether or not the agency and the organization were parties to the decree.

November 24, 2004 69 FR 68444–01 .....
September 8, 2004 69 FR 54476–01 .....
September 2, 2004 69 FR 53705–01 .....
August 23, 2004 69 FR 51892–01 .....
July 9, 2004 69 FR 41576–01 .....
June 2, 2004 69 FR 31104–01 .....
May 14, 2004 69 FR 26942–01 .....
April 26, 2004 69 FR 22472–01 .....
December 31, 2003 68 FR 75515–01 .....
November 7, 2003 68 FR 63085–02 .....
August 6, 2003 68 FR 46684–01 .....
May 13, 2003 68 FR 25686–01 .....
April 25, 2003 68 FR 21002–01 .....
February 12, 2003 68 FR 7176–01 .....
December 27, 2002 67 FR 79020–02 .....
December 9, 2002 EPA 67 FR 74232–01
November 29, 2002 67 FR 71165–01 .....
November 20, 2002 67 FR 70070–03 .....
October 17, 2002 67 FR 64216–01 .....
September 12, 2002 67 FR 57872–01 .....
August 27, 2002 67 FR 55012–01 .....
June 24, 2002 67 FR 42644–01 .....
June 18, 2002 67 FR 41417–01 .....
March 26, 2002 67 FR 13826–01 .....
February 25, 2002 67 FR 8582–01 .....
February 4, 2002 67 FR 5170–01 .....
February 4, 2002 67 FR 5152–01 .....
January 23, 2002 67 FR 3370–01 .....
December 18, 2001 66 FR 65256–01 .....
December 11, 2001 66 FR 63921–01 .....
December 3, 2001 66 FR 61268–01 .....
November 14, 2001 66 FR 57160–01 .....
October 26, 2001 66 FR 54143–01 .....
September 7, 2001 66 FR 46754–01 .....
July 20, 2001 66 FR 37955–01 .....
July 12, 2001 66 FR 36542–01 .....
July 11, 2001 66 FR 36370–01 .....
June 8, 2001 66 FR 30902–01 .....
May 15, 2001 66 FR 26914–01 .....
February 26, 2001 66 FR 11638–01 .....
January 22, 2001 66 FR 6850–01 .....
February 26, 1997 62 FR 8726–01
February 21, 1997 62 FR 8012–01
January 8, 1997 62 FR 1150–01
December 16, 1996 61 FR 66086–01
December 9, 1996 61 FR 64876–03
November 6, 1996 61 FR 57518–01
October 7, 1996 61 FR 52582–01
August 29, 1996 61 FR 45778–01
August 28, 1996 61 FR 44619–01
August 28, 1996 61 FR 44396–01
August 12, 1996 61 FR 41786–01
June 20, 1996 61 FR 31736–01
March 1, 1996 61 FR 8174–01
February 7, 1996 61 FR 4600–01
December 19, 1995 60 FR 65438–01
December 19, 1995 60 FR 65387–01
November 28, 1995 60 FR 59658–01
August 3, 1995 60 FR 39804–01
June 29, 1995 60 FR 33926–01
May 30, 1995 60 FR 28210–01
May 2, 1995 60 FR 21592–01
February 27, 1995 60 FR 10654–01
February 17, 1995 60 FR 9428–01
February 9, 1995 60 FR 7824–01
January 27, 1995 60 FR 5464–01
January 27, 1995 60 FR 5389–01
January 24, 1995 60 FR 4712–01
September 22, 1994 59 FR 48664–01
September 20, 1994 59 FR 48228–01
September 20, 1994 59 FR 48198–01
September 19, 1994 59 FR 47982–01
August 26, 1994 59 FR 44234–01
April 22, 1994 59 FR 19402–01
April 14, 1994 59 FR 17850–01
December 17, 1993 58 FR 66078–01
October 29, 1993 58 FR 58168–01
October 27, 1993 58 FR 57898–01
September 28, 1993 58 FR 50638–01
June 21, 1993 58 FR 33813–03
April 16, 1993 58 FR 20802–01
April 7, 1993 58 FR 18011–01

January 12, 2001 66 FR 2960–01	March 4, 1993 58 FR 12454–01
January 3, 2001 66 FR 666–01	December 4, 1992 57 FR 57534–01
January 3, 2001 66 FR 634–01	September 24, 1992 57 FR 44210–03
January 3, 2001 66 FR 586–01	September 8, 1992 57 FR 41000–01
January 3, 2001 66 FR 424–01	August 18, 1992 57 FR 37194–01
December 27, 2000 65 FR 81964–01	July 21, 1992 57 FR 32250–01
December 22, 2000 65 FR 81242–01	May 7, 1992 57 FR 19748–01
November 30, 2000 65 FR 73453–01	April 10, 1992 57 FR 12560–01
September 14, 2000 65 FR 55522–02	March 19, 1991 56 FR 11513–01
August 31, 2000 65 FR 53008–02	February 11, 1991 56 FR 5488–01
July 13, 2000 65 FR 43586–01	January 30, 1991 56 FR 3526–01
July 12, 2000 65 FR 43002–01	August 8, 1990 55 FR 32268–01
June 16, 2000 65 FR 37783–01	March 27, 1990 55 FR 11183–01
May 1, 2000 65 FR 25325–01	March 8, 1990 55 FR 8666–01
April 11, 2000 65 FR 19440–01	January 2, 1990 55 FR 80–01
February 24, 2000 65 FR 9322–01	December 20, 1989 54 FR 52251–01
January 27, 2000 65 FR 4360–01	December 20, 1989 54 FR 52209–01
January 19, 2000 65 FR 3008–01	June 2, 1989 54 FR 23868–01
December 21, 1999 64 FR 71453–01	March 29, 1989 54 FR 12926–01
November 22, 1999 64 FR 64023–01	October 17, 1988 53 FR 40562–01
August 23, 1999 64 FR 46012–01	May 24, 1988 53 FR 18764–01
August 18, 1999 64 FR 45072–01	April 26, 1988 53 FR 14926–01
June 7, 1999 64 FR 30276–02	November 24, 1987 52 FR 45044–01
May 25, 1999 64 FR 28249–01	November 5, 1987 52 FR 42522–01
March 30, 1999 64 FR 15158–01	June 22, 1987 52 FR 23477–02
February 3, 1999 64 FR 5488–01	December 4, 1986 51 FR 43814–01
January 13, 1999 64 FR 2280–01	October 9, 1986 51 FR 36368–01
November 9, 1998 63 FR 61340–01	September 30, 1986 51 FR 34904–01
October 21, 1998 63 FR 56292–01	August 22, 1986 51 FR 30166–01
September 21, 1998 63 FR 50388–01	August 4, 1986 51 FR 27956–01
September 4, 1998 63 FR 47285–01	June 12, 1986 51 FR 21454–01
April 15, 1998 63 FR 18504–01	June 4, 1986 51 FR 20426–01
April 3, 1998 63 FR 16500–01	January 17, 1986 51 FR 2492–01
February 6, 1998 63 FR 6426–01	November 14, 1985 50 FR 47142–01
February 6, 1998 63 FR 6392–01	October 30, 1985 50 FR 45212–01
January 9, 1998 63 FR 1536–01	October 4, 1985 50 FR 40672–01
January 7, 1998 63 FR 846–01	September 20, 1985 50 FR 38276–01
December 17, 1997 62 FR 66182–01	August 23, 1985 50 FR 34242–01
October 29, 1997 62 FR 58141–02	May 9, 1985 50 FR 19664–01
October 20, 1997 62 FR 54453–02	February 7, 1985 50 FR 5237–01

RESPONSES BY JOHN WALKE TO ADDITIONAL QUESTIONS FROM SENATOR JEFFORDS

Question 1. What affect will the allocation system in S. 131 have on the development and enhancement of new and existing utility investments in cleaner and more efficient electricity generation?

Response. The allocation system in S. 131 will have a negative impact on the development and enhancement of new and existing utility investments in cleaner and more efficient electricity generation, primarily due to the structuring of the allowance baselines provisions and the allocation of allowances for new sources. The legislation represents not only a transfer of wealth to the power sector and away from the public, in terms of higher health costs and other social costs. But even within the power sector, the legislation imposes relatively more of the burden of cleaner air policies on the most efficient, the newest and the lowest emitting sources.

Along similar lines, the legislation misses an excellent opportunity to encourage more renewable sources of energy, since it does not appear to provide any allocation for renewable power.

Given time constraints in responding to the Committee's questions, I will be pleased to provide you with additional information in response to this question if you wish.

Question 2. What are the problems that S. 131 creates with respect to the integrity of the existing cap and trade system?

Response. As detailed in my written testimony, S. 131 departs in a negative fashion from the basic role played by the acid rain cap-and-trade program in the 1990 Amendments. Moreover, the bill does damage even to that role by eliminating or undermining the integrity and key accountability measures of the acid rain trading program, while introducing loopholes and destabilizing elements that Title IV does not contain. Indeed, S. 131 strips away safeguards and accountability measures that are integral to the effectiveness, enforceability and reliability of a national cap-and-trade program. The overall result is that the proponents of the bill cannot claim the successes of the acid rain program as a justification for their bill. To the contrary, the history and success of the acid rain trading program necessitate opposition to S. 131.

First, S. 131 repeals or weakens an array of statutory safeguards protecting local and downwind communities from harmful smog and soot pollution (such as new source review ("NSR"), the section 126 interstate air pollution program, new source performance standards (NSPS), and best available retrofit technology (BART), as well as toxic air pollution (Maximum Achievable Control Technology (MACT) standards). When Congress adopted the Clean Air Act amendments in 1990, it either added, retained, or strengthened each of these safeguards. The safeguards have helped to protect communities against local pollution increases that have occurred even as the acid rain program's national SO_2 cap has been met and its NOx provisions have been implemented.

Second, S. 131 abandons critical features of the acid rain trading program that have been integral to the integrity, accountability, and therefore success of that program. Inadequate monitoring requirements in S. 131 render its trading programs for SO_2, NOx and mercury unverifiable and untrustworthy.

The opt-in and "early reduction" provisions in the bill damage the integrity of the trading program and effectively authorize emissions above the caps. In particular, voluntary participation and self-selection associated with the opt-in provisions will ensure gaming and worsen emissions performance. Moreover, inflated pollution baselines for opt-in units produce bogus allowances that do not reflect actual emissions reductions—again, effectively *raising* the caps above the levels claimed by the Administration.

In addition, the bill allows unlimited "shutdown" credits, creating bogus allowances that do not reflect actual emissions reductions. This is because the bill's limitation on shutdown credits is substantially weaker than the corresponding provision in the current acid rain program. These shutdown credit provisions, when combined with the inflated baseline provisions, allow for older sources to run hard for 3 years, opt in, then later shut down and create an enormous stream of added allowable emissions that can be transferred to any other unit in the cap programs—again, effectively raising the caps above touted levels.

Finally, the bill allows mercury "early reduction" credits to be generated by opt-in units without limit, and even above the cap levels—effectively increasing the mercury caps. As detailed in my written testimony, Section 475 of the legislation allows the generation of early reduction credits for mercury emissions:

- Above cap levels, effectively raising the phase I and phase II mercury caps;
- Without any limitation on total mercury early reduction credits, rendering indeterminate the *actual* reductions achieved from the power sector or under the bill;
- Already required by state laws or regulations, obviating the benefits of those state mercury reductions, allowing windfall sales of mercury allowances from reductions already required by state law, and permitting other affected units to maintain high mercury levels or even increase those levels from allowance purchases; and
- From incidental mercury reductions occurring anyway as a result of SO_2 or NOx reductions, allowing discredited "anyway tons" to undermine the integrity of allowances and, again, raise the mercury cap levels.

The effect of all this is that S. 131 re-introduces a host of loopholes, accounting gimmicks, free-rider problems and accountability defects that rightfully caused trading approaches to be held in low regard until the acid rain program corrected these deficiencies in the 1990 Clean Air Act amendments. This bill strips the acid rain trading program model of the very integrity that has justified public confidence in the program, and ensures that S. 131 would not be as protective of public health as the acid rain program.

Question 3. What, if any, comments would you care to make in response to the points made by the Chairman of the Council on Environmental Quality in his testimony?

Response. As a general matter, neither the Council on Environmental Quality, Environmental Protection Agency, nor any other administration entity has provided analysis or data to the Congress, or the American people, to support the claim that

S. 131 would protect Americans in a stronger and timelier fashion than enforcement of the current Clean Air Act. Nor have the sponsors of the legislation or other Members of Congress provided that information. Finally, none of the witnesses appearing before the Committee or Subcommittee in favor of S. 131 has provided that support either.

NRDC's written testimony provides a detailed and comprehensive analysis of the many flaws in S. 131, flaws that would make the bill less protective of public health and America's lands and waterway, by weakening and delaying the Clean Air Act's protections. The administration has declined thus far to provide a comparable public analysis for the benefit of the American people, despite the EPA's role as guardian of the Clean Air Act and enforcer of its public health protections.

Regrettably, the frustrating reality is that the administration has not provided analysis about the negative impacts of S. 131 on existing Clean Air Act safeguards; the failure of the bill to deliver healthy air to tens of millions of Americans by current statutory deadlines, within the next 5 years; the multitude of new harmful exemptions and other weaknesses added even since the introduction of the already lax Clear Skies bill (S. 485) in 2003; and the bill's introduction of loopholes and infirmities that damage the integrity of the acid rain trading program model. Accordingly, there is little administration analysis to which one could respond.

With that caveat noted, I will address one central point made by Chairman Connaughton during his oral testimony. It is not correct that S. 131 will reduce emissions of sulfur oxides, nitrogen oxides and mercury by 70 percent in two phases. As detailed in my written testimony, S. 131 contains a host of provisions that ensure that the three caps tied to 70 percent emissions reductions will not be met, if industry simply acts in ways that the bill allows. This is primarily due to the opt-in provisions and early reduction provisions in the legislation. But it is also true because of provisions such as the exemption from the mercury cap for affected units emitting less than 50 pounds of mercury annually. As discussed in my written and oral testimony, this exemption ensures that the bill would not reduce power plant mercury pollution 70 percent from today's levels of approximately 48 tons nationwide.

RESPONSES BY JOHN WALKE TO ADDITIONAL QUESTIONS FROM SENATOR LAUTENBERG

Question 1. The Acid Rain program's cap and trade approach has been very successful. Would this bill's cap and trade system be as protective of public health as that program?

Response. No. As detailed in my written testimony, S. 131 departs in a negative fashion from the basic role played by the acid rain cap-and-trade program in the 1990 Amendments. Moreover, the bill does damage even to that role by eliminating or undermining the integrity and key accountability measures of the acid rain trading program, while introducing loopholes and destabilizing elements that Title IV does not contain. Indeed, S. 131 strips away safeguards and accountability measures that are integral to the effectiveness, enforceability and reliability of a national cap-and-trade program. The overall result is that the proponents of the bill cannot claim the successes of the acid rain program as a justification for their bill. To the contrary, the history and success of the acid rain trading program necessitate opposition to S. 131.

First, S. 131 repeals or weakens an array of statutory safeguards protecting local and downwind communities from harmful smog and soot pollution (such as new source review ("NSR"), the section 126 interstate air pollution program, new source performance standards (NSPS), and best available retrofit technology (BART), as well as toxic air pollution (Maximum Achievable Control Technology (MACT) standards). When Congress adopted the Clean Air Act amendments in 1990, it either added, retained, or strengthened each of these safeguards. The safeguards have helped to protect communities against local pollution increases that have occurred even as the acid rain program's national SO_2 cap has been met and its NOx provisions have been implemented.

Second, S. 131 abandons critical features of the acid rain trading program that have been integral to the integrity, accountability, and therefore success of that program. Inadequate monitoring requirements in S. 131 render its trading programs for SO_2, NOx and mercury unverifiable and untrustworthy.

The opt-in and "early reduction" provisions in the bill damage the integrity of the trading program and effectively authorize emissions above the caps. In particular, voluntary participation and self-selection associated with the opt-in provisions will ensure gaming and worsen emissions performance. Moreover, inflated pollution baselines for opt-in units produce bogus allowances that do not reflect actual emis-

sions reductions—again, effectively raising the caps above the levels claimed by the Administration.

In addition, the bill allows unlimited "shutdown" credits, creating bogus allowances that do not reflect actual emissions reductions. This is because the bill's limitation on shutdown credits is substantially weaker than the corresponding provision in the current acid rain program. These shutdown credit provisions, when combined with the inflated baseline provisions, allow for older sources to run hard for 3 years, opt in, then later shut down and create an enormous stream of added allowable emissions that can be transferred to any other unit in the cap programs—again, effectively raising the caps above touted levels.

Finally, the bill allows mercury "early reduction" credits to be generated by opt-in units without limit, and even above the cap levels—effectively increasing the mercury caps. As detailed in my written testimony, Section 475 of the legislation allows the generation of early reduction credits for mercury emissions:

- Above cap levels, effectively raising the phase I and phase II mercury caps;
- Without any limitation on total mercury early reduction credits, rendering indeterminate the *actual* reductions achieved from the power sector or under the bill;
- Already required by state laws or regulations, obviating the benefits of those state mercury reductions, allowing windfall sales of mercury allowances from reductions already required by state law, and permitting other affected units to maintain high mercury levels or even increase those levels from allowance purchases; and
- From incidental mercury reductions occurring anyway as a result of SO_2 or NOx reductions, allowing discredited "anyway tons" to undermine the integrity of allowances and, again, raise the mercury cap levels.

The effect of all this is that S. 131 re-introduces a host of loopholes, accounting gimmicks, free-rider problems and accountability defects that rightfully caused trading approaches to be held in low regard until the acid rain program corrected these deficiencies in the 1990 Clean Air Act amendments. This bill strips the acid rain trading program model of the very integrity that has justified public confidence in the program, and ensures that S. 131 would not be as protective of public health as the acid rain program.

Question 2. As someone who came out of the corporate world, I can appreciate the importance of making sound investments in technologies. Is the cap and trade system in Clear Skies as cost-effective at reducing pollution as other approaches?

Response. No. The pollution cap levels and schedules in the Clear Skies legislation are not as cost-effective at reducing pollution as other approaches for two fundamental reasons—the weak control levels and extended control schedules. Moreover, the legislation is less cost-effective than other approaches, including the current Clean Air Act, using two different measures of cost-effectiveness.

First, the bill stops well short of requiring feasible pollution control measures for power plants, allowing utilities to pollute well in excess of feasible control levels and well in excess of levels necessary to achieve timely public health standards. This is a consequence of the legislation's weak caps, i.e., the pollution levels at which the bill allows the electric utility sector to continue to pollute for the next two decades and beyond. This is discussed at greater length below.

Second, in addition to refusing to impose feasible control measures on power plants, the legislation adopts unjustifiably extended timelines for requiring pollution cuts from power plants. This means that SO_2 and NOx emissions reductions would be too little, too late to provide meaningful assistance to states required to meet public health standards for 8-hour ozone and $PM_{2.5}$ by 2009 and 2010, respectively. States would be forced to require more expensive, less feasible reductions from other industries and sources, and some would find it very difficult to meet deadlines to provide healthy air for their citizens.

In effect, by taking more cost-effective pollution reductions from power plants off the table—by granting them more drawn out compliance deadlines and weaker pollution reduction obligations—the legislation saddles states, localities, other industries, the transportation sector and, ultimately, the public with less cost-effective options for meeting essential public health objectives.

This outcome concerns the first measure of cost-effectiveness that the legislation fails—the measure of relative feasibility. By foregoing more cost-effective and feasible pollution reductions from power plants, the consequence is to impose less cost-effective, less feasible control obligations about other sources of air pollution.

To better understand the question of cost-effective emissions reductions from power plants, and to compare those to less cost-effective emissions reductions from other industries and sources to which states and localities would be forced to resort, I am attaching to these responses comments filed by a coalition of public health organizations on EPA's Proposed Rule to Reduce Interstate Transport of Fine Particu-

late Matter and Ozone (Interstate Air Quality Rule), 69 Fed. Reg. 4566 (January 30, 2004).[1]

As explained in those comments, in its 1998 NOx SIP Call rulemaking, EPA determined an appropriate level for reductions of regional NOx emissions by examining the cost-effectiveness of feasible control measures.[2] EPA determined that "highly cost-effective" controls were those with a cost-effectiveness (measured in terms of average cost per ton of pollutant removed) equivalent to or slightly greater than that of controls that had already been implemented or planned, while achieving the greatest feasible emissions reductions.

Specifically, EPA determined in the NOx SIP Call that "highly cost-effective" controls were those that "achieve the greatest feasible emissions reduction but still cost no more than $2,000 per ton of ozone season NOx emissions removed (in 1990 dollars), on average."[3] EPA determined the $2,000/ton average cost figure based on "NOx emissions controls that are available and of comparable cost to other recently undertaken or planned NOx measures."[4]

The proposed Interstate Air Quality Rule's (now called Clean Air Interstate Rule) establishes eastern regional caps for SO_2 and NOx that approximate Clear Skies' eastern regional caps for these pollutants. And the proposed CAIR caps result in SO_2 control levels costing between $700 and $800 per ton on average, and NOx control levels costing between &700 and $800 per ton on average.[5] Accordingly, there is reason to believe that the average control costs by utilities for SO_2 and NOx reductions under Clear Skies would be comparable.

But control levels for NOx and SO_2 with average costs in the range of $700–$800 clearly do not achieve the "greatest feasible emissions reductions." These cost figures are substantially less than what EPA determined to be highly cost effective 7 years ago; substantially less than the average cost effectiveness of other NOx control measures examined by the agency 7 years ago (63 Fed. Reg. at 57400, Table 1); substantially less than the average cost of other control measures identified by EPA in its CAIR proposal (69 Fed. Reg. at 4613–4615); and even more substantially less than numerous other measures that public health groups identified and that states have either adopted or are proposing to adopt.[6]

If the Clear Skies legislation were based upon the "highly cost-effective" criteria in EPA's NOx SIP Call rulemaking—an approach ratified by the United States Court of Appeals for the D.C. Circuit—that approach would lead to a determination that "highly cost-effective" controls are those that achieve the "greatest feasible emission reductions"[7] but cost on average up to $2,000 per ton of SO_2 removed and up to $2,500 per ton of NOx removed.[8] This would yield regional annual control caps for power plants of 1.84 million tons for SO_2 and 1.04 million tons for NOx, well within these limits for highly cost-effective controls. Based on the relative percentage of national 2002 power plant NOx and SO_2 emissions that were within the IAQR, the recommended regional caps are equivalent to a 2.0 million ton national SO_2 cap, and a 1.25 million ton national NOx cap—well below the lax SO_2 and NOx pollution caps reflected in S. 131.[9]

In effect, the Clear Skies bill short changes emissions reductions from power plants that should be considered the greatest feasible emissions reductions, based upon s refusal to require greater but eminently feasible SO_2 and NOx reductions to better protect public health.

The other side of the feasibility coin in the zero sum calculation of air pollution controls is the question of the cost-effectiveness of other state and local control measures—beyond power plant controls. The failure of the Clear Skies legislation to require the greatest feasible emissions reductions that are highly cost effective

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[1] Clean Air Task Force et al., "Comments on Proposed Rule to Reduce Interstate Transport of Fine Particulate Matter and Ozone (Interstate Air Quality Rule), 69 Fed. Reg. 4566 (January 30, 2004)," ("IAQR Comments"), April 2, 2004.

[2] NOx SIP Call ,63 Fed. Reg. at 57399–402.

[3] 63 Fed. Reg. at 57399.

[4] 63 Fed. Reg. at 57400.

[5] See IAQR Comments at 11–12.

[6] In fact, EPA states: "These reductions are among the lowest cost EPA has ever observed in NOx control actions . . ." 69 Fed. Reg. at 4614. Such reductions clearly come nowhere near to representing the "greatest feasible emission reduction" as required by controlling Clean Air Act precedent and policy.

[7] NOx SIP Call, 63 Fed. Reg. at 57399: "[T]he required emission levels . . . were determined based on the application of NOx controls that achieve the greatest feasible emissions reductions while still falling within a cost-per-ton-reduced range that EPA considers to be highly cost-effective."

[8] Unless otherwise noted, all cost figures are in 1999$.

[9] Section V of the IAQR Comments contains a Clean Air Task Force analysis of the costs and benefits of a similar alternate control scenario.

would force state and local jurisdictions to resort to control measures with average costs far in excess of the $700–800 average cost per ton of SO_2 and NOx reductions. The following representative sample of control measure costs demonstrates the degree to which S. 131 would saddle state and local air pollution control agencies with far greater cost impositions on local businesses, while still failing to ensure that attainment of public health standards would be achieved as expeditiously as practicable:

TEXAS EMISSION REDUCTION PLAN (TERP)—INCENTIVES GRANTS FOR REDUCING EMISSIONS[10]

• The Texas Council of Environmental Quality's Emissions Reduction Inventive Grants Program provides grants to eligible projects in nonattainment areas and affected counties. The grants offset the incremental costs associated with reducing emissions of NOx from high-emitting internal combustion sources.

• Cost-effectiveness of a project, other than a demonstration project, may cost up to $13,000 per ton of NOx emissions reduced in the eligible counties for which the project is propose. Infrastructure activities are excluded from the $13,000 per ton cost-effectiveness limit.

	Projected Project Cost Per Ton NOx Reduction
Grants Projects FY 2002–2003	Majority of projects $6,000 to $12,118.
Eligible Application Recommended for Funding FY 2004—1st Round	Majority of projects $11,000 to $12,998.

WASHINGTON DC METRO AREA—MWCOG[11]

ANALYSIS OF POTENTIAL REASONABLY AVAILABLE CONTROL MEASURES ("RACM"): AREA, NON-ROAD, AND MOBILE SOURCES

• The cost to an affected area of any alternative emissions reduction program to offset internal combustion stationary sources significantly exceeds the cost to the stationary source of the equivalent emissions reduction. The potential emissions reduction of RACM projects may not exceed that of high-emitting stationary sources.

• Projects Determined to be "Economically Feasible" or "Possible" by MWCOG:

Source Category	Measure	Cost ($/ton NOx)
Area Sources:		
L1	Control Locomotive Idling	$1,250
G6	Preference for low-emissions lawn & garden equipment	7,238
S4	Reduce idling by airport GSE	3,155
Mobile Sources:		
B6	Bicycle Racks in DC	9,017
E3	Telecommuting Centers	7,279
E10	Government Actions (ozone action day similar to snow day)	5,030
F3	Permit Right Turn on Red	1,245
O4	Employer Outreach (Private Sector)	3,542
O6	Mass Marketing Campaign	2,393
T1	Transit Prioritization	8,480

Finally, EPA has reviewed potential applications of local controls of PM precursor emissions to determine the extent to which such controls could solve the ozone and $PM_{2.5}$ nonattainment problems.[12] As part of that analysis, EPA listed a variety of control measures, and in some cases, their costs, that it believed would be appropriate to model for their air quality impact.[13] In the 290 county study, EPA listed a variety of local NOx control measures with costs ranging from $150/ton to $10,000/ton NOx removed.[14] The emission-weighted average cost per ton of the measures for which costs are listed is about $2,545/ton, consistent with the position that regional

[10] Texas Natural Resource Conservation Commission. Texas Emission Reduction Plan (TERP)—Incentives Grants for Reducing Emissions. Projects Selected for Funding to Date: http://www.tnrcc.state.tx.us/oprd/sips/grants.html.

[11] Metropolitan Washington Council of Governments. http://www.mwcog.org/uploads/committee-documents/z1ZZXg20040217144350.pdf.

[12] 69 Fed. Reg. at 4596–99; EPA's Technical Support Document for the IAQR Air Quality Modeling Analyses (January 2004) ("AQMTSD") at 46–56, App. I–L.

[13] Id.

[14] In EPA's study of local measures in the IAQR, it listed several local SO_2 reduction measures, but did not provide costs for any of them.

NOx controls with average costs below $2,500 per ton be considered highly cost effective.

A second measure of cost-effectiveness that the legislation also fails is one concerning net social benefits. As explained at pages 13–14 of my February 2, 2005 written testimony, without conceding the fundamental concern with expressing human deaths and adverse health effects in monetary terms, as of 2020, the public health costs of the Administration's bill exceed those of EPA's original proposal by $61 billion per year.[15] Moreover, the EPA proposal's public health savings come at the relatively small annual price of $3.5 billion in implementation expenses.[16] In other words, the Administration is promoting a bill that—as of 2020—costs the public $15 for every $1 saved by industry. Plainly, much more protective pollution caps would still provide net social benefits and would be more cost-effective for society than the lax and delayed pollution reduction levels in S. 131.

Question 3. Clear Skies proposes giving many industries a free pass when it comes to reducing hazardous air pollutants—some of them known to cause cancer. What impacts do you foresee from this drastic retreat from Clean Air Act protections?

Response. The Clear Skies legislation marks the first time in the 35-year history of the Clean Air Act that a bill in Congress has sought to allow industrial polluters to escape air toxics regulations already adopted by the Environmental Protection Agency, here Maximum Achievable Control Technology (MACT) standards. Worse, the legislation does so without substituting any mandatory regulation for the air toxics pollution (except mercury) that the bill allows to escape regulation. Finally, for the first time in the Act's history, a Congressional bill would allow weak reductions in criteria air pollutants (SO_2 or NOx) to serve as the basis for emitting higher levels of uncontrolled hazardous air pollution, including probable carcinogens.

And S. 131 does so for not just one industrial source category, but four:

- Industrial, Commercial, and Institutional Boilers and Process Heaters (69 Fed. Reg. 55217);
- Plywood and Composite Wood Products (69 Fed. Reg. 45943);
- Reciprocating Internal Combustion Engines (69 Fed. Reg. 33473); and
- Stationary Combustion Turbines (69 Fed. Reg. 10511).[17]

From these four industrial source categories, the Administration's bill exempts as many as 69,000 industrial units from the Clean Air Act's mandate of deep emissions reductions by 2008.[18] The result is to override the removal of as many as 74,000 tons-per-year of toxic and even carcinogenic chemicals from the air we breathe.[19]

The following information is taken from EPA fact sheets issued with the promulgation of these four rules. These fact sheets provide EPA estimates of the number of current and future industrial units covered by the rules, as well as the nature and amount of hazardous air pollution (HAP) regulated. Critically, these fact sheets also provide estimates of the health benefits that EPA assigned to these rulemakings. Depending upon the extent of participation by industrial units that avail themselves of the air toxics regulatory relief in S. 131, virtually all of these health benefits could be lost, and virtually all of the toxic air pollution emitted by these tens of thousands of industrial units could escape regulation.

INDUSTRIAL, COMMERCIAL, AND INSTITUTIONAL BOILERS AND PROCESS HEATERS

EPA estimates that 58,000 existing boilers and process heaters, and 800 new boilers and process heaters built each year over the next 5 years will be subject to this final rule.

This rule reduces emissions of a number of toxic air pollutants, including hydrogen chloride, manganese, lead, arsenic and mercury, by more than 58,000 tons annually in the fifth year after promulgation.

This rule also reduces emissions of sulfur dioxide and particulate matter in conjunction with the toxic air pollutant reductions. This rule may result in 2,270 fewer premature deaths, 5,100 fewer cases of chronic bronchitis, reduced hospital admissions for pneumonia, asthma and cardiovascular problems. It may also result in

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[15] U.S. EPA, "Comprehensive Approach to Clean Power: Straw Proposal and Supporting Analysis for Interagency Discussion" (Aug. 3, 2001), available at *http://www.catf.us/publications/other/EPA__Straw__Proposal.pdf.*

[16] *Id.*

[17] S. 131, § 407(j)(1)(A).

[18] Id.

[19] See *http://www.epa.gov/ttn/atw/rice/ricefactsheetfnl.pdf; /boiler/bolersfactsheetfnl.pdf; /plypart/plywoodfactfinal.pdf; turbine/turbine__fs.pdf.*

150,000 fewer respiratory incidences in children, lost work days, and restricted activity days for people with respiratory problems.

http://www.epa.gov/ttn/atw/boiler/boilersfactsheetfnl.pdf

PLYWOOD AND COMPOSITE WOOD PRODUCTS

EPA estimates that about 220 plywood and composite wood products facilities are major sources of air toxics.

The rule will reduce air toxics from the manufacturing of Plywood and Composite Wood Products (PCWP) by between 6,600 and 11,000 tons per year, or a 35 to 58 percent decrease from 1997 levels. The final rule will also reduce volatile organic compound emissions by between 14,000 and 27,000 tons per year, or a 28 to 52 percent decrease from 1997 levels.

http://www.epa.gov/ttn/atw/plypart/plywoodfactfinal.pdf

RECIPROCATING INTERNAL COMBUSTION ENGINES

EPA estimates that approximately 8,120 new stationary RICE will be built at major sources of air toxic emissions by the end of the 5th year after this rule takes effect. In addition, about 1,800 existing stationary RICE located at major sources may potentially be subject to the rule.

The final rule will reduce emissions of a number of toxic air pollutants such as formaldehyde, acrolein, methanol, and acetaldehyde by 5,6000 tons in the fifth year after promulgation. These pollutants, also known as air toxics, are known or suspected to cause adverse health and environmental effects. Formaldehyde and acetaldehyde are probable human carcinogens.

http://www.epa.gov/ttn/atw/rice/ricefactsheetfnl.pdf

STATIONARY COMBUSTION TURBINES

EPA estimates that 9 new stationary combustion turbines will be built each year over the next 5 years and will be subject to the final rule.

The final rule will provide improvements in protecting human health and the environment by reducing air toxic emissions 98 tons per year in the 5th year after the rule is final. The air toxics reduced are listed below:

Pollutant Emission Reductions Percent Reduction (in 5th yr after promulgation) (after controls are installed)

Formaldehyde 67 tons, 90 percent
Toluene 17 tons, 90 percent
Acetaldehyde 11 tons, 90 percent
Benzene 3 tons, 90 percent

*http://www.epa.gov/ttn/atw/turbine/turbine*__fs.pdf

One additional observation bears mention. Of the four MACT source categories above that are eligible for regulatory relief in S. 131, at least three involved rulemakings where industry lobbyists were urging EPA and the Office of Management and Budget to adopt unlawful "risk-based exemptions" from MACT standards.[20] Industry was successful in persuading the Bush administration to adopt these harmful and illegal exemptions in the final MACT standards for Industrial, Commercial, and Institutional Boilers and Process Heaters, and Plywood and Composite Wood Products. The result of these exemptions is that thousands of tons of hazardous air pollution (HAP) would escape into the air we breathe, uncontrolled, when the Clean Air Act requires these pollutants to be minimized with advanced pollution control technology. EPA declined to adopt the same risk-based exemptions for the final Reciprocating Internal Combustion Engines MACT standard.

Because these exemptions are plainly contrary to the language, structure, purposes and legislative history of the technology-based MACT program adopted by Congress in the 1990 Clean Air Act Amendments, NRDC and Earthjustice are currently challenging the two final rules that contain these exemptions in the U.S. Court of Appeals for the D.C. Circuit.

Accordingly, S. 131 represents a blatant attempt to override those lawsuits before the judicial branch has the opportunity to review the lawfulness of EPA's actions. Worse, S. 131 would not simply override legal challenges by the public to illegal EPA rule exemptions; the legislation would allow tens of thousands of industrial polluters to escape HAP regulation altogether, going well beyond EPA's unjustified

[20] See, e.g., "EPA Relied on Industry for Plywood Plant Pollution Rule," Alan C. Miller & Tom Hamburger, L.A. Times (May 21, 2004).

and unlawful exemptions. All without any risk determination, without any substitute HAP regulation for non-mercury HAPs, without any logical linkage to the putative power plant control purposes of S. 131—ultimately, without any announced justification in the Congressional record for this legislation.

Finally, it bears noting in conclusion that neither the bill's proponents or administration officials have provided data or analytic support—at least publicly—to explain or justify the impacts of these exemptions from already adopted protections against hazardous air pollution. The technical supporting documents for the legislation, which include the only assessment of health and environmental effects by the administration that we are aware of, were published in July of 2003, 4 months before the regulatory relief from HAP protections for opt-in units first appear in Clear Skies legislation (S. 1844) and 7 months before the appearance of the current iteration of this provision in S. 131.[21]

Accordingly, the best information available concerning the public health and environmental impacts of the opt-in MACT exemptions comes, first, from a facial reading of the vast regulatory relief that the bill would authorize; and second, from EPA's own estimation of the total amount of HAPs controlled by these four rules, as well as the tremendous health benefits that these rules will deliver when fully implemented. On the basis of that information, the impacts from this drastic retreat from Clean Air Act protections could be devastating.

The environmental and public health organization Earthjustice has produced a series a of fact sheets that use publicly available EPA information to produce state-level snapshots of the number of facilities that could be eligible for this opt-in provision. I am attaching these fact sheets to my responses.

Using the listings of potentially regulated industries found in the final MACT rules noted above, and EPA's Enforcement and Compliance History Online (ECHO), Earthjustice determined that as many as 12,814 facilities nationwide could be eligible for the opt-in provisions' regulatory relief, should it become law. At the state level, the organization found that as many as the following numbers of facilities in these states could be eligible for the bill's regulatory relief: 777 facilities in California, 83 facilities in Connecticut, 511 facilities in Illinois, 438 facilities in Louisiana, 53 facilities in Montana, 220 facilities in New Jersey, 347 facilities in New York, 35 facilities in Rhode Island, 1,021 facilities in Texas, and 16 facilities in Vermont. S. 131's regulatory relief would permit uncontrolled air toxic emissions (other than mercury) from affected units at those facilities.[22]

Earthjustice also used EPA's Toxic Release Inventory (TRI) data from 2002 to assess the quantity of toxic emissions reported by potentially regulated industries from the four relevant industrial source categories. Since the TRI data base contains emissions data at the facility level and not the unit level, this information does not purport to estimate the potential effect of the opt-in provision on the basis of unit participation. The data does demonstrate, however, that the potentially regulated industries that could escape air toxics regulation should S. 131 become law, are major contributors to toxic air pollution in this country. 2002 TRI data show that nationwide, potentially regulated industries under the four source categories affected by S. 131's opt-in provision reported more than 1.2 billion pounds of point source toxic air emissions. These are the very industries that should be doing more to control their toxic emissions—as EPA founded in adopting rules to cover their toxics pollution—and not less, as S. 131 would allow.

Question 4. My entire home State of New Jersey was recently declared "out of attainment" for nitrogen oxides, which help form ozone and damage lungs—especially of kids. Do you believe this bill will improve New Jersey's air quality?

Response. This bill will not improve New Jersey's air quality compared to the timelier, better air quality improvements that New Jersey would experience from EPA and the states simply enforcing the Clean Air Act that we have today. This legislation delays the timelines and dilutes the rigor of pollution control measures that otherwise would apply to SO_2 and NOx pollution from dirty coal-fired power plants located upwind of New Jersey, pollution that causes and contributes to New Jersey's ozone nonattainment problems.

In other words, this legislation is worse for New Jersey and the country than the current Clean Air Act. Enforcing the current Clean Air Act will better protect Americans, and do so more quickly and cost-effectively, than going backwards with the Clear Skies legislation.

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[21] "The Clear Skies Act Technical Support Package" is available at http://www.epa.gov/air/clearskies/03technical__packagetofc.pdf.

[22] For the purposes of estimating the number of potentially eligible facilities, Earthjustice only considered major sources. Enforcement and Compliance History online available at http://www.epa.gov/echo/

My February 2nd written testimony details the numerous and varied ways in which S. 131 weaken and delays more protective air pollution control measures currently afforded—and mandated—by the current Clean Air Act. These protections run the gamut from better protections against local smog and soot pollution contributing to nonattainment; protections against transported air pollution from upwind source, an especially critical concern for New Jersey; stronger protections against acid rain; more rigorous and timely protections against mercury poisoning and other hazardous air pollution; and better safeguards for visibility and ecosystem health in national parks and wilderness areas.

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California

Major source facilities, by industry, potentially eligible for the S. 131 MACT opt-in provision and their total reported 2002 toxic emissions (point source air emissions)

The information included on this sheet regarding toxic air pollution contains facility-wide toxic point source air emissions as reported by the industries potentially regulated for the four MACTs listed in the opt-in provision of S.131. This information is part of the Environmental Protection Agency's (EPA's) 2002 Toxic Release Inventory (TRI).

EPA has estimated that under the current Clean Air Act, as many as 70,000 affected units at facilities in potentially regulated industries would have to reduce their toxic emissions by some 70,000 tons per year.[1] Under the opt-in provision of S.131, facilities in potentially regulated industries could essentially be permitted to write off hazardous air pollution from affected units.

Reciprocating Internal Combustion Engine (RICE) MACT:

Potentially Regulated Industries (Major sources only):

Electric power generation/transmission/distribution (SIC 4911)--126 facilities in CA
Natural gas transmission (SIC 4922)—11 facilities in CA
Crude petroleum and natural gas production (SIC 1311)—107 facilities in CA
Natural gas liquids producers (SIC 1321)—6 facilities in CA
National security (SIC 9711)—16 facilities in CA

TOTAL NUMBER OF FACILITIES IN CA POTENTIALLY SUBJECT TO THE RICE MACT: 266

Potentially regulated industry information from 69 FR 33473 (June 15, 2004); facility information accessed at http://www.epa.gov/echo/

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[1] According to EPA fact sheets on the final rules published for the four source categories in question, available at http://www.epa.gov/ttn/atw/mactfnlalph.html. Specifically, according to EPA estimates, under the current Clean Air Act these units would be required to reduce air toxic emissions by between 70,298 and 74,698 tons per year.

Industrial/Commercial/Institutional Boilers and Process Heaters MACT:

Potentially Regulated Industries (Major sources only):

Extractors of crude petroleum and natural gas (SIC 13)—119 facilities in CA (count 6 for the 4-MACT total)[2]
Manufacturers of lumber and wood products (SIC 24)—42 facilities in CA
Pulp and paper mills (SIC 26)—34 facilities in CA
Chemical manufacturers (SIC 28)—41 facilities in CA
Petroleum refineries, and manufacturers of coal products (SIC 29)—34 facilities in CA
Manufacturers of rubber and miscellaneous plastic products (SIC 30)—45 facilities in CA
Steel works, blast furnaces (SIC 33)—24 facilities in CA
Electroplating, plating, polishing, anodizing and coloring (SIC 34)—73 facilities in CA
Manufacturers of motor vehicle parts and accessories (SIC 37)—40 facilities in CA
Electric, gas and sanitary services (SIC 49)—296 (count 159 for the 4-MACT total)
Health Services (SIC 80)—18 facilities in CA
Educational Services (SIC 82)—11 facilities in CA

TOTAL NUMBER OF FACILITIES IN CA POTENTIALLY SUBJECT TO THE BOILER MACT: 777

Potentially regulated industry information from 69 FR 55217 (September 13, 2004); facility information accessed at http://www.epa.gov/echo/

Plywood and composite wood products MACT:

Potentially Regulated Industries (Major sources only):

Sawmills with lumber kilns (SIC 2421)—13 facilities in CA (count 0 for the 4-MACT total)
Hardwood plywood and veneer plants (SIC 2435)—NONE in CA
Softwood plywood and veneer plants (SIC 2436)—1 facility in CA (count 0 for the 4-MACT total)
Reconstituted wood products (SIC 2493)—1 facility in CA (count 0 for the 4-MACT total)
Structural wood members (SIC 2439)—NONE in CA

TOTAL NUMBER OF FACILITIES IN CA POTENTIALLY SUBJECT TO THE PLYWOOD MACT: 15

Potentially regulated industry information from 69 FR 45943 (July 30, 2004); facility information accessed at http://www.epa.gov/echo/

[2] To avoid double-counting, facilities of a SIC subset listed under one MACT were not counted for the 4-MACT total for CA facilities when another MACT listed the entire SIC set and/or a SIC subset listed under one MACT was also listed in another.

Stationary Combustion Turbines MACT:

Potentially Regulated Industries (Major sources only):

Electric power generation/transmission/distribution (SIC 4911)—126 facilities in CA (count 0 for 4-MACT total)
Natural gas transmission (SIC 4922)—11 facilities in CA (count 0 for 4-MACT total)
Crude petroleum and natural gas production (SIC 1311)—107 facilities in CA (count 0 for 4-MACT TOTAL)
Natural gas liquids producers (SIC 1321)—6 facilities in CA (count 0 for 4-MACT total)
Electric and other services combined (SIC 4931)—40 facilities in CA (count 0 for 4-MACT total)

Potentially regulated industry information from 69 FR 45943 (July 30, 2004); facility information accessed at http://www.epa.gov/echo/

TOTAL NUMBER OF FACILITIES IN CA POTENTIALLY SUBJECT TO THE STATIONARY COMBUSTION TURBINE MACT: 290

AS MANY AS 793 FACILITIES IN CALIFORNIA COULD BE ELIGIBLE FOR THE OPT-IN NESHAP PROVISION IN S. 131.

NATIONWIDE:

Extractors of crude petroleum and natural gas (SIC 13)—1,010 facilities
Manufacturers of lumber and wood products (SIC 24)—792 facilities
Pulp and paper mills (SIC 26)—616 facilities
Chemical manufacturers (SIC 28)—1,227 facilities
Petroleum refineries, and manufacturers of coal products (SIC 29)—605 facilities
Manufacturers of rubber and miscellaneous plastic products (SIC 30)—986 facilities
Steel works, blast furnaces (SIC 33)—827 facilities
Electroplating, plating, polishing, anodizing and coloring (SIC 34)—1,040 facilities
Manufacturers of motor vehicle parts and accessories (SIC 37)—889 facilities
Electric, gas and sanitary services (SIC 49)—4,168 facilities
Health Services (SIC 80)—288 facilities
Educational Services (SIC 82)—215 facilities
National security (SIC 9711)—151 facilities

AS MANY AS 12,814 FACILITIES NATIONWIDE COULD BE ELIGIBLE FOR THE OPT-IN PROVISION IN S. 131.

REPORTED 2002 TOXIC AIR EMISSIONS BY INDUSTRY (POINT SOURCE ONLY), NATIONWIDE/CA[3]:

Extractors of crude petroleum and natural gas (SIC 13)—N/A
Manufacturers of lumber and wood products (SIC 24)—26,826,182 lbs U.S. / 407,793 lbs. CA
Pulp and paper mills (SIC 26)—134,124,178 lbs. U.S. / 386,398 lbs. CA

[3] Source: EPA 2002 Toxic Release Inventory (TRI), http://www.epa.gov/tri/

Chemical manufacturers (SIC 28)—171,165,477 lbs. U.S. / 870,521 lbs. CA
Petroleum refineries, and manufacturers of coal products (SIC 29)—30,627,766 lbs. U.S. / 6,156,480 lbs. CA
Manufacturers of rubber and miscellaneous plastic products (SIC 30)—49,561,607 lbs. U.S. / 1,537,186 lbs. CA
Steel works, blast furnaces (SIC 33)—40,203,749 lbs U.S. / 176,576 lbs CA
Electroplating, plating, polishing, anodizing and coloring (SIC 34)—24,737,579 lbs U.S. / 789,831 lbs CA
Manufacturers of motor vehicle parts and accessories (SIC 37)—53,353,628 lbs U.S. / 902,144 lbs CA
Electric, gas and sanitary services (SIC 49)—only available for 4911—723,559,899 lbs U.S. / 513,949 lbs CA
Health Services (SIC 80)—N/A
Educational Services (SIC 82)—N/A
National security (SIC 9711)—N/A

TOTAL REPORTED 2002 TOXIC AIR EMISSIONS BY INDUSTRIES THAT COULD BE ELIGIBLE FOR THE OPT-IN PROVISION OF S.131[4]:

1,254,160,065 lbs NATIONWIDE / 11,740,878 lbs CA

For more information, contact:
Maria Weidner, Earthjustice at 202-667-4500 x237 or mweidner@earthjustice.org

[4] This is most likely an underestimate as some potentially regulated industries are not reporting industries for the TRI.

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Connecticut

Major source facilities, by industry, potentially eligible for the S. 131 MACT opt-in provision and their total reported 2002 toxic emissions (point source air emissions)

The information included on this sheet regarding toxic air pollution contains facility-wide toxic point source air emissions as reported by the industries potentially regulated for the four MACTs listed in the opt-in provision of S.131. This information is part of the Environmental Protection Agency's (EPA's) 2002 Toxic Release Inventory (TRI).

EPA has estimated that under the current Clean Air Act, as many as 70,000 affected units at facilities in potentially regulated industries would have to reduce their toxic emissions by some 70,000 tons per year.[1] Under the opt-in provision of S.131, facilities in potentially regulated industries could essentially be permitted to write off hazardous air pollution from affected units.

Reciprocating Internal Combustion Engine (RICE) MACT:

Potentially Regulated Industries (Major sources only):

Electric power generation/transmission/distribution (SIC 4911)—14 facilities in CT
Natural gas transmission (SIC 4922)—2 facilities in CT
Crude petroleum and natural gas production (SIC 1311)—NONE
Natural gas liquids producers (SIC 1321)—NONE
National security (SIC 9711)—NONE

TOTAL NUMBER OF FACILITIES IN CT POTENTIALLY SUBJECT TO THE RICE MACT: 16

Potentially regulated industry information from 69 FR 33473 (June 15, 2004); facility information accessed at http://www.epa.gov/echo/

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[1] According to EPA fact sheets on the final rules published for the four source categories in question, available at http://www.epa.gov/ttn/atw/mactfnlalph.html. Specifically, according to EPA estimates, under the current Clean Air Act these units would be required to reduce air toxic emissions by between 70,298 and 74,698 tons per year.

Industrial/Commercial/Institutional Boilers and Process Heaters MACT:

Potentially Regulated Industries (Major sources only):

Extractors of crude petroleum and natural gas (SIC 13)—NONE
Manufacturers of lumber and wood products (SIC 24)—1 facility in CT
Pulp and paper mills (SIC 26)—5 facilities in CT
Chemical manufacturers (SIC 28)—6 facilities in CT
Petroleum refineries, and manufacturers of coal products (SIC 29)—NONE
Manufacturers of rubber and miscellaneous plastic products (SIC 30)—9 facilities in CT
Steel works, blast furnaces (SIC 33)—4 facilities in CT
Electroplating, plating, polishing, anodizing and coloring (SIC 34)—14 facilities in CT
Manufacturers of motor vehicle parts and accessories (SIC 37)—7 facilities in CT
Electric, gas and sanitary services (SIC 49)—31 facilities in CT (count 15 for 4-MACT total)[2]
Health Services (SIC 80)—2 facilities in CT
Educational Services (SIC 82)—4 facilities in CT

TOTAL NUMBER OF FACILITIES IN CT POTENTIALLY SUBJECT TO THE BOILER MACT: 83

Potentially regulated industry information from 69 FR 55217 (September 13, 2004); facility information accessed at http://www.epa.gov/echo/

Plywood and composite wood products MACT:

Potentially Regulated Industries (Major sources only):

Sawmills with lumber kilns (SIC 2421)—NONE
Hardwood plywood and veneer plants (SIC 2435)—NONE
Softwood plywood and veneer plants (SIC 2436)—NONE
Reconstituted wood products (SIC 2493)—NONE
Structural wood members (SIC 2439)—NONE

TOTAL NUMBER OF FACILITIES IN CT POTENTIALLY SUBJECT TO THE PLYWOOD MACT: NONE

Potentially regulated industry information from 69 FR 45943 (July 30, 2004); facility information accessed at http://www.epa.gov/echo/

[2] To avoid double-counting, facilities of a SIC subset listed under one MACT were not counted for the 4-MACT total for CA facilities when another MACT listed the entire SIC set and/or a SIC subset listed under one MACT was also listed in another.

Stationary Combustion Turbines MACT:

Potentially Regulated Industries (Major sources only):

Electric power generation/transmission/distribution (SIC 4911)—14 facilities in CT (count 0 for 4-MACT total)
Natural gas transmission (SIC 4922)—2 facilities in CT (count 0 for 4-MACT total)
Crude petroleum and natural gas production (SIC 1311)—NONE
Natural gas liquids producers (SIC 1321)—NONE
Electric and other services combined (SIC 4931)—NONE

Potentially regulated industry information from 69 FR 45943 (July 30, 2004); facility information accessed at http://www.epa.gov/echo/

TOTAL NUMBER OF FACILITIES IN CT POTENTIALLY SUBJECT TO THE STATIONARY COMBUSTION TURBINE MACT: 16

AS MANY AS 83 FACILITIES IN CONNECTICUT COULD BE ELIGIBLE FOR THE OPT-IN NESHAP PROVISION IN S. 131.

NATIONWIDE:

Extractors of crude petroleum and natural gas (SIC 13)—1,010 facilities
Manufacturers of lumber and wood products (SIC 24)—792 facilities
Pulp and paper mills (SIC 26)—616 facilities
Chemical manufacturers (SIC 28)—1,227 facilities
Petroleum refineries, and manufacturers of coal products (SIC 29)—605 facilities
Manufacturers of rubber and miscellaneous plastic products (SIC 30)—986 facilities
Steel works, blast furnaces (SIC 33)—827 facilities
Electroplating, plating, polishing, anodizing and coloring (SIC 34)—1,040 facilities
Manufacturers of motor vehicle parts and accessories (SIC 37)—889 facilities
Electric, gas and sanitary services (SIC 49)—4,168 facilities
Health Services (SIC 80)—288 facilities
Educational Services (SIC 82)—215 facilities
National security (SIC 9711)—151 facilities

AS MANY AS 12,814 FACILITIES NATIONWIDE COULD BE ELIGIBLE FOR THE OPT-IN PROVISION IN S. 131.

REPORTED 2002 TOXIC AIR EMISSIONS BY INDUSTRY (POINT SOURCE ONLY), NATIONWIDE/CT[3]:

Extractors of crude petroleum and natural gas (SIC 13)—N/A

[3] Source: EPA 2002 Toxic Release Inventory (TRI), http://www.epa.gov/tri/

Manufacturers of lumber and wood products (SIC 24)—26,826,182 lbs U.S. / 1,254 lbs CT
Pulp and paper mills (SIC 26)—134,124,178 lbs U.S. / 16,324 lbs CT
Chemical manufacturers (SIC 28)—171,165,477 lbs. U.S. / 164,765 lbs CT
Petroleum refineries, and manufacturers of coal products (SIC 29)—30,627,766 lbs. U.S. / N/A for CT
Manufacturers of rubber and miscellaneous plastic products (SIC 30)—49,561,607 lbs. U.S. / 470,669 lbs CT
Steel works, blast furnaces (SIC 33)—40,203,749 lbs U.S. / 109,972 lbs CT
Electroplating, plating, polishing, anodizing and coloring (SIC 34)—24,737,579 lbs U.S. / 213,103 lbs CT
Manufacturers of motor vehicle parts and accessories (SIC 37)—53,353,628 lbs U.S. / 15,927 lbs CT
Electric, gas and sanitary services (SIC 49)—only available for 4911—723,559,899 lbs U.S. / 431,289 lbs CT
Health Services (SIC 80)—N/A
Educational Services (SIC 82)—N/A
National security (SIC 9711)—N/A

TOTAL REPORTED 2002 TOXIC AIR EMISSIONS BY INDUSTRIES THAT COULD BE ELIGIBLE FOR THE OPT-IN PROVISION OF S.131[4]:

1,254,160,065 lbs NATIONWIDE / 1,423,303 lbs CT

For more information, contact:
Maria Weidner, Earthjustice at 202-667-4500 x237 or mweidner@earthjustice.org

[4] This is most likely an underestimate because in addition to the fact that facilities often underestimate emission reports to the TRI, some potentially regulated industries are not reporting industries.

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Delaware

Major source facilities, by industry, potentially eligible for the S. 131 MACT opt-in provision and their total reported 2002 toxic emissions (point source air emissions)

The information included on this sheet regarding toxic air pollution contains facility-wide toxic point source air emissions as reported by the industries potentially regulated for the four MACTs listed in the opt-in provision of S.131. This information is part of the Environmental Protection Agency's (EPA's) 2002 Toxic Release Inventory (TRI).

EPA has estimated that under the current Clean Air Act, as many as 70,000 affected units at facilities in potentially regulated industries would have to reduce their toxic emissions by some 70,000 tons per year.[1] Under the opt-in provision of S.131, facilities in potentially regulated industries could essentially be permitted to write off hazardous air pollution from affected units.

Reciprocating Internal Combustion Engine (RICE) MACT:

Potentially Regulated Industries (Major sources only):

Electric power generation/transmission/distribution (SIC 4911)—11 facilities in DE
Natural gas transmission (SIC 4922)—NONE
Crude petroleum and natural gas production (SIC 1311)—NONE
Natural gas liquids producers (SIC 1321)—NONE
National security (SIC 9711)—1 facility in DE

TOTAL NUMBER OF FACILITIES IN DE POTENTIALLY SUBJECT TO THE RICE MACT: 12

Potentially regulated industry information from 69 FR 33473 (June 15, 2004); facility information accessed at http://www.epa.gov/echo/

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[1] According to EPA fact sheets on the final rules published for the four source categories in question, available at http://www.epa.gov/ttn/atw/mactfnlalph.html. Specifically, according to EPA estimates, under the current Clean Air Act these units would be required to reduce air toxic emissions by between 70,298 and 74,698 tons per year.

Industrial/Commercial/Institutional Boilers and Process Heaters MACT:

Potentially Regulated Industries (Major sources only):

Extractors of crude petroleum and natural gas (SIC 13)—NONE
Manufacturers of lumber and wood products (SIC 24)—NONE
Pulp and paper mills (SIC 26)—3 facilities in DE
Chemical manufacturers (SIC 28)—15 facilities in DE
Petroleum refineries, and manufacturers of coal products (SIC 29)—3 facilities in DE
Manufacturers of rubber and miscellaneous plastic products (SIC 30)—5 facilities in DE
Steel works, blast furnaces (SIC 33)—2 facilities in DE
Electroplating, plating, polishing, anodizing and coloring (SIC 34)—NONE
Manufacturers of motor vehicle parts and accessories (SIC 37)—4 facilities in DE
Electric, gas and sanitary services (SIC 49)—16 facilities in DE (count 5 for 4-MACT total) [2]
Health Services (SIC 80)—5 facilities in DE
Educational Services (SIC 82)—2 facilities in DE

TOTAL NUMBER OF FACILITIES IN DE POTENTIALLY SUBJECT TO THE BOILER MACT: 55

Potentially regulated industry information from 69 FR 55217 (September 13, 2004); facility information accessed at http://www.epa.gov/echo/

Plywood and composite wood products MACT:

Potentially Regulated Industries (Major sources only):

Sawmills with lumber kilns (SIC 2421)—NONE
Hardwood plywood and veneer plants (SIC 2435)—NONE
Softwood plywood and veneer plants (SIC 2436)—NONE
Reconstituted wood products (SIC 2493)—NONE
Structural wood members (SIC 2439)—NONE

TOTAL NUMBER OF FACILITIES IN DE POTENTIALLY SUBJECT TO THE PLYWOOD MACT: NONE

Potentially regulated industry information from 69 FR 45943 (July 30, 2004); facility information accessed at http://www.epa.gov/echo/

[2] To avoid double-counting, facilities of a SIC subset listed under one MACT were not counted for the 4-MACT total for CA facilities when another MACT listed the entire SIC set and/or a SIC subset listed under one MACT was also listed in another.

Stationary Combustion Turbines MACT:

Potentially Regulated Industries (Major sources only):

Electric power generation/transmission/distribution (SIC 4911)—11 facilities in DE (count 0 for 4-MACT total)
Natural gas transmission (SIC 4922)—NONE
Crude petroleum and natural gas production (SIC 1311)—NONE
Natural gas liquids producers (SIC 1321)—NONE
Electric and other services combined (SIC 4931)—NONE

Potentially regulated industry information from 69 FR 45943 (July 30, 2004); facility information accessed at http://www.epa.gov/echo/

TOTAL NUMBER OF FACILITIES IN DE POTENTIALLY SUBJECT TO THE STATIONARY COMBUSTION TURBINE MACT: 11

AS MANY AS 56 FACILITIES IN DELAWARE COULD BE ELIGIBLE FOR THE OPT-IN NESHAP PROVISION IN S. 131.

NATIONWIDE:

Extractors of crude petroleum and natural gas (SIC 13)—1,010 facilities
Manufacturers of lumber and wood products (SIC 24)—792 facilities
Pulp and paper mills (SIC 26)—616 facilities
Chemical manufacturers (SIC 28)—1,227 facilities
Petroleum refineries, and manufacturers of coal products (SIC 29)—605 facilities
Manufacturers of rubber and miscellaneous plastic products (SIC 30)—986 facilities
Steel works, blast furnaces (SIC 33)—827 facilities
Electroplating, plating, polishing, anodizing and coloring (SIC 34)—1,040 facilities
Manufacturers of motor vehicle parts and accessories (SIC 37)—889 facilities
Electric, gas and sanitary services (SIC 49)—4,168 facilities
Health Services (SIC 80)—288 facilities
Educational Services (SIC 82)—215 facilities
National security (SIC 9711)—151 facilities

AS MANY AS 12,814 FACILITIES NATIONWIDE COULD BE ELIGIBLE FOR THE OPT-IN PROVISION IN S. 131.

REPORTED 2002 TOXIC AIR EMISSIONS BY INDUSTRY (POINT SOURCE ONLY), NATIONWIDE/DE[3]:

Extractors of crude petroleum and natural gas (SIC 13)—N/A
Manufacturers of lumber and wood products (SIC 24)—26,826,182 lbs U.S. / N/A for DE
Pulp and paper mills (SIC 26)—134,124,178 lbs. U.S. / none reported

[3] Source: EPA 2002 Toxic Release Inventory (TRI), http://www.epa.gov/tri/

Chemical manufacturers (SIC 28)—171,165,477 lbs. U.S. / 879,703 lbs DE
Petroleum refineries, and manufacturers of coal products (SIC 29)—30,627,766 lbs. U.S. / 874,524 lbs DE
Manufacturers of rubber and miscellaneous plastic products (SIC 30)—49,561,607 lbs. U.S. / 36,818 lbs DE
Steel works, blast furnaces (SIC 33)—40,203,749 lbs U.S. / 3,910 lbs DE
Electroplating, plating, polishing, anodizing and coloring (SIC 34)—24,737,579 lbs U.S. / 5 lbs DE
Manufacturers of motor vehicle parts and accessories (SIC 37)—53,353,628 lbs U.S. / 484,064 lbs DE
Electric, gas and sanitary services (SIC 49)—only available for 4911—723,559,899 lbs U.S. / 3,561,556 lbs DE
Health Services (SIC 80)—N/A
Educational Services (SIC 82)—N/A
National security (SIC 9711)—N/A

TOTAL REPORTED 2002 TOXIC AIR EMISSIONS BY INDUSTRIES THAT COULD BE ELIGIBLE FOR THE OPT-IN PROVISION OF S.131[4]:

1,254,160,065 lbs NATIONWIDE / 5,840,580 lbs DE

For more information, contact:
Maria Weidner, Earthjustice at 202-667-4500 x237 or mweidner@earthjustice.org

[4] This is most likely an underestimate because in addition to the fact that facilities often underestimate emission reports to the TRI, some potentially regulated industries are not reporting industries.

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Illinois

Major source facilities, by industry, potentially eligible for the S. 131 MACT opt-in provision and their total reported 2002 toxic emissions (point source air emissions)

The information included on this sheet regarding toxic air pollution contains facility-wide toxic point source air emissions as reported by the industries potentially regulated for the four MACTs listed in the opt-in provision of S.131. This information is part of the Environmental Protection Agency's (EPA's) 2002 Toxic Release Inventory (TRI).

EPA has estimated that under the current Clean Air Act, as many as 70,000 affected units at facilities in potentially regulated industries would have to reduce their toxic emissions by some 70,000 tons per year.[1] Under the opt-in provision of S.131, facilities in potentially regulated industries could essentially be permitted to write off hazardous air pollution from affected units.

Reciprocating Internal Combustion Engine (RICE) MACT:

Potentially Regulated Industries (Major sources only):

Electric power generation/transmission/distribution (SIC 4911)—104 facilities in IL
Natural gas transmission (SIC 4922)—27 facilities in IL
Crude petroleum and natural gas production (SIC 1311)—NONE
Natural gas liquids producers (SIC 1321)—3 facilities in IL
National security (SIC 9711)—1 facility in IL

TOTAL NUMBER OF FACILITIES IN IL POTENTIALLY SUBJECT TO THE RICE MACT: 135

Potentially regulated industry information from 69 FR 33473 (June 15, 2004); facility information accessed at http://www.epa.gov/echo/

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[1] According to EPA fact sheets on the final rules published for the four source categories in question, available at http://www.epa.gov/ttn/atw/mactfnlalph.html. Specifically, according to EPA estimates, under the current Clean Air Act these units would be required to reduce air toxic emissions by between 70,298 and 74,698 tons per year.

Industrial/Commercial/Institutional Boilers and Process Heaters MACT:

Potentially Regulated Industries (Major sources only):

Extractors of crude petroleum and natural gas (SIC 13)—3 facilities in IL (count 0 for 4-MACT total)[2]
Manufacturers of lumber and wood products (SIC 24)—8 facilities in IL
Pulp and paper mills (SIC 26)—31 facilities in IL
Chemical manufacturers (SIC 28)—86 facilities in IL
Petroleum refineries, and manufacturers of coal products (SIC 29)—8 facilities in IL
Manufacturers of rubber and miscellaneous plastic products (SIC 30)—51 facilities in IL
Steel works, blast furnaces (SIC 33)—36 facilities in IL
Electroplating, plating, polishing, anodizing and coloring (SIC 34)—58 facilities in IL
Manufacturers of motor vehicle parts and accessories (SIC 37)—25 facilities in IL
Electric, gas and sanitary services (SIC 49)—182 facilities in IL (count 51 for 4-MACT total)
Health Services (SIC 80)—12 facilities in IL
Educational Services (SIC 82)—10 facilities in IL

TOTAL NUMBER OF FACILITIES IN IL POTENTIALLY SUBJECT TO THE BOILER MACT: 510

Potentially regulated industry information from 69 FR 55217 (September 13, 2004); facility information accessed at http://www.epa.gov/echo/

Plywood and composite wood products MACT:

Potentially Regulated Industries (Major sources only):

Sawmills with lumber kilns (SIC 2421)—NONE
Hardwood plywood and veneer plants (SIC 2435)—NONE
Softwood plywood and veneer plants (SIC 2436)—NONE
Reconstituted wood products (SIC 2493)—1 facility in IL (count 0 for the 4-MACT total)
Structural wood members (SIC 2439)—1 facility in IL (count 0 for 4-MACT total)

TOTAL NUMBER OF FACILITIES IN IL POTENTIALLY SUBJECT TO THE PLYWOOD MACT: 2

Potentially regulated industry information from 69 FR 45943 (July 30, 2004); facility information accessed at http://www.epa.gov/echo/

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[2] To avoid double-counting, facilities of a SIC subset listed under one MACT were not counted for the 4-MACT total for CA facilities when another MACT listed the entire SIC set and/or a SIC subset listed under one MACT was also listed in another.

Stationary Combustion Turbines MACT:

Potentially Regulated Industries (Major sources only):

Electric power generation/transmission/distribution (SIC 4911)—104 facilities in IL (count 0 for 4-MACT total)
Natural gas transmission (SIC 4922)—27 facilities in IL (count 0 for 4-MACT total)
Crude petroleum and natural gas production (SIC 1311)—NONE
Natural gas liquids producers (SIC 1321)—3 facilities in IL (count 0 for 4-MACT total)
Electric and other services combined (SIC 4931)—2 facilities in IL (count 0 for 4-MACT total)

Potentially regulated industry information from 69 FR 45943 (July 30, 2004); facility information accessed at http://www.epa.gov/echo/

TOTAL NUMBER OF FACILITIES IN IL POTENTIALLY SUBJECT TO THE STATIONARY COMBUSTION TURBINE MACT: 136

AS MANY AS 511 FACILITIES IN ILLINOIS COULD BE ELIGIBLE FOR THE OPT-IN NESHAP PROVISION IN S. 131.

NATIONWIDE:

Extractors of crude petroleum and natural gas (SIC 13)—1,010 facilities
Manufacturers of lumber and wood products (SIC 24)—792 facilities
Pulp and paper mills (SIC 26)—616 facilities
Chemical manufacturers (SIC 28)—1,227 facilities
Petroleum refineries, and manufacturers of coal products (SIC 29)—605 facilities
Manufacturers of rubber and miscellaneous plastic products (SIC 30)—986 facilities
Steel works, blast furnaces (SIC 33)—827 facilities
Electroplating, plating, polishing, anodizing and coloring (SIC 34)—1,040 facilities
Manufacturers of motor vehicle parts and accessories (SIC 37)—889 facilities
Electric, gas and sanitary services (SIC 49)—4,168 facilities
Health Services (SIC 80)—288 facilities
Educational Services (SIC 82)—215 facilities
National security (SIC 9711)—151 facilities

AS MANY AS 12,814 FACILITIES NATIONWIDE COULD BE ELIGIBLE FOR THE OPT-IN PROVISION IN S. 131.

REPORTED 2002 TOXIC AIR EMISSIONS BY INDUSTRY (POINT SOURCE ONLY), NATIONWIDE/IL[3]:

Extractors of crude petroleum and natural gas (SIC 13)—N/A
Manufacturers of lumber and wood products (SIC 24)—26,826,182 lbs U.S. / 207,055 lbs IL
Pulp and paper mills (SIC 26)—134,124,178 lbs U.S. / 351,673 lbs IL
Chemical manufacturers (SIC 28)—171,165,477 lbs. U.S. / 7,283,903 lbs IL
Petroleum refineries, and manufacturers of coal products (SIC 29)—30,627,766 lbs. U.S. / 2,525,429 lbs IL
Manufacturers of rubber and miscellaneous plastic products (SIC 30)—49,561,607 lbs. U.S. / 4,018,626 lbs IL
Steel works, blast furnaces (SIC 33)—40,203,749 lbs U.S. / 1,236,195 lbs IL
Electroplating, plating, polishing, anodizing and coloring (SIC 34)—24,737,579 lbs U.S. / 1,866,399 lbs IL
Manufacturers of motor vehicle parts and accessories (SIC 37)—53,353,628 lbs U.S. / 1,811,171 lbs IL
Electric, gas and sanitary services (SIC 49)—only available for 4911—723,559,899 lbs U.S. / 17,487,901 lbs IL
Health Services (SIC 80)—N/A
Educational Services (SIC 82)—N/A
National security (SIC 9711)—N/A

TOTAL REPORTED 2002 TOXIC AIR EMISSIONS BY INDUSTRIES THAT COULD BE ELIGIBLE FOR THE OPT-IN PROVISION OF S.131[4]:

1,254,160,065 lbs NATIONWIDE / 36,788,352 lbs IL

For more information, contact:
Maria Weidner, Earthjustice at 202-667-4500 x237 or mweidner@earthjustice.org

[3] Source: EPA 2002 Toxic Release Inventory (TRI), http://www.epa.gov/tri/
[4] This is most likely an underestimate because in addition to the fact that facilities often underestimate emission reports to the TRI, some potentially regulated industries are not reporting industries.

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Louisiana

Major source facilities, by industry, potentially eligible for the S. 131 MACT opt-in provision and their total reported 2002 toxic emissions (point source air emissions)

The information included on this sheet regarding toxic air pollution contains facility-wide toxic point source air emissions as reported by the industries potentially regulated for the four MACTs listed in the opt-in provision of S.131. This information is part of the Environmental Protection Agency's (EPA's) 2002 Toxic Release Inventory (TRI).

EPA has estimated that under the current Clean Air Act, as many as 70,000 affected units at facilities in potentially regulated industries would have to reduce their toxic emissions by some 70,000 tons per year.[1] Under the opt-in provision of S.131, facilities in potentially regulated industries could essentially be permitted to write off hazardous air pollution from affected units.

Reciprocating Internal Combustion Engine (RICE) MACT:

Potentially Regulated Industries (Major sources only):

Electric power generation/transmission/distribution (SIC 4911)—27 facilities in LA
Natural gas transmission (SIC 4922)—81 facilities in LA
Crude petroleum and natural gas production (SIC 1311)—150 facilities in LA
Natural gas liquids producers (SIC 1321)—28 facilities in LA
National security (SIC 9711)—NONE

TOTAL NUMBER OF FACILITIES IN LA POTENTIALLY SUBJECT TO THE RICE MACT: 286

Potentially regulated industry information from 69 FR 33473 (June 15, 2004); facility information accessed at http://www.epa.gov/echo/

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[1] According to EPA fact sheets on the final rules published for the four source categories in question, available at http://www.epa.gov/ttn/atw/mactfnlalph.html. Specifically, according to EPA estimates, under the current Clean Air Act these units would be required to reduce air toxic emissions by between 70,298 and 74,698 tons per year.

Industrial/Commercial/Institutional Boilers and Process Heaters MACT:

Potentially Regulated Industries (Major sources only):

Extractors of crude petroleum and natural gas (SIC 13)—179 facilities in LA (count 1 for 4-MACT total) [2]
Manufacturers of lumber and wood products (SIC 24)—21 facilities in LA
Pulp and paper mills (SIC 26)—10 facilities in LA
Chemical manufacturers (SIC 28)—73 facilities in LA
Petroleum refineries, and manufacturers of coal products (SIC 29)—20 facilities in LA
Manufacturers of rubber and miscellaneous plastic products (SIC 30)—1 facility in LA
Steel works, blast furnaces (SIC 33)—4 facilities in LA
Electroplating, plating, polishing, anodizing and coloring (SIC 34)—4 facilities in LA
Manufacturers of motor vehicle parts and accessories (SIC 37)—6 facilities in LA
Electric, gas and sanitary services (SIC 49)—120 facilities in LA (count 12 for 4-MACT total)
Health Services (SIC 80)—NONE
Educational Services (SIC 82)—NONE

TOTAL NUMBER OF FACILITIES IN LA POTENTIALLY SUBJECT TO THE BOILER MACT: 438

Potentially regulated industry information from 69 FR 55217 (September 13, 2004); facility information accessed at http://www.epa.gov/echo/

Plywood and composite wood products MACT:

Potentially Regulated Industries (Major sources only):

Sawmills with lumber kilns (SIC 2421)—10 facilities in LA (count 0 for 4-MACT total)
Hardwood plywood and veneer plants (SIC 2435)—NONE
Softwood plywood and veneer plants (SIC 2436)—7 facilities in LA (count 0 for 4-MACT total)
Reconstituted wood products (SIC 2493)—NONE
Structural wood members (SIC 2439)—1 facility in LA (count 0 for 4-MACT total)

TOTAL NUMBER OF FACILITIES IN LA POTENTIALLY SUBJECT TO THE PLYWOOD MACT: 18

Potentially regulated industry information from 69 FR 45943 (July 30, 2004); facility information accessed at http://www.epa.gov/echo/

[2] To avoid double-counting, facilities of a SIC subset listed under one MACT were not counted for the 4-MACT total for CA facilities when another MACT listed the entire SIC set and/or a SIC subset listed under one MACT was also listed in another.

Stationary Combustion Turbines MACT:

Potentially Regulated Industries (Major sources only):

Electric power generation/transmission/distribution (SIC 4911)—27 facilities in LA (count 0 for 4-MACT total)
Natural gas transmission (SIC 4922)—81 facilities in LA (count 0 for 4-MACT total)
Crude petroleum and natural gas production (SIC 1311)—150 facilities in LA (count 0 for 4-MACT total)
Natural gas liquids producers (SIC 1321)—28 facilities in LA (count 0 for 4-MACT total)
Electric and other services combined (SIC 4931)—NONE

Potentially regulated industry information from 69 FR 45943 (July 30, 2004); facility information accessed at http://www.epa.gov/echo/

TOTAL NUMBER OF FACILITIES IN LA POTENTIALLY SUBJECT TO THE STATIONARY COMBUSTION TURBINE MACT: 286

AS MANY AS 438 FACILITIES IN LOUISIANA COULD BE ELIGIBLE FOR THE OPT-IN NESHAP PROVISION IN S. 131.

NATIONWIDE:

Extractors of crude petroleum and natural gas (SIC 13)—1,010 facilities
Manufacturers of lumber and wood products (SIC 24)—792 facilities
Pulp and paper mills (SIC 26)—616 facilities
Chemical manufacturers (SIC 28)—1,227 facilities
Petroleum refineries, and manufacturers of coal products (SIC 29)—605 facilities
Manufacturers of rubber and miscellaneous plastic products (SIC 30)—986 facilities
Steel works, blast furnaces (SIC 33)—827 facilities
Electroplating, plating, polishing, anodizing and coloring (SIC 34)—1,040 facilities
Manufacturers of motor vehicle parts and accessories (SIC 37)—889 facilities
Electric, gas and sanitary services (SIC 49)—4,168 facilities
Health Services (SIC 80)—288 facilities
Educational Services (SIC 82)—215 facilities
National security (SIC 9711)—151 facilities

AS MANY AS 12,814 FACILITIES NATIONWIDE COULD BE ELIGIBLE FOR THE OPT-IN PROVISION IN S. 131.

REPORTED 2002 TOXIC AIR EMISSIONS BY INDUSTRY (POINT SOURCE ONLY), NATIONWIDE/LA[3]:

Extractors of crude petroleum and natural gas (SIC 13)—N/A
Manufacturers of lumber and wood products (SIC 24)—26,826,182 lbs U.S. / 546,502 lbs LA

[3] Source: EPA 2002 Toxic Release Inventory (TRI), http://www.epa.gov/tri/

Pulp and paper mills (SIC 26)—116,648,937 lbs. U.S. / 13,806,952 lbs LA
Chemical manufacturers (SIC 28)—171,165,477 lbs. U.S. / 24,754,627 lbs LA
Petroleum refineries, and manufacturers of coal products (SIC 29)—30,627,766 lbs. U.S. /
2,606,395 lbs LA
Manufacturers of rubber and miscellaneous plastic products (SIC 30)—49,561,607 lbs. U.S. / 9,430 lbs LA
Steel works, blast furnaces (SIC 33)—40,203,749 lbs U.S. / 89,775 lbs LA
Electroplating, plating, polishing, anodizing and coloring (SIC 34)—24,737,579 lbs U.S. / 70,215 lbs LA
Manufacturers of motor vehicle parts and accessories (SIC 37)—53,353,628 lbs U.S. / 377,307 lbs LA
Electric, gas and sanitary services (SIC 49)—only available for 4911—723,559,899 lbs U.S. / 1,116,243 lbs LA
Health Services (SIC 80)—N/A
Educational Services (SIC 82)—N/A
National security (SIC 9711)—N/A

TOTAL REPORTED 2002 TOXIC AIR EMISSIONS BY INDUSTRIES THAT COULD BE ELIGIBLE FOR THE OPT-IN PROVISION OF S.131[4]:

1,236,684,824 lbs NATIONWIDE / 43,377,446 lbs LA

For more information, contact:
Maria Weidner, Earthjustice at 202-667-4500 x237 or mweidner@earthjustice.org

[4] This is most likely an underestimate because in addition to the fact that facilities often underestimate emission reports to the TRI, some potentially regulated industries are not reporting industries.

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Montana

Major source facilities, by industry, potentially eligible for the S. 131 MACT opt-in provision and their total reported 2002 toxic emissions (point source air emissions)

The information included on this sheet regarding toxic air pollution contains facility-wide toxic point source air emissions as reported by the industries potentially regulated for the four MACTs listed in the opt-in provision of S.131. This information is part of the Environmental Protection Agency's (EPA's) 2002 Toxic Release Inventory (TRI).

EPA has estimated that under the current Clean Air Act, as many as 70,000 affected units at facilities in potentially regulated industries would have to reduce their toxic emissions by some 70,000 tons per year.[1] Under the opt-in provision of S.131, facilities in potentially regulated industries could essentially be permitted to write off hazardous air pollution from affected units.

Reciprocating Internal Combustion Engine (RICE) MACT:

Potentially Regulated Industries (Major sources only):

Electric power generation/transmission/distribution (SIC 4911)—7 facilities in MT
Natural gas transmission (SIC 4922)—15 facilities in MT
Crude petroleum and natural gas production (SIC 1311)—1 facility in MT
Natural gas liquids producers (SIC 1321)—1 facility in MT
National security (SIC 9711)—1 facility in MT

TOTAL NUMBER OF FACILITIES IN MT POTENTIALLY SUBJECT TO THE RICE MACT: 25

Potentially regulated industry information from 69 FR 33473 (June 15, 2004); facility information accessed at http://www.epa.gov/echo/

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[1] According to EPA fact sheets on the final rules published for the four source categories in question, available at http://www.epa.gov/ttn/atw/mactfnlalph.html. Specifically, according to EPA estimates, under the current Clean Air Act these units would be required to reduce air toxic emissions by between 70,298 and 74,698 tons per year.

Industrial/Commercial/Institutional Boilers and Process Heaters MACT:

Potentially Regulated Industries (Major sources only):

Extractors of crude petroleum and natural gas (SIC 13)—2 facilities in MT (count 0 for 4-MACT total)[2]
Manufacturers of lumber and wood products (SIC 24)—13 facilities in MT
Pulp and paper mills (SIC 26)—1 facility in MT
Chemical manufacturers (SIC 28)—3 facilities in MT
Petroleum refineries, and manufacturers of coal products (SIC 29)—4 facilities in MT
Manufacturers of rubber and miscellaneous plastic products (SIC 30)—1 facility in MT
Steel works, blast furnaces (SIC 33)—2 facilities in MT
Electroplating, plating, polishing, anodizing and coloring (SIC 34)—NONE
Manufacturers of motor vehicle parts and accessories (SIC 37)—NONE
Electric, gas and sanitary services (SIC 49)—26 facilities in MT (count 4 for 4-MACT total) Health Services (SIC 80)—NONE
Educational Services (SIC 82)—NONE

TOTAL NUMBER OF FACILITIES IN MT POTENTIALLY SUBJECT TO THE BOILER MACT: 52

Potentially regulated industry information from 69 FR 55217 (September 13, 2004); facility information accessed at http://www.epa.gov/echo/

Plywood and composite wood products MACT:

Potentially Regulated Industries (Major sources only):

Sawmills with lumber kilns (SIC 2421)—8 facilities in MT (count 0 for 4-MACT total)
Hardwood plywood and veneer plants (SIC 2435)—NONE
Softwood plywood and veneer plants (SIC 2436)—4 facilities in MT (count 0 for 4-MACT total)
Reconstituted wood products (SIC 2493)—1 facility in MT (count 0 for 4-MACT total)
Structural wood members (SIC 2439)—NONE

TOTAL NUMBER OF FACILITIES IN MT POTENTIALLY SUBJECT TO THE PLYWOOD MACT: 13

Potentially regulated industry information from 69 FR 45943 (July 30, 2004); facility information accessed at http://www.epa.gov/echo/

[2] To avoid double-counting, facilities of a SIC subset listed under one MACT were not counted for the 4-MACT total for CA facilities when another MACT listed the entire SIC set and/or a SIC subset listed under one MACT was also listed in another.

Stationary Combustion Turbines MACT:

Potentially Regulated Industries (Major sources only):

Electric power generation/transmission/distribution (SIC 4911)—7 facilities in MT (count 0 for 4-MACT total)
Natural gas transmission (SIC 4922)—15 facilities in MT (count 0 for 4-MACT total)
Crude petroleum and natural gas production (SIC 1311)—1 facility in MT (count 0 for 4-MACT total)
Natural gas liquids producers (SIC 1321)—1 facility in MT (count 0 for 4-MACT total)
Electric and other services combined (SIC 4931)—NONE

Potentially regulated industry information from 69 FR 45943 (July 30, 2004); facility information accessed at http://www.epa.gov/echo/

TOTAL NUMBER OF FACILITIES IN MT POTENTIALLY SUBJECT TO THE STATIONARY COMBUSTION TURBINE MACT: 24

AS MANY AS 53 FACILITIES IN MONTANA COULD BE ELIGIBLE FOR THE OPT-IN NESHAP PROVISION IN S. 131.

NATIONWIDE:

Extractors of crude petroleum and natural gas (SIC 13)—1,010 facilities
Manufacturers of lumber and wood products (SIC 24)—792 facilities
Pulp and paper mills (SIC 26)—616 facilities
Chemical manufacturers (SIC 28)—1,227 facilities
Petroleum refineries, and manufacturers of coal products (SIC 29)—605 facilities
Manufacturers of rubber and miscellaneous plastic products (SIC 30)—986 facilities
Steel works, blast furnaces (SIC 33)—827 facilities
Electroplating, plating, polishing, anodizing and coloring (SIC 34)—1,040 facilities
Manufacturers of motor vehicle parts and accessories (SIC 37)—889 facilities
Electric, gas and sanitary services (SIC 49)—4,168 facilities
Health Services (SIC 80)—288 facilities
Educational Services (SIC 82)—215 facilities
National security (SIC 9711)—151 facilities

AS MANY AS 12,814 FACILITIES NATIONWIDE COULD BE ELIGIBLE FOR THE OPT-IN PROVISION IN S. 131.

REPORTED 2002 TOXIC AIR EMISSIONS BY INDUSTRY (POINT SOURCE ONLY), NATIONWIDE/MT[3]:

Extractors of crude petroleum and natural gas (SIC 13)—N/A

[3] Source: EPA 2002 Toxic Release Inventory (TRI), http://www.epa.gov/tri/

Manufacturers of lumber and wood products (SIC 24)—26,826,182 lbs U.S. / 911,389 lbs MT
Pulp and paper mills (SIC 26)—134,124,178 lbs. U.S. / 1,331,488 lbs MT
Chemical manufacturers (SIC 28)—171,165,477 lbs. U.S. / 80,659 lbs MT
Petroleum refineries, and manufacturers of coal products (SIC 29)—30,627,766 lbs. U.S. / 532,992 lbs MT
Manufacturers of rubber and miscellaneous plastic products (SIC 30)—49,561,607 lbs. U.S. / none reported
Steel works, blast furnaces (SIC 33)—40,203,749 lbs U.S. / 2,183 lbs MT
Electroplating, plating, polishing, anodizing and coloring (SIC 34)—24,737,579 lbs U.S. / N/A for MT
Manufacturers of motor vehicle parts and accessories (SIC 37)—53,353,628 lbs U.S. / none reported
Electric, gas and sanitary services (SIC 49)—only available for 4911—723,559,899 lbs U.S. / 671,676 lbs MT
Health Services (SIC 80)—N/A
Educational Services (SIC 82)—N/A
National security (SIC 9711)—N/A

TOTAL REPORTED 2002 TOXIC AIR EMISSIONS BY INDUSTRIES THAT COULD BE ELIGIBLE FOR THE OPT-IN PROVISION OF S.131[4]:

1,254,160,065 lbs NATIONWIDE / 3,530,387 lbs MT

For more information, contact:
Maria Weidner, Earthjustice at 202-667-4500 x237 or mweidner@earthjustice.org

[4] This is most likely an underestimate because in addition to the fact that facilities often underestimate emission reports to the TRI, some potentially regulated industries are not reporting industries.

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New Jersey

Major source facilities, by industry, potentially eligible for the S. 131 MACT opt-in provision and their total reported 2002 toxic emissions (point source air emissions)

The information included on this sheet regarding toxic air pollution contains facility-wide toxic point source air emissions as reported by the industries potentially regulated for the four MACTs listed in the opt-in provision of S.131. This information is part of the Environmental Protection Agency's (EPA's) 2002 Toxic Release Inventory (TRI).

EPA has estimated that under the current Clean Air Act, as many as 70,000 affected units at facilities in potentially regulated industries would have to reduce their toxic emissions by some 70,000 tons per year.[1] Under the opt-in provision of S.131, facilities in potentially regulated industries could essentially be permitted to write off hazardous air pollution from affected units.

Reciprocating Internal Combustion Engine (RICE) MACT:

Potentially Regulated Industries (Major sources only):

Electric power generation/transmission/distribution (SIC 4911)—39 facilities in NJ
Natural gas transmission (SIC 4922)—5 facilities in NJ
Crude petroleum and natural gas production (SIC 1311)—NONE
Natural gas liquids producers (SIC 1321)—NONE
National security (SIC 9711)—7 facilities in NJ

TOTAL NUMBER OF FACILITIES IN NJ POTENTIALLY SUBJECT TO THE RICE MACT: 51

Potentially regulated industry information from 69 FR 33473 (June 15, 2004); facility information accessed at http://www.epa.gov/echo/

[1] According to EPA fact sheets on the final rules published for the four source categories in question, available at http://www.epa.gov/ttn/atw/mactfnlalph.html. Specifically, according to EPA estimates, under the current Clean Air Act these units would be required to reduce air toxic emissions by between 70,298 and 74,698 tons per year.

Industrial/Commercial/Institutional Boilers and Process Heaters MACT:

Potentially Regulated Industries (Major sources only):

Extractors of crude petroleum and natural gas (SIC 13)—NONE
Manufacturers of lumber and wood products (SIC 24)—2 facilities in NJ
Pulp and paper mills (SIC 26)—14 facilities in NJ
Chemical manufacturers (SIC 28)—45 facilities in NJ
Petroleum refineries, and manufacturers of coal products (SIC 29)—17 facilities in NJ
Manufacturers of rubber and miscellaneous plastic products (SIC 30)—8 facilities in NJ
Steel works, blast furnaces (SIC 33)—10 facilities in NJ
Electroplating, plating, polishing, anodizing and coloring (SIC 34)—10 facilities in NJ
Manufacturers of motor vehicle parts and accessories (SIC 37)—4 facilities in NJ
Electric, gas and sanitary services (SIC 49)—80 facilities in NJ (count 36 for 4-MACT total)[2]
Health Services (SIC 80)—12 facilities in NJ
Educational Services (SIC 82)—11 facilities in NJ

TOTAL NUMBER OF FACILITIES IN NJ POTENTIALLY SUBJECT TO THE BOILER MACT: 213

Potentially regulated industry information from 69 FR 55217 (September 13, 2004); facility information accessed at http://www.epa.gov/echo/

Plywood and composite wood products MACT:

Potentially Regulated Industries (Major sources only):

Sawmills with lumber kilns (SIC 2421)—NONE
Hardwood plywood and veneer plants (SIC 2435)—NONE
Softwood plywood and veneer plants (SIC 2436)—NONE
Reconstituted wood products (SIC 2493)—1 facility in NJ (count 0 for the 4-MACT total)
Structural wood members (SIC 2439)—NONE

TOTAL NUMBER OF FACILITIES IN NJ POTENTIALLY SUBJECT TO THE PLYWOOD MACT: 1

Potentially regulated industry information from 69 FR 45943 (July 30, 2004); facility information accessed at http://www.epa.gov/echo/

[2] To avoid double-counting, facilities of a SIC subset listed under one MACT were not counted for the 4-MACT total for CA facilities when another MACT listed the entire SIC set and/or a SIC subset listed under one MACT was also listed in another.

Stationary Combustion Turbines MACT:

Potentially Regulated Industries (Major sources only):

Electric power generation/transmission/distribution (SIC 4911)—39 facilities in NJ (count 0 for 4-MACT total)
Natural gas transmission (SIC 4922)—5 facilities in NJ (count 0 for 4-MACT total)
Crude petroleum and natural gas production (SIC 1311)—NONE
Natural gas liquids producers (SIC 1321)—NONE
Electric and other services combined (SIC 4931)—9 facilities in NJ (count 0 for 4-MACT total)

Potentially regulated industry information from 69 FR 45943 (July 30, 2004); facility information accessed at http://www.epa.gov/echo/

TOTAL NUMBER OF FACILITIES IN NJ POTENTIALLY SUBJECT TO THE STATIONARY COMBUSTION TURBINE MACT: 53

AS MANY AS 220 FACILITIES IN NEW JERSEY COULD BE ELIGIBLE FOR THE OPT-IN NESHAP PROVISION IN S. 131.

NATIONWIDE:

Extractors of crude petroleum and natural gas (SIC 13)—1,010 facilities
Manufacturers of lumber and wood products (SIC 24)—792 facilities
Pulp and paper mills (SIC 26)—616 facilities
Chemical manufacturers (SIC 28)—1,227 facilities
Petroleum refineries, and manufacturers of coal products (SIC 29)—605 facilities
Manufacturers of rubber and miscellaneous plastic products (SIC 30)—986 facilities
Steel works, blast furnaces (SIC 33)—827 facilities
Electroplating, plating, polishing, anodizing and coloring (SIC 34)—1,040 facilities
Manufacturers of motor vehicle parts and accessories (SIC 37)—889 facilities
Electric, gas and sanitary services (SIC 49)—4,168 facilities
Health Services (SIC 80)—288 facilities
Educational Services (SIC 82)—215 facilities
National security (SIC 9711)—151 facilities

AS MANY AS 12,814 FACILITIES NATIONWIDE COULD BE ELIGIBLE FOR THE OPT-IN PROVISION IN S. 131.

REPORTED 2002 TOXIC AIR EMISSIONS BY INDUSTRY (POINT SOURCE ONLY), NATIONWIDE/NJ[3]:

Extractors of crude petroleum and natural gas (SIC 13)—N/A
Manufacturers of lumber and wood products (SIC 24)—26,826,182 lbs U.S. / 161 lbs NJ
Pulp and paper mills (SIC 26)—134,124,178 lbs U.S. / 231,441 lbs NJ
Chemical manufacturers (SIC 28)—171,165,477 lbs. U.S. / 1,069,191 lbs NJ
Petroleum refineries, and manufacturers of coal products (SIC 29)—30,627,766 lbs. U.S. / 636,630 lbs NJ

[3] Source: EPA 2002 Toxic Release Inventory (TRI), http://www.epa.gov/tri/

Manufacturers of rubber and miscellaneous plastic products (SIC 30)—49,561,607 lbs. U.S. / 287,037 lbs NJ
Steel works, blast furnaces (SIC 33)—40,203,749 lbs U.S. / 87,060 lbs NJ
Electroplating, plating, polishing, anodizing and coloring (SIC 34)—24,737,579 lbs U.S. / 275,110 lbs NJ
Manufacturers of motor vehicle parts and accessories (SIC 37)—53,353,628 lbs U.S. / 576,364 lbs NJ
Electric, gas and sanitary services (SIC 49)—only available for 4911—723,559,899 lbs U.S. / 7,113,993 lbs NJ
Health Services (SIC 80)—N/A
Educational Services (SIC 82)—N/A
National security (SIC 9711)—N/A

TOTAL REPORTED 2002 TOXIC AIR EMISSIONS BY INDUSTRIES THAT COULD BE ELIGIBLE FOR THE OPT-IN PROVISION OF S.131[4]:

1,254,160,065 lbs NATIONWIDE / 10,276,987 lbs NJ

For more information, contact:
Maria Weidner, Earthjustice at 202-667-4500 x237 or mweidner@earthjustice.org

[4] This is most likely an underestimate because in addition to the fact that facilities often underestimate emission reports to the TRI, some potentially regulated industries are not reporting industries.

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New York

Major source facilities, by industry, potentially eligible for the S. 131 MACT opt-in provision and their total reported 2002 toxic emissions (point source air emissions)

The information included on this sheet regarding toxic air pollution contains facility-wide toxic point source air emissions as reported by the industries potentially regulated for the four MACTs listed in the opt-in provision of S.131. This information is part of the Environmental Protection Agency's (EPA's) 2002 Toxic Release Inventory (TRI).

EPA has estimated that under the current Clean Air Act, as many as 70,000 affected units at facilities in potentially regulated industries would have to reduce their toxic emissions by some 70,000 tons per year.[1] Under the opt-in provision of S.131, facilities in potentially regulated industries could essentially be permitted to write off hazardous air pollution from affected units.

Reciprocating Internal Combustion Engine (RICE) MACT:

Potentially Regulated Industries (Major sources only):

Electric power generation/transmission/distribution (SIC 4911)—67 facilities in NY
Natural gas transmission (SIC 4922)—16 facilities in NY
Crude petroleum and natural gas production (SIC 1311)—NONE
Natural gas liquids producers (SIC 1321)—NONE
National security (SIC 9711)—NONE

TOTAL NUMBER OF FACILITIES IN NY POTENTIALLY SUBJECT TO THE RICE MACT: 83

Potentially regulated industry information from 69 FR 33473 (June 15, 2004); facility information accessed at http://www.epa.gov/echo/

Industrial/Commercial/Institutional Boilers and Process Heaters MACT:

Potentially Regulated Industries (Major sources only):

Extractors of crude petroleum and natural gas (SIC 13)—NONE

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[1] According to EPA fact sheets on the final rules published for the four source categories in question, available at http://www.epa.gov/ttn/atw/mactfnlalph.html. Specifically, according to EPA estimates, under the current Clean Air Act these units would be required to reduce air toxic emissions by between 70,298 and 74,698 tons per year.

Manufacturers of lumber and wood products (SIC 24)—3 facilities in NY
Pulp and paper mills (SIC 26)—23 facilities in NY
Chemical manufacturers (SIC 28)—29 facilities in NY
Petroleum refineries, and manufacturers of coal products (SIC 29)—6 facilities in NY
Manufacturers of rubber and miscellaneous plastic products (SIC 30)—18 facilities in NY
Steel works, blast furnaces (SIC 33)—15 facilities in NY
Electroplating, plating, polishing, anodizing and coloring (SIC 34)—12 facilities in NY
Manufacturers of motor vehicle parts and accessories (SIC 37)—8 facilities in NY
Electric, gas and sanitary services (SIC 49)—178 facilities in NY (count 95 for 4-MACT total)[2]
Health Services (SIC 80)—39 facilities in NY
Educational Services (SIC 82)—16 facilities in NY

TOTAL NUMBER OF FACILITIES IN NY POTENTIALLY SUBJECT TO THE BOILER MACT: 347

Potentially regulated industry information from 69 FR 55217 (September 13, 2004); facility information accessed at http://www.epa.gov/echo/

Plywood and composite wood products MACT:

Potentially Regulated Industries (Major sources only):

Sawmills with lumber kilns (SIC 2421)—NONE
Hardwood plywood and veneer plants (SIC 2435)—NONE
Softwood plywood and veneer plants (SIC 2436)—1 facility in NY (count 0 for the 4-MACT total)
Reconstituted wood products (SIC 2493)—1 facility in NY (count 0 for the 4-MACT total)
Structural wood members (SIC 2439)—NONE

TOTAL NUMBER OF FACILITIES IN NY POTENTIALLY SUBJECT TO THE PLYWOOD MACT: 2

Potentially regulated industry information from 69 FR 45943 (July 30, 2004); facility information accessed at http://www.epa.gov/echo/

Stationary Combustion Turbines MACT:

Potentially Regulated Industries (Major sources only):

Electric power generation/transmission/distribution (SIC 4911)—67 facilities in NY (count 0 for 4-MACT total)
Natural gas transmission (SIC 4922)—16 facilities in NY (count 0 for 4-MACT total)
Crude petroleum and natural gas production (SIC 1311)—NONE
Natural gas liquids producers (SIC 1321)—NONE

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[2] To avoid double-counting, facilities of a SIC subset listed under one MACT were not counted for the 4-MACT total for CA facilities when another MACT listed the entire SIC set and/or a SIC subset listed under one MACT was also listed in another.

Electric and other services combined (SIC 4931)—32 facilities in NY (count 0 for 4-MACT total)

Potentially regulated industry information from 69 FR 45943 (July 30, 2004); facility information accessed at http://www.epa.gov/echo/

TOTAL NUMBER OF FACILITIES IN NY POTENTIALLY SUBJECT TO THE STATIONARY COMBUSTION TURBINE MACT: 115

AS MANY AS 347 FACILITIES IN NEW YORK COULD BE ELIGIBLE FOR THE OPT-IN NESHAP PROVISION IN S. 131.

NATIONWIDE:

Extractors of crude petroleum and natural gas (SIC 13)—1,010 facilities
Manufacturers of lumber and wood products (SIC 24)—792 facilities
Pulp and paper mills (SIC 26)—616 facilities
Chemical manufacturers (SIC 28)—1,227 facilities
Petroleum refineries, and manufacturers of coal products (SIC 29)—605 facilities
Manufacturers of rubber and miscellaneous plastic products (SIC 30)—986 facilities
Steel works, blast furnaces (SIC 33)—827 facilities
Electroplating, plating, polishing, anodizing and coloring (SIC 34)—1,040 facilities
Manufacturers of motor vehicle parts and accessories (SIC 37)—889 facilities
Electric, gas and sanitary services (SIC 49)—4,168 facilities
Health Services (SIC 80)—288 facilities
Educational Services (SIC 82)—215 facilities
National security (SIC 9711)—151 facilities

AS MANY AS 12,814 FACILITIES NATIONWIDE COULD BE ELIGIBLE FOR THE OPT-IN PROVISION IN S. 131.

REPORTED 2002 TOXIC AIR EMISSIONS BY INDUSTRY (POINT SOURCE ONLY), NATIONWIDE/NY[3]:

Extractors of crude petroleum and natural gas (SIC 13)—N/A
Manufacturers of lumber and wood products (SIC 24)—26,826,182 lbs U.S. / 262,389 lbs NY
Pulp and paper mills (SIC 26)—134,124,178 lbs U.S. / 871,337 lbs NY
Chemical manufacturers (SIC 28)—171,165,477 lbs. U.S. / 1,910,562 lbs NY
Petroleum refineries, and manufacturers of coal products (SIC 29)—30,627,766 lbs. U.S. /
32 lbs NY
Manufacturers of rubber and miscellaneous plastic products (SIC 30)—49,561,607 lbs. U.S. / 575,661 lbs NY
Steel works, blast furnaces (SIC 33)—40,203,749 lbs U.S. / 989,215 lbs NY
Electroplating, plating, polishing, anodizing and coloring (SIC 34)—24,737,579 lbs U.S. / 689,475 lbs NY
Manufacturers of motor vehicle parts and accessories (SIC 37)—53,353,628 lbs U.S. / 62,647 lbs NY

[3] Source: EPA 2002 Toxic Release Inventory (TRI), http://www.epa.gov/tri/

Electric, gas and sanitary services (SIC 49)—only available for 4911—723,559,899 lbs U.S. / 14,464,308 lbs NY
Health Services (SIC 80)—N/A
Educational Services (SIC 82)—N/A
National security (SIC 9711)—N/A

TOTAL REPORTED 2002 TOXIC AIR EMISSIONS BY INDUSTRIES THAT COULD BE ELIGIBLE FOR THE OPT-IN PROVISION OF S.131[4]:

1,254,160,065 lbs NATIONWIDE / 19,825,626 lbs NY

For more information, contact:
Maria Weidner, Earthjustice at 202-667-4500 x237 or mweidner@earthjustice.org

[4] This is most likely an underestimate because in addition to the fact that facilities often underestimate emission reports to the TRI, some potentially regulated industries are not reporting industries.

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Rhode Island

Major source facilities, by industry, potentially eligible for the S. 131 MACT opt-in provision and their total reported 2002 toxic emissions (point source air emissions)

The information included on this sheet regarding toxic air pollution contains facility-wide toxic point source air emissions as reported by the industries potentially regulated for the four MACTs listed in the opt-in provision of S.131. This information is part of the Environmental Protection Agency's (EPA's) 2002 Toxic Release Inventory (TRI).

EPA has estimated that under the current Clean Air Act, as many as 70,000 affected units at facilities in potentially regulated industries would have to reduce their toxic emissions by some 70,000 tons per year.[1] Under the opt-in provision of S.131, facilities in potentially regulated industries could essentially be permitted to write off hazardous air pollution from affected units.

Reciprocating Internal Combustion Engine (RICE) MACT:

Potentially Regulated Industries (Major sources only):

Electric power generation/transmission/distribution (SIC 4911)—4 facilities in RI
Natural gas transmission (SIC 4922)—1 facility in RI
Crude petroleum and natural gas production (SIC 1311)—NONE
Natural gas liquids producers (SIC 1321)—NONE
National security (SIC 9711)—NONE

TOTAL NUMBER OF FACILITIES IN RI POTENTIALLY SUBJECT TO THE RICE MACT: 5

Potentially regulated industry information from 69 FR 33473 (June 15, 2004); facility information accessed at http://www.epa.gov/echo/

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[1] According to EPA fact sheets on the final rules published for the four source categories in question, available at http://www.epa.gov/ttn/atw/mactfnlalph.html. Specifically, according to EPA estimates, under the current Clean Air Act these units would be required to reduce air toxic emissions by between 70,298 and 74,698 tons per year.

Industrial/Commercial/Institutional Boilers and Process Heaters MACT:

Potentially Regulated Industries (Major sources only):

Extractors of crude petroleum and natural gas (SIC 13)—NONE
Manufacturers of lumber and wood products (SIC 24)—NONE
Pulp and paper mills (SIC 26)—1 facility in RI
Chemical manufacturers (SIC 28)—3 facilities in RI
Petroleum refineries, and manufacturers of coal products (SIC 29)—NONE
Manufacturers of rubber and miscellaneous plastic products (SIC 30)—5 facilities in RI
Steel works, blast furnaces (SIC 33)—NONE
Electroplating, plating, polishing, anodizing and coloring (SIC 34)—6 facilities in RI
Manufacturers of motor vehicle parts and accessories (SIC 37)—4 facilities in RI
Electric, gas and sanitary services (SIC 49)—13 facilities in RI (count 8 for 4-MACT total) [2]
Health Services (SIC 80)—1 facility in RI
Educational Services (SIC 82)—2 facilities in RI

TOTAL NUMBER OF FACILITIES IN IL POTENTIALLY SUBJECT TO THE BOILER MACT: 35

Potentially regulated industry information from 69 FR 55217 (September 13, 2004); facility information accessed at http://www.epa.gov/echo/

Plywood and composite wood products MACT:

Potentially Regulated Industries (Major sources only):

Sawmills with lumber kilns (SIC 2421)—NONE
Hardwood plywood and veneer plants (SIC 2435)—NONE
Softwood plywood and veneer plants (SIC 2436)—NONE
Reconstituted wood products (SIC 2493)—NONE
Structural wood members (SIC 2439)—NONE

TOTAL NUMBER OF FACILITIES IN NJ POTENTIALLY SUBJECT TO THE PLYWOOD MACT: NONE

Potentially regulated industry information from 69 FR 45943 (July 30, 2004); facility information accessed at http://www.epa.gov/echo/

[2] To avoid double-counting, facilities of a SIC subset listed under one MACT were not counted for the 4-MACT total for CA facilities when another MACT listed the entire SIC set and/or a SIC subset listed under one MACT was also listed in another.

Stationary Combustion Turbines MACT:

Potentially Regulated Industries (Major sources only):

Electric power generation/transmission/distribution (SIC 4911)—4 facilities in RI (count 0 for 4-MACT total)
Natural gas transmission (SIC 4922)—1 facility in RI (count 0 for 4-MACT total)
Crude petroleum and natural gas production (SIC 1311)—NONE
Natural gas liquids producers (SIC 1321)—NONE
Electric and other services combined (SIC 4931)—1 facility in RI (count 0 for 4-MACT total)

Potentially regulated industry information from 69 FR 45943 (July 30, 2004); facility information accessed at http://www.epa.gov/echo/

TOTAL NUMBER OF FACILITIES IN IL POTENTIALLY SUBJECT TO THE STATIONARY COMBUSTION TURBINE MACT: 6

AS MANY AS 35 FACILITIES IN ILLINOIS COULD BE ELIGIBLE FOR THE OPT-IN NESHAP PROVISION IN S. 131.

NATIONWIDE:

Extractors of crude petroleum and natural gas (SIC 13)—1,010 facilities
Manufacturers of lumber and wood products (SIC 24)—792 facilities
Pulp and paper mills (SIC 26)—616 facilities
Chemical manufacturers (SIC 28)—1,227 facilities
Petroleum refineries, and manufacturers of coal products (SIC 29)—605 facilities
Manufacturers of rubber and miscellaneous plastic products (SIC 30)—986 facilities
Steel works, blast furnaces (SIC 33)—827 facilities
Electroplating, plating, polishing, anodizing and coloring (SIC 34)—1,040 facilities
Manufacturers of motor vehicle parts and accessories (SIC 37)—889 facilities
Electric, gas and sanitary services (SIC 49)—4,168 facilities
Health Services (SIC 80)—288 facilities
Educational Services (SIC 82)—215 facilities
National security (SIC 9711)—151 facilities

AS MANY AS 12,814 FACILITIES NATIONWIDE COULD BE ELIGIBLE FOR THE OPT-IN PROVISION IN S. 131.

REPORTED 2002 TOXIC AIR EMISSIONS BY INDUSTRY (POINT SOURCE ONLY), NATIONWIDE/RI[3]:

Extractors of crude petroleum and natural gas (SIC 13)—N/A
Manufacturers of lumber and wood products (SIC 24)—26,826,182 lbs U.S. / N/A for RI
Pulp and paper mills (SIC 26)—134,124,178 lbs. U.S. / 72,862 lbs RI
Chemical manufacturers (SIC 28)—171,165,477 lbs. U.S. / 34,878 lbs RI
Petroleum refineries, and manufacturers of coal products (SIC 29)—30,627,766 lbs. U.S. /
N/A for RI
Manufacturers of rubber and miscellaneous plastic products (SIC 30)—49,561,607 lbs. U.S. / 29,439 lbs RI
Steel works, blast furnaces (SIC 33)—40,203,749 lbs U.S. / 19,532 lbs RI
Electroplating, plating, polishing, anodizing and coloring (SIC 34)—24,737,579 lbs U.S. / 31,417 lbs RI
Manufacturers of motor vehicle parts and accessories (SIC 37)—53,353,628 lbs U.S. / None reported for RI
Electric, gas and sanitary services (SIC 49)—only available for 4911—723,559,899 lbs U.S. / 32,783 lbs RI
Health Services (SIC 80)—N/A
Educational Services (SIC 82)—N/A
National security (SIC 9711)—N/A

TOTAL REPORTED 2002 TOXIC AIR EMISSIONS BY INDUSTRIES THAT COULD BE ELIGIBLE FOR THE OPT-IN PROVISION OF S.131[4]:

1,254,160,065 lbs NATIONWIDE / 220,911 lbs RI

For more information, contact:
Maria Weidner, Earthjustice at 202-667-4500 x237 or mweidner@earthjustice.org

[3] Source: EPA 2002 Toxic Release Inventory (TRI), http://www.epa.gov/tri/
[4] This is most likely an underestimate because in addition to the fact that facilities often underestimate emission reports to the TRI, some potentially regulated industries are not reporting industries.

EARTHJUSTICE
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Texas

Major source facilities, by industry, potentially eligible for the S. 131 MACT opt-in provision and their total reported 2002 toxic emissions (point source air emissions)

The information included on this sheet regarding toxic air pollution contains facility-wide toxic point source air emissions as reported by the industries potentially regulated for the four MACTs listed in the opt-in provision of S.131. This information is part of the Environmental Protection Agency's (EPA's) 2002 Toxic Release Inventory (TRI).

EPA has estimated that under the current Clean Air Act, as many as 70,000 affected units at facilities in potentially regulated industries would have to reduce their toxic emissions by some 70,000 tons per year.[1] Under the opt-in provision of S.131, facilities in potentially regulated industries could essentially be permitted to write off hazardous air pollution from affected units.

Reciprocating Internal Combustion Engine (RICE) MACT:

Potentially Regulated Industries (Major sources only):

Electric power generation/transmission/distribution (SIC 4911)—111 facilities in TX
Natural gas transmission (SIC 4922)—125 facilities in TX
Crude petroleum and natural gas production (SIC 1311)—189 facilities in TX
Natural gas liquids producers (SIC 1321)—144 facilities in TX[2]
National security (SIC 9711)—6 facilities in TX

TOTAL NUMBER OF FACILITIES IN TX POTENTIALLY SUBJECT TO THE RICE MACT: 523

Potentially regulated industry information from 69 FR 33473 (June 15, 2004); facility information accessed at http://www.epa.gov/echo/

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[1] According to EPA fact sheets on the final rules published for the four source categories in question, available at http://www.epa.gov/ttn/atw/mactfnlalph.html. Specifically, according to EPA estimates, under the current Clean Air Act these units would be required to reduce air toxic emissions by between 70,298 and 74,698 tons per year.

[2] 4-digit SIC codes are a subset of 2-digit SIC codes. In the event that the sum of two 4-digit SIC subsets of the same 2-digit SIC code is greater than the total number of facilities reported for the 2-digit SIC (as is the case with SIC 13 for the state of Texas), the total facilities reported in the 2-digit SIC will be the default.

Industrial/Commercial/Institutional Boilers and Process Heaters MACT:

Potentially Regulated Industries (Major sources only):

Extractors of crude petroleum and natural gas (SIC 13)—281 facilities in TX (count 0 for 4-MACT total)[3]
Manufacturers of lumber and wood products (SIC 24)—36 facilities in TX
Pulp and paper mills (SIC 26)—13 facilities in TX
Chemical manufacturers (SIC 28)—145 facilities in TX
Petroleum refineries, and manufacturers of coal products (SIC 29)—68 facilities in TX
Manufacturers of rubber and miscellaneous plastic products (SIC 30)—47 facilities in TX
Steel works, blast furnaces (SIC 33)—36 facilities in TX
Electroplating, plating, polishing, anodizing and coloring (SIC 34)—63 facilities in TX
Manufacturers of motor vehicle parts and accessories (SIC 37)—32 facilities in TX
Electric, gas and sanitary services (SIC 49)—293 facilities in TX (count 57 for 4-MACT total)
Health Services (SIC 80)—2 facilities in TX
Educational Services (SIC 82)—5 facilities in TX

TOTAL NUMBER OF FACILITIES IN TX POTENTIALLY SUBJECT TO THE BOILER MACT: 1,021

Potentially regulated industry information from 69 FR 55217 (September 13, 2004); facility information accessed at http://www.epa.gov/echo/

Plywood and composite wood products MACT:

Potentially Regulated Industries (Major sources only):

Sawmills with lumber kilns (SIC 2421)—12 facilities in TX
Hardwood plywood and veneer plants (SIC 2435)—NONE
Softwood plywood and veneer plants (SIC 2436)—6 facilities in TX
Reconstituted wood products (SIC 2493)—6 facilities in TX
Structural wood members (SIC 2439)—NONE

TOTAL NUMBER OF FACILITIES IN TX POTENTIALLY SUBJECT TO THE PLYWOOD MACT: 24

Potentially regulated industry information from 69 FR 45943 (July 30, 2004); facility information accessed at http://www.epa.gov/echo/

[3] To avoid double-counting, facilities of a SIC subset listed under one MACT were not counted for the 4-MACT total for CA facilities when another MACT listed the entire SIC set and/or a SIC subset listed under one MACT was also listed in another.

Stationary Combustion Turbines MACT:

Potentially Regulated Industries (Major sources only):

Electric power generation/transmission/distribution (SIC 4911)—111 facilities in TX (count 0 for 4-MACT total)
Natural gas transmission (SIC 4922)—125 facilities in TX (count 0 for 4-MACT total)
Crude petroleum and natural gas production (SIC 1311)—189 facilities in TX (count 0 for 4-MACT total)
Natural gas liquids producers (SIC 1321)—144 facilities in TX (count 0 for 4-MACT total)
Electric and other services combined (SIC 4931)—2 facilities in TX (count 0 for 4-MACT total)

Potentially regulated industry information from 69 FR 45943 (July 30, 2004); facility information accessed at http://www.epa.gov/echo/

TOTAL NUMBER OF FACILITIES IN TX POTENTIALLY SUBJECT TO THE STATIONARY COMBUSTION TURBINE MACT: 519

AS MANY AS 1,027 FACILITIES IN TEXAS COULD BE ELIGIBLE FOR THE OPT-IN NESHAP PROVISION IN S. 131.

NATIONWIDE:

Extractors of crude petroleum and natural gas (SIC 13)—1,010 facilities
Manufacturers of lumber and wood products (SIC 24)—792 facilities
Pulp and paper mills (SIC 26)—616 facilities
Chemical manufacturers (SIC 28)—1,227 facilities
Petroleum refineries, and manufacturers of coal products (SIC 29)—605 facilities
Manufacturers of rubber and miscellaneous plastic products (SIC 30)—986 facilities
Steel works, blast furnaces (SIC 33)—827 facilities
Electroplating, plating, polishing, anodizing and coloring (SIC 34)—1,040 facilities
Manufacturers of motor vehicle parts and accessories (SIC 37)—889 facilities
Electric, gas and sanitary services (SIC 49)—4,168 facilities
Health Services (SIC 80)—288 facilities
Educational Services (SIC 82)—215 facilities
National security (SIC 9711)—151 facilities

AS MANY AS 12,814 FACILITIES NATIONWIDE COULD BE ELIGIBLE FOR THE OPT-IN PROVISION IN S. 131.

REPORTED 2002 TOXIC AIR EMISSIONS BY INDUSTRY (POINT SOURCE ONLY), NATIONWIDE/TX[4]:

Extractors of crude petroleum and natural gas (SIC 13)—N/A
Manufacturers of lumber and wood products (SIC 24)—26,826,182 lbs U.S. / 1,993,282 lbs TX
Pulp and paper mills (SIC 26)—134,124,178 lbs U.S. / 4,128,734 lbs TX
Chemical manufacturers (SIC 28)—171,165,477 lbs. U.S. / 23,591,011 lbs TX
Petroleum refineries, and manufacturers of coal products (SIC 29)—30,627,766 lbs. U.S. / 7,723,068 lbs TX
Manufacturers of rubber and miscellaneous plastic products (SIC 30)—49,561,607 lbs. U.S. / 2,534,581 lbs TX
Steel works, blast furnaces (SIC 33)—40,203,749 lbs U.S. / 1,302,405 lbs TX
Electroplating, plating, polishing, anodizing and coloring (SIC 34)—24,737,579 lbs U.S. / 1,115,497 lbs TX
Manufacturers of motor vehicle parts and accessories (SIC 37)—53,353,628 lbs U.S. / 834,790 lbs TX
Electric, gas and sanitary services (SIC 49)—only available for 4911—723,559,899 lbs U.S. / 6,927,505 lbs TX
Health Services (SIC 80)—N/A
Educational Services (SIC 82)—N/A
National security (SIC 9711)—N/A

TOTAL REPORTED 2002 TOXIC AIR EMISSIONS BY INDUSTRIES THAT COULD BE ELIGIBLE FOR THE OPT-IN PROVISION OF S.131[5]:

1,254,160,065 lbs NATIONWIDE / 50,151,900 lbs TX

For more information, contact:
Maria Weidner, Earthjustice at 202-667-4500 x237 or mweidner@earthjustice.org

[4] Source: EPA 2002 Toxic Release Inventory (TRI), http://www.epa.gov/tri/
[5] This is most likely an underestimate because in addition to the fact that facilities often underestimate emission reports to the TRI, some potentially regulated industries are not reporting industries.

EARTHJUSTICE
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Vermont

Major source facilities, by industry, potentially eligible for the S. 131 MACT opt-in provision and their total reported 2002 toxic emissions (point source air emissions)

The information included on this sheet regarding toxic air pollution contains facility-wide toxic point source air emissions as reported by the industries potentially regulated for the four MACTs listed in the opt-in provision of S.131. This information is part of the Environmental Protection Agency's (EPA's) 2002 Toxic Release Inventory (TRI).

EPA has estimated that under the current Clean Air Act, as many as 70,000 affected units at facilities in potentially regulated industries would have to reduce their toxic emissions by some 70,000 tons per year.[1] Under the opt-in provision of S.131, facilities in potentially regulated industries could essentially be permitted to write off hazardous air pollution from affected units.

Reciprocating Internal Combustion Engine (RICE) MACT:

Potentially Regulated Industries (Major sources only):

Electric power generation/transmission/distribution (SIC 4911)—3 facilities in VT
Natural gas transmission (SIC 4922)—NONE
Crude petroleum and natural gas production (SIC 1311)—NONE
Natural gas liquids producers (SIC 1321)—NONE
National security (SIC 9711)—NONE

TOTAL NUMBER OF FACILITIES IN VT POTENTIALLY SUBJECT TO THE RICE MACT: 3

Potentially regulated industry information from 69 FR 33473 (June 15, 2004); facility information accessed at http://www.epa.gov/echo/

[1] According to EPA fact sheets on the final rules published for the four source categories in question, available at http://www.epa.gov/ttn/atw/mactfnlalph.html. Specifically, according to EPA estimates, under the current Clean Air Act these units would be required to reduce air toxic emissions by between 70,298 and 74,698 tons per year.

Industrial/Commercial/Institutional Boilers and Process Heaters MACT:

Potentially Regulated Industries (Major sources only):

Extractors of crude petroleum and natural gas (SIC 13)—NONE
Manufacturers of lumber and wood products (SIC 24)—6 facilities in VT
Pulp and paper mills (SIC 26)—5 facilities in VT
Chemical manufacturers (SIC 28)—NONE
Petroleum refineries, and manufacturers of coal products (SIC 29)—NONE
Manufacturers of rubber and miscellaneous plastic products (SIC 30)—1 facility in VT
Steel works, blast furnaces (SIC 33)—NONE
Electroplating, plating, polishing, anodizing and coloring (SIC 34)—1 facility in VT
Manufacturers of motor vehicle parts and accessories (SIC 37)—NONE
Electric, gas and sanitary services (SIC 49)—3 facilities in VT (count 0 for 4-MACT total)[2]
Health Services (SIC 80)—NONE
Educational Services (SIC 82)—NONE

TOTAL NUMBER OF FACILITIES IN VT POTENTIALLY SUBJECT TO THE BOILER MACT: 16

Potentially regulated industry information from 69 FR 55217 (September 13, 2004); facility information accessed at http://www.epa.gov/echo/

Plywood and composite wood products MACT:

Potentially Regulated Industries (Major sources only):

Sawmills with lumber kilns (SIC 2421)—1 facility in VT (count 0 for 4-MACT total)
Hardwood plywood and veneer plants (SIC 2435)—2 facilities in VT (count 0 for 4-MACT total)
Softwood plywood and veneer plants (SIC 2436)—NONE
Reconstituted wood products (SIC 2493)—NONE
Structural wood members (SIC 2439)—NONE

TOTAL NUMBER OF FACILITIES IN VT POTENTIALLY SUBJECT TO THE PLYWOOD MACT: 3

Potentially regulated industry information from 69 FR 45943 (July 30, 2004); facility information accessed at http://www.epa.gov/echo/

[2] To avoid double-counting, facilities of a SIC subset listed under one MACT were not counted for the 4-MACT total for CA facilities when another MACT listed the entire SIC set and/or a SIC subset listed under one MACT was also listed in another.

Stationary Combustion Turbines MACT:

Potentially Regulated Industries (Major sources only):

Electric power generation/transmission/distribution (SIC 4911)—3 facilities in VT (count 0 for 4-MACT total)
Natural gas transmission (SIC 4922)—NONE
Crude petroleum and natural gas production (SIC 1311)—NONE
Natural gas liquids producers (SIC 1321)—NONE
Electric and other services combined (SIC 4931)—NONE

Potentially regulated industry information from 69 FR 45943 (July 30, 2004); facility information accessed at http://www.epa.gov/echo/

TOTAL NUMBER OF FACILITIES IN VT POTENTIALLY SUBJECT TO THE STATIONARY COMBUSTION TURBINE MACT: 3

AS MANY AS 16 FACILITIES IN VERMONT COULD BE ELIGIBLE FOR THE OPT-IN NESHAP PROVISION IN S. 131.

NATIONWIDE:

Extractors of crude petroleum and natural gas (SIC 13)—1,010 facilities
Manufacturers of lumber and wood products (SIC 24)—792 facilities
Pulp and paper mills (SIC 26)—616 facilities
Chemical manufacturers (SIC 28)—1,227 facilities
Petroleum refineries, and manufacturers of coal products (SIC 29)—605 facilities
Manufacturers of rubber and miscellaneous plastic products (SIC 30)—986 facilities
Steel works, blast furnaces (SIC 33)—827 facilities
Electroplating, plating, polishing, anodizing and coloring (SIC 34)—1,040 facilities
Manufacturers of motor vehicle parts and accessories (SIC 37)—889 facilities
Electric, gas and sanitary services (SIC 49)—4,168 facilities
Health Services (SIC 80)—288 facilities
Educational Services (SIC 82)—215 facilities
National security (SIC 9711)—151 facilities

AS MANY AS 12,814 FACILITIES NATIONWIDE COULD BE ELIGIBLE FOR THE OPT-IN PROVISION IN S. 131.

REPORTED 2002 TOXIC AIR EMISSIONS BY INDUSTRY (POINT SOURCE ONLY), NATIONWIDE/VT[3]:

Extractors of crude petroleum and natural gas (SIC 13)—N/A

Manufacturers of lumber and wood products (SIC 24)—26,826,182 lbs U.S. / 5,478 lbs VT
Pulp and paper mills (SIC 26)—134,124,178 lbs. U.S. / 16,470 lbs VT
Chemical manufacturers (SIC 28)—171,165,477 lbs. U.S. / N/A for VT
Petroleum refineries, and manufacturers of coal products (SIC 29)—30,627,766 lbs. U.S. / N/A for VT
Manufacturers of rubber and miscellaneous plastic products (SIC 30)—49,561,607 lbs. U.S. / none reported
Steel works, blast furnaces (SIC 33)—40,203,749 lbs U.S. / none reported
Electroplating, plating, polishing, anodizing and coloring (SIC 34)—24,737,579 lbs U.S. / 8,649 lbs VT
Manufacturers of motor vehicle parts and accessories (SIC 37)—53,353,628 lbs U.S. / None reported
Electric, gas and sanitary services (SIC 49)—only available for 4911—723,559,899 lbs U.S. / none reported
Health Services (SIC 80)—N/A
Educational Services (SIC 82)—N/A
National security (SIC 9711)—N/A

TOTAL REPORTED 2002 TOXIC AIR EMISSIONS BY INDUSTRIES THAT COULD BE ELIGIBLE FOR THE OPT-IN PROVISION OF S.131[4]:

1,254,160,065 lbs NATIONWIDE / 30,597 lbs VT

For more information, contact:
Maria Weidner, Earthjustice at 202-667-4500 x237 or mweidner@earthjustice.org

[3] Source: EPA 2002 Toxic Release Inventory (TRI), http://www.epa.gov/tri/
[4] This is most likely an underestimate because in addition to the fact that facilities often underestimate emission reports to the TRI, some potentially regulated industries are not reporting industries.

Clean Air Task Force
American Lung Association
American Lung Association of Metropolitan Chicago
American Lung Association of New York State
Appalachian Mountain Club
Conservation Law Foundation
Environment Northeast
Group Against Smog and Pollution
Hoosier Environmental Council
National Environmental Trust
National Parks Conservation Association
Natural Resources Council of Maine
Natural Resources Defense Council
Ohio Environmental Council
Southern Alliance for Clean Energy
Southern Environmental Law Center
United States PIRG Education Fund

March 30, 2004 [Corrected April 2, 2004]

VIA Express Mail and e-mail

U.S. Environmental Protection Agency
Air Docket
1301 Constitution Ave., NW
Room B108
Mail Code: 6102T
Washington, DC 20004

Attention: Docket ID No. OAR-2003-0053

Re: Comments on Proposed Rule to Reduce Interstate Transport of Fine Particulate Matter and Ozone (Interstate Air Quality Rule), 69 Fed. Reg. 4566 (January 30, 2004).

Dear Administrator Leavitt:

The Clean Air Task Force ("CATF"), on behalf of the undersigned citizens' groups and on its own behalf, appreciates the opportunity to comment on EPA's Proposed Rule to Reduce Interstate Transport of Fine Particulate Matter and Ozone, published in the Federal Register on January 30, 2004 at 69 Fed. Reg. 4566 ("Interstate Air Quality Rule" or "IAQR").

The undersigned environmental and public health organizations are actively engaged in national, regional and local efforts to reduce harmful air pollution from fossil fuel fired-power plants, and have thousands of members who live and work in states impacted by that pollution. EPA's IAQR proposal would require substantial reductions in emissions of sulfur dioxide ("SO_2") and nitrogen oxides ("NOx") from power plants throughout the eastern United States. Those emissions are responsible for substantial public health and environment damage, and can be transported substantial distances downwind.

The Clean Air Act ("CAA" or the "Act") requires state implementation plans ("SIPs") to include measures that adequately address transported pollution, and EPA has a duty to enforce these requirements. EPA's proposed IAQR, however, does not fulfill that duty. In order to protect public health adequately, and to allow many areas around the country that will be in violation of the ozone and fine particulate ("$PM_{2.5}$") National Ambient Air Quality Standards ("NAAQS") to attain those standards, EPA must tighten the emission caps and make them effective several years earlier than proposed. Tighter and earlier emission caps are feasible and highly cost-effective, and are therefore required under the Act and governing regulatory precedent and policy.

I. Overview

Today, fossil fuel-fired power plants remain—despite much attention and concern in recent years—the largest source of industrial air pollution in the country. These emissions are harmful in their own right, but through atmospheric interactions they are also primary contributors to ozone smog and fine particle soot, both of which are extremely harmful to human health and the environment. For example, fine particle pollution resulting from US power plant emissions cuts short the lives of over 30,000 people per year.[1]

Many areas throughout the East and Midwest will not meet EPA's 1997 health-based air quality standards for $PM_{2.5}$ and 8-hour ozone when nonattainment designations finally become effective this year.[2] In order for many Eastern nonattainment areas to have a realistic chance of meeting those standards and improving the health of their citizens, steep reductions in transported power plant emissions of SO_2 and NOx are absolutely necessary. Furthermore, those reductions need to occur during the next several years to allow states to meet the attainment deadlines required by the Clean Air Act—that is, by 2009 for $PM_{2.5}$ and a range of years concentrated in the 2009-2013 timeframe for 8-hour ozone. Not only will earlier and steeper reductions allow states to

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[1] Clean Air Task Force/Clear the Air, *Death, Disease, & Dirty Power: Mortality and Health Damage Due to Air Pollution from Power Plants*, October 2000, p3, available on line at http://www.catf.us/publications/reports/death_disease_dirty_power.php.

[2] The $PM_{2.5}$ and 8-hour ozone NAAQS revisions were promulgated in 1997 (62 Fed. Reg. 38652 and 62 Fed. Reg 38856, July 18, 1997), almost seven years ago, but nonattainment areas have yet to be finally designated by EPA for either NAAQS.

attain the PM and ozone NAAQS, but they will also deliver substantial additional public health benefits resulting from lower ambient pollution levels.

Although EPA's proposed IAQR will reduce power plant emissions, it does not go far enough or fast enough. As these comments will show (see CATF alternate analysis set forth *infra* in Section V hereof), more can be done to protect public health and to allow states to achieve attainment—and it can be done in a feasible, cost-effective manner. Therefore, EPA must:

- reduce the annual control region SO_2 cap to about 1.84 million tons (approximately equivalent to a 2 million ton nationwide cap);
- make the SO_2 reductions effective in one phase, by 2009;
- reduce the annual control region NOx cap in two phases to about 1.04 million tons (approximately equivalent to a 1.25 million ton nationwide cap);
- accelerate the second phase of the NOx reductions to 2012.

A. Basic Structure and Approach

The Clean Air Act requires states to include in their NAAQS implementation plans "adequate provisions...prohibiting...any source or other type of emissions activity within the State from emitting any air pollutant in amounts which will...contribute significantly to nonattainment in...any other State with respect to any such national primary or secondary air quality standard...." Section 110(a)(2)(D). If a state does not meet that requirement on its own, EPA must require it to do so.[3] Thus, once EPA has determined that transported pollution significantly contributes to downwind nonattainment problems, it must require that pollution to be eliminated.

In the NOx SIP Call[4], EPA established a basic two-step approach to addressing transport under Section 110 (a)(2)(D). There, EPA first conducted an air quality assessment to determine those states whose emissions are significantly contributing to downwind nonattainment. Second, EPA determined that the portion of transported emissions that "contributed significantly" to attainment problems and thus had to be abated were those emissions that could be controlled through the application of highly cost-effective pollution control measures.[5]

EPA has thoroughly documented the extensive effect of transported air pollution on downwind public health and welfare and resulting NAAQS attainment problems.[6] In

3 Section 110(k)(5) of the Act provides in pertinent part: "Whenever the Administrator finds that the applicable implementation plan for any area is substantially inadequate to ...comply with any requirement of this chapter, the Administrator shall require the State to revise the plan as necessary to correct such inadequacies."

4 "Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone," 63 Fed. Reg. 57356 (October 27, 1998) ("NOx SIP Call").

5 See, e.g, 63 Fed. Reg. 57356 at 57399-401.

6 See, e.g., IAQR, 69 Fed. Reg. at 4575-4609; see also 63 Fed. Reg. 57356 *et.seq.*

this case, EPA has shown that in the absence of regional reductions in NOx and SO_2 emissions, widespread ozone and $PM_{2.5}$ nonattainment will be experienced in the East, South and Midwest. More specifically, EPA has found that NOx and SO_2 emissions from 28 states plus DC contribute significantly to nonattainment of the $PM_{2.5}$ NAAQS in other states. However, as we will discuss in detail below, EPA's assessment of the level of emissions that may be controlled through highly cost-effective measures is arbitrary and a serious misapplication of the principle as it was used in the NOx SIP Call.

The Clean Air Act also requires states to achieve attainment "as expeditiously as practicable."[7] EPA's proposed IAQR, however, will not provide the reductions in transported emissions needed by downwind nonattainment areas in time to allow states to meet this requirement. As explained below, EPA's delay in implementing the reductions is apparently based on arbitrary and unsupported assumptions regarding boilermaker labor availability.

Although both the stringency and timing of the SO_2 and NOx emission reductions are inadequate and unlawful, we do support the basic structure of the IAQR. We agree with EPA that the control of both regional and local reductions is a more cost-effective, balanced, and reasonable approach to addressing nonattainment than relying on local reductions alone. Actually, neither local controls nor regional controls alone will do the job—both are needed for areas to achieve attainment pursuant to the requirements of the Clean Air Act.

We support EPA's focus on NOx and SO_2 as the pollutants to target now for reduction in the IAQR. While there are other $PM_{2.5}$ precursor emissions that must be controlled, none are as susceptible presently to regional control through a Section 110 SIP call as NOx and SO_2.

EPA predicts that the IAQR will produce important public health and environmental benefits and is dramatically cost-effective. According to EPA, by 2015 the proposed rule will annually prevent about 13,000 premature deaths, 18,000 heart attacks, over 8 million cases of acute respiratory symptoms and over one-and one-half million work and school days lost to illness.[8] EPA estimates that benefits exceed costs by about 21 to 1 (an estimate which omits many substantial benefits that were not included because EPA could not reduce them to a fixed monetary value). In fact, this enormous benefit-cost ratio makes clear that there is ample room for more stringent emissions limits in the IAQR. In other words, the public heath benefits that will flow from a tighter rule will still exceed costs by an overwhelming margin. From both a human and economic point of view, such large benefits should not be foregone.

We also generally support EPA's proposal to give the states the option of implementing the rule through a cap and trade program applied to power plant emissions, although we differ with EPA on the stringency and timing of those caps. We expect to

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[7] Clean Air Act, Section 172(a)(2).
[8] 69 Fed. Reg. at 4644-47.

late 2009 or early 2010. Because compliance is measured by a 3-year average value, controls should be largely in place in 2006-07, long before EPA's proposed 2015 IAQR implementation date. Such delay is not allowed by law and not justified by an implied hypothetical (though highly speculative) shortage of boilermakers or any other relevant policy considerations. Nor is it acceptable to delay full implementation of the NOx cap until 2015.

C. Regional Haze

EPA has requested comment on a number of issues related to the relationship between the IAQR and regional haze requirements, including those in the Regional Haze Rule[13] ("RHR") and the proposed BART Guidelines.[14] EPA asks several questions that can be boiled down to whether the IAQR emission reductions satisfy either of two RHR requirements:

1. that states achieve reasonable progress towards the national visibility goal in the 2018 time frame; and
2. that certain BART eligible sources install BART controls.

Our simple answer to both of these questions is "NO."

RHR requirements are separate and independent from IAQR, and as a matter of both law and policy, EPA cannot substitute one set of requirements for the other. Under the RHR and BART Guidelines, states must analyze visibility conditions in Class I areas located both within their own boundaries and within other states in which their emissions are contributing to visibility impairment, and must develop plans leading to natural visibility conditions within 60 years in all Class I areas with visibility impairment to which they contribute. This analysis must include, during the first planning period, the identification of all major sources subject to BART requirements. Nothing in the IAQR changes that.

Of course, IAQR emission reductions can and should be considered by a state in developing its approach to achieving natural visibility by 2064, along with reductions of visibility impairing emissions from other national, regional and local programs. But the RHR remains an additional requirement, aimed only at visibility improvement in Class I areas, and a state's obligations to comply with the terms and process set out in the RHR cannot be altered or avoided by the IAQR.

D. Section 126 Petitions

The Agency also requests comment on its statements regarding potential state petitions under Section 126 of the Act. It is premature to prejudge potential state petitions to EPA seeking emission reductions of NOx and SO2 under Section 126. For

[13] EPA, "Regional Haze Regulations," 64 Fed. Reg. 35714 (July 1, 1999).
[14] EPA, "Proposed Guidelines for Best Available Retrofit Technology (BART) Determinations Under the Regional Haze Regulations," 66 Fed. Reg. 38108 (July 20, 2001) (hereafter "BART Guidelines").

provide further comment on cap and trade issues once EPA has released specifics of its proposal, promised later this spring.

B. Stringency and Timing of Emissions Caps

EPA must tighten both the stringency and the timing of the proposed caps. The Clean Air Act requires, and the record abundantly supports, earlier and more substantial SO_2 and NOx reductions from the electric power sector, as these are necessary, feasible and highly cost-effective.

As a preliminary matter, EPA's choice of a minimum $PM_{2.5}$ state contribution threshold of 0.15 ug/m^3 is not supported by the record. EPA should adopt its alternative threshold, that is, 0.10 ug/m^3, as we discuss in greater detail *infra* in Section VI hereof.

EPA's selection of SO_2 and NOx regional cap levels is arbitrary and capricious and fails to ensure attainment as expeditiously as practicable consistent with Section 172 (a) of the Act, even in conjunction with additional state and local control measures that are more costly, difficult and less readily achievable. Although the Agency purports to base its chosen level on the approach to cost-effectiveness used in the NOx SIP Call, it does not do so. In fact, EPA does not determine any level of highly cost effective reductions for SO_2, but rather simply pre-selects a control level, and then attempts to justify it on general and ill-defined cost-effectiveness grounds. This is not the approach that EPA used in the NOx SIP Call. Rather, it appears that EPA simply designed its IAQR proposed control level to approximate those contained in the Bush administration's "Clear Skies" legislative proposal. Implementing the current Clean Air Act based upon, and constrained by, a not yet enacted legislative proposal—rather than the requirements of the Act and sound analysis and data—is the essence of arbitrary action.

EPA must apply the approach to determining an appropriate control level that it actually used in the NOx SIP Call. Application of that approach leads to a determination that "highly cost-effective" controls are those that achieve the "greatest feasible emission reductions"[9] but cost on average up to $2000 per ton of SO_2 removed and up to $2500 per ton of NOx removed.[10] As our analysis discussed *infra* in Section V will demonstrate, regional annual control caps for power plants of 1.84 million tons for SO_2 and 1.04 million tons for NOx are well within these limits for highly cost-effective controls.[11]

EPA states in its IAQR proposal that it is important to address transport "as early as possible." [12] We agree completely. But EPA's proposal does not do that. EPA's proposed 5-year delay in fully implementing the SO_2 cap is particularly unsupportable. States must achieve the $PM_{2.5}$ NAAQS "as expeditiously as practicable," but no later than

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[9] NOx SIP Call, 63 Fed. Reg. at 57399: "[T]he required emission levels...were determined based on the application of NOx controls that achieve the greatest feasible emissions reductions while still falling within a cost-per-ton-reduced range that EPA considers to be highly cost-effective."

[10] Unless otherwise noted, all cost figures are in 1999$.

[11] *See* CATF analysis of the costs and benefits of a similar alternate control scenario, *infra*, in Section V hereof.

[12] 69 Fed. Reg. at 4579.

one thing, as the courts have recognized, Sections 126 and 110(a) provide separate and independent processes for requiring regional emission reductions, and action under one section cannot void action under the other. Furthermore, the IAQR does not, and legally cannot, target specific sources, and does not take the individualized needs and circumstances of each downwind state separately into account, as a state Section 126 petition can do. EPA must not attempt in this rulemaking to short-circuit or prejudge any Section 126 petitions it may receive from individual states.

II. Power Plant Emissions Endanger Public Health and Welfare and Must be Substantially Reduced

As stated above, power plants remain a major a source of NOx and SO_2 emissions, which react in the atmosphere to form other unhealthful secondary pollutants such as ground-level ozone and fine particulate matter such as sulfate and nitrate. EPA estimates that by 2010, power plants will be responsible for fully two-thirds of the SO_2 emissions and about one-fourth of the NOx emissions in the region of the eastern and midwestern US impacted by EPA proposed rulemaking.[15]

A. Public Health Impacts

Over 3000 new studies assembled for the 2001 EPA review of Air Quality Criteria for Particulate Matter link particulate matter with numerous adverse human health effects.[16] As summarized by EPA in several recent rulemakings, including the IAQR, these effects include "premature mortality, aggravation of respiratory and cardiovascular disease (as indicated by increased hospital admissions, emergency room visits, absences from school or work, and restricted activity days), lung disease, decreased lung function, asthma attacks, and certain cardiovascular problems such as heart attacks and cardiac arrhythmia."[17] Three major cohort studies including new studies sponsored by the Health Effects Institute—an EPA-industry jointly funded group—have consistently associated fine particulate matter with premature death throughout the United States.[18]

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[15] See IAQR, 69 Fed.Reg. 4566 at 4610.

[16] U.S. EPA (2001) Air Quality Criteria for Particulate Matter, Second External Review Draft; EPA Office of Research and Development, March 2001. See also detailed information gathered by EPA online at http://www.epa.gov/ttn/naaqs/standards/pm/s_pm_index.html.

[17] See 69 Fed. Reg. at 4571; see also 66 Fed. Reg. 5002 at 5018. More detailed information on the link between particulate matter and cardiac arrhythmia and increased incidence of cardiovascular disease is discussed in: Liao, D., Creason, J, Shy, C., Williams, R, Watts, R. and Szweidinger, R (1999). *Daily variation of particulate air pollution and poor cardiac autonomic control in the elderly*, Environmental Health Perspectives, v. 107, no. 7, p. 521-525.

[18] See, e.g.,

Pope, C.A., Thun, M.J., Namboordiri, M.M. and Dockery, D.W., et al.; *Particulate Air Pollution as a Predictor of Mortality in a Prospective Study of U.S. Adults.* 151 American Journal of Respiratory and Critical Care Medicine (1995). Available online at http://ajrccm.atsjournals.org/search.shtml.

CATF, on behalf of the Clear the Air power plant campaign, recently commissioned Abt Associates to quantify the health impacts of fine particulate pollution from power plants. This study, and the CATF/Clear the Air report that accompanied it[19], are available online at http://www.catf.us/publications/index.php. The Abt Associates study estimated that about 30,000 premature deaths per year are associated with power plant particulate matter alone.[20]

EPA also has discussed in recent rulemakings the harm to human health resulting from ozone. In brief, short-term exposure to ozone smog can cause a myriad of harmful human upper and lower respiratory system effects, including chest pain, coughing, throat irritation, shortness of breath, reduced lung function, inflammation and other changes of lung tissue, increased hospital admissions and emergency room visits, impaired immune systems, and exacerbation of asthma-related symptoms.[21] Effects of longer term ozone exposure described by EPA include inflammation of and damage to the lining of the lungs, transient pulmonary function responses, transient respiratory symptoms, effects on exercise performance, increased airway responsiveness, increased susceptibility to respiratory infection, increased hospital and emergency room visits and transient pulmonary respiratory inflammation.[22] Recent studies also suggest that ozone is associated with stunted lung development in children.[23] And some studies have suggested that ozone may be associated with premature mortality independent of PM exposure.[24] EPA is currently reviewing key new health information suggesting the association between elevated ozone levels and the development of new-onset asthma,

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Krewski, D., Burnett, R.T., Goldberg, M.S., Hoover, K., Siemiatycki, J., Jerrett, M., Abrahamowicz, A. and White, W.H., *Reanalysis of the Harvard Six Cities Study and the American Cancer Society Study of Particulate Matter and Mortality;* Special Report to the Health Effects Institute, Cambridge, MA (July 2000).

Samet, J.M., Dominici, F., Zeger, S.L., Schwartz, J. and Dockery, D.W.; *National Morbidity, Mortality and Air Pollution Study, Part II: Morbidity, Mortality and Air Pollution in the United States;* Health Effects Institute Research Report No. 94, Cambridge MA (June 2000).

Dockery, D.W., Pope, C.A., Xu, S. and Spengler, J.D., et al; *An Association Between Air Pollution and Mortality in Six U.S. Cities;* 329 New England J. Medicine 1753-59 (1993). Available online at http://nejm.org/content/1993/0329/0024/1753.asp.

[19] CATF/Clear the Air, *Death, Disease, & Dirty Power: Mortality and Health Damage Due to Air Pollution from Power Plants*, October 2000.

[20] Abt Associates (2000), *The Particulate-Related Health Benefits of Reducing Power Plant Emissions*, Bethesda MD, available online at http://www.catf.us/publications/reports/Abt_PM_report .

[21] See 69 Fed. Reg. at 4571; see also EPA's "Control of Air Pollution from New Motor Vehicles: Heavy-Duty Engines and Vehicle Standards and Highway Diesel Sulfur Control Requirements," 66 Fed. Reg. 5002 at 5012-13 (January 18, 2001); and EPA's "Control of Emissions of Air Pollution From Nonroad Diesel Engines and Fuel," 68 Fed. Reg. 28328 at 28346-347 (May 23, 2003) (hereafter "HD Nonroad Rule").

[22] See 69 Fed. Reg. at 4571, 66 Fed. Reg. at 5017.

[23] Plopper, C.G., Fanucci, M.V., Evans, M.J., Larson, S.P., Schelegle, E.S., Joad, J.P., Pinkerton, K.E., VanWinkle, L.S., Gershwin, L.J., Miller, L.A., Wu, R., Buckpitt, A.R., and Hyde, D.M. 2001. *Air pollution effects in a primate model of asthma.* Abstract and presentation, HEI Annual Conference, Washington DC; Program and Abstracts; Health Effects Institute, Cambridge MA, 02139

[24] Thurston, G.D. and Ito, K. (2000) *Epidemiological Studies of ozone exposure effects,* in Air Pollution and Health, S.T. Holgate Ed. Academic Press

increased hospital admissions for young children, increased school absences and premature mortality.[25]

B. Public Welfare Impacts

Power plant emissions also contribute to numerous adverse welfare and environmental effects. These include acid deposition, watershed eutrophication and nitrification, and visibility impairment and regional haze. EPA summarizes these effects in the IAQR, and others have done so as well.[26]

III. EPA's Proposed Caps on Power Plant SO_2 and NOx Emissions are Inadequate to Protect Public Health and to Allow NAAQS Attainment and Must be Strengthened.

The severe harm to human health and the environment described above demand the most substantial reductions in regional power plant emissions of SO_2 and NOx that are feasible and cost-effective. The nonattainment provisions of the Clean Air Act require no less. EPA's proposal does not accomplish this—tighter caps for both pollutants are quite feasible and highly cost-effective, and EPA must require them. Specifically, as previously indicated, we believe EPA must limit regional SO_2 emissions to 1.84 million tons annually and regional NOx emissions to 1.04 million tons annually.[27]

A. Tighter Control Levels on Regional Power Plant Emissions of SO_2 and NOx are Feasible.

Emissions control technology for SO_2 emissions is well demonstrated and established, and has been commercially available for decades.[28] Wet and dry flue gas desulfurization (FGD) technologies have been available for over 30 years, and routinely achieve SO_2 control efficiencies of 90 to 95+%.[29] In conjunction with its 1999 regional haze rulemaking, EPA proposed in its 2001 BART Guidelines a presumption that "an SO_2-control level in the 90—95% range is generally achievable" for uncontrolled boilers

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[25] 68 Fed. Reg. at 28347. See also 69 Fed. Reg. at 4644-45.

[26] 69 Fed. Reg. at 4571-72, 4642-43, and 4645-47.
See also, CATF/Clear the Air, *Unfinished Business: Why the Acid Rain Problem is not Solved,* Oct. 2001, available online at http://www.catf.us/publications/reports/acid_rain_report.php; and
CATF/Clear the Air, *Out of Sight: Power Plant Emissions and Haze in Our National Parks*, Sept. 2000, available online at http://www.catf.us/publications/reports/out_of_sight.php.

[27] Based on the relative percentage of national 2002 power plant NOx and SO_2 emissions that were within the IAQR, the recommended regional caps are equivalent to a 2.0 million ton national SO_2 cap, and a 1.25 million ton national NOx cap.

[28] See, e.g., 69 Fed. Reg. at 4612.

[29] See, e.g., 69 Fed. Reg. at 4612; Srivastava, R.K., and Jozewicz, W., *Controlling SO_2 Emissions: Analysis of Technologies*, EPA/600/SR-00/093, November 2000.

and thus should be considered to be best available retrofit technology for purposes of controlling visibility-impairing SO_2 emissions.[30]

Reductions in power plant NOx emissions in the 90% range are also feasible using selective catalytic reduction (SCR) technology.[31] SCR technology for NOx control, although much more recent than FGD control for SO_2, is now in widespread use in the utility industry and is proving to be reliable and effective. EPA reports that "[o]perating data available from many plants indicate that the 90% NOx removal rate has been met or exceeded at these plants."[32]

B. Tighter Control Levels on Regional Power Plant Emissions of SO_2 and NOx are Highly Cost-Effective.

1. Arbitrary departure from governing methodology

In the 1998 NOx SIP Call, EPA determined an appropriate level for reductions of regional NOx emissions by examining the cost-effectiveness of feasible control measures.[33] EPA purports to use that same methodology in the IAQR, but it does not in fact do so. As a result, the proposed IAQR contains unreasonably and unlawfully lenient emission caps for SO_2 and NOx. These caps do not follow from a rational application or appropriate evaluation of cost-effectiveness data. Rather, they simply appear to approximate the equivalent national caps in the Bush Administration's "Clear Skies Initiative" (CSI) proposal.[34] For the reasons discussed below, the IAQR's emissions control requirements and methodologies that drove their development are arbitrary, capricious and an abuse of the Agency's discretion.

As explained below, EPA determined in the NOx SIP Call that "highly cost-effective" controls were those with a cost-effectiveness (measured in terms of average cost per ton of pollutant removed) equivalent to or slightly greater than that of controls that had already been implemented or planned, while achieving the greatest feasible emissions reductions. This is the legally governing standard that should determine the "greatest feasible emissions reductions" and "highly cost-effective" controls for the IAQR too, in order to ensure attainment as expeditiously as practicable consistent with CAA §§ 110 and 172.

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[30] BART Guidelines, 66 Fed. Reg. at 38130.
[31] See, e.g., 69 Fed. Reg. at 4612.
[32] 69 Fed. Reg. at 4612.
Also, a recent report by Northeast States for Coordinated Air Use Management (NESCAUM) stated: "Recent experience with actual SCR installations and vendor representations concerning expected system performance suggest that future SCR installation—especially when coupled with advanced low-NOx burner technology—can be expected to consistently deliver reductions in excess of 90 percent." NESCAUM, Power Companies Efforts to Comply with NOx SIP Call and Section 126: Progress Report, May 2001, available online at http://www.nescaum.org/resources/reports/index.html.
[33] NOx SIP Call ,63 Fed. Reg. at 57399-402.
[34] S.485, "The Clear Skies Act of 2003."

Specifically, EPA determined in the NOx SIP Call that "highly cost-effective" controls were those that "achieve the greatest feasible emissions reduction but still cost no more than $2000 per ton of ozone season NOx emissions removed (in 1990 dollars), on average."[35] EPA determined the $2000/ton average cost figure based on "NOx emissions controls that are available and of comparable cost to other recently undertaken or planned NOx measures."[36] EPA set out the costs of those recent measures that it considered in the following table:[37]

Table 1.--Average Cost-effectiveness of NO[X] Control Measures Recently Undertaken [1990 dollars]

Control measure	Cost per ton of NO[X] Removed
NO[X] RACT	150-1,300
Phase II Reformulated Gasoline	fn52 4,100
State Implementation of the Ozone Transport Commission Memorandum of Understanding	950-1,600
New Source Performance Standards for Fossil Steam Electric Generation Units	1,290
New Source Performance Standards for Industrial Boilers	1,790

fn52 Average cost representing the midpoint of $ 2,180 to $ 6,000 per ton. This cost represents the projected additional cost of complying with the Phase II RFG NO[X] standards, beyond the cost of complying with the other standards for Phase II RFG.

Significantly, the cost of all of these measures (except for the Ph II RFG costs, which EPA explained were not strictly comparable to the other costs) fall below the $2000/ton figure for highly-cost effective measures.

Although EPA states that it "proposes to use this approach" in the IAQR,[38] it proceeds in a significantly different manner. First of all, EPA here does not apply the principle of highly-cost effectiveness as it was used in the NOx SIP Call—that is, a mechanism to ensure that controls that obtain the "greatest feasible emissions reductions" are not significantly less cost-effective than other control measures recently implemented or planned. In fact, EPA does not determine a level of highly-cost effective controls for SO_2 at all. Its selection in the IAQR proposal of SO_2 control levels costing between $700 and 800 on average[39] thus has no reference to either the "greatest feasible emissions reduction" principle or the "highly cost-effective" principle, and is arbitrary and capricious. With respect to NOx, EPA does reaffirm in the IAQR that measures costing on average less than $2500/ton (in 1999$, equivalent to the $2000/ton in 1990$ figure established in the NOx SIP Call) would be considered highly cost-effective.[40] However, EPA then selects NOx control levels that it estimates will cost between $700-800/ton on

[35] 63 Fed. Reg. at 57399.
[36] 63 Fed. Reg. at 57400.
[37] 63 Fed. Reg. at 57400.
[38] 69 Fed. Reg. at 4612.
[39] 69 Fed. Reg. at 4613.
[40] 69 Fed. Reg. at 4614.

an annual basis.[41] Again, these levels have no rational relationship with either of the above-mentioned NOx SIP Call principles and are arbitrary and capricious.

In addition, to the extent that EPA considers "highly cost-effectiveness" at all in determining SO_2 and NOx control levels in the IAQR, it does so in an unlawful manner. Rather than determining a cost range for other recently undertaken measures and finding that most of the measures within that range are "highly cost-effective"—as EPA did in the NOx SIP Call—here, in the IAQR, EPA labels those costs as merely "cost-effective," and then continues:

> "EPA believes that controls with costs towards the low end of the range may be considered to be highly cost effective because they are self-evidently more cost effective than most other controls in the range."[42]

This rationale – and its departure from the NOx SIP Call approach above – are arbitrary, capricious and an abuse of the Agency's discretion.[43] If followed to its ultimate conclusion, it means that the only truly highly cost-effective controls would be none at all.

As indicated above, EPA in the NOx SIP Call examined the average cost-effectiveness of a range of NOx control measures recently undertaken at that time – ranging from NOx RACT to new source performance standards (NSPS) to other SIP measures. 63 Fed. Reg. at 57400, Table 1. Most of those measures had a lower average cost than the cost of the control level chosen. In contrast, the IAQR proposal also provides a range of average control costs in place or to be undertaken, but the vast majority of those are higher than the $700-800 figures upon which the proposal establishes its control levels. The proposal does not rationally explain why it is appropriate from a legal, policy, air quality, public health, economic or statistical perspective to determine the greatest feasible emissions reductions upon figures that are at the lowest ends of the range of average control costs identified.

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[41] 69 Fed. Reg. at 4614-15. EPA also calculates somewhat higher average cost figures for ozone season only caps, but those are relevant only for CT, since the NOx caps for all of the other affected states are all based on full year reductions.

[42] 69 Fed. Reg. at 4613.

[43] EPA's statement does not explain or even discuss the sweeping departure from the rationale and approaches employed in the NOx SIP Call. The statement is purely conclusory – even calling its assertion "self evident." Worse, the statement is simply wrong as a factual matter, due to its abuse of the concept of cost effectiveness. The statement asserts that controls with costs toward the low end of the range are highly cost effective "because they are self-evidently more *cost effective* than most other controls in the range." 69 Fed. Reg. at 4613. It is plain what the proposal means, however, is that these low range costs are simply *cheaper* – that being the only proposition that is "self-evident." Cheap, however, is not the same as cost-effective. These cheaper costs come at the expense of EPA's legal obligations, the specific objectives of the Clean Air Act, and the province of this rulemaking -- abating significant contributions to nonattainment from transported pollution, in order to achieve attainment as expeditiously as practicable. True cost-effectiveness considers cost in meeting these objectives, whereas the IAQR proposal abandons these objectives in favor of minimizing cost as much as possible. This is arbitrary, capricious and an abuse of discretion.

It is absolutely clear that in NOx SIP Call EPA did NOT determine a range of costs for recent control measures, and then simply state that costs on the very low end of the range were "highly" cost-effective, as the Agency does in its IAQR proposal. Rather, as stated above, EPA determined in its earlier rulemaking that most or all of the measures within the cost range were highly cost-effective. EPA explained its rationale for this approach as follows:

> "With few exceptions, the average cost-effectiveness of these measures is representative of the average cost-effectiveness of the types of controls EPA and States have needed to adopt most recently because their previous planning efforts have already taken advantage of opportunities for even cheaper controls. The EPA believes that the cost-effectiveness of measures that EPA or States have adopted, or proposed to adopt, forms a good reference point for determining which of the available additional NOX control measures can most easily be implemented by upwind States whose emissions impact downwind nonattainment problems." [emphasis supplied] 63 Fed. Reg. at 57400.

The $2,000/ton figure selected by EPA was in *excess* of the average cost-effectiveness amounts identified by the Agency (see 63 Fed. Reg. at 57400, Table 1) precisely because state and local air quality planners had already taken advantage of the opportunities for these cheaper controls.

This approach makes perfect sense in the context of determining an appropriate level for regional emission reductions. Simply put, measures that have already been proposed or implemented are likely to be more cost-effective than other local measures that are feasible and still cost-effective but more expensive and difficult to implement.[44]

The IAQR proposal, however, subverts this prior practice, rationale, and logic in a manner that is arbitrary and capricious. Control levels for NOx and SO_2 with average costs in the range of $700-$800 clearly do not achieve the "greatest feasible emissions reductions." These cost figures are substantially less than what EPA determined to be highly cost effective 6 years ago; substantially less than the average cost effectiveness of other NOx control measures examined by the agency 6 years ago (63 Fed. Reg. at 57400, Table 1); substantially less than the average cost of other control measures identified by EPA in the proposal today (69 Fed. Reg. at 4613-4615); and even more substantially less

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[44] We note that EPA primarily based its determination of "highly cost-effective" controls in the NOx SIP Call on average costs rather than incremental or marginal costs. EPA explained that the use of average costs were appropriate in view of the additional flexibility provided to sources by a cap and trade approach to implementation. 63 Fed. Reg. at 57399. Of course, the proposed IAQR will also utilize a cap and trade program, so average rather than marginal costs should be the primary focus of a cost-effectiveness determination here as well. In fact, we believe that it is arbitrary and capricious for EPA to switch its primary focus from average to marginal costs in the IAQR without an adequate explanation of why its previous approach in the NOx SIP Call is no longer valid.

than numerous other measures we have identified that states have either adopted or are proposing to adopt (see discussion *infra* in Section III.B.3).[45]

The IAQR's selection of these control costs results in an establishment of "greatest feasible emissions reductions" that are no such thing; EPA has radically short changed the emissions reductions that should be considered the greatest feasible by abandoning and manipulating the cost effectiveness methodology employed in the NOx SIP Call. As discussed earlier, this outcome flows inexorably from the Agency's irrational and unlawful decision to work backwards from the politically created cap levels in a legislative proposal, rather than working forward from an honest analysis of highly cost effective controls, alternative state and local control costs, and greatest feasible emissions reductions. Accordingly, the proposal is arbitrary, capricious and an abuse of discretion.

In fact, EPA's approach in the IAQR proposal to require only the lowest cost of those controls that have been implemented elsewhere was explicitly rejected by EPA in the NOx SIP Call. In the SIP Call—unlike this proposal—EPA considered and costed out several alternative control levels. It explicitly considered—and rejected—a more lenient control level than the 0.15 lb/mmBtu level chosen: "A regionwide level of 0.20 lb/mmBtu was rejected because though it resulted in an average cost-effectiveness of less than $2000 per ton, the air quality benefits were less than those for the 0.15 lb/mmBtu level which was also less than $2000 per ton."[46]

This, too, makes clear that EPA's IAQR proposal arbitrarily fails to consider the critical factor of "greatest feasible emission reductions" achievable by the proposal. Stated differently, EPA fails to consider the amount of air quality benefits to be produced by the rule. After all, at its root cost-effectiveness does not simply mean the lowest cost—rather, it implies a consideration of both costs and effects (benefits). Thus, normally a measure can be considered cost-effective if it produces greater benefits than costs. EPA's IAQR proposal is certainly more than "highly cost-effective" by nearly any measure. EPA has conducted a monetary cost-benefit analysis of the IAQR proposal that does not include many costs because EPA does not have an acceptable method for quantifying them in monetary terms.[47] As a result, benefits, and the resultant cost-effectiveness, are likely substantially understated. Even so, EPA calculates that the benefits of its proposal exceed costs by a factor of about 21 to 1.[48] Thus, even were EPA's proposal to be strengthened to the point where it doubled or tripled in cost, it

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[45] In fact, EPA states: "These reductions are among the lowest cost EPA has ever observed in NOx control actions...." 69 Fed. Reg. at 4614. Such reductions clearly come nowhere near to representing the "greatest feasible emission reduction" as required by controlling Clean Air Act precedent and policy.

[46] 63 Fed. Reg. 57401. We note that EPA rejected a more stringent control level that cost slightly less than $2000/ton. However, that rejection was based in large part on EPA's concern that such a level might be difficult to implement or result in electric system reliability problems. In this context, it must be remembered that SCR then was a much less proven technology than it is now, and that FGD is now.

[47] 69 Fed. Reg. at 4645-47.

[48] 69 Fed. Reg. at 4644-46.

would still be considered by most to be highly cost-effective.[49] EPA's failure to require tighter emission controls will result in thousands of additional premature deaths, billions of dollars in social costs, but relatively insignificant increased costs to the power sector.[50]

In sum, EPA must apply in the IAQR the approach to selecting an emission control level that it actually used in the NOx SIP Call. That is, it must establish a control level that is both highly-cost effective and achieves the greatest feasible emissions reduction. EPA has confirmed its finding in the NOx SIP Call that a NOx control level with an average cost of up to $2500/ton is highly cost effective. Although EPA did not make any finding of a highly cost-effective level for SO_2 control, it did find that the cost range for BACT determinations was between $500 and $2100 a ton.[51] Pursuant to the approach used in the NOx SIP Call, measures with costs at or slightly above the high end of this range would be considered "highly cost-effective." Controls on SO_2 emissions costing on average less than approximately $2000/ton would meet this criterion.

2. *NOx and SO_2 Control Costs.*

In the NOx SIP Call and many other recent rulemakings, EPA has evaluated alternative levels of controls and has estimated their cost. But EPA did not do that in the IAQR. Thus the only information in the proposed IAQR that indicates what the cost-effectiveness of a tighter (or looser) SO_2 or NOx regional power plant cap would be is reflected by the marginal cost curves for NOx and SO2 reductions found in the IAQR proposal, EPA's January 28, 2004 Memorandum to the Docket entitled "Analysis of the Marginal Cost of SO2 and NOx Reductions" ("Marginal Cost Memo") and EPA's IPM runs.[52] EPA's marginal cost curves (EPA provides no average cost curves in the IAQR) show that reducing national EGU SO_2 emissions to an aggregate of 2.0 million tons in 2010 would have a marginal cost of slightly higher than $2000/ton. However, a 2.0 million ton national cap required as part of a national cap and trade program along the lines proposed in the IAQR, would leave SO_2 emissions in 2010 substantially in excess of 2 million tons, due primarily due to the large number of banked allowances in the Title IV Acid Rain Program.[53] As discussed below, EPA estimated several years ago in its "Straw Proposal" presentation to EEI that a 2010 national SO_2 power plant cap of 2 million tons would result in SO_2 emissions of about 4.5 million tons in 2010 and about

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[49] According to several alternate reduction scenario analyzed by CATF and discussed in greater detail in Section V *infra*, tighter emission caps and/or schedules would produce billions of dollars of additional benefits, far in excess of additional costs, with benefit/cost ratios of 12 to 1and greater.

[50] *Id.*

Furthermore, EPA admits as much: "The selected approach was well below the point at which there would be significant diminishing returns on the dollars spent for pollution control." 69 Fed. Reg. at 4614.

[51] 69 Fed. Reg. at 4613.

[52] 69 Fed. Reg. at 4613-16.

[53] According to EPA, as of the end of 2002, there were about 8.65 million banked SO2 allowances. EPA's Acid Rain Progress Report, November 2003, Figure 5 at p.4, available online at EPA's website.

3.0 million tons in 2015.[54] According to EPA's marginal cost curve, reduction of SO_2 emissions to a national level of 3 million tons in 2015 would have a marginal cost of about $1100/ton.

CATF engaged ICF Consulting to estimate the emissions and costs of regional SO_2 and NOx emission cap levels and dates tighter than those proposed in the IAQR—that is, a 1.84 million ton SO_2 regional cap in 2009 and a 1.04 ton NOx regional cap effective in 2012 (Alternate Control Scenario). ICF used the same version of the Integrated Planning Model (IPM) used by EPA in the IAQR. The methodology used in that analysis and the results thereof are discussed in detail *infra*, at Section V hereof. For now, we simply note that the average cost of the emissions reductions in the Alternate Control Scenario resulting from the ICF IPM runs were about $1150 per ton of SO_2 reduced in 2010 and $1050 per ton of combined NOx and SO_2 reduced in 2015.[55] These are well within the "highly cost-effective" parameters of $2000/ton for SO_2 and $2500/ton for NOx developed earlier.

Other analyses that have been performed also provide important information on likely SO_2 reduction costs, information that is consistent with the CATF/ICF Alternate Control Scenario analysis. Several years ago, MSB Energy Associates of Middleton, WI performed an analysis for CATF estimating the cost of SO_2 removal from US coal-fired power plants. This is a detailed plant-by-plant analysis of the cost of controlling SO_2 emissions from all 495 coal-fired power plants in the US through the application of FGD technology.[56] The analysis is based on standard fixed and variable control costs and 1999 plant operations and emissions; the cost per ton of SO_2 removed is expressed in 2001 dollars.[57] A more detailed explanation of the methodology and sources used in the MSB analysis are found in Appendix 1 attached hereto. The results are reproduced below:

Figure III-1

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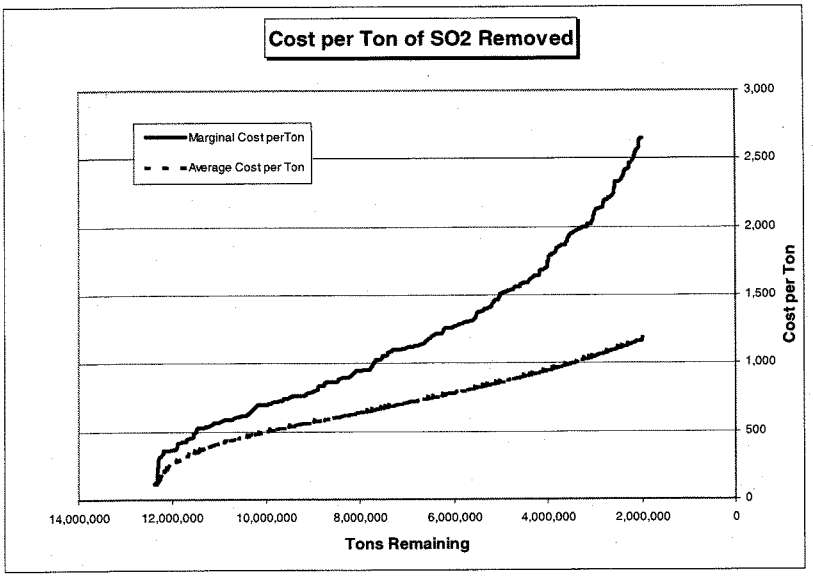
[54] U.S. EPA, "Discussion of Multi-Pollutant Strategy," Meeting with EEI, September 18, 2001; "Comparison of Requirements Under Business-as-Usual and the Straw Proposal," pp. 10, 14. Available at http://www.cleartheair.org/currentstatus.pdf (EPA 2001 EEI Presentation).

[55] We could not determine separate cost-effectiveness for NOx and SO_2 reductions in 2015, but even if one assumes that ALL of the 2015 emission reduction costs were attributed to SO_2, the average cost would be only about $1,400 per ton removed.

[56] Because the analysis does not account for the fact that owners have access to control options other than FGDs, and will likely use them if they are cheaper, the costs reported by MSB are likely to be on the high side. Thus, the MSB analysis estimates the cost of actually reducing emissions to a certain level, rather than setting a cap in an allowance trading program at a certain level.

[57] In 1999, EPA reported that national SO_2 emissions from all Title IV units were 12,452,307 tons. SO_2 emissions from coal-fired power plants were 11,836,806 tons, or 95% of the total.



This analysis indicates that the average cost of reducing SO_2 emissions at US power plants (through the use of scrubbers exclusively) to an aggregate of 2.0 million tons is about $1150/ton, and the marginal cost of doing so is slightly above $2500/ton. Again, due to the use of banked allowances, if a national cap and trade program were employed along the lines proposed in the IAQR, a 2.0 million ton national cap would result in SO_2 emissions in 2010 of about 4.5 million tons.[58] Thus, the cost of a 2 million ton cap in 2010 would be lower than the cost of reducing actual emissions to 2 million tons in the same time frame. The MSB analysis shows that the cost of reducing power plant SO_2 emissions to 4.5 million tons is about $900/ton on an average basis and $1600/ton on a marginal basis. Therefore, the cost of a 2.0 million ton national SO_2 cap in 2010 should be well within the highly effective average cost limit of $2000/ton.

EPA in other venues has evaluated various levels of regional and national power plant controls. One such EPA evaluation occurred as part of the regulatory package revising the ozone and PM NAAQS in 1997. There, EPA prepared an economic analysis of coordinated implementation of these two NAAQS. This Regulatory Impact Analysis (1997 RIA)[59] estimated the incremental costs and benefits by 2010 of control measures

[58] EPA 2001 EEI Presentation at pp. 10, 14.

[59] Innovative Strategies and Economics Group, Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, July 17, 1997, *Regulatory Impact Analysis for the Particulate Matter and Ozone National Ambient Air Quality Standards and Proposed Regional Haze Rule,* available on the Internet at http://www.epa.gov/ttn/oarpg/naaqsfin/ria.html.

intended to implement the new 8-hour ozone NAAQS, followed by those implementing the new $PM_{2.5}$ NAAQS. EPA estimated implementation costs and benefits in 2010 for a partial attainment scenario and a full attainment scenario.[60] We need not get into all of the details of that comprehensive analysis here. What is relevant here is that EPA assumed and evaluated certain control measures for the electric utility sector as part of those analyses, including a national cap and trade program that reduced the annual SO_2 emissions. In its "partial attainment scenario," EPA assumed no additional power plant NOx controls beyond the NOx SIP Call (which it included in its base case). For SO_2, however, EPA assumed a national cap and trade program that would reduce the annual Title IV cap by 60% in 2005, to 3.58 million tons.[61] EPA estimated that resulting total national emissions would be as follows:[62]

- CAA baseline utility NOx emissions— 3.6 million tons
- CAA baseline utility SO_2 emissions— 9.7 million tons
- Post-control utility SO_2 emissions— 5.25 million tons.[63]

In the 1997 RIA, EPA also discussed a "full attainment scenario," consisting of a mixture of specified and unspecified control measures that might be applied to attain the NAAQS, and estimated resulting emission reductions. The specified measures included the following from the utility sector:[64]

- 90% SO_2 reduction over Title IV, with a NOx limit at 0.10 lb/MMBTU;
- 95% SO_2 reduction over Title IV, with a NOx limit at 0.05 lb/MMBTU.[65]

These measures produced the following projected incremental reductions (beyond residual emissions from the partial attainment scenario) of national utility NOx and SO_2 emissions in 2010:[66]

- 90% SO_2 reduction, with NOx limit at 0.10 lb/MMBTU—
  - 2.4 million tons additional SO_2 reductions, leaving residual national utility SO_2 emissions at about 2.8 million tons
  - 300,000 tons NOx reductions
- 95% SO_2 reduction, with NOx limit at 0.05 lb/MMBTU—
  - 2.9 million tons additional SO_2 reductions, leaving residual national utility SO_2 emissions at about 2.4 million tons
  - 600,000 tons NOx reductions.

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[60] *See, e.g.*, 1997 RIA at ES-5—10; 1997 RIA, Table 6.5.
[61] *See* 1997 RIA at 5-5—8.
[62] *See* 1997 RIA at 6-19, 6-22; *see also*, App. F-1 at F-9.
[63] These figures compare closely with national SO_2 levels projected by EPA in the IAQR. See, e.g., Economic & Energy Analysis for the Proposed IAQR, Jan. 28, 2004, Table 1 at 2 (hereafter "Economic & Energy Memo").
[64] 1997 RIA, App. F-1 at F-9.
[65] While the SO_2 reductions are national, it appears that the NOx reductions were tied to the OTAG process, and thus are ozone season reductions within the OTAG area.
[66] 1997 RIA, App. F-1 at F-9.

As part of this analysis, EPA estimated that the average incremental cost (i.e., marginal cost) effectiveness of the 90% and 95% SO_2 reduction scenarios would respectively be $1360 and $1720 per ton of SO_2 removed (1990$).[67] Thus, when converted to 1999 dollars, the marginal cost of the 90% SO_2 reductions would be about $1700/ton and of the 95% SO_2 reductions would be about $2150/ton, about equal to or less than the average cost $2000/ton cut-off for highly effective control measures.[68]

In September, 2001, EPA made a presentation to EEI in which it discussed its so-called "Straw Proposal" for power plant reductions.[69] This proposal included analysis of the following national power plant emission caps and emissions:

SO_2—2.0 million ton national cap in 2010, resulting in national power plant emissions of:

4.5 million tons in 2010,
3.0 million tons in 2015, and
2.3 million tons in 2020.[70]

NOx—1.25 million ton national cap in 2012, resulting in national power plant emissions of:

1.6 million tons in 2010, and
1.25 million tons in 2015.[71]

In this presentation, EPA estimated the marginal cost of reducing national power plant SO_2 emissions to 3.0 million tons in 2015 via a 2.0 million ton national cap in 2010 at slightly higher than $1000 per ton.[72] This is substantially below the $2000 per ton average cost cut-off for "highly cost effective" SO_2 reductions recommended above. As demonstrated by the MSB analysis discussed above, the average cost of that level of reductions would be even lower. The marginal cost of reducing national power plant NOx emissions to a level of 1.25 million tons in 2015 via a 1.25 million ton 2010 cap was estimated to be about $1450 per ton.[73] Again, this level is comfortably below the $2500 per ton average cost cutoff for "highly cost effective" NOx reductions discussed above.

There are several other ways to look at the adequacy of the proposed IAQR reductions. First of all, Resources for the Future recently conducted a study of the cost-

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[67] 1997 RIA, App. F-1 at F-9.

[68] EPA estimated the marginal cost of the additional seasonal NOx reductions at greater than $2000/ton, but did not give average cost figures, so no meaningful comparison can be made. Such is not the case with SO_2—since the marginal cost of the deeper reduction levels are near or below the $2000/ton average cost cut-off, the average cost of those deeper reductions will be well below the cut-off, as the MSB analysis discussed above demonstrates.

[69] EPA 2001 EEI Presentation, at 10.

[70] *Id* at 10, 14.

[71] *Id* at 10, 16.

[72] *Id* at 14, 20. EPA estimated that the 2.0 million ton SO_2 cap would produce 2010 emissions of 4.5 million tons at a marginal cost of less than $1000/ton.

[73] *Id* at 21. EPA estimated that the 1.25 million ton NOx cap would produce 2010 emissions of 1.6 million tons at a marginal cost of less than $1000/ton.

effectiveness of US power plant emission reductions that is described in the paper entitled "Efficient Emission Fees in the U.S. Electricity Sector" ("RFF Study").[74] In this study, RFF estimated the marginal costs and marginal benefits of reductions in US power plant emissions, including SO_2 and NOx, and then determined the emission level at which those costs and benefits were roughly equal. RFF calls this level the "efficient fee" level; until that level of reductions is reached, additional emission reductions will produce additional benefits in excess of additional costs and thus are economically efficient.

As stated in the study, "[t]he estimates are obtained by coupling a detailed simulation model of the U.S. electricity markets with an integrated assessment model that links changes in emissions with atmospheric transport, environmental endpoints and valuation of impacts."[75] We note that RFF's methodology for estimating the benefits of emission reductions is different from that used by EPA and the estimated benefits are substantially below those of EPA.[76] We wish to be clear that we believe EPA's method for estimating benefits in the IAQR is quite conservative, supportable and appropriate. Nevertheless, the RFF Study, even when using dramatically lower benefit estimates, still found that the level of power plant SO_2 emissions where the marginal costs of reductions were equivalent to the marginal benefits is lower than that set forth in the IAQR.

Specifically, RFF found that the "central estimate of marginal benefits equal marginal costs at $3500, or about 1.1 million tons of national SO_2 emissions in the year 2010[77]. As estimated above, the marginal cost of a 2 million ton national SO_2 cap has been estimated by EPA at less than $1000 per ton in 2010, dramatically below the point where the RFF Study found that additional costs of further reductions are greater than additional benefits.

Finally, because the IAQR is fundamentally based on the legal premise that those emissions that are contributing significantly to downwind nonattainment must be eliminated, it is important to evaluate what impact the IAQR would likely have on the nonattainment problem in downwind states. Using EPA projections of the impact of the IAQR on $PM_{2.5}$ design values in $PM_{2.5}$ nonattainment areas, EPA estimates that in 2010 61 counties in the IAQR region are expected to be in $PM_{2.5}$ nonattainment. Following implementation of the IAQR in 2010, 23 of those counties are expected to remain nonattainment, and even after 2015, about 6 years after the 2009 $PM_{2.5}$ attainment date, there will still be 13 counties in nonattainment.

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[74] Banzhaf, S., Burtraw, D. and Palmer, K., "Efficient Emission Fees in the U.S. Electricity Sector," Resources for the Future, October 2002, available online at http://www.rff.org. According to co-author Burtraw, this study is being peer-reviewed and will be published in a forthcoming issue of Resource and Energy Economics.

[75] RFF Study at p. 2. A more detailed description of the study is available in the paper itself.

[76] For example, RFF uses $2.25 million for the value of a statistical life, where EPA used a VSL of $5.5. million in the IAQR. Compare RFF Study at p.8 to EPA's "Benefits of the Proposed Interstate Air Quality Rule," at p.1-7.

[77] RFF Study at 12. See also Fig. 2a at p.22.

Using the results of EPA modeling and projections in the IAQR docket, we have estimated the contribution to the $PM_{2.5}$ design value of each nonattainment county in 2010, and then compared these data to the impact of the IAQR in 2010 and 2015 in each of those counties.[78] The results, which are attached hereto as Appendix 2, indicate that:

- total interstate air quality impacts contributed to 2010 "base case" downwind nonattainment counties range from a low of 4.31 ug/m^3 to a high of 7.36 ug/m^3, or from about 28% and 41% of that county's $PM_{2.5}$ design value;
- the portion of the interstate air quality contribution remedied by the IAQR in 2010 ranges from about 18% to 37%, and is below 30% in most areas;
- the portion of the interstate air quality contribution remedied by the IAQR in 2015 ranges from about 20% to 38%, and is between 25-35% in most areas;
- for counties projected by EPA to be in $PM_{2.5}$ nonattainment in 2010, the IAQR eliminates an average of less than 26% of the total interstate contribution; and
- for counties projected by EPA to be in $PM_{2.5}$ nonattainment in 2015, the IAQR eliminates an average of 30% of the total interstate contribution.

In sum, the IAQR is expected to reduce the impact of transport on $PM_{2.5}$ air quality in downwind nonattainment areas by a relatively small percentage. More substantial reductions of transported power plant emissions will be needed to help bring these areas into attainment.

In view of the above, we urge EPA to adopt IAQR regional power plant emissions caps equivalent to a 2 million ton national SO_2 cap and a 1.25 million ton NOx cap. These reductions are highly cost-effective, are needed to protect public health and must be required by EPA to allow many areas a realistic opportunity to reach attainment.

3. Cost-effectiveness data for other state and local emissions reductions

EPA's failure to require in the IAQR the greatest feasible emissions reductions that are highly cost effective would force state and local jurisdictions to resort to control measures with average costs far in excess of the IAQR's average cost. We identified the following representative sample of control measure costs to demonstrate the degree to which EPA is departing from the NOx SIP Call, saddling states and locals with far greater cost impositions on local businesses, and failing to ensure that attainment will be achieved as expeditiously as practicable.

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[78] Specifically, we summed the out—of –state transport contributions to each downwind nonattainment county's annual $PM_{2.5}$ concentration (using EPA's zero-out modeling results in Appendix H of the Technical Support Document for the IAQR Air Quality Modeling Analyses), and then compared that to the projected IAQR impacts (shown in Tables IX-3 and IX-4 of the IAQR, 69 Fed. Reg. at 4637-39).

Texas Emission Reduction Plan (TERP) – Incentives Grants for Reducing Emissions[79]

➢ The Texas Council of Environmental Quality's Emissions Reduction Inventive Grants Program provides grants to eligible projects in nonattainment areas and affected counties. The grants offset the incremental costs associated with reducing emissions of NOx from high-emitting internal combustion sources.

➢ Cost-effectiveness of a project, other than a demonstration project, may cost up to **$13,000 per ton of NOx** emissions reduced in the eligible counties for which the project is propose. Infrastructure activities are excluded from the $13,000 per ton cost-effectiveness limit.

	Projected Project Cost Per Ton NOx Reduction
Grants Projects FY 2002-2003	Majority of projects $6,000 to $12,118
Eligible Application Recommended for Funding FY 2004 – 1st Round	Majority of projects $11,000 to $12,998

Washington D.C. Metro Area - MWCOG[80]

Analysis of Potential Reasonably Available Control Measures ("RACM"): Area, Non-Road, and Mobile Sources

➢ The cost to an affected area of any alternative emissions reduction program to offset internal combustion stationary sources significantly exceeds the cost to the stationary source of the equivalent emissions reduction. The potential emissions reduction of RACM projects may not exceed that of high-emitting stationary sources.

➢ Projects Determined to be "Economically Feasible" or "Possible" by MWCOG:

Source Category		Measure	Cost ($/ton NOx)
Area Sources	L1	Control Locomotive Idling	$1,250

[79] Texas Natural Resource Conservation Commission. Texas Emission Reduction Plan (TERP) – Incentives Grants for Reducing Emissions. Projects Selected for Funding to Date: http://www.tnrcc.state.tx.us/oprd/sips/grants.html.

[80] Metropolitan Washington Council of Governments. http://www.mwcog.org/uploads/committee-documents/z1ZZXg20040217144350.pdf.

	G6	Preference for low-emissions lawn & garden equipment	$7,238
	S4	Reduce idling by airport GSE	$3,155
Mobile Sources	B6	Bicycle Racks in DC	$9,017
	E3	Telecommuting Centers	$7,279
	E10	Government Actions (ozone action day similar to snow day)	$5,030
	F3	Permit Right Turn on Red	$1,245
	O4	Employer Outreach (Private Sector)	$3,542
	O6	Mass Marketing Campaign	$2,393
	T1	Transit Prioritization	$8,480

Finally, we note that EPA reviewed potential applications of local controls of PM precursor emissions to determine the extent to which such controls could solve the ozone and $PM_{2.5}$ nonattainment problems.[81] As part of that analysis, EPA listed a variety of control measures, and in some cases, their costs, that it believed would be appropriate to model for their air quality impact.[82] In the 290 county study, EPA listed a variety of local NOx control measures with costs ranging from $150/ton to $10,000/ton NOx removed.[83] The emission-weighted average cost per ton of the measures for which costs are listed is about $2545/ton, consistent with our position that regional NOx controls with average costs below $2500 per ton be considered highly cost effective.

IV. EPA Must Implement Regional Emissions Reductions Earlier than Proposed

A. EPA's Proposed Implementation Dates do not Meet CAA Attainment Requirements and do not Adequately Protect Public Health and Welfare.

We agree with EPA's stated intention to require "implementation of the reductions on a schedule that will provide air quality benefits as soon as feasible to as

[81] 69 Fed. Reg. at 4596-99; EPA's Technical Support Document for the IAQR Air Quality Modeling Analyses (January 2004) ("AQMTSD") at 46-56, App. I—L.
[82] *Id.*

[83] In EPA's study of local measures in the IAQR, it listed several local SO_2 reduction measures, but did not provide costs for any of them.

many nonattainment areas as possible."[84] EPA's actions, however, do not match its words—its proposal would delay full implementation of the emission caps for over a decade, until 2015, and the projected emission reductions would not be fully realized until sometime after 2015 and likely after 2020. More timely reductions are clearly feasible, and EPA must require them to avoid thousands of premature deaths and billions of dollars in unnecessary social costs, and to meet its obligations under the Clean Air Act to facilitate timely NAAQS attainment.

By EPA's own estimates, the IAQR as proposed will produce monetizable benefits of $55 billion per year for the phase 1 reductions in 2010, and $80 billion per year for both phases in 2015—these benefits will primarily result from avoided premature death due to PM exposure. Substantial amounts of additional benefits will accrue—benefits that are very real but for which EPA has not estimated a monetary value. These "nonmonetizable" benefits include reduction of various human health effects resulting from ozone exposure, including premature death; damage from ozone to forests, farm crops and other plants resulting in decreased yields; various human health effects resulting from PM exposure such as pulmonary and respiratory problems and emergency room visits; visibility impairment in national parks and other areas; damage from acid rain; nitrification and resulting harm to coastal wetlands; and neurological and other harm from mercury to human and animal health. These projected benefits are truly overwhelming. The costs, however, are minimal by comparison (and much more completely quantified)—$2.9 billion in 2010 and $3.7 billion in 2015. This results in a monetizable benefit to cost ratio of over 21 to 1 for both phases of proposed reductions.[85]

EPA must offer an absolutely compelling reason to justify the delay in taking action to realize such overwhelming public health and welfare benefits. It has not done so.

EPA's proposed delay in fully implementing the emission caps until 2015 is also completely inconsistent with the NAAQS attainment deadlines that flow directly from the Clean Air Act. Section 172(a)(2) of the Act requires that every area designated by EPA as nonattainment for the $PM_{2.5}$ NAAQS must achieve attainment "*as expeditiously as practicable*, but no later than 5 years from the date such area was designated nonattainment" [emphasis supplied].

EPA indicates in the IAQR that it expects to designate $PM_{2.5}$ nonattainment areas by December 31, 2004.[86] It is now required by law to do so, with designations to become effective by January 31, 2005.[87] Therefore, the attainment date for the $PM_{2.5}$ NAAQS will be as expeditiously as practicable, but no later than January 31, 2010. The latest attainment dates for the 8-hour ozone standard[88] are not as easy to predict, due to

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[84] 69 Fed. Reg. at 4616.

[85] Because additional reductions will continue to occur after 2015 as banked allowances are gradually used up, actual benefits will continue to grow after 2015, as will the benefit to cost ratio.

[86] See IAQR, 69 Fed. Reg. at 4624.

[87] Consolidated Appropriations Act for FY 2004, Public Law 108-199 (January 23, 2004).

[88] Again, the fundamental requirement for 8-hour ozone attainment is that it be "as expeditiously as practicable." Sections 172(a) and 181(a) of the Act.

the interplay of Subparts 1 and 2 of Part D of the Act and the decision of the US Supreme Court in *Whitman v. American Trucking Ass'ns*, 121 S. Ct. 903 (2001). First of all, EPA is required by a consent decree with several environmental and other organizations to finalize 8-hour ozone designations for effect in May, 2004.[89] Therefore, attainment dates for 8-hour ozone areas established pursuant to Subpart 1 (i.e., Section 172(a)(2)) of the Act will be no later than May 2009. Attainment dates for 8-hour ozone areas established under Subpart 2 (Section 181(a)) are less clear, but based on EPA's pronouncements thus far, it appears that the attainment dates will be 2007 for marginal areas, 2010 for moderate areas, and 2013 for serious areas.[90] It must be remembered that both the 8-hour ozone and the $PM_{2.5}$ NAAQS are effectively structured in the form of three year averages. Therefore, in order to assure attainment by the attainment date, emissions must be controlled three years before that date (delay will require overcontrol).

In summary, likely attainment and emission control dates can be summarized as follows:

NAAQS Classification	Latest Attainment Date	Control Date
$PM_{2.5}$	January 2010	2007
8-hour ozone—Subpart 1	May 2009	2006
8-hour ozone—Marginal (Subpart 2)	May 2007	2004
8-hour ozone--Moderate (Subpart 2)	May 2010	2007
8-hour ozone--Serious (Subpart 2)	May 2013	2010

It is plain to see that IAQR reductions that are not required until 2015 will not be of any assistance in helping states meet applicable PM or ozone attainment dates.

It must be stressed that failure to meet attainment dates is not simply a legal technicality—the NAAQS are health-based standards and failure to achieve them has serious adverse consequences for human health and the environment. At this point, it is almost a full seven years ago that EPA—in 1997—found that the NAAQS for both ozone and PM needed to be strengthened in order to protect the health of US citizens. EPA proposes now that full implementation of the IAQR emission reductions not be required until 2015, eleven years from now. These are the very same reductions that EPA has determined in the IAQR are necessary for states to have a reasonable opportunity to attain those standards. But EPA's proposal only requires reductions that states need to attain the ozone and PM NAAQS twenty years—approximately an entire generation—after EPA determined the existing standards were inadequate. Again, EPA has offered no justification that would come close to supporting such additional delay in cleaning up the massive air pollution caused by the nation's power plants.[91]

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[89] *American Lung Ass'n, et al. v. Whitman,* Docket No. 02-2239 (DC Cir. 2002).

[90] See, e.g., Proposed Rule to Implement the 8-Hour Ozone NAAQS, 68 Fed. Reg. 32802 (June 3, 2003), and accompanying draft regulatory text (July 31, 2003), available online at http://www.epa.gov/ttn/naaqs/ozone/o3imp8hr/proprule.html.

[91] In view of the continuing human health and environmental damage caused by power plants, the feasibility and cost-effectiveness of reducing those emissions, and the long delay to date of implementing the ozone and PM NAAQS, extension of the attainment dates under Sections 172 (a)(2) or 181(a)(5) cannot be justified as a matter of either law or policy. Such an extension would be contrary to the requirement that

B. EPA's Proffered Justification for Implementation Delay Lacks any Rational Basis.

EPA states in the IAQR that it is proposing to assign January 1, 2015 as the final compliance date because "engineering and financial factors suggest that only a portion of the emissions reductions that EPA considers highly cost effective can be achieved by January 1, 2010" [emphasis supplied].[92] We initially stress that EPA never actually makes a finding that full implementation of the emissions reductions in 2010 is not feasible or practicable. In the absence of such a finding, the delay in implementation has no basis, rational or otherwise. Furthermore, the only implied "engineering and financial reason" for delaying full implementation of the IAQR for a full five years—from 2010 to 2015—that EPA attempts to support to any degree is a projected shortage of boilermakers in the 2008-09 time frame.[93,94] This implied projection is entirely speculative, inconsistent with past EPA findings, and simply lacks any rational basis. In any event, such projection can not justify a delay anywhere near as long as EPA proposes. Rather, it appears to be another ad hoc attempt by EPA to justify a power plant transport rule that is not significantly more stringent that the Bush administration's CSI proposal.

First of all, EPA does not provide a rational basis for its implied projection of a boilermaker shortage, but rather bases its projection on a number of highly questionable and unsupported assumptions. Essentially, EPA assumes that:

- the number of available boilermakers will match the 2005 membership goal of the boilermakers union;
- there will be no growth in boilermakers after 2005;
- power plant owners will—in the face of this hypothetical looming boilermaker shortage—plan their pollution control projects to achieve the 2010 reductions in

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attainment be achieved "as expeditiously as practicable." It is certainly completely unjustifiable to propose delayed IAQR implementation dates on the present assumption that attainment dates will simply be extended when they are violated.

[92] 69 Fed. Reg. at 4585. The Agency also says that it "has determined that for engineering and financial reasons, it would take substantial time to install the projected controls that would be necessary to reach the ultimate control levels proposed." *Id.* at 4616.

[93] See, e.g., 69 Fed. Reg. at 4617; Memo to the IAQR Docket entitled "An Analysis of the Impact of Boilermaker Labor Availability on the Installation of Pollution Control Equipment," January 28, 2004 (hereafter, "Boilermaker Memo").

We note that EPA acknowledges that, in the absence of any limitations on boilermaker labor and reasonably-priced capital, there would be enough time to install enough EGU controls to achieve the emissions reductions proposed for 2015 by 2010 instead, since "3 years is enough time to install controls on all the units required." 69 Fed. Reg. at 4617.

[94] EPA implies that there may be a lack of reasonably-priced financing to allow full implementation by 2010, but again, never says so, and provides absolutely no support for such an implication. Rather, EPA simply says: "The EPA recognizes that the power sector will need to devote large amounts of capital to meet the control requirements of the first phase....We believe that deferring the second phase to 2015 will provide enough time for companies to...raise additional, reasonably-priced capital needed to install controls." 69 Fed. Reg. at 4617. Such general assertions do not provide a rational basis for either a finding of inadequate capital in 2010 (which EPA does not make), or a 5-year delay in implementing the IAQR.

> such a way that requires all of the boilermaker work to be done in an 18 month period between 2008 and 2009.[95]

First, EPA's assumption that there will be approximately 28,000 boilermakers available in 2005 is reasonable and supported only to the extent that it is limited to union boilermakers. However, by projecting the boilermaker supply exclusively on union members, EPA assumes that only union boilermakers will be available to work on projects implementing the IAQR controls. The assumption is unsupported in the record and is in fact erroneous. Not all boilermakers are unionized. Indeed, at least 30,000 non-union craft workers, many of them boilermakers, work in the electric utility industry in this country.[96] The Institute of Clean Air Companies (ICAC), the nonprofit organization of companies that actually supply the materials and services needed to implement air pollution controls, has just issued a study assessing the adequacy of boiler maker supply to implement the IAQR entitled "IAQR Projected Control Technologies can be Installed by 2010" (ICAC Study).[97] The ICAC Study finds that a portion of the total retrofit work can be performed by non-union labor.[98] More specifically, the study finds:

> [S]ome states have less union presence than others which means that less union labor is used in certain States than in others. This means that the labor pool for skilled crafts such as boilermakers, electricians, etc., is larger than merely the national number for union members. . . . It is estimated that merit shop workers will help reduce demand by 30-40% in non-union areas. For the IAQR, there are ten states that have traditionally relied on non-union labor.[99]

The availability of those non-union boilermakers alone reveals that EPA has underestimated the number of boilermakers who will be available to install the controls used to comply with this rule.

Second, EPA's assumption that there will be no further growth in the boilermaker population in the face of a substantial increase in demand for their services over the next 5 to 10 years lacks substantial basis and is arbitrary and capricious. It is not only inherently at odds with common sense and accepted economic theory, but also contradicted by other analysis, including EPA's own recent study of the issue. EPA found in its October 2002 study entitled "Engineering and Economic Factors Affecting

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[95] 69 Fed. Reg. at 4617; Boilermaker Memo.
[96] William G. Krizan, "Market Gyrations Make Hitting Targets for Skilled Crafts an Art," *Engineering News-Record*, Dec. 3, 2002.
[97] The ICAC Study is available online at www.icac.com. We hereby incorporate the entire ICAC study by reference. A copy of the study is being submitted to the IAQR rulemaking docket contemporaneously with the submission of these comments. We have also attached a copy hereto as Appendix 8.
[98] ICAC Study at 8.
[99] ICAC Study at 5.

the Installation of Control Technologies for Multipollutant Strategies,"[100] adequate reason to believe that the number of boilermakers should continue to increase after 2005:

> "Since boilermakers earn more money than most other craft trades and the demand for boilermakers should be steady and increasing, it is reasonable to expect that the growth in boilermaker numbers experienced these last few years should continue for many more years. To assess the impact of this, it was assumed that the boilermakers in the U.S. continue to grow at the 5.3 percent pace that the [boilermakers union] has set as a minimum growth target."[101]

EPA then projected that there would be about 36,250 boilermakers in 2010, and 46, 930 in 2015.[102] EPA also found "that the number of boilermakers may actually grow more quickly than what was assumed," due in part to the fact that boilermaker number actually grew faster in recent years than the union's minimum target.[103] In sum, EPA's 2002 report is consistent with what one would rationally assume: that is, that if demand for boilermakers is increased, the supply will grow to match it. EPA's contrary assumption in the IAQR is premised solely on the fact that the IAQR is a regulatory rather than a legislative mandate. EPA provides absolutely no support for this premise. Furthermore, EPA's premise ignores the uncertainty and potential for litigation associated with either legislation or regulation, assumes without foundation that such uncertainty will in and of itself cause boilermaker labor growth to completely cease beyond 2005, and is inconsistent with EPA's estimate that only 35% of boilermaker labor is involved in environmental work (so that the majority of boilermaker supply would be unaffected by any perceived regulatory uncertainty).

EPA's assumption of stagnant boilermaker supply is also directly contradicted by projections by the trade and industry. First of all, the boilermakers' union has already noted the imminent increase in demand that will result from this rule.[104] Second, The ICAC study finds that "the air pollution control industry is able to quickly respond to environmental regulations that require a surge of control installations in a short period of time,"[105] and goes on to say:

> The boilermaker membership grew by over 10,000 members in a two year period during the NOx SIP call from 16,000 to almost 27,000 members. In a similarly short period of time, it is reasonable to assume that the

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[100] EPA, Final Report: Engineering and Economic Factors Affecting the Installation of Control Technologies for Multipollutant Strategies, EPA-600/R-02/073 (October 2002), available online at http://www.epa.gov/air/clearskies/pdfs/multi102902.pdf (hereafter "Engineering Report").

[101] Engineering Report at 45. See also p. 43, where EPA noted that increased boilermaker demand could be met by workers in closely allied fields moving into utility boilermaker work quickly.

[102] Engineering Report, Table 6-4, at 46.

[103] Engineering Report at 46.

[104] "Demand for Skilled Craftsmen Will Increase," *The Boilermaker Reporter*, Vol. 42, No. 5 (Dec. 2003), at 3-4.

[105] ICAC Study at 2.

> boilermaker membership could increase from its current number of 26,000 members to 30,000 by October 2007.[106]

In view of the above, EPA's assumption that boilermaker labor supply will grow at over 5% per year until 2005 and then abruptly stop growing is arbitrary and capricious.

Third, EPA's assumption that electric utilities will have to install all the controls necessary to comply with this rule in a single eighteen-month period is not supported in the record and is arbitrary and capricious.[107] To begin with, since the Agency published its IAQR proposal, it has moved up the projected promulgation date for this rule by six months.[108] Moreover, EPA does not have to give states eighteen months to submit SIPs; the states could prepare and submit their SIPs in twelve months. As noted by the ICAC Study:

> As recently as a few years ago, EPA allowed States 12 months to submit their SIPs under the NOx SIP call requirements. Since all of the affected States are currently participating in the Acid Rain Program, a national SO2 trading program, and all but ten States are participating in the NOx SIP call, a northeastern regional NOx trading program, it will be easier for States to complete their rules. Additionally, the affected sources have been monitoring and reporting their emissions and complying with SO2 trading programs for almost 10 years and with NOx trading programs for 6 years so they are familiar with market based cap and trade programs.[109]

In addition, EPA will be preparing a model cap and trade rule for states to adopt in the event they elect to meet their budgets through the control of EGU emissions, so states will not need to create the program themselves.

In view of the above, 12 months lead time to develop SIPs should be adequate. Therefore, electric utilities should have thirty months, rather than eighteen months, to install the controls needed to comply with this rule.

Furthermore, EPA offers no data to support its assertion that even after electric utilities begin pollution control installations, it will take them fifteen months to reach the point at which they engage the services of boilermakers.[110] Moreover, EPA's assertion is contradicted by the ICAC Study, which finds "it is reasonable to assume that the

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[106] ICAC Study at 8. *See also* Sanyal, A., and Ellison, W., "Lessons Learned from SCR Experience of Coal-Fired Units in Japan, Europe, and USA; Are These Enough?" 2002 Conference on Selective Catalytic Reduction and Non-Catalytic Reduction for NOx Control, Pittsburgh, PA, May 15-16, 2002.

[107] 69 Fed. Reg. at 4617; Boilermaker Memo at 1.

[108] ICAC Study at 5.

[109] ICAC Study at 5-6.

[110] 69 Fed. Reg. at 4617; Boilermaker Memo at 2.

boilermaker construction work will start sooner than 15 months after States have finalized their SIPs."[111] In fact, ICAC finds that even a conservative assumption would hold that five percent of the control installations would begin within six months of SIP approval.[112]

Based on the assumptions of boilermaker supply in EPA's 2002 Engineering Report, there will be adequate boilermaker labor to implement the proposed IAQR SO_2 cap in 2010 and the second phase of the NOx cap in 2012. First, as we have indicated above, EPA's assumption that all of the boilermaker work to implement a 2010 cap must be performed over an 18 month period between March 2008 and October 2009 is completely unreasonable and without rational basis; we will, however, include that assumption in the following analysis.[113] Thus, of the 33,558 boilermakers in 2008-09 per EPA's Engineering Report, we will assume with EPA (solely for the purpose of the following analysis) that only 35% or 11,745 boilermakers will be available to work on pollution control projects.[114] Because EPA assumes that boilermaker work on pollution controls will occur over an 18 month period, this translates to a 2008-09 supply of about 17,618 boilermaker years. EPA projects that approximately 63 GW of additional scrubber capacity will be needed to meet IAQR Phase 1 and 2 SO_2 requirements by 2015, and 24 GW of additional SCR capacity will be needed to meet IAQR Phase 1 NOx requirements by 2010.[115] For purposes of estimating boilermaker demand, we will assume a worst-case scenario where requiring the final IAQR emission caps now proposed for 2015 to be implemented in 2010 and 2012 (for NOx Phase 2) means that a total of 66 GW of additional scrubbers and 27 GW of additional SCR must be installed over 18 months in the 2008-09 time frame. Using EPA figures, this means that 14,732 boilermaker years would be required to install all of these controls by a 2010 implementation date. Thus, the predicted 2008-09 supply of 17,618 boilermaker-years will be more than enough to meet the required demand to implement the accelerated caps.[116]

In fact, the ICAC study, which assumes a somewhat lower number of available boilermakers, also concludes that there will be enough boilermaker labor to implement, by 2010, the emissions reductions that the IAQR proposes to require by 2015.[117]

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[111] ICAC Study at 9.
[112] *Id.*.
[113] Boilermaker Memo at 3. This assumption is also inconsistent with EPA's Engineering Report where EPA "conservatively assumed" that retrofits occur over a 31 -36 month period. See Engineering Report at Table 6-4, note 2, p. 46, also pp. 41, 45.
[114] Boilermaker Memo at 2. Again, this assumption is unreasonably rigid and unrealistic—the boilermakers will work where needed, and if pollution control projects to comply with lawful regulatory requirements receive the high priority that they should, a much greater percentage than 35% of boilermakers would likely be put to work installing pollution controls.
[115] See Economic & Energy Memo, Table 2 at p.3.
[116] Of course, there would be no problem in meeting the demand created by the 2012 NOx cap; boilermakers would be freed up from work meeting the 2010 requirements in time to begin work on NOx controls in March 2010.
[117] ICAC Study at 1.

Furthermore, both EPA's own Engineering Report and the ICAC Study set forth a number of factors that undermine and contradict EPA's assumptions in the IAQR regarding the adequacy of future boilermaker labor supply. The most fundamental of these considerations is EPA's obvious, but completely accurate, observation that "increasing demand for boilermakers that would result from a multipollutant rule should stimulate more workers to enter the trade."[118] Others include:

- skilled labor from closely allied trades, such as iron and steelworkers (union has 150,000 members), especially those who had been boilermakers in the past, could likely move into boilermaker work fairly quickly;[119]
- the Canadian boilermaker's union has 4,000 members, some of which could work on IAQR implementation projects;[120]
- boilermakers in the unions shipbuilding division (about 30,00 members) could, depending on industry conditions, move over to the construction division quickly;[121]
- fewer boilermakers may be needed than EPA estimated because its "analysis does not consider any of the synergies or efficiencies that have been demonstrated to occur on multiple unit retrofits or multiple-technology retrofits;"[122]
- boilermaker population may grow more quickly than EPA assumed in the Engineering Report, based on the recent annual growth rate of 6.7%;[123] and
- EPA's analysis "also neglects [to consider] overtime, which would reduce the demand for [the number of] workers somewhat."[124]
- Faster, modular construction could reduce demand for boilermaker labor by up to 30% on particular projects.[125]

EPA's failure to consider these factors in the IAQR renders its proposed delay in implementation of the emission reductions arbitrary and capricious.

Finally, assuming solely for the purposes of argument that EPA is able provide an adequate and rational basis to support a projected boilermaker shortage in 2010 (which it clearly has not done to date), that can in any event not justify a 5 year delay in fully implementing the IAQR caps. Any delay could not last longer than the period during

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[118] Engineering Report at 43. See also ICAC Study at 3-4.
[119] *Id.*
[120] ICAC Study at 3.
[121] Engineering Report at 43. See also ICAC Study at 3-4.
[122] Engineering Report at 41, 46.
[123] Engineering Report at 46. See also ICAC Study at 3, 7: "The boilermaker membership grew by over 10,000 members in a two year period during the NOx SIP Call from 16,000 to almost 27,000 members." This works out to an average increase of over 30% per year.
[124] Engineering Report at 46.
[125] ICAC Study at 4. ICAC further observes: "The decision to use modular construction is typically driven by cost so as the labor demand increases, the pressure to perform modular construction will likely increase with it. Modularization will look especially favorable in states that have deregulated electricity markets." *Id.*

which boilermaker labor was inadequate, and could not serve to delay installation of controls for which boilermaker labor was available. By EPA's own analysis, any such shortage would end in late 2009 shortly before the conclusion of the Phase 1 work, and therefore a delay in implementing the remaining emission reductions longer than 1 ¾ years, to beyond October 2011, could not be justified.[126]

We stress that every year of delay in implementing strong power plant control requirements means more death, disease and environmental damage, which may be quantified in the tens of billions of dollars. We urge EPA to implement the IAQR as promptly as feasible, but no later than the end of 2009 for SO_2, January 2010 for the first phase of NOx reductions, and January 2012 for the second phase of NOx reductions.

V. CATF Analysis of Alternate Control Scenario

As indicated above, EPA did not evaluate any alternative emission scenarios to its proposal in the IAQR. Such an evaluation is an important piece of any significant rulemaking, and EPA has included such analysis in many of its recent rulemakings, including the NOx SIP Call and its recent nonroad heavy-duty diesel engine proposal.[127] EPA's failure to do so here contributes to the arbitrary nature of EPA's proposed IAQR control levels.

In fact, according to Executive Order 12866 (Economic Analysis of Federal Regulations), the economic analysis (EA) that the Agency prepares should satisfy the requirements of the "Unfunded Mandates Reform Act of 1995" (P.L. 104-4). Executive Order 12866 goes on to say that the EA should show that the Agency has considered the most important alternative approaches to the problem and provide the agency's reasoning for selecting the proposed regulatory action over such alternatives. The proposed IAQR does not identify the required regulatory alternatives, and EPA has failed to analyze any alternatives for relative cost effectiveness.

Executive Order 12866 also requires that the benefits and costs of each alternative must be measured against a baseline. Executive Order 12866 requires that "in choosing among alternative regulatory approaches, agencies should select those approaches that maximize net benefits (including potential economic, environmental, public health and safety, and other advantages; distributive impacts; and equity), unless a statute requires another regulatory approach." Because EPA has failed to identify any regulatory alternatives to its set of proposed caps, it also has failed to perform the required comparison of the costs and benefits of any alternatives.

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[126] As explained above, EPA has created the hypothetical boilermaker shortage by a number of insupportable assumptions, including the assumption that all boilermaker work on scrubber and SCR projects will take place in the same 18 month time frame. Thus, EPA compresses all of the Phase 1 boilermaker work into 18 months, between March 2008 and October 2009. Thus, by October 2009 the boilermakers will be finished with the Phase 1 work. Even assuming they all then take a 3 month vacation, they will be ready to start work on Phase 2 projects in January 2010, completing their work by July 2011, in plenty of time for an October 2011 compliance date.

[127] See, e.g., 63 Fed. Reg 57356 et seq.; HD Nonroad Rule, 68 Fed. Reg. 28328 et. seq.

In order to demonstrate that deeper and/or earlier reductions of NOx and SO_2 emissions are feasible and highly cost-effective, and that such reductions will provide substantial additional human health and NAAQS attainment benefits, CATF, with the assistance of ICF Consulting and MSB Energy Associates, has evaluated the benefits and costs of tighter emission caps and schedules than proposed by EPA in the IAQR. This alternate scenario is a regional annual EGU SO_2 cap of 1.84 million tons effective in 2009, with a regional annual EGU NOx cap of 1.04 million tons effective in 2012 ("Alternative Control Scenario").

Alternate Control Scenario Analysis Methodology.

In conducting this analysis, we have endeavored to use whenever possible methods and procedures used by EPA, taking into consideration the time and resource constraints under which we were working.[128] Specifically, ICF Consulting evaluated the Alternative Control Scenario using the same Integrated Planning Model (IPM) used by EPA in the IAQR IPM runs (EPA216_IAQR_2003, etc.).[129] The only modifications made to the EPA runs were the timing and levels of the emission caps; we also used a control region matching EPA's proposed IAQR control region of 28 states plus DC.[130] This model predicts emission levels and costs of the Alternative Control Scenario. CATF then determined incremental emission reductions and costs by comparing the emissions and costs from EPA's IAQR proposal and to those from the Alternative Control Scenario.

In order to estimate incremental benefits resulting from the Alternate Control Scenario, CATF estimated avoided deaths from $PM_{2.5}$ exposure by utilizing modeled values for avoided deaths per ton of SO_2 pollution removed generated from EPA's benefits analysis in the IAQR. CATF directly applied these estimates to the SO_2 emissions inventories derived from the IPM runs for the Alternative Control Scenario. The estimated incremental health benefits were converted to dollar benefits by applying EPA's IAQR estimate of the value of a statistical life (VSL) to the number of estimated avoided deaths. This approach results in an underestimation of the incremental benefits of the Alternate Control Scenario, since there are many benefits from reduced $PM_{2.5}$ levels in addition to avoided premature death, some of which may be reduced to a monetary value and some of which may not. Nevertheless, avoided deaths do provide a useful basis for benefit comparison, because EPA estimates that 90% of total monetizable

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[128] Air quality modeling and analysis of the type EPA used in the IAQR is quite complex, expensive and time-consuming. In addition, the comment period for the IAQR has been limited to 60 days, and some of EPA's IAQR modeling and other supporting analysis was not publicly available until after the IAQR publication in the Federal Register on January 30, 2004.

[129] In its January 28, 2004 Memo to the Docket entitled "Analysis of the Marginal Cost of SO_2 and NOx Reductions," EPA states "IPM is a more sophisticated model of the power sector developed by ICF that EPA uses for much of its analysis of the power sector."

[130] The modeled results submitted by EPA for "the purpose of preliminarily evaluating" the proposed IAQR modeled a policy and control areas that do not precisely match the proposed IAQR control region (see discussion at 69 Fed. Reg. at 4615). EPA states that "a very similar result is expected" to modeling the actual IAQR proposal. Because our analysis matches EPA's IAQR control region, it does not precisely match EPA's analysis included in the IAQR proposal; however, as EPA states, very similar results are expected.

benefits from reduced $PM_{2.5}$ exposure are attributable to avoided deaths.[131] This methodology has been developed by EPA for use in situations where time and resource constraints preclude detailed modeling such as EPA's recent recreational engine rulemaking.[132] CATF's application of the methodology is described in further detail in Appendix 3 attached hereto.

In addition, CATF has also estimated the incremental $PM_{2.5}$ attainment benefits resulting from its Alternate Control Scenario. This analysis is based on a simple, unpublished methodology suggested to CATF by EPA staff for estimating changes in nonattainment. This approach approximates the county level $PM_{2.5}$ concentration for CATF's Alternate Control Scenario using a linear regression for each U.S. county in the IAQR control region. A county's $PM_{2.5}$ level was specifically based on a regression between two known REMSAD modeled PM data points (base case 2010 versus IAQR 2010 and base case 2015 versus IAQR 2015) against changes in total annual national SO_2 emissions, where changes in SO_2 emissions were assumed proportional to changes in secondary aerosol formation. Implicit in the use of this regression technique is the assumption that the spatial distribution of SO_2 emissions across the US do not change in any drastic way as the total emissions vary. In this way, for each of the different SO_2 totals, a new estimated $PM_{2.5}$ concentration was calculated for each county. Those counties with concentrations greater than or equal to 15.05 ppm were determined to be in "nonattainment." This methodology is described in greater detail in Appendix 4 attached hereto.

Finally, CATF has estimated the costs of its Alternate Control Scenario, as described in Appendix 5 hereto.

Alternate Control Scenario Analysis Results

The results of the CATF analysis of the Alternate Control Scenario are summarized below.[133] They demonstrate that tighter and earlier caps on EGU SO_2 and NOx emissions are feasible, highly cost-effective, and produce substantial incremental benefits well in excess of incremental costs. The Alternate Control Scenario contains SO_2 emission control levels and dates that are identical to those that we argue in these comments EPA must require in order to fulfill its legal obligations under the Clean Air Act (i.e., 1.84 million ton regional SO_2 cap in 2009). We note that the NOx requirements differ somewhat in that the Alternate Control Scenario contains a single-phase 1.04 million ton regional NOx cap effective in 2012, but does not include the first phase IAQR NOx cap of 1.6 million tons in 2010. However, because both health and attainment benefits were estimated in our analysis from SO_2 emissions alone, the difference in NOx

[131] See, e.g., 69 Fed. Reg. at 4645.

[132] See, e.g., Section 10.2.1 of EPA's "Final Regulatory Support Document: Control of Emissions from Unregulated Nonroad Engines," EPA420-R-02-022, in support of its rule entitled "Control of Emissions From Nonroad Large Spark-Ignition Engines and Recreational Engines (Marine and Land-Based)," 67 Fed. Reg. 68241 (November 8, 2002), available online at http://www.epa.gov/otaq/regs/nonroad/2002/r02022k.pdf.

[133] A more detailed summary and cost specifications for the Alternate Control Scenario (IPM run CATF-16) are set forth in Appendix 6 hereto.

reductions is not material. Thus, the benefits of the Alternate Control Scenario are estimated to be equivalent those expected from the emissions controls we urge EPA to adopt in these comments.

National EGU emissions projected in the Alternate Control Scenario are as follows:

- SO_2 emissions are expected to be reduced to 2.8 million tons by 2010 and 2015—
  - a reduction of over 7 million tons of SO_2 from EPA's 2010 base case,
  - a reduction of about 3.2 million tons of SO_2 from EPA's IAQR 2010 proposal, and
  - a reduction of about 2.6 million tons of SO_2 from EPA's IAQR 2015 proposal;
- NOx emissions are expected to be reduced to 1.9 million tons by 2015—
  - a reduction of about 2.1 million tons of NOx from EPA's 2015 base case, and
  - a reduction of about 300,000 tons of NOx from EPA's IAQR 2015 proposal.

As shown in Table V-1 below, estimated PM-related avoided deaths resulting from CATF's Alternate Control Scenario are almost twice as great as those resulting from EPA's IAQR proposal.

Table V-1

	2010 Avoided Deaths	**2015 Avoided Deaths**
EPA IAQR	9,600	13,000
CATF Alternate Control Scenario	18,000	22,000

The monetized benefits of the estimated PM-related mortality associated with the two regulatory options in 2010 and 2015 (above) are summarized in Table V-2 below. As would be expected from the comparative premature mortality benefits shown above, the benefits resulting from CATF's Alternate Control Scenario are almost twice as great as those resulting from EPA's IAQR proposal.

Table V-2

	2010 Avoided Deaths Benefit [1999 dollars]	2015 Avoided Death Benefits [1999 dollars]
EPA IAQR	$53 billion	$77 billion
CATF Alternate Control Scenario	$99 billion	$129 billion

CATF's Alternate Control Scenario also improves substantially over EPA's IAQR proposal in terms of achieving attainment, as summarized in Table V-3.[134]

Table V-3

	2010 Number of Remaining Counties in Nonattainment	Population in Nonattainment Counties Based on Year 2000 pop.(millions)	2015 Number of Remaining Counties in Nonattainment	Population in Nonattainment Counties Based on Year 2000 pop. (millions)
EPA Base Case	61	31.1	41	24.2
EPA IAQR	23	17.4	13	13.9
CATF Alternate Control Scenario	7	11.2	5	10.3

In addition to the substantially higher monetary benefits that result from our Alternative Control Scenario, there are significant additional mercury co-benefits resulting from tighter NOx and SO_2 caps. Table V-4 summarizes the results of the IPM run used by EPA to assess costs and benefits of the proposed IAQR and the mercury co-benefits that would be achieved with the CATF Alternative Control Scenario.

[134] Detailed information comparing projected 2010 and 2015 design values and nonattainment counties for EPA's base case, IAQR and CATF Alternate Control Scenario are shown in Appendix 7 hereto.

Table V-4

Year	National Mercury Emissions from EPA IAQR (tons)	Percent Reduction in Mercury Emissions from 1999 Baseline	National Mercury Emissions from Alternative Control Scenario (tons)	Percent Reduction in Mercury Emissions from 1999 Baseline
2005	48.5	0	47	0
2010	42.2	12	35	27
2015	40.7	14	25	48
2020	38.1	20	25	48

Finally, the costs of the Alternate Control Scenario are summarized below:

- Total incremental costs (compared to EPA's base case) are $8.16 billion in 2010 and $8.97 billion in 2015. EPA's IAQR comparable IPM outputs show a difference in cost from base to IAQR of $3.4 billion in 2010 and $4.1 billion in 2015;
- Comparing these costs to the benefits from Table V-2 above produces a benefit to cost ratio of 12 to 1 in 2010 and over 14 to 1 in 2015;
- The average cost per ton of SO_2 and NOx (averaged together) removed is $1125/ton in 2010 and $1,050/ton in 2015;
- Calculating the cost effectiveness of SO_2 reductions on a worst case basis—by assuming that the costs of both SO_2 and NOx reductions are attributable to SO_2—produces an average cost of $1150/ton in 2010 and $1400/ton in 2015.

In sum, the results of the Alternate Control Scenario show that these tighter, earlier control levels will save thousands of lives and produce billions of dollars in benefits to society. They will also continue to produce benefits that far outstrip costs. In fact, they will produce $130 billion in societal benefits (from avoided deaths alone) in 2015, at a cost of only $8 billion to the utility industry. Furthermore, these tighter, earlier controls will reduce the number of attainment areas projected from both EPA's base case and IAQR proposal. Finally, this scenario demonstrates that such tighter control levels are feasible, highly cost-effective and therefore must be required by EPA to comply with the Clean Air Act.

VI. Other Issues

A. Geographical Coverage of the Proposed Emission Caps.

As indicated above, we do not support a minimum $PM_{2.5}$ state contribution threshold of 0.15 ug/m^3. There is no rational basis for choosing such a threshold. Rather, EPA should adopt its alternative threshold, that is, 0.10 ug/m^3. Due to NAAQS rounding definitions, this represents the smallest increment that can make the difference between

compliance and violation of the NAAQS. As EPA noted in the IAQR, the US Court of Appeals for the DC Circuit upheld EPA's use of a low minimum state contribution threshold level in the NOx SIP Call, and in so doing, the Court observed that in the context of a pollutant that has some adverse health effects at every level (both ozone and PM are in this category), "it is hard to see why *any* ozone-creating emissions should not be regarded as fatally "significant" under section 110(a)(2)(D)(i)(I)."[135] A threshold of 0.10 ug/m^3 is consistent with the DC Circuit's reasoning; a threshold of 0.15 ug/m^3 is not. Furthermore, application of this threshold will expand the coverage of the emission caps slightly to include the additional upwind states of North Dakota and Oklahoma. More importantly, it will also slightly increase the reductions of NOx and SO_2 emissions required by the IAQR in 2010, by about 92,000 tons of NOx and 148,000 tons of SO_2.[136] Given the severe human health and environmental impacts of $PM_{2.5}$ and its precursor emissions, we urge EPA to adopt the alternative contribution threshold, thereby strengthening the rule.

We also note that EPA did not evaluate many states in the western US for their potential contribution to ozone and $PM_{2.5}$ nonattainment problems. We believe that EPA should analyze the contribution of all 48 states in the continental US, and include any state in the IAQR whose emissions are found to contribute to downwind nonattainment in excess of the minimum threshold.

B. Regional Haze

EPA has requested comment on a number of questions on the relationship between the IAQR and regional haze requirements, including those in the Regional Haze Rule (RHR). EPA's questions can be boiled down to whether the IAQR emission reductions satisfy either of two RHR requirements:

1. that states achieve reasonable progress towards the national visibility goal in the 2018 time frame; and
2. that certain BART eligible sources install BART controls.

As stated previously, EPA cannot use the IAQR emission reductions to simply declare that states need not comply (or are presumed to have complied) with applicable RHR and BART requirements.

RHR requirements are separate and independent from those in the IAQR, and as a matter of both law and policy, EPA cannot substitute one set of requirements for the other. Under the RHR and BART Guidelines, states must analyze visibility conditions in Class I areas located both within their own boundaries and within other states in which

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[135] IAQR, 69 Fed. Reg. at 4584. *Michigan v. EPA*, 213 F.3d 663, 678 (D.C. Cir. 2000), *cert. denied*, 532 U.S. 904 (2001).

[136] Compare Oklahoma and North Dakota 2010 emissions in IAQR Table IV-1 and IV-2 with the projected Okalahoma and North Dakota SO_2 budgets on page 4620 and NOx budgets in Table VI-11. We note that both North Dakota and Oklahoma emissions would have a meaningful impact on several urban areas in Illinois, including Chicago. See AQMTSD, App. H.

their emissions are contributing to visibility impairment, and must develop plans leading to natural visibility conditions within 60 years in all Class I areas with visibility impairment to which they contribute. This analysis must include, during the first planning period, the identification of all major sources subject to BART requirements. Nothing in the IAQR changes that.

Of course, IAQR emission reductions can and should be considered by a state in developing its approach to achieving natural visibility by 2064, along with reductions of visibility impairing emissions from other national, regional and local programs. But the RHR remains an additional requirement, aimed only at visibility improvement in Class I areas, and a state's obligations to comply with the terms and process set out in the RHR cannot be altered or avoided by the IAQR.

In addition, BART must be installed on those power plants that are BART-eligible, are shown to impact visibility and otherwise are appropriate for application of BART under applicable RHR and BART Guideline provisions. Both as a matter of law and policy, the IAQR cannot serve as a means to exempt any power plant from BART that otherwise would be required to install BART under the RHR and BART Guidelines. In this context it is important to note that the proposed reductions of individual power plant emissions under the IAQR are not as stringent as those that would likely be required by application of BART. Therefore, power plants that are relatively close to Class I areas would not have their emissions reduced under the IAQR to levels required by BART. As a result, the impact on visibility in Class I areas from those particular plants following IAQR implementation would be greater than their impact assuming that BART was applied under the Agency's visibility regulations.[137] Such a result is clearly unlawful and unacceptable.

C. Section 126 Petitions

It is premature to prejudge potential state petitions to EPA seeking emission reductions of NOx and SO_2 under Section 126. For one thing, as the courts have recognized, Sections 126 and 110(a) provide separate and independent processes for requiring regional emission reductions, and action under one section cannot void action under the other. As the DC Circuit Court of Appeals has stated, sections 126 and 110 are "independent statutory tools to address the problems of interstate pollution transport."[138] Furthermore, the IAQR does not, and legally cannot, target specific sources, and does not take the individualized needs and circumstances of each downwind state separately into account, as a state Section126 petition can do. Finally, compliance timeframes under the

[137] Furthermore, we note that nothing in the IAQR requires power plants whose emissions impact Class I areas to reduce their emissions period or to levels required by BART. The location of these reductions is important. Any trading program created under the RHR must not only produce greater emissions reductions but also achieve more visibility improvement than source by source BART reductions. There is no guarantee that a trading program under IAQR will deliver better than BART visibility benefits let alone make reasonable progress toward fulfilling the national visibility goal. It is unacceptable for EPA to allow the IAQR to serve as a substitute for a trading program states may choose to develop to reduce visibility impairment in Class I areas in order to meet BART and RHR requirements.

[138] *Appalachian Power Co. v. EPA,* 249 F.3d 1032, at 1046 (DC Cir 2001).

two sections are substantially different, as the DC Circuit has stressed.[139] EPA must not to attempt in this rulemaking to short-circuit or prejudge any Section 126 petitions it may receive from individual states.

D. Cap and Trade Program

As stated earlier, EPA has not yet proposed its cap and trade program for implementing the IAQR. Once EPA does so, we will offer comments.

We would, however, like to provide our preliminary views on several subjects. First, EPA has indicated that it intends to allow the year around NOx trading program to be serve as compliance for the ozone season requirements of the NOx SIP Call. If EPA proceeds along these lines, it needs to structure the program to ensure that none of the NOx reductions required by the NOx SIP Call during the ozone season are lost due to shifting of reductions from the ozone season to the non-ozone season.

Second, we urge EPA to adopt some mechanism to reduce the use of excess of banked SO_2 allowances to comply with IAQR caps after 2010. At that point, PM and many ozone areas should have achieved attainment, and it is important to increase actual reductions at that point rather than to allow banked allowances to be used indefinitely. EPA could accomplish this through the use of a "flow-control" mechanism as used by OTC, it could require the retirement of some allowances, or it could gradually increase the ratio of allowances required to offset each ton of emissions as time went on.

Third, after EPA's NOx SIP Call encouraged states to adopt innovative incentive programs for energy efficiency and renewable energy (EERE) projects in the states' NOx trading programs. At least six states have adopted EERE allowance set-aside programs in their regulations implementing the NOx SIP Call: Indiana, Maryland, Massachusetts, New Jersey, New York and Ohio. These are important, innovative market-driven incentive programs that will produce significant environmental benefits. Also, EPA encouraged and many states provided allowance set-asides for new, much cleaner sources such as combined-cycle gas turbine plants. We urge the US EPA to ensure that these programs are not adversely affected by the IAQR's cap and trade proposal.

VII. Conclusion

In conclusion, EPA's proposal is not sufficiently stringent or timely to adequately protect public health or to provide timely and adequate emission reductions to allow nonattainment areas to achieve attainment of the PM and ozone NAAQS as expeditiously as practicable. EPA must end the long delay in adequately cleaning up power plant emissions by finalizing a stronger rule as soon as possible. Specifically, we urge the Agency to issue a rule by October 31, 2004 that includes that following adjustments to EPA's January 30, 2004 proposal:

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[139] *Id.*, 249 F.3d at 1047.

- reduces the annual control region SO_2 cap to about 1.84 million tons (approximately equivalent to a 2 million ton nationwide cap);
- makes the reductions effective in one phase, by 2009;
- reduces the annual control region NOx cap in two phases to about 1.04 million tons (approximately equivalent to a 1.25 million ton nationwide cap);
- accelerates the second phase of the reductions to 2012;
- adopts a minimum threshold for state significant downwind contribution at 0.10 ug/m^3, rather than the 0.15 ug/m^3 threshold proposed, thereby slightly expanding the coverage of the emissions caps and the scope of the reductions;
- follows the approach in the NOx SIP Call, and include reductions of SO_2 and NOx from large stationary sources in calculating the IAQR state budgets;
- preserves the integrity of the Regional Haze Rule and BART Guidelines, by allowing projected emissions from the IAQR to be considered by states in formulating and implementing their plans to make reasonable progress towards achieving natural visibility by 2064, but preserving intact the RHR requirements that states follow the process and conduct the analysis necessary to ensure that such progress is being achieved, and the requirement that BART be installed on all individual sources for which it is appropriate under the Agency's BART Guidelines.

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PRESENTATION BY QUIN SHEA, SENIOR DIRECTOR FOR ENVIRONMENTAL ACTIVITIES, EDISON ELECTRIC INSTITUTE

Mr. SHEA. What I want to share with you are some insights based on the work that I do every day and in the last couple months particularly so at the White House with key staff there that are working on the energy policy development task force, that are working on some of these EPA regulatory programs, and give you some thoughts as to what is going on behind the scenes to supplement maybe what you're reading in the newspapers. I think you'll find it interesting.

Obviously, electricity and economic growth, linked. Almost, you know, right across the board for the last 30 years. We know that. It's a matter of fact of life. Electric drives the economic engine in the U.S. And demand of anything is going up. Jan mentioned that DOE—and these are rather conservative forecasts in my opinion—is estimating that we're going to need about 393,000 megawatts over the next 20 years. And that's right, if you think about it, based on what we're using today, approximately 850,000 megawatts for total generation, close to 700,000 just in the utility sector. We're looking at between a 50 and a 60 percent increase in the amount of generation that we're going to need over the next 20 years.

Ladies and gentlemen, that is a lot of juice. And we do not have the ability right now in my industry to produce that. And there are a lot of impediments. California is perhaps the best example, but it's not the only one. I'm actually quite afraid when I'm listening to a number of our CEOs talk, that they know for a fact and there's nothing that they or the administration can do about it, that we're looking at extensive blackouts this summer in California and perhaps other parts of the country. It's very disheartening. And it is going to happen. And the underlying cause is the fact that we do not have sufficient capacity and generation in this country, we do not have sufficient infrastructure to allow for the transmission of power. And we need to have it.

Now, as to fuel choice, obviously, my numbers will burn anything, up to and including dirty socks if it's economic and they can do it. It doesn't matter if it's nuclear, or if it's hydro, or if it's coal or if it's gas. I can tell you emphatically, not just being an old coal guy myself, that we want to burn more coal. We desperately want to burn more coal. We've got over 30 plants that were announced in the last year. Some of those I think are at risk for some of the issues that I'm going to get into.

Coal is cost effective. Working with the Vice President, we're hoping that the market share goes up, we want it to go up as the fuel of choice. There simply isn't the gas out there to provide base-load generating capacity. Not a week goes by where I don't get a call from some of the industrials, the chlorine industry, the copper industry, saying they cannot compete, they cannot buy the electricity, because we're buying it all in the electricity industry or in the utility industry. And that's true.

Now, you've already seen a number of iterations of this, the pie chart on fuel mix. Some call it sort of energy balance, and I call it fuel diversity. That's sort of the term of art that's used within the administration, fuel diversity. Again, I will reiterate what other people said. That is a good thing. The fact that you've got these different types of fuels, particularly in different parts of the country, is incredibly important. And it actually helps coal's case.

Another handout that was over there was a one-page map of the United States depicting sort of the fuel choice by area of the country. That's very important. You obviously have the parts of the country where coal is the predominant source. Others like in the northwest where it's hydro. Take a good look at that. The underlying point there is you can't screw around with the generation mix in certain parts of the country, because it would be disastrous.

Here's what you already know. It's out there. Coal is our friend. We know how to get it. We can do it cheaply. We can bring it to market. Abundant, affordable, reliable, increasingly clean. You'll hear me say that a couple times. You'll hear the administration use those terms quite a bit.

Bottom point here actually applies to many of you in the room. We can bring it to market very effectively through our partners in the rail industry. Increasingly clean. This is a little tough to see, but again you have in your handout—again, as Jan and other speakers have mentioned, emissions are coming down. They're coming way down.

What actually is not on this particular chart, we can also show that particulate matter emissions are coming way down. And now that we're moving into an area where we're looking at potential air toxics regulations for coal-fired generation, it's interesting to note that just through the application of existing controls on our facilities, whether it's scrubbers for SO_2, low NOx burners or selective catalytic reduction for NOx, or precipitators for PM, we're getting about 40 percent of the mercury

that's emitted from coal generation right now without doing anything else. Forty percent. The same for some of the other metals that are in the coal content. That actually is a piece of good news with respect to the pending mercury controls that we're looking at in the next few years.

Now, the general outlook. I've got a lot of environmental concerns and I'm going to touch on a couple of the big ones in a second. These are a big, big deal. For those of you that work on sort of the negative side of the equation within your companies, not out there generating product and making sales, but trying to keep as much as possible of that from going away. Like in the environmental area, we work on—it's not a very glorious side, but we're trying to help. We've got some serious, serious problems. And they haven't gone away, even with the change in administration. Very important point. All right.

Here, in my opinion, are sort of the main points that are coming through, when we have discussions with Andrew Lundquist, who heads the Vice President's energy policy task force at the staff level. Larry Lindsay, who's one of the President's principal economic advisors, Mitch Daniels, who heads the office of management and budget. These are the terms or the phrases that come out over and over and over again. When the energy policy task force report is issued in mid-May, you're going to see a lot of this in there.

Diversity of fuels, new technology options, appropriate incentives for electricity generation. A lot of interesting things in there. Up and including possible tax relief. Develop and commercialize clean coal technologies and provide funding for coal R&D. I can give you an example of Senator Byrd's bill, the national electricity and environmental technology act, or F–60. These things are going to be in there, guaranteed.

Now, you're also going to see a lot of words devoted to environmental policy. Now, the President's getting some opposition. Certainly among his staff and certainly within our party; the Republican party, about how much environmental stuff should be in this. He has argued, as have a number of his close advisors, that the two are inexorably intertwined. You cannot move forward on a national energy policy without taking into account where we are on environmental policy. It's very clear from his letter to the U.S. Senate on March 13th which is the horse and which is the cart. Energy policy is going to drive the two in his administration, but he is going to include some addressing of environmental policies.

Now, here are the points that you're going to see. Rely on sound science and verifiable health benefits. I love this one. Everyone knows what we went through over the last 5 or 6 years on the national ambient air quality standards. We had EPA coming out and saying 100,000 children are at risk, or the elderly, for premature mortality. They're going to die in the streets from the fine particulate matter that's being emitted from coal-fired generation. Well, guess what? Six months later that number had become 75,000, then it was 65,000, then it was 50,000, then it was 35,000, then it was 20,000, and now it's 15,000.

Folks, these are just numbers. These are just numbers. They're scary numbers. They're used provocatively by those, particularly in the public health and environmental communities. They scare people. They've scared my grandmother. She's 97 and said, what is going on? I said, Gram, this is wrong. Plus, it's a premature mortality. If you die a day early, you're a statistic. She said, oh, OK. She didn't really understand, but she sort of got it that I was taking care of it and it wasn't a problem.

Beware of these numbers. Verifiable health benefits. It's very important. Consider fuel costs. There's the link to energy policy. The environmental section is going to have a strong linkage to energy policy. Practical compliance deadlines. If we're going to set hard targets for reductions of different things, give us a reasonable amount of time to do it. Don't stick us with a deadline that's impractical or is effectively technology forcing or will cause fuel switching, because we can't meet it in an appropriate amount of time. That will not happen over the next few years.

Reasonable certainty for investments. Do not tell me to do something today where I have to and plug in this widget or bolt on this piece of equipment and 2 years later it's effectively a stranded environmental requirements with a couple of new ones. Don't do that to me. Give me some certitude for investments along with those reasonable compliance schedules.

Give states appropriate flexibility. This is a big one. You've got a Governor, you've got a lot of folks in the administration with state background. My opinion over the last 8 years we've seen a serious erosion in the so-called Federal-state partnership. A lot of these rules and regulations, whether they're health or environment, the big ones that you have to deal with every day are supposed to be implemented by the states. Sometimes without any money, and we call that an unfunded mandate. But in any event, there's supposed to be a balancing of power there. That hasn't oc-

curred. There has been a steady erosion. We've got Big Brother basically telling the states what to do on most of these environmental issues. That's got to change. And it will change.

Now, specific policies initiatives. Here are the big daddies, in my opinion. These are the issues, maybe there's 20 or 30, crossing the water area, the solid waste area, the air area and, of course, climate change that we all work on on any given day. These are the big ones. These are the coal killers. These are the ones that we need relief on and I'm actually fairly optimistic about.

New source review. You can't help but have heard about this one, because basically we've had a reinterpretation of this entire program that EPA administers that does not allow our plants to conduct routine maintenance and repair. Now yeah, they're going to run the risk of violating the law and looking at penalties and possibly jail time for CEOs because they're not going to cutoff the power to the elderly citizens in Chicago in the middle of July or August. That's not going to happen. But this particular rule is the largest impediment to making changes, basic changes at plants. It's an impediment to environmental progress. It's an impediment to safety, worker safety. And ironically, the fact that it doesn't allow us to make efficiency improvements at our plants, ironically, it also doesn't allow us to do projects that could be a CO_2 beneficial.

I will point outside that this change started occurring in 1996, and then in earnest in 1998 when EPA tried to do away with the so-called wet pro rule, which allows us some safety on new source review. I was at EPA for 4 years. I worked in the enforcement program. I was the chief of staff to the then-assistant administrator Jim Straff, who then went to California. I was very zealous at my job. We both had cots at our office. You can call that insane. We worked very hard. We used every enforcement tool in the tool kit available to us. So did our colleagues at Justice.

Nowhere, nowhere in the deepest recesses of our gray matter did it ever occur to us that we could so warp the new source review program to do what was done in roughly 1998. This is going to change in the next few months. I guarantee it.

Mercury. All right. Also on a substantive matter, we've talked about Kyoto a lot. That's been out there. It's the big boogie man in the last few years. Kyoto is dead. Kyoto is absolutely dead. It's not going to happen. We're taking steps right now to reverse every piece of paper that EPA has put together where they could call CO_2 a pollutant under the Clean Air Act. That's going to be nailed down in the next few months.

Internationally, the U.S. is not going to work on Kyoto. It is dead. For those of you, not you specifically, but for those who want to continue to beat that dead horse, let me tell you right now, there will be no equine resurrection here. Now, having said that, mercury, in my opinion, is very Kyoto-like in its potential impacts. Mercury to me is the issue that scares me the most of the ones that are out there right now.

EPA had a regulatory determination in December of last year, another 11th hour initiative, where they basically determined, as they were supposed to, whether there would or would not be a mercury rulemaking over the next few years. And there will be. Could have been two paragraphs long. Instead, EPA went ahead of the multi-year process that will result in a program, basically prescribed the regulatory approach that we're going to have to comply with several years down the road. They did that now, before we've gone through rulemaking, public review and comment, before EPA builds a technical record. They did it now.

Coincidentally, by virtue of having selected that particular approach, maximum achievable control technology, they also triggered another part of Title 3 of the Clean Air Act that means that any new or reconstructed coal-fired unit must go through what is called case-by-case MACT review for mercury, and possibly other air toxics.

The punch line of that, the 4 to 5 sometimes 6 years that you normally count on for permitting, procuring materials and then constructing a new coal-fired unit, start at adding a year, maybe 18 months, maybe more. Of those 30 new coal-fired plants that were announced, a lot of them will never be built because my CEOs will figure out that it's not cost effective. They'll look for a way to do something else even though they don't want to. And it's because of mercury. Mercury is the killer.

Harmonize conflicting compliance deadlines for implementation of the NOx rules. Not that big of a deal out west, you say. It's mostly a battle of the states, Midwest versus the Northeast. It all comes down to, well, we're going to do the NOx reductions, but what timeframe? And we're going to fix this one in the next few months, as well, we're going to get the more reasonable timeframe. Why should it be a big deal for you? I'll tell you why. Because the logical next step for NOx related programs nationally will be to take what is roughly now the Mississippi River border where these new controls are applying east, those are going to move west. That's

going to happen. There is going to be a truing up of national NOx reduction programs probably within the next couple of years on this President's watch.

Provide states with greater flexibility on regional haze. I think most everyone in this room is probably an expert on this issue. Terry Ross and others have worked on this very, very hard. It will be with us for a while. You know that a regional haze program, which is intended alleviate basically secondary impacts, visibility, can actually be more onerous than the particulate matter national ambient air quality standard. Finally, support programs for voluntary reductions of greenhouse gas emissions and technology solutions. Another very important footnote. Listen to this very carefully. Now, in the March 13th letter to the Senate, the President made it very clear that he didn't support Kyoto, and if you read between the lines, we're going to be unraveling everything that Kyoto was based on. That's going to happen.

But the President did two other things once we sort of came off of our cloud of euphoria. He committed to some kind of CO_2 program, a voluntary program. Think about that. Some day we're going to have to figure out what that means. He also talked about a multi-pollutant strategy for further SO_2 and. NOx reductions beyond what are required right now, as well mercury. He made that commitment.

In two successive cabinet meetings following the issuance of that letter, he told his cabinet, you will do this. He's not backing away from that. We're going to have those reductions. We're going to have a voluntary program.

This is not going to thrill some of you when I say that the utility industry right now is putting together a very comprehensive near-term-reduction CO_2 voluntary program. CEOs are working on this right now. I was actually showing a draft to a couple folks here like Greg Schaefer, just to see if I could survive the swing test, which is the right across to the nose.

And what I'll say here is since the mid 1990s, EEI and the utilities have already had a voluntary program in place that has resulted in over 170 million metric tons of carbon being retired. We do it with DOE, not EPA. It's not regulatory, it's voluntary. There's going to be a next generation of this. We're working very closely right now with folks at the White House in putting this program together.

Let me put it to you in political terms. The President needs a fig leaf. He's dismantling Kyoto, but he's out there on a limb. He's told his staff, you will come up with something. They're going to do it. Wouldn't you like to be involved in what they put together? We certainly have made the cut that way.

This gives you another look at some of the things that are coming up, both definites and maybes. In summary, again, fuel diversity. Fuel diversity is the key here which allows us to push a very pro-coal agenda. Coal is affordable, reliable, adequate and increasingly clean.

I'm going to switch gears here. I've talked about the President's commitment to the so-called multi-pollutant approach. It's going to happen. Terry Ross asked the question of Senator Enzi, Are we talking about legislation coming out of Senate Environment Public Works courtesy of Senator Smith from New Hampshire? Maybe, maybe not. I would suggest that certainly within this Congress these next 2 years and possibly within over the next 4 years, the chances of getting comprehensive, multi-emission legislation through are probably fairly low. It's not there. It's not there.

Having said that, the President is prepared to do this administratively. Now, it won't be as robust a program because you won't, in effect, be amending the Clean Air Act and all of the other statutes that we're subject to right now, but it will be the next generation of regulatory programs. And the goal here will be to gain a foothold, an irreversible foothold on the next generation of reasonable cost effective SO_2 and NOx reduction, plus air toxics that we can all live with and that someone else can't undo.

I've laid out here, basically, the issue. You've already seen the list. I'll show it to you one more time. We've got a lot of things going on right now, whether it's the Clean Air Act of 1970, the amendments in 1977 or the 1990 amendments. The guys that do the permits for your companies will tell you, it's is a pain in the ass. You've got requirements coming over 30 years that are like on top of one another, they're duplicative, some of them lead to a forced result of a different technology or process that just doesn't make sense. But it's an artifact of how we do business.

What if someone were to tell you that you had 15 or 20 years, here is the NOx reduction target we want you to hit in that timeframe, here's the SO_2 reduction we want you to hit, and the here's the toxics reduction that we want you to hit. And those reductions are fairly reasonable, but it's one, one number, one timeframe, with lots of bennies built in. I will tell you that's very interesting to me, and I tend to be a big disbeliever of this, and still have sort of mixed views.

Goals, provide regulatory certainty and stability. We want that. Continue improving air quality. We want that. Increase compliance, flexibility and reduce costs

through market-based approaches. Sounds interesting, tell me more. Maintain coal-fired generation as part of the electricity supply mix. And I'm not talking about maintaining it at 10, 20, 25 percent. I mean where it is or better. And it's possible.

Benefits, talked about that. Single set of reduction requirements, Clean Air Act, lower cost of emission reductions, facilitates building of new plants. Part of the problem that we have right now, this lack of certainty that I keep talking about in terms of what's happening with the environmental controls, not being able to rely anymore on the U.S. Court of Appeals for the District of Columbia or even the Supreme Court to help us out in what are some of the most ridiculous rules on their face to ever occur. We can't rely on that. We need to have some certainty. This is possibly a way to get at that.

Now, the elements, and these, I will tell you, again, working with our CEOs behind closed doors, some of them hate this idea because they'd rather take their chances under a business-as-usual approach, saying, well, we'll get Bush or Atilla the Hun as president for the next five terms, right? Well, maybe not. What happens if we don't? So we've got some guys way out there and some guys who have embraced this. All of them are continuing to work on this.

Types of emission, reduction levels, deadlines, safe harbor. That's the big deal. If you do these things, you're into this program, you get that safe harbor, you're not going to get nickeled and dimed every 2 years for additional reductions of different types of pollutants. New source review. We get that fixed. That is non-negotiable. Non-negotiable. It's got to go away.

Here's the list put another way. Comprehensive approach, single SO_2 reduction requirement. Over on the right-hand side are some of the items, past and present and potential, that are out there that could affect SO_2 reduction requirements. Same thing for NOx. On mercury, same thing here. We've got very—EPA, if nothing else, is very clever. And I'm a product, obviously, of that sort of way of thinking and they taught me well. And I know how they work and they're smart guys.

What they figured out is that as you have sort of an impediment to maybe doing what you want to do through the front door, through the Clean Air Act, there's plenty of other ways to get at you. They're starting to look at hitting us with mercury controls through the water program. Through the water program. Very interesting.

Internationally, the EPA ramped up its discussions with Canada. The northeastern states, any Federal EPA working with Canada, to see what they could do—they did this with NOx, as well—but to see what they could do to have Canada bring pressure on the U.S. Government to maybe speed up its mercury rule or to have Canada develop a mercury MACT at like 9 percent removal in the next couple years, again, to put pressure on. Very, very clever. And finally we have Henry Waxman and others on the hill putting out a bill a day with these just like crazy, not well-thought-out plans. But they've got them in play, they get press, they get people scared, and they get a reaction. I put CO_2 in here as a place holder. CO_2 is not going to be part of a mandatory anything.

Having said that, it is possible, important point, I will predict that when the President sort of finishes off his multi-pollutant approach or his ideas for an administrative program, he will package the voluntary CO_2 program with whatever is mandatory, giving you the so-called four pollutant approach that everyone says he backed off on in terms of his campaign pledge. It's packaging, not substance, but it's a very important point inside the beltway.

NSR, safe harbor, flexibility. All the elements are there.

I want to talk to you about some numbers we ran. Again, putting myself at the top of the list of doubting Thomases, we have been spending hundreds of thousands of dollars over the last few months at EEI and some of our companies engaging some top notch economic consultants, people with no ax to grind in this debate, to start running scenarios for us; different combinations of reductions of SO_2 and NOx, mercury, and seeing what that gets us. Different timeframes for having to do that. And then comparing that to several scenarios of what EPA would logically be expected to do in that same timeframe between now and 2020, including some very conservative ones. We used a lot of EIA's natural gas projections or we had other ones, perhaps even more conservative or more robust. We used those as well.

Now, jump to the punch line. And this is what catches a CEO's attention or your shareholders. Net present value. I can also give you the numbers on sort of an annual basis between now and 2020. Scenario one is roughly 35 percent SO_2 and NOx reductions beyond baseline, beyond what's required now, with no additional mercury requirement. We just go with co-benefits, roughly what we're getting from existing controls. Scenario two, we ramped that up a little bit, where I think we're looking at 50/50 and co-benefits. Scenario three, I think, it's 60, 60 and 60 percent for mercury, which I think is pretty realistic based on what the health evidence shows up. And finally the EPA future. These are extraordinary deltas here.

Now, we've got to continue to refine these numbers. I'm going to spend the latter part of this week going over, talking to Jack Gerard. Well, maybe not. Our prayers are with Jack, hopefully he's better. But certainly with his staff and with some of the mining companies to let them go through this and see what they think. Because they have the most at risk. I already told you we don't. The mine industry and rail industry have more at risk. It's important that our partners understand what we're doing and see if they agree on these numbers.

Finally, initial findings. Scenarios one, two and three, less expensive than the EPA future. Ninety percent mercury reduction. That's the number that EPA, the career staff, are looking at right now. They're even looking at 95 percent reduction. They're not equating this at all to public health benefit, they're just focusing on a number—Henry Waxman uses numbers as well—as a hard target. That number is Kyoto. That number is Kyoto.

EPA future, reduces coal use, increases gas. Uses more than scenarios one, two and three. We know that. The cost of reducing carbon can vary widely depending on the permit allocation scheme. It's interesting we're finding through some of the scenarios we're running, we can get some carbon co-benefits. Plus when you tack on the voluntary program, we think we can do a pretty good job of having a robust CO_2 element to this program that does not hurt coal.

There you have it. Basically, sort of some thoughts of mine on energy policy, a little bit on environmental policy at the 20,000 foot level, and something to think about in terms of what is being debated right now inside the beltway as an alternative to business as usual at EPA. Thank you very much.

Mr. LINTON. I'm just going to ask if Jan has any comments on Shea's presentation at this point? Or we'll hold for the questions, any other questions, I guess, from the audience until all four presenters present.

Mr. LAITOS. What do you think the chances are within the next 2 or 3 years there will be a reauthorization of the Clean Air Act, Clean Water Act or CERCLA?

Mr. SHEA. I think the chances are very low. I'll tell you, maybe a little better on Clean Water Act. I think CERCLA, in my opinion, is sort of like coal. It's a fossil. I think CERCLA in its present format is an artifact of a time when there was a good idea but bad implementation. I see that possibly being dismantled.

Clean Water Act, I take back what I said, I do see opportunity for Clean Water Act reauthorization over the next 4 years. I don't see it for air. I'll tell you why. Very simply that while we now know where we might make surgical fixes to make the Act run better, these are even things that we—Henry Waxman and I might agree that there's problems with the permitting process in the Clean Air Act that weren't envisioned in 1990 that need to be fixed. The problem is if you want to open the Act up to technical changes or to those streamline fixes, much less a broader reauthorization, people start piling on everything.

Now to the extent that the President is pushing in concert with Senator Smith or others a so-called multi-pollutant bill, that might be a de facto substitute for Clean Air Act reauthorization. But Clean Air Act reauthorization amendments of 2004, right now I don't see it. There's no impetus there, there's no political will and there's too much risk.

Mr. LAITOS. One more question. Do you think, based on your experience with what's going on in the energy policy center in Washington, D.C. within the White House or within the executive branch, do you see any interest as there was in the 1970s, the late 1970s, in terms of providing incentives, initiatives or grants for coal gasification or coal liquification efforts?

Mr. SHEA. There is some. And that's a fair point. Because I stayed away from a couple points in my presentation that started talking about clean coal technology or future R&D.

The Department of Energy is going to make out fairly well over the next few years. It's no longer going to be the red-headed stepchild cabinet office that it has been in the last 8 years. It's going to be reinvigorated. The fossil office and the policy office are going to be the key conduits to implementing a very important piece of the energy policy task force that's going to be issued, again, in mid-May. That's going to be long-term R&D.

Jan was talking about coal gasification. That is going to continue. Obviously, it's very speculative. We're looking really at 10 years plus out. But that's OK. Yes, it is clearly in the mix right now. They are looking at it in addition to other basic clean coal technologies, and even carbon capture and sequestration technologies.

I can't tell you how much of an emphasis proportion or percentage wise there will be, but I do know that there will be staff in fairly significant sums appropriated for that.

Mr. LINTON. Thank you.

STATEMENT OF ABRAHAM BREEHEY, LEGISLATIVE REPRESENTATIVE, GOVERNMENT AFFAIRS DEPARTMENT, INTERNATIONAL BROTHERHOOD OF BOILEMAKERS

Chairman Inhofe, Senator Jeffords, and Members of the Committee, good morning. I am Abraham Breehey, Legislative Representative for the International Brotherhood of Boilermakers, Iron Ship Builders, Blacksmiths, Forgers and Helpers. On behalf of our International President Newton Jones and our approximately 75,000 members across the country, thank you for the opportunity to present our views on S. 131.

The Boilermakers are the principal union responsible for the installation, maintenance, and repair of industrial boilers, as well as the installation of the pollution control equipment utilized to achieve the emissions reductions that are the goals of this legislation. As a result, our members have a dual concern: first and foremost, to have safe and productive workplaces for boiler operations; and second, to ensure the sensible implementation of clean air standards that foster the market for our services while protecting the environment.

Boilermakers have been active participants in the policymaking process. Representatives from our locals across the country have testified at EPA field hearings, and our Government Affairs Office has submitted testimony for the record and letters on Clean Air topics going back for some years. The discussion of Clear Skies is one in which all participants share the same goal: sensible protection of air quality. There are good natured disagreements about the best approach to achieve that goal, but that should not keep us from proceeding with dedication.

Indeed, the Boilermakers have a significant interest in ensuring the latest control technology is used to meet Federal multi-pollutant emissions standards and we have much to gain through its deployment. As an EPA analysis of the engineering factors affecting the installation of pollution control technology notes, the labor requirements needed to retrofit flue gas desulphurization systems generally referred to as scrubbers to remove SO_2 for a 500 MW_e utility include approximately 150,000 boilermaker man-hours. Similarly, a retrofit of SCR NOx control technology of 500 MW_e requires as much as 350,000 man-hours of construction labor, with 40–50 percent of that amount available for boilermakers. However, the vast majority of our man-hours are generated providing maintenance, renovations, and upgrades to existing coal-fired electric utilities. Too often, under the status-quo this work is being put off, delayed, or abandoned.

The legislation before the Committee today would provide great benefits to our union, as well a number of other AFL–CIO affiliates in the energy and construction sectors. It requires $52 billion in investment to meet air quality standards, a significant portion of which will be paid in wages to Boilermakers and other union craftsman. We believe it provides a clear path forward for new plant construction, sets standards that are both technologically feasible and no doubt within the current labor capacity. We encourage the committee to support the Inhofe-Voinovich bill.

Some would prefer to maintain existing Clean Air Act authorities to wring additional emissions reductions out of existing facilities. This "command and control" approach relies on litigation-heavy, case-by-case analysis, such as the New Source Review (NSR) program. While NSR can produce successes in some cases, it is too often cumbersome and slow as it applies to existing sources. We support the provisions of the Clear Skies bill for addressing these issues.

The Boilermakers are aware of the balancing act that must be undertaken in developing environmental policy. However, we believe this legislation achieves a significant balance in that it provides a protective approach on clean air that maintains the competitiveness of our industrial facilities, keeping Boilermakers and other union member's work from being outsourced. By ensuring a continued role for coal in our energy-mix and providing greater regulatory certainty, this legislation will promote stable energy prices that are necessary for the economic growth that creates good paying manufacturing and industrial jobs.

I know we all agree that America's workers are the most productive in the world. However, they are forced to succeed under tremendous competitive disadvantages resulting from several factors, including unfair tax and trade policies, foreign subsidies, and health care costs not assumed by overseas producers. In addition, American manufacturers spend relatively more on pollution control than foreign competitors. Regulatory policies that delay efficiency improvements or that might lead to fuel-switching from coal to natural gas would only exacerbate our problems keeping good paying manufacturing jobs here at home.

The Boilermakers Union supports the expansion of the Acid Rain Program "cap and trade" system for SOx to NO_2 and mercury as suggested under this legislation because it sets predictable deadlines that are achievable with current technology. Also, rather than proceeding case-by-case, they apply to all regulated facilities si-

multaneously. Under current law, our work often comes in fits and starts. This legislation will encourage a more steady work load for our members.

Our union is committed to ensuring the safety of the facilities where our members and thousands of others work. It is a major and ongoing concern. Workplace safety is a cornerstone of the Boilermaker's National Joint Apprenticeship Program, and our members work together with our employers to limit workplace injury and promote efficient operations. Reasonable and consistent rules are needed to encourage repair and maintenance of power plants, and protect worker safety. Too often, important work is delayed due to the uncertainty of the regulatory and permitting process. Power-generating facilities operate most efficiently when they undertake repair and replacement projects on a regular basis. The varying interpretations of the requirements of NSR often forces facilities to delay maintenance work for 12 to 36 months while they await EPA approval.

Further, the threat of litigation too often acts as a deterrent to capital investments that create work and maintain safe facilities for our members. Boilers operate under high temperatures and pressures with superheater tubes exposed to flue gases at temperatures as high as 2,000 degrees and pressure around 3,000 lbs./square inch and must be maintained in order to be safe for workers. While NSR can present obstacles to maintenance and repair, Clear Skies does not.

The good news about Clear Skies is that the program sets expectations that can be met with feasible technological applications. Our members training and expertise at installing pollution control technology is unmatched. However, applications that have not been tested across all fuel types and under actual operating conditions and for which there are no guarantees should not be the basis of clean air policy.

S. 131 also will prevent the litigation and delay associated with U.S. EPA rulemaking proceedings. The bill's approach to mercury emissions will avoid the need for a controversial EPA mercury rule, while ensuring the use of cost-effective emissions trading as the means to achieve a significant reduction of emissions. We specifically support the use of a "co-benefits" approach for the first phase of a mercury control program to enable more accurate measurements of the mercury control capabilities of existing technologies, and to allow time for advanced mercury-specific control technologies to mature in time to meet the final 2018 mercury cap.

Further, the caps, timetables, and incentives of the Clear Skies Act will result in high emissions reductions goals through the application of clean air technology, as opposed to fuel-switching. Sections 455 and 475 provide for early action reduction credits to encourage NOx and mercury reductions, respectively, through the application of technology, as opposed to fuel-switching. Certainly, the Boilermakers and the members of the United Mine Workers of America will realize significant benefits from the provisions, but the implications of widespread fuel-switching to costly natural gas would be devastating across the manufacturing sector. An important benefit of this legislation is that it will foster reliable and affordable electricity generated from coal. More than one-half of our nation's electrical output is generated by coal. Reducing the use coal in our energy supply mix would inevitably result in increased demand in natural gas, a fundamental change in energy policy that raises important concerns about natural gas availability and cost.

The current regulatory framework has resulted in most new power generation facilities being gas-fired. With demand for natural gas spiking, and prices increasingly volatile, continuing down this path will have a devastating impact on American workers, as firms look to move operations overseas for cheaper natural gas prices. Under S. 131, any new coal plants will be included under the emissions cap and the clear path forward with regard to emission reductions requirements allows our employers improved investment planning, which contributes to reliable and affordable electricity generated from coal.

Our union also recognizes the needs of states and localities to comply with U.S. EPA's new 8-hour ozone and fine particulate standards. The deadlines for compliance with these standards are approaching, and states are beginning to prepare State Implementation Plans. Computer modeling by U.S. EPA demonstrates that the reductions proposed by S. 131 would allow many states and localities to meet the new ozone and $PM_{2.5}$ standards in a timely manner. Some areas, however, may not be able to demonstrate attainment with the new standards. For this reason, some states advocate adjustment of the bill's final compliance deadlines for sulfur and nitrogen oxides. While we support the timetables established under S. 131, we note that reasonable adjustments of these final deadlines would not, in our judgment, raise issues about the availability of skilled labor to install and operate emission controls.

In conclusion, our union believes that among the greatest challenges this distinguished body is faced with is maintaining the competitiveness of American manufacturing in the global marketplace. Since its peak in 1998, the United States has lost

more than 3 million manufacturing jobs. There is a palpable anxiety among working-families across the country. The International Brotherhood of Boilermakers is committed to providing the highly skilled labor necessary to power the American economy. We believe the legislation proposed by Senators Inhofe and Voinovich, S. 131 sets our electric-generating facilities on a path forward toward an affordable, stable, domestically produced energy supply. I know our members look forward to continuing our role in this important debate.

RESPONSES BY ABRAHAM BREEHEY TO ADDITIONAL QUESTIONS FROM SENATOR VOINOVICH

Question 1. You state in your testimony that steady employment is needed instead of peaks and falls and that Clear Skies provides for this for at least 15 years. However, some claim that Clear skies does no more than existing law—meaning your should have this environment already. What effect has regulatory uncertainty had on workers?

Response. Due to the nature of the work our members perform, our man-hour rates are often cyclical—with peak seasons coming in the spring and fall. However, the permitting and regulatory process of New Source Review often prevents accurate planning and often delays anticipated work. The lack of clarity and case-by-case evaluation of what constitutes routine maintenance, repair, or replacement has forced industry to delay work for Boilermakers for as long as year. This creates difficulties in planning the deployment of our workforce, much of which often travels significant distances when the need arises.

Question 2. Last week, Basin Electric CEO Ron Harper provided a specific example of how the New Source Review program has prevented an improvement at one of their units that would reduce energy use and emissions. You also talk about the NSR program as a roadblock for plants to put on pollution control technology—and as a roadblock to worker safety improvements. Do you have any examples of how NSR has prevented such improvements? Please provide additional thoughts on why NSR needs to be reformed.

Response. Regretfully, it is difficult to identify a specific project simply because this is not a matter our employers are anxious to share with us. Our concerns are verified by anecdotal evidence, such as that provided by Mr. Harper, and we do not believe the case he points to is unique. Further, one opinion expressed in the debate over New Source Review is that only work performed by regular plant maintenance personnel should be considered "routine," and that any work performed by outside contractors should be considered "non-routine." Our members are often called upon to supplement and complement the regular plant work force during planned outages. If the industry attempts to reduce its reliance on services from our members, their standard of living will be directly and adversely impacted.

RESPONSES BY ABRAHAM BREEHEY TO ADDITIONAL QUESTIONS FROM SENATOR LAUTENBERG

Question 1. The Acid Rain program's cap and trade approach has been very successful. Would this bill's cap and trade system be as protective of public health as that program?

Response. While my experience relates mainly to the impact of the multi-pollutant cap and trade systems on our workforce, as opposed to the public health benefits, it is my understanding the expansion of the Acid Rain programs cap and trade approach will bring public health benefits. Since the Acid Rain program began, EPA has reported the largest emitting sources actually reduced emissions the fastest. The more a facility can reduce the more tradable credits it can generate. This is bound to have significant public health benefits.

Question 2. As someone who came out of the corporate world, I can appreciate the importance of making sound investments sound investments in new technologies. Is the cap and trade system in Clear Skies as cost effective at reducing pollution as other approaches?

Response. The incentives created through a cap and trade system will be applied on a national basis with clear and specific compliance deadlines. Contrasted with the resource-intensive and uncertain litigation that results from the new source review program, cap and trade is a cost effective approach. Creating a market for emissions through the creation of tradable credits ensures that those who can most efficiently reduce emissions will do so.

Question 3. Clear Skies proposes giving many industries a free pass when it comes to reducing hazardous air pollutants—some of them known to cause cancer. What impacts do you foresee from this drastic retreat from Clean Air Act protections?

Response. We have a number of Boilermaker locals with members who work at facilities eligible for the "opt-in" provisions of S. 131. The ability of these employers to participate the market based trading system will provide financial incentives for additional emission reductions where they can most cost-effectively be achieved.

It is far from a "free pass." In order to receive relief from the maximum achievable control technology standard (MACT) for boilers about which the question is asking, the facility must first "opt in" to the stringent requirements of the Clear Skies Act. To do so means to put a cap in place that would require the same types of control technologies or process improvements that the MACT standard likely would require. In addition, the boiler MACT has a risk-based alternative; meaning that existing law will not cover each and every hazardous air pollutant, as some opponents of S. 131 imply. Ironically, while the NRDC witness at the hearing argued against granting relief from boiler MACT, the same organization has sued to stop the boiler rule from even going into effect.

Question 4. My entire home State of New Jersey was recently declared "out of attainment" for nitrogen oxides, which help form ozone and damage lungs—especially of kids. Do you believe this bill will improve New Jersey's air quality?

Response. The 70 percent reductions in NOx and SO_2 called for under S. 131 will indeed improve New Jersey's air quality. Further, states are free to go beyond the minimum Federal standards with their own programs, just as New Jersey has done.

STATEMENT OF JOHN COOK, VICE PRESIDENT AND MANAGING DIRECTOR, EASTERN U.S. CONSERVATION REGION, THE NATURE CONSERVANCY

Mr. Chairman and members of the Subcommittee, thank you for the opportunity to provide written testimony for the Committee on the effects of air pollution on ecosystem health. The Nature Conservancy applauds your interest in this matter and your efforts to find solutions to improve air quality in the United States. The Conservancy has a growing interest in solving the critical, globally significant problem that acid rain and other air-borne pollutants pose to biological diversity and the ecosystem processes on which it depends. I am pleased to present the Conservancy's views on this important topic.

The Nature Conservancy is dedicated to preserving the plants, animals and natural communities that represent the diversity of life on Earth by protecting the lands and waters they need to survive. The Conservancy has more than one million individual members and programs in all 50 states and in 27 nations. To date, we have been responsible for conserving more than 14.5 million acres in the United States, and more than 83.5 million acres internationally. The Conservancy itself owns more than 1,340 preserves in the United States—the largest private system of nature sanctuaries in the world. Our conservation work is grounded in sound science, strong partnerships with other landowners, and tangible results at local places.

In the eastern United States we are working to conserve such spectacular and irreplaceable natural treasures as the Adirondacks, the Chesapeake Bay, the Northern Forest, and the Appalachian Mountains. These places are within driving distance of many millions of citizens, who benefit from the wilderness, drinking water, wildlife, timber land, fisheries, natural areas, and recreational opportunities that they provide. Atmospheric deposition threatens the health and long-term sustainability of every one of these places.

BACKGROUND

The atmospheric deposition of acidifying pollutants, in particular nitrogen and sulfur (also known as acid rain), and toxic airborne pollutants—especially mercury and ozone, are among the most pervasive and severe threats to The Nature Conservancy's conservation goals in the eastern United States. Although the Clean Air Act and other regulations and programs have achieved notable success in controlling these emissions, and will continue to do so as the law is phased-in, the level of pollution allowed under the Clean Air Act remains too high and will continue to harm plants and animals. For over a century we have been aware of the damage caused by that acid rain. Acid rain results in decreased forest health, as it can reduce tree growth and increase susceptibility to diseases, pests or even damage from cold weather. Acid rain also has toxic effects in the aquatic world. Increased acidity in

water has been fatal to fish and other aquatic species, particularly in landscapes like the Adirondacks that contain soils that are poorly suited for absorbing the increased acidity.

Recently there has been increasing concern over the multiple impacts that excess nitrogen is having on our environment. In 2003, the journal BioScience publishes a special section detailing the magnitude and severity of the problem throughout the continental United States. Of particular concern is that as nitrogen moves through ecosystems it causes multiple effects on the ecosystem, referred to as the "nitrogen cascade" (Galloway et al. 2003). For example, Aber et al. (2003) concluded that nitrogen deposition has altered the nitrogen status of northeastern forests. Not only does it have negative impacts on forest health, this deposition ultimately contributes to excess nutrient loading of estuaries as it "cascades" from upland deposition through forest soils and water to its eventual release into coastal estuarine systems (Driscoll et al. 2003). According to a National Oceanic and Atmospheric Administration study in 1999, 61 percent of the 23 estuaries examined in the Northeast were classified as moderately to severely degraded by nutrient over-enrichment. Such enrichment has been shown to lead to multiple environmental problems for estuarine ecosystems. Ecological problems associated with nitrogen deposition have also been identified in the west (e.g., Fenn et al., 2003a,b). When combined with sulfur, nitrogen has contributed to the acidification of soils and surface waters as mentioned above, as well as increasing the availability of potentially toxic aluminum, and the long-term loss of some critical available nutrients in the soil. Consequently, nitrogen deposition, whether by itself, or in combination with sulfur, is having profound effects on ecosystems in this region and others.

Mercury is a neurotoxin that accumulates in the food chain and is particularly damaging to higher-level consumers, such as loons. In humans, high mercury levels may result in neurological damage, including altered behavioral patterns known as the "mad hatter" disease. Human health concerns due to high mercury levels in many Adirondack lacks continue to result in fishing restrictions. Lower down in the food web, the flathead minnow has been documented to suffer reduced reproductive success with higher mercury contamination (Hammerschmidt et al., 2002). In larger fish that prey on minnows (e.g., walleye), similar impacts to reproduction have been documented (Lastif et al., 2001). Similarly, recent information on another top-level fish predator—the Common loon—indicates that changes in loon behavior and decreased reproductive success contribute to declining loon populations as a consequence of high mercury concentrations.

Finally, ground level-ozone, is formed when nitrogen oxides and volatile organic compounds combine in the presence of high temperatures and sunlight. Although technically not transported by atmospheric deposition, it is an important secondary pollutant inextricably linked to this issue. Ozone directly harms plants, causing lesions on leaves and altered cellular function. This has lead to altered composition and structure in early successional species (Barbo et al. 1998), and concern for a number of plant species in federally protected areas (NPS 2003). A great concern is that the effects of ground-level ozone ultimately alter the ability of plants to perform one of the most basic and essential of all ecological processes—photosynthesis. The net effect is a decrease in vitality and increased susceptibility to diseases and severe weather events, both environmental conditions that appear to be on the increase.

ADIRONDACKS

The Adirondacks probably exhibit the most severe ecological impacts from acidic deposition of any region in North America (Driscoll et al., 2003a, b). This large forested area with over 2770 lakes, covering six-million acres in northern NY, has served as the "canary in a coal mine" for acid rain in the United States due to the highly sensitive soils and significant deposition rates. Studies of 1,469 Adirondack lakes show that nearly half (41 percent) are acidic (i.e., pH below 5.5), with the acidic condition in the vast majority of these impacted lakes (81 percent) directly attributable to atmospheric deposition. In addition to the chronic acidification described above, spring acidity peaks occur on a large percentage of Adirondack streams and lakes. The peaks are caused by the spring runoff of highly acidic water that has accumulated in the snow pack during the winter. The spring acidity peaks can result in spikes of acidification that are lethal to fish and change invertebrate communities—completely altering aquatic species composition and structure even in some highly protected, remote locations.

Research shows that there has been a cumulative effect of atmospheric deposition on watersheds. Calcium—an essential element for healthy forests—has been depleted from the soil. In many acidified watersheds the calcium levels are at or below

the thresholds known to cause dieback and reproductive failure of sugar maple and red spruce trees. Another effect of acidified watersheds is the mobilization of aluminum out of the soil and into the water, where it is toxic—and in many cases lethal—to fish, plants and other organisms.

Mercury, another pollutant of atmospheric deposition, is also impacting the Adirondacks. At least 30 lakes—including remote wilderness lakes—have fish species considered unsafe for women and children to eat because of elevated mercury levels (13 were added to this list in the summer of 2004). Recent studies from the Adirondack Cooperative Loon Program show that 17 percent of the loons sampled have blood mercury levels that are high enough to alter behavior, resulting in the decreased reproductive success of loon populations.

CENTRAL APPALACHIAN MOUNTAINS

The Central Appalachian Mountain region is exposed to acidic deposition levels that are among the highest in the United States. The National Acid Precipitation Assessment Program (NAPAP) identified this area and the Adirondacks as the two regions of the country most affected by acidic deposition (Baker et al. 1991). Unfortunately, the places in the Central Appalachian region most susceptible to these pollutants also contain the highest levels of biodiversity and sometimes are already under protected status. Susceptibility to acidic deposition in this region is determined by bedrock type, and the region's ridges are commonly associated with base-poor bedrock types that provide little acid-neutralizing capacity. Most of these ridges and streams are associated with public lands, including national forests, designated Wilderness areas, and the Shenandoah National Park. Stream surveys and long-term monitoring stations have shown that at least one-third of the landscape associated with the mountain ridges have been harmed by acidic deposition, as indicated by high concentrations of sulfur and acidity in streams and loss of aquatic biota.

Modeling conducted for the Southern Appalachian Mountain Initiative, a multi-state, multi-stakeholder assessment, indicated that prospective reductions of acid-precursor emissions will be insufficient to prevent further acidification of sensitive streams and soils associated with forested mountain watersheds in this region (Sullivan et al. 2002). Trend analysis indicates that streams in this region have yet to show signs of recovery, and has the highest likelihood of further acidification in the eastern and northern United States (Stoddard et al. 2003).

CHESAPEAKE BAY

The Chesapeake Bay is the largest estuary in the contiguous United States, and is extremely susceptible to atmospherically deposited pollutants (EPA 2004). While not especially vulnerable to acidification, atmospherically deposited nitrogen plays a significant role in the nutrient cycling of the Chesapeake Bay—as in other estuaries (NOAA 2004). Current estimates of the percent contribution of atmospherically deposited nitrogen to the Chesapeake Bay are 20–32 percent—although such estimates are known to vary considerably due to small sample sizes, complexities of seasonal variation, and other factors (Sheeder et al. 2002).

While nitrogen is a naturally occurring nutrient in the Chesapeake Bay, excessive additions of nitrogen have aided in the degradation of important habitat in what remains the most productive estuary in the world. Such nutrification results in algal blooms that reduce water clarity, diminishing the capacity for sunlight to penetrate to the Bay floor. Submerged aquatic vegetation (SAV) is unable to persist in these low-light conditions, resulting in loss of sediment holding functions and creating a positive feedback loop for increasingly turbid water. Additionally, algae-decomposing bacteria consume dissolved oxygen, leading to zones of anoxia (oxygen-poor regions) that are unable to support estuarine biota. The Chesapeake Bay Program recognizes that addressing atmospheric sources of nitrogen is a key strategy to Bay restoration.

RECOMMENDATIONS

The National Research Council of the National Academies of Science published "Air Quality Management in the United States" in January 2004. It called for a more thorough consideration of the impacts to ecosystem health in the design of air pollution control strategies. Specifically, the report's recommendation for improved air quality was to:

> Enhance protection of ecosystems and other aspects of public welfare. Many of the programs and actions undertaken in response to the Clean Air act have focused almost entirely on the protection of human health. Further efforts are needed to protect ecosystems and other aspects of public welfare.
>
> Specifically:

Although mandated by the CAA, the protection of ecosystems affected by air pollution has not received appropriate attention in the implementation of the act. A research and monitoring program is needed that can quantify the effects of air pollution on the structure and functions of ecosystems. That information can be used to establish realistic and protective goals, standards, and implementation strategies for ecosystem protection.

The Nature Conservancy agrees with this and other recommendations in the report. The Conservancy would like to work with the Committee, with private industry and other interested parties to improve our understanding of the ecosystem level effects of atmospheric deposition and to incorporate ecosystem health concerns in setting appropriate standards in clean air policy and in the development of multi-emissions legislation.

CONCLUSION

The Nature Conservancy is continuing its efforts to study the effects of atmospheric deposition on globally significant ecosystems. We look forward to working with the Committee staff and others in the public and private sector on the issue of atmospheric deposition Thank you for the opportunity to provide testimony on this important matter.

SELECTED SUPPORTING LITERATURE

Aber, J.D., C. L. Goodale, S. V. Ollinger, M.L. Smith, A. H. Magill, M. E. Martin, R. A. Hallett, and J. L. Stoddard. 2003. Is Nitrogen Deposition Altering the Nitrogen Status of Northeastern Forests? BioScience 53: 375–389.

Baker, L.A., A.T. Herlihy, P.R. Kaufmann, and J.M. Eilers. 1991a. Acidic lakes and streams in the United States: the role of acidic deposition. Science 252: 1151.

Barbo, D.N., A.H. Chappelka, G.L. Somers, M.S. Miller-Goodman, and K. Stolte. 1998. Diversity of an early successional plant community as influenced by ozone. New. Phytol. 138:653–662.

Driscoll, C.T. G.B. Lawrence, A. J. Bulger, T. J. Butler, C.S. Cronan, C. Eagar, K.F. Lambert, G.E. Likens, J.L. Stoddard, K.C. Weathers. 2001a. Acid Rain Revisited: advances in scientific understanding since the passage of the 1970 and 1990 Clean Air Act Amendments. Hubbard Brook Research Foundation. Science Links" Publication. Vol 1, no. 1.

Driscoll, C.T. G.B. Lawrence, A. J. Bulger, T. J. Butler, C.S. Cronan, C. Eagar, K.F. Lambert, G.E. Likens, J.L. Stoddard, K.C. Weathers. 2001b. Acidic Deposition in the Northeastern United States: Sources and Inputs, Ecosystem Effects, and Management Strategies. BioScience 51:180–198.

Driscoll, C.T., D. Whitall, J. Aber, E. Boyer, M. Castro, C. Cronan, C.L. Goodale, P. Groffman, C.Hopkinson, K. Lambert, G. Lawrence, and S. Ollinger. 2003a. Nitrogen Pollution: From the Sources to the Sea. Hubbard Brook Research Foundation. Science Links" Publication. Vol 1, no. 2.

Driscoll, C.T., D. Whitall, J. Aber, E. Boyer, M. Castro, C. Cronan, C.L. Goodale, P. Groffman, C.Hopkinson, K. Lambert, G. Lawrence, and S. Ollinger. 2003b. Nitrogen Pollution in the Northeastern United States: Sources, Effects, and Management Options. BioScience 53:357–374.

[ED] Environmental Defense. 2004.

[EPA] Environmental Protection Agency. 2004. Air Quality and Planning Standards. (www.epa.gov/oar/oaqps/gr8water/xbrochure/chesapea.html)

Fenn, M.E., R. Haueuber, G. S. Tonnesen, J.S. Baron, S. Grossman-Clarke, D. Hope, D. A. Jaffe, S. Copeland, L. Geiser, H.M. Rueth, and J.O. Sickman. 2003a. Nitrogen Emissions, Deposition, and Monitoring in the Western United States. BioScience 53:391–403.

Fenn, M.E., J.S. Baron, E.B. Allen, M.M. Rueth, K.R. Nydick, L. Geiser, W.D. Bowman, J.O. Sickman, T. Meixner, D.W. Johnson, and P. Neitlich. 2003b. Ecological effects of Nitrogen Deposition in the Western United States. BioScience 53:404–420.

Galloway, J.N, J.D. Aber, J. W. erisman, S.P. Seitzinger, R.W. Howarth, E. B. Cowling, and B. J. Cosby. 2003. The Nitrogen Cascade. BioScience 53: 341–356.

Hammerschmidt, C.R., M.B. Sandheinrich, J.G. Wiener, and R.G. Rada. 2002. Effects of dietary methylmercury on reproduction of fathead minnows. Environmental Science and Technology 36:877–883.

Lastif, M.A., R.A. Bodaly, T.A. Johnson, R.J.P. Fudge. 2001. Effects of environmental and maternally derived methylmercury on the embryonid and larval stages of walleye (Stizostedion vitreum). Environmental Pollution 111:139–148.

[NEG/ECP] New England Governors and Eastern Canadian Premiers Forest Mapping Group 2003. Assessment of Forest Sensitivity to Nitrogen and Sulfur Deposi-

tion in New England and Eastern Canada. (www.ecosystems-research.com/fmi/VT-NF-Forest-Sensitivity-Report.pdf)
[NOAA] National Oceanic and Atmospheric Administration. 2004. Atmospheric Deposition. (www.noaa.chesapeakebay.net/air/air.html)
[NPS] National Park Service. 2003. Ozone Sensitive Plant Species on National Park Service and U.S. Fish and Wildlife Service Lands. NPS D1522. Natural Resource Report NPS/NRARD/NRR–2003/01. Air Resources Division. Denver, CO. 21 pp. (www.nature.nps.gov/ard/pubs/index.htm)
[NRC] National Research Council. 2004. Air Quality Management in the United States. Report by the Committee on Air Quality Management in the United States, Board on Environmental Studies and Toxicology, board on Atmospheric Sciences and Climate, Division on Earth and Life Studies. The National Academy Press: Washington, D.C.
Sheeder, Scott A. J.A. Lynch, and J. Grimm. 2002. Modeling Atmospheric Nitrogen Deposition and Transport in the Chesapeake Bay Watershed. Journal of Environmental Quality 31:1194—206.
Stoddard, J.L., J.S. Kahl, F.A. Deviney, D.R. DeWalle, C.T. Driscoll, A.T. Herlihy, J.H. Kellogg, P.S. Murdoch, J.R. Webb, and K.E. Webster, 2003. Response of Surface Water Chemistry to the Clean Air Act Amendments of 1990. EPA/620/R–03/001, U.S. Environmental Protection Agency, Washington, DC.
Sullivan, T.J., B.J. Cosby, R.K. Munson, J.R. Webb, K.U. Snyder, A.T. Herlihy, A.J. Bulger, E.H. Gilbert, and D. Moore. 2002. Assessment of the Effects of Acidic Deposition on Aquatic Resources in the Southern Appalachian Mountains. Final report to the Southern Appalachian Mountains Initiative, Asheville, NC.

STATEMENT OF LARGE PUBLIC POWER COUNCIL

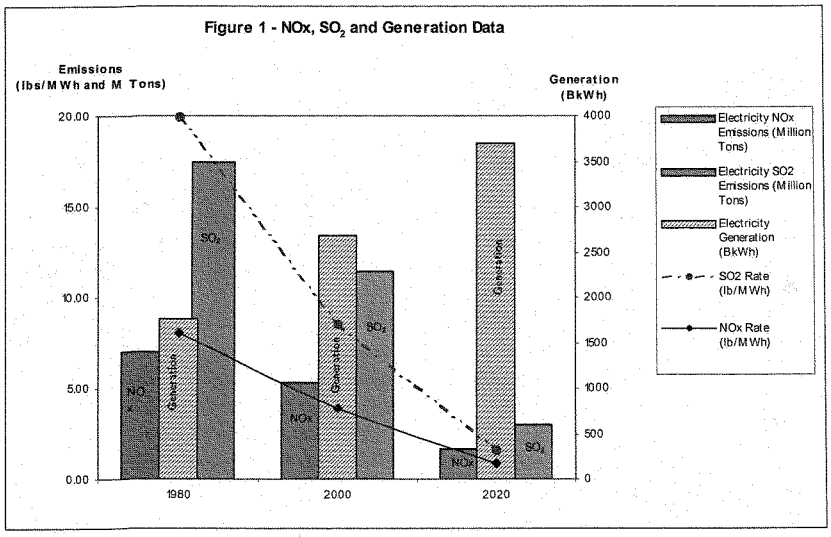
The Large Public Power Council (LPPC) appreciates the opportunity to submit the following written statement in support of Clear Skies Act of 2005 (S. 131). LPPC has been a long-time supporter of passing comprehensive multi-pollutant control legislation for the power sector. We were the first industry group to endorse the Administration's original Clear Skies proposal with our letter to President Bush in September 2002 and our support remains strong. LPPC believes the time to act is now. The passage of the 2005 version of the Clear Skies Act will achieve not only a 70 percent reduction in power plant emissions, but also can improve air quality faster, with greater environmental certainty, and more cost effectively than continued regulation under current law.

LPPC is an association of 24 of the largest public power systems in the United States. LPPC members directly or indirectly provide reliable, affordably priced electricity to most of the 40 million customers served by public power. We own and operate over 44,000 megawatts of generation and approximately 26,000 circuit miles of transmission lines. LPPC member utilities and public power agencies are located in states and territories representing every region of the country. In addition, member utilities own and operate a diverse portfolio of fossil, nuclear, hydropower, and other renewable energy sources that reflect the national energy mix.

All LPPC members are committed to environmental excellence and among the 24 LPPC member utilities we have some supporting more environmentally stringent provisions and others suggesting a narrower scope. LPPC looks forward to helping to shape revisions to the Clean Air Act.

Stringent Emissions Reductions. If enacted into law, Clear Skies would be the most ambitious pollution control program ever established to reduce power plant emissions. The administration's proposal would cut SO_2 emissions by 73 percent (from 11.2 to 3 million tons), NOx emissions by 67 percent (from 5.1 to 1.7 million tons) and mercury emissions by 69 percent (from 48 to 15 tons) from 2000 levels.

Clear Skies' reductions would build upon the reductions in SO_2 and NOx that the power sector has achieved to comply with the acid rain and NOx SIP-call programs (43 percent reduction in SO_2 and 45 percent reduction in NOx from 1990 levels). What is especially impressive about the Clear Skies reduction targets is the long-term improvement in environmental performance achieved by the power industry. After full implementation of Clear Skies, fossil-fired power plants will achieve 76 percent reduction in NOx and 83 percent reduction in SO_2 from 1980 levels. Moreover, the power industry will achieve these reductions while fossil-fueled electricity production will have more than double during the same period (1980 to 2020). This means that, on average, for every unit of electricity generated from fossil fuels, the emissions after implementation of Clear Skies will be less than one tenth of the emissions for generating the same unit of electricity in 1980. (See Figure 1.)



Environmental Certainty. The Clear Skies Act provides absolute environmental certainty. If enacted into law, the emissions reductions are locked in today by statute. Specifically, Clear Skies establishes emissions caps guaranteeing that power plants will not exceed the total allotted levels for each air pollutant. Moreover, Clear Skies contains specific compliance dates when those emissions caps begin to apply and when the power plant reductions must be achieved.

The Clear Skies reductions are rock solid. Since the emissions caps and compliance deadlines are set by statute, they cannot be disputed, delayed or otherwise legally challenged in court. Similarly, Clear Skies contains other provisions to assure full and timely achievement of the mandated emissions reductions. One such provision is an absolute statutory prohibition against any legal challenge of the annual allowance allocations—which is a key component of the emissions trading program. Specifically, Clear Skies expressly bars anyone from legally challenging in court EPA's calculation of allowance allocations and the determination of any values used in such calculations. Another provision is the use of default allowance reconciliation procedures, which apply if EPA fails to promulgate the core rules for allocating, tracking, and trading allowances by the time that the reduction obligations take effect. These default procedures establish a fallback statutory framework for ensuring full implementation and compliance with the Clear Skies reduction requirements even if EPA has not yet promulgated sufficient implementing regulations.

Key Tool for Achieving Clean Air Goals. The targets and time schedules set forth in the bill for reducing NOx, SO_2, and mercury are ambitious, but appear appropriate to achieve the health and environmental goals established under the Clean Air Act. This is confirmed by the enormous air quality improvements that will result from implementation of the Clear Skies control program. The facts of Clear Skies tell a very positive story.

The best way to measure the air quality benefits resulting from Clear Skies is to evaluate its contribution to attaining the new ambient air quality standards for fine particles and ozone. These air quality standards are "the Clean Air Act bedrock measure of public health protection." Measured by this yardstick, Clear Skies does extraordinary well.[1] Specifically, the Clear Skies reductions, in combination with existing control programs, are projected to reduce dramatically the number of areas currently not meeting the new air quality standards for fine particles and ozone. EPA modeling indicates:

- Eastern state fine particle non-attainment counties are projected to decline from 114 currently, to 27 in 2010, to 8 in 2020 (93 percent reduction).
- Eastern state 8-hour ozone non-attainment counties are projected to decline from 268 currently, to 44 in 2010, to 20 in 2020 (92 percent reduction).

[1] Note that the above projections are not entirely due to Clear Skies, but also benefit from emission reductions from other Clean Air Act programs such as the off-road diesel rule.

Areas that are still non-attainment in 2020 are also much closer to attainment. In areas where EPA projects to be in nonattainment notwithstanding implementation of the Clear Skies program, Clear Skies still plays a crucial role in attaining the air quality standards. The air quality improvements (particularly, reductions in regional air pollution transport) achieved by Clear Skies will better position States in developing effective local air pollution control strategies for attaining the air quality standards as expeditiously as possible. Clear Skies was never intended to be the nation's sole control strategy for attaining the new standards—particularly since it addresses only one sector and source of emissions out of many in the economy.

New Paradigm for Cleaner Air. The Clear Skies legislation establishes a new paradigm for bringing cleaner air, sooner, at a lower cost. This new paradigm is essential to assure that the stringent emission reductions required under Clear Skies levels are technically and economically feasible, as well as consistent with objectives to ensure adequate supplies of reasonably priced power. One essential element of this new paradigm is the use of emissions trading systems for achieving the reductions at the lowest possible cost to industry and the communities we serve. To this end, careful attention must be given to the methodology for distributing NOx, SO_2, and mercury allowances to electric generating units. LPPC supports the Clear Skies methodology for allocating allowances to only those units subject to the multi-pollutant reduction requirements. We strongly oppose other legislative proposals to distribute allowances through any type of allowance auction system. Although different allowance allocation methodologies may be appropriate for different pollutants, whatever methodology adopted must result in an equitable allocation of the control obligations to those generating facilities.

Another key component of a new air regulatory paradigm is a coordinated emission reduction strategy. Under existing law, the electric power sector currently faces emissions control requirements that are duplicative, contradictory, costly and overly complex. Such a regulatory scheme poses significant planning problems and makes it very difficult to formulate an efficient strategy for meeting future air regulatory control requirements, many of which require long construction cycles and large capital expenditures. The failure to improve planning certainty not only creates great investment risks, but could threaten the reliability and affordability of our nation's electric supply.

LPPC is ready to work with the Senate Environment and Public Works Committee and other Members of Congress in developing a new regulatory paradigm that achieves superior environmental results in a more efficient and cost-effective manner. Key elements of this new paradigm include reform of new source review, elimination of redundant air regulatory requirements, and a period of regulatory certainty going forward for the power generation sector.

In conclusion, LPPC appreciates the Committee's leadership on this important environmental initiative and stands ready to establish a new paradigm for bringing cleaner air, sooner, at a lower cost. The time to pass multi-pollutant control legislation is now. Passage of such legislation will ensure clean air for our nation and do so while protecting the economic well being of our communities and providing an adequate supply of reliable and affordable energy.

EPA Projections of Coal-Fired Power Plants That Will Not Have Applied Modern NO_x and SO_x Controls Under Clear Skies by 2020

Plant	Initial Year	Age	MW	State
Barry	1954	51	535	Alabama
Carles R Lowman	1969	36	80	Alabama
Gadsden	1949	56	135	Alabama
Gorgas	1944	61	571	Alabama
Greene County	1955	50	510	Alabama
Widows Creek	1952	53	555	Alabama
Cholla	1962	43	260	Arizona
ACE Cogeneration Company			98	California
Long Beach Generation LLC			58	California
Mt Poso Cogeneration			55	California
Rio Bravo Jasmin			35	California
Rio Bravo Poso			34	California
Arapahoe	1950	55	45	Colorado
Cameo	1957	48	49	Colorado
Comanche	1973	32	660	Colorado
Martin Drake	1945	60	126	Colorado
Pawnee	1981	24	495	Colorado
Ray D Nixon	1979	26	208	Colorado
Indian River	1957	48	178	Delaware
Deerhaven	1972	33	218	Florida
Scholz			92	Florida
Hammond	1954	51	107	Georgia
Kraft	1958	47	216	Georgia
McIntosh	1979	26	173	Georgia
Yates	1950	55	213	Georgia
Crawford	1958	47	532	Illinois
Fisk	1959	46	316	Illinois
Joliet 29	1965	40	1017	Illinois
Joliet 9	1959	46	292	Illinois
Joppa Steam	1953	52	1014	Illinois
Waukegan	1951	54	525	Illinois
Will County	1955	50	761	Illinois
Wood River	1949	56	468	Illinois
Dean H Mitchell	1956	49	485	Indiana
Edwardsport	1944	61	120	Indiana
Elmer W Stout	1931	74	634	Indiana
F B Culley	1955	50	46	Indiana
H T Pritchard	1949	56	260	Indiana
Noblesville	1950	55	90	Indiana
R Gallagher	1958	47	560	Indiana
R M Schahfer	1976	29	472	Indiana
State Line	1955	50	187	Indiana
Wabash River	1953	52	262	Indiana
Whitewater Valley	1955	50	35	Indiana
Ames	1958	47	95	Iowa
Burlington	1968	37	211	Iowa
Council Bluffs	1954	51	131	Iowa
Dubuque			30	Iowa
Earl F. Wisdom			39	Iowa
Fair Station	1959	46	41	Iowa

EPA Projections of Coal-Fired Power Plants That Will Not Have Applied Modern NO_x and SO_x Controls Under Clear Skies by 2020

Plant	Initial Year	Age	MW	State
George Neal North	1964	41	371	Iowa
Lansing	1948	57	294	Iowa
Muscatine	1944	61	76	Iowa
Prairie Creek	1950	55	142	Iowa
Riverside	1949	56	130	Iowa
Streeter Station	1963	42	37	Iowa
Sutherland	1955	50	142	Iowa
Kaw	1954	51	92	Kansas
Lawrence	1952	53	56	Kansas
Nearman Creek			235	Kansas
Quindaro	1965	40	208	Kansas
Riverton	1939	66	92	Kansas
Tecumseh	1957	48	236	Kansas
Cooper	1964	41	116	Kentucky
Green River	1950	55	179	Kentucky
Henderson I			26	Kentucky
Pineville			32	Kentucky
Robert Reid	1965	40	64	Kentucky
Shawnee	1953	52	1206	Kentucky
Tyrone			72	Kentucky
Nelson Coal	1959	46	550	Louisiana
Rumford Cogeneration Company			76	Maine
AES Warrior Run Cogeneration Facility			204	Maryland
R P Smith	1947	58	86	Maryland
B C Cobb	1948	57	320	Michigan
Belle River	1984	21	1250	Michigan
Conners Creek			236	Michigan
Dan E Karn	1959	46	515	Michigan
Eckert Station	1954	51	364	Michigan
Harbor Beach	1968	37	103	Michigan
J C Weadock	1955	50	310	Michigan
J R Whiting	1952	53	410	Michigan
James DeYoung	1951	54	27	Michigan
Marysville	1930	75	200	Michigan
Presque Isle	1955	50	613	Michigan
River Rouge	1956	49	500	Michigan
RES Filer City Station			55	Michigan
Trenton Channel	1949	56	106	Michigan
Black Dog	1952	53	285	Minnesota
Clay Boswell	1958	47	138	Minnesota
High Bridge	1941	64	262	Minnesota
Hoot Lake	1948	57	148	Minnesota
M L Hibbard	1931	74	37	Minnesota
Minnesota Valley	1953	52	47	Minnesota
Northeast Station	1971	34	29	Minnesota
Riverside	1949	56	150	Minnesota
Silver Lake	1948	57	60	Minnesota
Blue Valley	1958	47	51	Missouri
Chamois	1953	52	49	Missouri
Columbia	1970	35	57	Missouri

EPA Projections of Coal-Fired Power Plants That Will Not Have Applied Modern NO_x and SO_x Controls Under Clear Skies by 2020

Plant	Initial Year	Age	MW	State
James River	1957	48	96	Missouri
Labadie	1970	35	2300	Missouri
Lake Road	1950	55	97	Missouri
Montrose	1958	47	161	Missouri
Rush Island	1976	29	1158	Missouri
Sibley	1960	45	106	Missouri
Sikeston	1981	24	222	Missouri
J E Corette	1968	37	156	Montana
Yellowstone Energy Ltd Partership			55	Montana
Gerald Gentleman	1979	26	700	Nebraska
Lon Wright	1957	48	85	Nebraska
Nebraska City	1979	26	585	Nebraska
North Omaha	1954	51	646	Nebraska
Platte	1982	23	100	Nebraska
Sheldon	1960	45	225	Nebraska
Whelan Energy Center	1981	24	72	Nebraska
North Valmy	1981	24	258	Nevada
Deepwater	1930	75	80	New Jersey
C R Huntley	1942	63	362	New York
Danskammer	1951	54	364	New York
Dunkirk	1950	55	183	New York
Fibertek Energy LLC			80	New York
Goudey	1943	62	83	New York
Greenidge	1938	67	161	New York
Lovett	1949	56	374	New York
Buck	1941	64	114	North Carolina
Cliffside	1940	65	76	North Carolina
Roxboro	1966	39	44	North Carolina
Southport			90	North Carolina
Dan River	1949	56	276	North Carolina
Dwayne Collier Battle			108	North Carolina
L V Sutton	1954	51	203	North Carolina
Lee	1951	54	155	North Carolina
Riverbend	1952	53	454	North Carolina
Tobaccoville			54	North Carolina
W H Weatherspoon	1949	56	176	North Carolina
R M Heskett	1954	51		North Dakota
Acme				Ohio
Avon Lake	1949	56	95	Ohio
Bay Shore	1955	50	355	Ohio
O H Hutchings	1948	57	252	Ohio
Richard Gorsuch	1951	54	106	Ohio
Toronto			130	Ohio
Walter C Beckjord	1952	53	466	Ohio
AES Shady Point Incorporated			308	Oklahoma
Hugo	1982	23	408	Oklahoma
Muskogee	1956	49	1515	Oklahoma
Northeastern	1961	44	900	Oklahoma
Sooner	1979	26	1015	Oklahoma
Boardman	1980	25	508	Oregon

EPA Projections of Coal-Fired Power Plants That Will Not Have Applied Modern NO_x and SO_x Controls Under Clear Skies by 2020

Plant	Initial Year	Age	MW	State
AES BV Partners Beaver Valley			127	Pennsylvania
Foster Wheeler Mt Carmel Inc			40	Pennsylvania
John B Rich Memorial			80	Pennsylvania
Panther Creek Energy Facility			82	Pennsylvania
Scrubgrass Generating Company LP			82	Pennsylvania
St Nicholas Cogeneration Project			101	Pennsylvania
Titus	1953	52	241	Pennsylvania
Canadys Steam	1962	43	430	South Carolina
Cogen South			55	South Carolina
Dolphus M Grainger	1966	39	170	South Carolina
H B Robinson	1960	45	174	South Carolina
McMeekin	1958	47	252	South Carolina
Urquhart	1953	52	250	South Carolina
Usdoe SRS (D-Area)			35	South Carolina
W S Lee	1951	54	370	South Carolina
John Sevier	1955	50	704	Tennessee
Johnsonville	1951	54	642	Tennessee
Celanese			26	Texas
Coleto Creek	1980	25	632	Texas
Harrington Station	1976	29	1066	Texas
Tolk Station	1982	23	1080	Texas
Carbon	1954	51	175	Utah
Huntington	1974	31	425	Utah
Sunnyside Cogeneration Associates	1993	12	50	Utah
Bremo Power Station	1950	55	71	Virginia
Chesterfield	1952	53	100	Virginia
Cogentrix of Richmond Incorporated			240	Virginia
Glen Lyn	1944	61	90	Virginia
L G & E Westmoreland Hopewell	1991	14	57	Virginia
Mecklenburg Cogeneration Facility	1992	13	122	Virginia
Potomac River	1949	56	306	Virginia
Steam Plant 2	1990	15	25	Washington
North Branch			74	West Virginia
Rivesville	1944	61	91	West Virginia
Willow Island	1949	56	54	West Virginia
Alma	1950	55	144	Wisconsin
Blount Street	1925	80	98	Wisconsin
Columbia	1975	30	1050	Wisconsin
Edgewater	1942	63	476	Wisconsin
Genoa	1941	64	377	Wisconsin
Nelson Dewey	1959	46	226	Wisconsin
Port Washington	1949	56	166	Wisconsin
Pulliam	1942	63	408	Wisconsin
Rock River	1953	52	161	Wisconsin
Weston	1954	51	478	Wisconsin
Dave Johnston	1958	47	542	Wyoming
Naughton	1963	42	370	Wyoming
Average	**1957**	**48**	**279**	

STATEMENT OF HON. CHRISTINE TODD WHITMAN, ADMINISTRATOR, U.S. EVIRONMENTAL PROTECTION AGENCY, APRIL 8, 2003

I. INTRODUCTION

Thank you, Mr. Chairman and Members of the Committee for the opportunity to speak with you today about the Clear Skies Act of 2003. Based on one of the most successful programs created by the Clean Air Act, Clear Skies is a proposal to substantially reduce emissions of the three most harmful pollutants from power generation—and to do so in a way that is much faster and more efficient than under current law. As President Bush said in the State of the Union Address, Clear Skies will advance our goal of "promot[ing] energy independence for our country, while dramatically improving our environment." The Administration is committed to working with this Subcommittee and Congress to pass legislation this year. The widespread support for multi-pollutant legislation to reduce power plant emissions is a strong indicator that the time for action on this critical issue is now. Failure to enact Clear Skies this year will delay important public health and environmental benefits.

This country should be very proud of the progress we have already made in cleaning up our air. Since the Clean Air Act was first enacted in 1970, we have reduced emissions of the six primary air pollutants by 25 percent. During the same time period, the economy has grown significantly—the Gross Domestic Product increased 160 percent; vehicle miles traveled increased 150 percent; energy consumption increased 40 percent; and the U.S. population increased 35 percent.

Although we have made much progress since 1970, we still face major air quality challenges in many parts of the country. Clear Skies is the most important next step we can take to address these challenges and achieve healthy air and a clean environment for all Americans. Clear Skies would make great strides toward solving our remaining air quality problems in a way that also advances national energy security and promotes economic growth. It would reduce power plant emissions of SO_2, NOx and mercury by approximately 70 percent from today's levels and do it faster, with more certainty, and at less cost to American consumers than would current law. Last year's EPA estimates project that, over the next decade, all the programs of the existing Clean Air Act would reduce power plant emissions of SO_2 and NOx by approximately 23 million tons. Over the same time period, Clear Skies would reduce emissions of these same pollutants by 58 million tons—a reduction of 35 million tons of pollution that will not be achieved under current law[1].

When fully implemented, Clear Skies would prolong thousands of lives each year, providing billions of dollars in economic benefits, save millions of dollars in health care costs, and increase by millions the number of people living in areas that meet our new, more stringent health-based national air quality standards. Clear Skies would also virtually eliminate chronic acidity in northeastern lakes, reduce nitrogen loading in coastal waters, and help restore visibility in our national parks.

The Clean Air Act has been, and continues to be, a vehicle for great progress in improving the health and welfare of the American people. The Clear Skies Act substantially expands one of the most successful Clean Air Act programs—the Acid Rain Program—and reduces the need to rely on complex and less efficient programs. The result would be significant nationwide human health and environmental benefits; certainty for industry, states and citizens; energy security; and continuing low costs to consumers.

II. CLEAR SKIES PROVIDES SIGNIFICANT BENEFITS

The heart of Clear Skies is a proven cap-and-trade approach to emissions reductions. Mandatory caps restrict total emissions and decline over time. Clear Skies would continue the existing national cap-and-trade program for SO_2, but dramatically reduce the cap from 9 million to 3 million tons. Clear Skies would also use a national cap-and-trade program for mercury that would reduce emissions from the current level of about 48 tons to a cap of 15 tons, and would employ two regional cap-and-trade programs for NOx to reduce emissions from current levels of 5 million tons to 1.7 million tons. The specific caps and their timing are set forth in Table 1.

Table 1. Clear Skies Emission Reductions Timetable

Although national in scope, Clear Skies recognizes and adjusts for important regional differences in both the nature of air pollution and the relative importance of emissions from power generation. The eastern half of the country needs reductions in NOx emissions to help meet the ozone and fine particle standards, which generally are not an issue in the western half of the county (with the exception of Cali-

fornia, which does not have significant emissions from existing coal-fired power plants). The western half of the country needs NOx reductions primarily to reduce the regional haze that mars scenic vistas in our national parks and wilderness areas, and the nitrogen deposition that harms fragile forests. Recognizing these regional differences, Clear Skies would establish two trading zones for NOx emissions and prohibit trading between the zones to ensure that the critical health-driven goals in the East are achieved.

Clear Skies also recognizes the special visibility protection measures that have been developed by states participating in the Western Regional Air Partnership (WRAP). Clear Skies would essentially codify the WRAP's separate SO_2 backstop cap-and-trade program, which would come into effect only if the WRAP states did not meet their 2018 SO_2 emissions targets.

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

Significant Public Health and Environmental Benefits

The public health and environmental benefits of Clear Skies present compelling reasons for its immediate passage. EPA projects that, by 2010, reductions in fine particle and ozone levels under Clear Skies would result in billions of dollars in health and visibility benefits nationwide each year, including as many as 6,400 prolonged lives. Using an alternative methodology, 3,800 lives would be prolonged by 2010. Under EPA's base methodology for calculating benefits, Americans would experience significant benefits each year by 2020, including:

- 12,000 fewer premature deaths (7,000 under an alternative analysis),
- 11,900 fewer visits to hospitals and emergency rooms for cardiovascular and respiratory symptoms,
- 370,000 fewer days with asthma attacks, and
- 2 million fewer lost work days.

Using the alternative methodology, by 2020 Americans would experience 7,000 fewer premature deaths each year.

Methodologies do not exist to quantify or monetize all the benefits of Clear Skies. Still, it is clear that the benefits far exceed the costs. EPA estimates that the health benefits we can quantify under Clear Skies are worth $93 billion annually by 2020—substantially greater than the annual costs of approximately $6.5 billion. An alternative approach projects annual health benefits of $11 billion, still significantly outweighing the costs. The Agency estimates an additional $3 billion in benefits from improving visibility at select National Parks and Wilderness Areas. These estimates do not include the many additional benefits that cannot currently be monetized but are likely to be significant, such as human health benefits from reduced risk of mercury emissions, and ecological benefits from improvements in the health of our forests, lakes, and coastal waters.

Clear Skies would achieve most of these benefits by dramatically reducing fine particle pollution caused by SO_2 and NOx emissions, which is a year-round problem. Of the many air pollutants regulated by EPA, fine particle pollution is perhaps the greatest threat to public health. Hundreds of studies in the peer reviewed literature have found that these microscopic particles can reach the deepest regions of the lungs. Exposure to fine particles is associated with premature death, as well as asthma attacks, chronic bronchitis, decreased lung function, and respiratory disease. Exposure is also associated with aggravation of heart and lung disease, leading to increased hospitalizations, emergency room and doctor visits, and use of medication.

By reducing NOx emissions, Clear Skies also would reduce ozone pollution in the eastern part of the country and help keep ozone levels low in the western portion of the country. Ozone (smog) is a significant health concern, particularly for children and people with asthma and other respiratory diseases who are active outdoors in the summertime. Ozone can exacerbate respiratory symptoms, such as coughing and pain when breathing deeply, as well as transient reductions in lung function and inflammation of the lung. Ozone has also been associated with increased hospitalizations and emergency room visits for respiratory causes. Repeated exposure over time may permanently damage lung tissue.

Current estimates indicate that more than 350 counties fail to meet the health-based fine particle and ozone standards. As a result, 45 percent of all Americans live in counties where monitored air was unhealthy at times because of high levels of fine particles and ozone.[2] Clear Skies, in combination with existing control programs, would dramatically reduce that number, as shown in Figure 1. In areas where attainment is not projected, Clear Skies would assist those areas in addressing the air quality problems. Even counties currently measuring attainment would

benefit from the reductions under Clear Skies. Throughout the West, Clear Skies would hold emissions from power plants in check, preserving clean air in high-growth areas and preventing degradation of the environment, even as population and electricity demand increase.

[See Attached Figure 1, Widespread Attainment with Fine Particle and Ozone Standards]

Clear Skies would also reduce mercury emissions from power plants. EPA is required to regulate mercury because EPA determined that mercury emissions from power plants pose an otherwise unaddressed significant risk to health and the environment, and because control options to reduce this risk are available. Mercury, a potent toxin, can cause permanent damage to the brain and nervous system, particularly in developing fetuses when ingested in sufficient quantities. People are exposed to mercury mainly through eating fish contaminated with methylmercury.

Mercury is released into the environment from many sources. Mercury emissions are a complex atmospheric pollutant transported over local, regional, national, and global geographic scales. EPA estimates that 60 percent of the mercury falling on the U.S. is coming from current man-made sources. Power generation remains the largest man-made source of mercury emissions in the United States. In 1999, coal-fired power plants emitted 48 tons of mercury (approximately 37 percent of man-made total). These sources also contribute 1 percent of mercury to the global pool.

Mercury that ends up in fish may originate as emissions to the air. Mercury emissions are later converted into methylmercury by bacteria. Methylmercury accumulates through the food chain: fish that eat other fish can accumulate high levels of methylmercury. EPA has determined that children born to women who may have been exposed to high levels may be at some increased risk of potential adverse health effects. Prenatal exposure to such levels of methylmercury may cause developmental delays and cognitive impairment in children. Clear Skies will require a 69 percent reduction of mercury emissions from power plants.

In addition to substantial human health benefits, Clear Skies would also deliver numerous environmental benefits. For example, under Clear Skies, we project that 10 million fewer pounds of nitrogen would enter the Chesapeake Bay annually by 2020, reducing potential for water quality problems such as algae blooms and fish kills. In fact, the Chesapeake Bay States, including NY, VA, MD, PA, DE, WV and DC, recently agreed to incorporate the nitrogen reductions that would result from Clear Skies legislation as part of their overall plan to reduce nutrient loadings to the Bay. Clear Skies would also accelerate the recovery process of acidic lakes, virtually eliminating chronic acidity in many Northeastern lakes. For decades fish in the Adirondacks have been decimated by acid rain, making many lakes completely incapable of supporting populations of fish such as trout and smallmouth bass. The Acid Rain Program has allowed some of these lakes and the surrounding forests to begin to recover; Clear Skies would achieve additional needed reductions. Clear Skies would also help other ecosystems suffering from the effects of acid deposition by preventing further deterioration of Southeastern streams. Finally, Clear Skies would improve visibility across the country, particularly in our treasured national parks and wilderness areas.

Clear Skies is designed to ensure that these public health and environmental benefits are achieved and maintained. By relying on mandatory caps, Clear Skies would ensure that total power plant emissions of SO_2, NOx and mercury would not increase over time. This is a distinct advantage over traditional command-and-control regulatory methods that establish source-specific emission rates but which allow total emissions to increase over time. Like the Acid Rain Program, Clear Skies would have much higher levels of accountability and transparency than most other regulatory programs. Sources would be required to continuously monitor and report all emissions, ensuring accurate and complete emissions data. If power plants emit more than allowed, financial penalties are automatically levied—without the need for an enforcement action. More importantly, every ton emitted over the allowed amount would have to be offset in the following year, ensuring no net environmental harm. This high level of environmental assurance is rare in existing programs; Clear Skies would make it a hallmark of the next generation of environmental protection.

Reasonable Costs and Energy Security for Consumers and Industry

The President directed us to design Clear Skies to meet both our environmental and our energy goals. Under Clear Skies, electricity prices are expected to remain at or below current levels over the next decade. Our extensive economic modeling of the power industry looked at a broad array of factors to gauge the effects of Clear Skies on the energy industry—and they all show that cleaner air and energy security can go hand-in-hand.

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

Under Clear Skies by 2010, about three-fourths of U.S. coal-fired generation is projected to come from units with billions of dollars of investment in advanced SO_2 and/or NOx control equipment (such as scrubbers and Selective Catalytic Reduction, which also substantially reduce mercury emissions). In 2020, the percentage is projected to rise to 85 percent. Cost effective strategies and technologies for the control of sulfur dioxide and nitrogen oxides emissions exist now, and—thanks in good part to the Clear Skies market-based system—improved methods for these pollutants, and for mercury, are expected to become increasingly cost-efficient over the next several years. In fact, the Institute of Clean Air Companies forecasts that the U.S. markets for most technology sectors will remain fairly strong, adding momentum to the air pollution control technology industry. We expect that the Clear Skies Act will provide great benefits to American jobs in the engineering and construction industries.

One of the key reasons Clear Skies would be cost-effective is its reliance on cap-and-trade programs. Like the Acid Rain Program upon which it is based, Clear Skies would give industry flexibility in how to achieve the needed emission reductions, which allows industry to make the most cost-effective reductions and pass those savings on to consumers. Power plants would be allowed to choose the pollution reduction strategy that best meets their needs (e.g., installing pollution control equipment, switching to lower sulfur coals, buying excess allowances from plants that have reduced their emissions beyond required levels). Like the Acid Rain program, Clear Skies includes banking provisions, enabling companies to save unused allowances for future use. Banking creates a tangible, quantifiable, economic incentive to decrease emissions beyond allowable levels, which EPA projects will result in significant early benefits due to over-compliance in the initial years, particularly for SO_2. It also leads to gradual emissions reductions over time, and therefore a less disruptive transition to tighter emission controls needed to address lingering problems. Based on past experience under the Acid Rain Program, by placing a monetary value on avoided emissions, Clear Skies would stimulate technological innovation, including efficiency improvements in control technology, and encourage early reductions.

Assistance to State and Local Governments

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

Clear Skies' assistance to states goes beyond ensuring that power plants will reduce their emissions. Clear Skies relies on a common-sense principle—if a local air quality problem will be solved in a reasonable timeframe by the required regional reductions in power plant emissions, we should not require local areas to adopt local measures. Under Clear Skies, areas that are projected to meet the ozone and fine particles standards by 2015 as a result of Clear Skies would have a legal deadline of 2015 for meeting these standards (i.e., will have an attainment date of 2015). These areas would be designated "transitional" areas, instead of "nonattainment" or "attainment," and would not have to adopt local measures (except as necessary to qualify for transitional status). They would have reduced air quality planning obligations and would not have to administer more complex programs, such as transportation conformity, nonattainment New Source Review, or locally based progress or technology requirements in most circumstances.

III. IMPROVING THE CLEAN AIR ACT WITH CLEAR SKIES

Clear Skies would improve the Clean Air Act in a number of ways. It would build on the proven portions of the Clean Air Act—like the national ambient air quality standards and the Acid Rain Program—and reduce reliance on complex, less efficient requirements like New Source Review for existing sources. The mandatory emissions caps at the heart of Clear Skies guarantee that reductions will be achieved and maintained over time. In contrast, uncertainties with respect to regulatory development, litigation, and implementation time make it difficult to estimate how quickly and effectively current regulations would be implemented under the current Clean Air Act. The level of SO_2 and NOx reductions we expect over the next decade with Clear Skies legislation could not be achieved under the existing Act. After that, we know that Clear Skies would achieve significant reductions, while both the timing and level of reductions under the current Clean Air Act are unclear.

Early Reductions

One of the major reasons we need Clear Skies now is that adoption of Clear Skies would provide greater protection over the next decade than the traditional regulatory path. The Clear Skies Act will result in significant over-compliance in the early years, particularly for SO_2, because sources are allowed to bank excess emissions reductions. For reasons described below, our analyses indicate that the cumulative SO_2 and NOx emissions reductions achieved by Clear Skies over the next decade would not be achieved in the same timeframe under the current Clean Air Act. Last year's EPA estimates project that power plants would emit 35 million fewer tons of NOx and SO_2 over the next decade under Clear Skies than they would under the current Clean Air Act—this more than doubles the reductions otherwise expected and would ensure significantly larger human health and environmental benefits. Our analysis suggests that the amount of pollution controls that the industry will have to install under Clear Skies over the next decade will stretch the limits of available labor and other construction resources, but can in fact be accomplished while maintaining energy reliability and continuing the downward trend in electricity prices.

Legislation Now Is Better than Regulation Followed by Years of Litigation

Even if Clear Skies is not passed by Congress, power plants will be required to reduce their emissions of SO_2, NOx and mercury. There is no more cost effective way than Clear Skies to meet the requirements of the current Clean Air Act or to achieve our public health and environmental goals. We know that, absent new legislation, EPA and the states will need to take a number of regulatory actions, although it is unclear now when the requirements will come into effect or what their control levels will be.

Clear Skies has several benefits over the regulatory scheme that will otherwise confront power generators. Clear Skies is designed to go into effect immediately upon enactment. Power plants would immediately understand their obligations to reduce pollution and would be rewarded for early action. As a result, public health and environmental benefits would begin immediately. Given Clear Skies' design, it is unlikely that litigation could delay the program (particularly since Congress would decide the two most controversial issues—the magnitude and timing of reductions). In contrast, under the current Clean Air Act, power plants would not know what their obligations would be until after EPA and states started and completed numerous rulemakings.

Past experience suggests that litigation delays on the regulatory path are likely. Our experience with two cap-and-trade programs—the legislatively created Acid Rain Trading Program and the administratively created NOx SIP Call—illustrates the benefits of achieving our public health and environmental goals with legislation rather than relying solely on existing regulatory authority.

Though we project a great deal of benefits will arise from implementation of the NOx SIP call, the journey has been difficult and is not yet over. The NOx SIP call was designed to reduce ozone-forming emissions by one million tons across the eastern United States. The rulemaking was based on consultations begun in 1995 among states, industry, EPA, and nongovernmental organizations. A Federal rule was finalized in 1998. As a result of litigation, one state was dropped and the 2003 compliance deadline was moved back for most states. Most states are required to comply in 2004, although two states will have until 2005 or later. Meanwhile, sources in these states continue to contribute to Eastern smog problems. Although the courts have largely upheld the NOx SIP Call, the litigation is not completely over. Industry and state challenges to the rules have made planning for pollution control installations difficult, raised costs to industry and consumers, and delayed health and environmental benefits.

In contrast, reductions from the Acid Rain Program began soon after it passed (even before EPA finalized implementing regulations). There were few legal challenges to the small number of rules EPA had to issue—and none of the challenges delayed implementation of the program. The results of the program have been dramatic—and unprecedented. Compliance has been nearly 100 percent. Reductions in power plant SO_2 emissions were larger and earlier than required, providing earlier human health and environmental benefits. Now, in the ninth year of the program, we know that the greatest SO_2 emissions reductions were achieved in the highest SO_2–emitting states; acid deposition dramatically decreased over large areas of the eastern United States in the areas where they were most critically needed; trading did not cause geographic shifting of emissions or increases in localized pollution (hot spots); and the human health and environmental benefits were delivered broadly. The compliance flexibility and allowance trading has reduced compliance costs by 75 percent from initial EPA estimates.

[See 2001 Acid Rain Program Progress Report submitted for the record.]

It is clear from this example that existing regulatory tools often take considerable time to achieve significant results, and can be subject to additional years of litigation before significant emissions reductions are achieved. Under this scenario, there are few incentives to reduce emissions until rules are final and litigation is complete, posing potentially significant delays in achieving human health and environmental benefits.

The Clean Air Act contains several provisions under which EPA will be required to impose further emission controls on power plants in order to allow states to meet the new national ambient air quality standards (NAAQS) for $PM_{2.5}$ and ozone. For example, Section 126 of the Clean Air Act provides a petition process that states can use to force EPA to issue regulations to reduce emissions of SO_2 and NOx from upwind sources, including power plants. A number of states have indicated that they intend to submit Section 126 petitions in the near future. However, compared to Clear Skies, this approach will almost certainly involve years of litigation and uncertainty about reduction targets and timetables.

Additional reductions are required from power plants through the regional haze rule's BART (Best Available Retrofit Technology) requirements and forthcoming mercury MACT (maximum achievable control technology) requirements. EPA is required to propose by the end of 2003 a MACT standard for utility mercury emissions that must be met, plant-by-plant, by every coal-fired utility with unit capacity above 25 megawatts. EPA is required to finalize this rule by the end of 2004. The Act generally gives sources 3 years within which to comply with MACT standards. This compliance obligation could be delayed by a court if EPA's rule is challenged.

Because these regulations will be the product of separate Federal, state and judicial processes, comparable health and environmental protection is likely to cost more under the current Clean Air Act than under Clear Skies. EPA estimates that a comprehensive, integrated approach relying on cap-and-trade programs could reduce costs by one fourth as compared to the regulatory approach achieving comparable emission reductions. These cost savings would be passed on to the public through lower electricity prices and greater profitability to investors and owners of electric generation.

New Source Review

Some have suggested that Clear Skies is an attempt to undermine the Clean Air Act. This is simply not true. To achieve the next generation of environmental progress, we must build on the successful provisions in laws that have served us well—and learn from those provisions that have not served us well, or have had only limited success. New Source Review (NSR) is an example of a program that EPA and stakeholders have long recognized is not working well.

There is a misconception that the principle goal of the NSR program is to reduce emissions from power plants. This is simply incorrect. Reducing emissions from power plants is the principle goal of Clear Skies. The NSR program is triggered only when facilities emitting large amounts of air pollution are built, and when modifications at these facilities result in significant increases in air pollution. The NSR program is not designed to result in nationwide reductions of air pollution from power plants. When it comes to reducing harmful air emissions from power plants, Clear Skies would accomplish more than NSR.

Clear Skies would significantly modify the NSR program for power plants, but contain some important backstops. We expect that existing power plants would not have to go through NSR for modifications. New sources would no longer have to go through the entire NSR process, but some aspects of the process would still apply. Although we believe that with a tight cap on emissions, new sources will always install good controls, we did not want to run the risk that a new source would be

uncontrolled. Therefore, as a backstop, Clear Skies would require all new power plants to meet New Source Performance Standards that are set in the statute.

In addition, new power generators locating within 50 km of a Class I area (e.g., national parks or wilderness areas) would still be subject to the current NSR requirements for the protection of those areas. Finally, new power plants will also have to meet the current NSR requirements that they will not cause or contribute to a violation of the national ambient air quality standards.

IV. WINDOW OF OPPORTUNITY

Because of the lessons learned over the last decade, there is increasing support for legislation such as Clear Skies that would significantly reduce and cap power plant emissions and create a market-based system to minimize control costs. From environmental groups to coal companies, there is increasing broad-based support demonstrating that multipollutant legislation is a preferable path to cleaner air. Such an approach would address an array of air pollution concerns associated with power generation—including fine particles, smog, mercury deposition, acid rain, nitrogen deposition, and visibility impairment—at lower cost and with more certainty than currently allowed by the Clean Air Act.

The Acid Rain Program is widely accepted as one of the most effective air pollution programs ever adopted and has consequently attracted worldwide attention and emulation. The Program's track record has encouraged Congress to consider broader applications of cap-and-trade programs to address multiple air pollutants. The common elements of the proposals considered by Congress are mandatory caps on emissions of multiple pollutants from the power generation sector, implemented through allowance trading programs modeled after the Acid Rain Program.

There is no better time for Congress to be considering multipollutant legislation. President Bush has indicated that Clear Skies is his top environmental priority. The number of proposals being considered by Congress also indicates a consensus behind the basic idea of a multipollutant cap-and-trade approach. The Large Public Power Council, Edison Electric Institute, Adirondack Council, and numerous individual utilities have all expressed support for the scope and framework of Clear Skies. If legislation passes quickly, we will begin achieving emissions reductions and related health benefits now. Congress needs to act now so that we do not lose a decade's worth of health and environmental benefits from reducing fine PM pollution, smog, acid deposition, nitrogen deposition, and regional haze. Further, as EPA continues to implement additional forthcoming regulations under the existing framework of the Act, the likelihood of our ability to pursue an integrated program diminishes—and with it diminish the numerous advantages that I have delineated today of an approach like Clear Skies.

Legislation is also needed now to help states with their air quality planning and provide incentives for industry innovation, which, in turn, would lower costs and emissions. Such incentives are particularly compelling this year as we approach the task of reducing mercury emissions from the power industry. If designed correctly, legislation could provide the incentive that spurs technological innovation. When stringent yet flexible mechanisms exist, substantial technological improvements and steady reductions in control costs can be expected to follow.

Congress obviously has much to consider as it weighs Clear Skies and other multipollutant proposals this year. We anticipate and welcome a rigorous and healthy debate on these issues.

NOTES

[1] Except where otherwise noted, the projected emission levels, costs and benefits in this testimony are all based on analyses of the Clear Skies Act of 2002 conducted in 2002. EPA is currently analyzing the Clear Skies Act of 2003 using updated modeling assumptions and other updated information. We expect that the new analyses will be very similar to the 2002 analyses, but specific projections will likely change somewhat.

[2] These numbers are based on the most current monitoring data available to EPA. It is more current than the data that was available at the time that EPA conducted its analyses last year of the Clear Skies Act of 2002. The newer data confirms that we have serious air quality problems in many counties, but it shows improvement—fewer counties violating the ozone and fine particle standards. As a result, compared to last year's analyses, the new analyses may show less residual non-attainment (counties out of attainment in 2010 and 2020).

STATEMENT OF HON. KYLE E. MCSLARROW, DEPUTY SECRETARY, U.S. DEPARTMENT OF ENERGY, MAY 8, 2003

Mr. Chairman, I am pleased to appear before you today to discuss the Administration's National Energy Policy and to discuss why we think Clear Skies is a critical component of the President's strategy to confront our energy and environmental challenges.

Though it is often overlooked, the President's National Energy Policy directed the Administrator of the Environmental Protection Agency to work with Congress to propose legislation that would establish a flexible, market-based program to significantly reduce and cap emissions of sulfur dioxide, nitrogen oxide, and mercury from electric power generators. The President's National Energy Policy concluded that, as our energy needs grow, additional innovations would be necessary to continue improving our environmental conditions. The success of the Clean Air Act Acid Rain program in promoting innovation and emission reductions is well known—especially by Members of this committee—and served as the template for the Clear Skies legislation now before this Committee.

We are pleased that the Senate is now considering a comprehensive energy bill reported out of the Senate Energy committee, and commend Chairman Domenici and the members of his committee for acting so swiftly. And, we commend you, Mr. Chairman, and this committee for moving aggressively to consider the Clear Skies legislation.

INTRODUCTION AND OUTLOOK

Over the past century, we have witnessed the power of energy to drive global economic development. In the 1970s, we learned firsthand how energy shortages and resulting high prices can compromise economic growth and the quality of life to which Americans have grown accustomed. Clearly, the availability of reliable, affordable energy is critical to sustained economic growth.

We have a series of long-term energy challenges that require action now. These challenges are present along the entire energy continuum, affecting crude oil, refinery products, natural gas, electricity generation and transmission, the environment, and economic growth.

The Nation's Power Industry

To understand the need for Clear Skies, it is important to understand the current make-up of the Nation's electric power industry. The U.S. power-generating sector remains the envy of the world. On any given day, approximately 5,000 generating plants can make available up to 900,000 megawatts of electricity for virtually every home and business in the country. Fossil fuels supply about 70 percent of the Nation's requirements for electricity generation. Coal, alone, accounts for more than 50 percent of the electricity Americans consume. Primarily because of the power sector's use of abundant supplies of American coal and natural gas, consumers in the United States benefit from some of the lowest cost electricity of any free market economy.

U.S. Electricity Generation by Fuel

America's economic progress and global competitiveness have benefited greatly from this low cost electricity. Electricity is an essential part of America's modern economy. While the Nation has made dramatic progress in "decoupling" overall energy consumption from economic growth, increased economic activity remains closely linked to the availability of affordable electric power—and is likely to remain so well into the future.

The Nation's demand for electricity is projected to grow significantly over the next 22 years. Between now and 2025, the United States will likely have to add between 446,000 and 656,000 megawatts of new generating capacity to meet growing demand. This is equivalent to adding the entire power generation sectors of Germany and Japan, combined, to the U.S. power grid. Concurrent with this dramatic—and capital intensive—expansion of the Nation's power fleet, power generators will also be called upon to make new investments in pollution control technologies to meet tightening environmental standards. Over the past 25 years, America's electricity utility industry has invested billions of dollars in advanced technologies to improve the quality of our air. Each year, a substantial portion of normal plant operations costs—again amounting to several billions of dollars a year—are associated with operating installed technologies that reduce air emissions.

The investment has returned dividends. By installing new technologies to capture tiny particles of fly ash, the power industry has significantly improved air quality by dramatically reducing particulate matter. The power industry has also installed

sulfur dioxide controls on more than 90,000 megawatts of capacity as part of a successful effort that has cut SO_2 emissions substantially since 1970. Most of the nation's coal-fired plants have also installed nitrogen oxide controls that have helped make initial NOx reductions. In short, advanced technology—given the time to mature and be deployed—can be effective.

Technological improvements have permitted the Nation's power sector to continue generating relatively low cost power and, at the same time, use the energy resources America has in most abundance. America's use of coal, for example, has actually tripled since 1970 even as our air has become cleaner. Advanced technology also offers a pathway toward the prospects of achieving even greater reductions in air pollutants in the future.

At this point, let me review long-term energy trends—with a focus on natural gas and coal—which should help illustrate our challenges. My comments here are based on analyses prepared by the Department of Energy's independent analytical arm, the Energy Information Administration, in its Annual Energy Outlook 2003 (AEO 2003). All statistics are based on EIA's reference case scenario for the year 2025, which assumes current laws and regulations, including the Eastern U.S. ozone SIP call, but not future regulations, such as those to implement the new Clean Air Act ozone and particulate matter standards or the mercury MACT standard. The reference case also assumes continued improvement in energy consuming and producing technologies, consistent with historic trends.

Natural Gas Trends

The natural gas share of electricity generation is projected to increase from 17 percent in 2001 to 30 percent in 2025. By 2025, total natural gas consumption is expected to increase to almost 35 trillion cubic feet, which will amount to 26 percent of U.S. delivered energy consumption. Industrial consumption—the largest natural gas-consuming sector—is expected to increase by 3.4 trillion cubic feet over the forecast, driven primarily by economic growth. Combined consumption in the residential and commercial sectors is projected to increase by 2.6 trillion cubic feet between 2001 and 2025, driven by increasing population and healthy economic growth, and accompanied by gradually rising prices in real terms. Natural gas remains the overwhelming choice for home heating throughout the forecast period. Natural gas consumption in the generation sector doubles by 2025 due to lower capital costs, higher efficiencies, lower construction lead times, and lower emissions.

In the short term, domestic natural gas prices are expected to remain high in 2003 and are at risk for significant volatility through at least the next 12 to 18 months. EIA estimates that the current natural gas storage level is the lowest on record for this point in the annual cycle. As long as temperatures remain at or below normal this summer, natural gas storage levels should rise sharply over the coming months. But if this summer is hotter than normal, natural gas prices would jump as cooling demand would compete with the need to build storage inventories. A large rebound in the economy, poor results from the ongoing increase in natural gas drilling, or a continued tight oil market might also spur volatility.

On that note, drilling for natural gas expected to increase substantially, but a fourth U.S. LNG terminal is expected to open this year at Cove Point, Maryland, and a Kern River Pipeline extension from the Rockies to the West Coast opened earlier this month—greatly increasing the capacity to move gas from a key producing area. In 2004, declining oil prices should ease natural gas prices, and strong natural gas drilling should increase productive capacity through the end of the year.

Domestic gas production is expected to increase more slowly than consumption over the long-term forecast, rising from 19.4 trillion cubic feet in 2001 to 26.8 trillion cubic feet in 2025. The national average wellhead price is projected to reach $3.90 per thousand cubic feet, in 2001 dollars, by 2025.

Increased U.S. natural gas production through 2025 is projected to come primarily from unconventional sources and from Alaska. Unconventional gas production increases by 4.1 trillion cubic feet over the forecast period—more than any other source, largely because of expanded tight sandstone gas production in the Rocky Mountain region. Annual production from unconventional sources is expected to account for 36 percent of production in 2025, compared to 28 percent today. An Alaska natural gas pipeline is projected to begin flowing gas to the lower 48 States in 2021, reaching 4.5 billion cubic feet per day in 2023, with further expansion beginning in 2025. In 2025, total Alaskan gas production is projected to be 2.6 trillion cubic feet.

Conventional onshore non-associated production is projected to increase by 1.2 trillion cubic feet over the forecast, driven by technological improvements and rising natural gas prices. However, its share of total production declines from 34 percent in 2001 to 29 percent by 2025. Non-associated offshore production adds 560 billion cubic feet, with increased drilling activity in deep waters; however, its share of total

U.S. production declines from 22 percent in 2001 to 18 percent by 2025. Associated dissolved production declines by 800 billion cubic feet, consistent with a projected decline in crude oil production. Lower 48 associated-dissolved natural gas is projected to account for 8 percent of U.S. natural gas production in 2025, compared with 15 percent in 2001.

A key question facing producers and policymakers today is whether natural gas resources in the mature onshore lower 48 States have been exploited to a point at which lower discoveries per well eliminate the possibility of increasing—or even maintaining—current production levels at reasonable cost. Depletion has been counterbalanced historically by improvements in technology that have allowed gas resources to be discovered more efficiently and developed less expensively, have extended the economic life of existing fields, and have allowed natural gas to be produced from resources that previously were too costly to develop. In EIA's projection, technological progress for both conventional and unconventional recovery is expected to continue to enhance exploration and reduce costs. However, there is a significant debate within the industry itself as to whether this will occur.

The difference between U.S. natural gas production and consumption is net imports. Net imports of natural gas, primarily from Canada, are projected to increase from 3.6 trillion cubic feet in 2001 to 7.8 trillion cubic feet in 2025. Net imports contributed 16 percent to total natural gas supply in 2001, compared to an expected 22 percent in 2025. Almost half of the increase in U.S. imports is expected to come from liquefied natural gas (LNG). By 2025, EIA expects expansion at the four existing terminals and construction of three new LNG terminals.

Growth in pipeline imports from Canada partly depends on the completion of the MacKenzie Delta pipeline, which is expected to be completed in 2016 and expanded in 2023. Net imports from Canada are projected to provide 15 percent of total U.S. supply in 2025, about the same as in 2001. Mexico is projected to go from a net importer of U.S. natural gas to a net exporter in 2020, as an LNG facility begins operating in Baja California, Mexico, in 2019, predominantly serving the California market. By 2025, the United States is expected to import about 350 billion cubic feet of natural gas from Mexico per year.

Coal Trends

The share of electricity generated from coal is projected to decline from 52 percent in 2001 to 47 percent in 2025 as a more competitive electricity industry invests in less capital-intensive and more efficient natural gas generation technologies. Nonetheless, coal remains the primary fuel for electricity generation through 2025, and EIA projects that 74 gigawatts of new coal-fired generating capacity will be constructed between 2001 and 2025.

EIA's analysis here does not incorporate a projection of several Clean Air Act programs that could have a significant impact on the use of coal such as the mercury MACT. Although this rule has not been proposed, based on requirements of the Clean Air Act it is designed to require the control of mercury on a source by source basis by the end of 2007, which could be very costly and cause an even greater decline in the share of electricity generated by coal.

EIA projects growing domestic consumption over the forecast horizon, and projects a simultaneous reduction in real coal prices to generators by approximately 12 percent by 2025. Average annual coal consumption is projected to increase by 1.3 percent per year between 2001 and 2025. As domestic coal demand grows, U.S. coal production is projected to increase at an average rate of 1.0 percent per year.

The decline in prices is driven by the expectation of continued improvements in labor productivity, and the continued market expansion of western coal, which has a lower minemouth price than eastern coals. As western production makes further inroads into markets traditionally supplied by eastern coal, the average heat content of the coals produced and consumed will drop as well, reflecting the lower thermal content per ton of western than eastern coals.

PRESIDENT BUSH'S NATIONAL ENERGY POLICY

We long ago ceased to fully provide for our petroleum needs domestically, and though most of our current natural gas demand can be met with North American production, the trend here is also toward a greater share for imported natural gas. And coal, our most abundant energy resource, is actually projected to reduce its percentage share of electricity generation.

We are often at the mercy of events and decisions over which we have often limited—and sometimes no—control. When winters and summers are mild; when all refineries or pipelines are online; when supply from abroad is abundant and reliable; when prices are reasonable, we do not feel this dependency. However, when almost any one of these factors breaks down, markets react instantly, and we face the high-

er prices and volatility that have become by now an almost certain cyclical phenomenon.

These trends are a concern.

President Bush recognized that to prevent these problems from becoming a permanent, recurring feature of American life, we needed a long-term plan for energy security that would promote reliable, affordable and environmentally sound energy for the future.

President Bush's National Energy Policy, released in May, 2001, reflected a few, fundamental principles. First, we need to maintain a diversity of fuels from a multiplicity of sources. Second, we should seek opportunities for increased investment, trade, exploration and development, which are increasing every year, far beyond the traditional markets of the last 50 years. And third, we should focus on research and development on initiatives that seek long-term solutions to our energy challenges, as we have done with energy efficiency, renewables, hydrogen, fusion, and nuclear energy, as well as the recently announced zero-emission FutureGen coal project.

While these initiatives hold enormous promise for the future, we recognize the need for immediate actions to address the nation's growing energy demand. Clear Skies figures prominently on this list. I'd like to mention just a few of the actions currently underway, particularly those focused on ensuring adequate supplies of natural gas and electricity.

To increase and diversify domestic supplies of natural gas, the Administration, among other actions, has streamlined the process by which permits are granted for important energy projects, such as pipelines and refineries, and accelerated the leasing of non-restricted Federal lands where environmentally appropriate.

The Administration is encouraging new gas well investment by allowing for access to high quality resources and growth in pipeline delivery capability. We recognize that recoverable resources tend to be more difficult to develop and produce because the U.S. is a mature producing area. This increases ultimate supply costs, which requires ever increasing prices to be economically viable. A number of locations, such as portions of the Rocky Mountain area and the eastern Gulf of Mexico, are currently unavailable to exploration and development even though they are expected to contain substantial volumes of recoverable natural gas.

Interstate pipelines have been expanding delivery capacity, but additional expansions are needed to satisfy expected market growth. In 2002, 54 interstate pipeline projects were completed, adding about 12.8 billion cubic feet of capacity per day throughout the U.S., and proposals for expansions in 2003 through 2005 have been announced for a number of pipelines. The gas pipeline network has grown extensively over the past decade to meet the increasing demand for gas and to accommodate diversified gas sources. Regulatory lags in obtaining authorization for expansions of pipeline capacity are being addressed by initiatives at the Federal Energy Regulatory Commission (FERC) aimed at streamlining this approval process.

The Administration also strongly supports the construction of a commercially viable Alaska natural gas pipeline as a critical part of our energy security portfolio.

The National Energy Policy also highlighted the growing need for attention to the nation's electricity markets and infrastructure. The Administration's overarching goal is to ensure that Americans have abundant, affordable, clean and secure electricity supplies, and we strongly believe that Clear Skies is a key component of meeting this goal, as is a comprehensive energy bill that includes a sound electricity title to modernize our Nation's antiquated wholesale electricity laws.

The Administration believes that there really is only one viable policy choice: we must complete the transition to effective competition in wholesale power markets.

Well-functioning markets will, we believe, lead to lower costs for consumers and businesses. But there is more than simply the benefit of lower prices. A well-functioning market brings its own rewards. As confidence is gained that the system is reliable and capable of coping with high-demand for electricity, there will increasingly be less need for restrictive and prescriptive regulation. And that is the point when much-needed investment is likely to be attracted—investment in new technologies, and in improved generation and transmission facilities that produce additional energy and environmental benefits.

When the opposite is true—when uncertainty reigns, when reliability is questioned, when prices seem detached from market forces—investment vanishes.

The present uncertainty in the wholesale electricity market is not simply affected by policy choices that center on transmission assets and market designs. The uncertainty extends to the generation of electricity itself. That is why it is important to provide greater regulatory certainty about the kinds of investment choices that the generating industry will have to make over the next two decades.

We believe that the President's Clear Skies proposal does just that.

In 2000, 39 percent of the total energy consumed in the U.S. was for power generation. Since 1975, total U.S. energy use has grown by about 1.1 percent per year, while GDP and electricity consumption have grown by nearly 3 percent per year. We project future electricity growth to be somewhat less, below 2 percent per year, but it is clear that electricity is either the fuel of choice or fuel of necessity for many applications.

Our electric power is among the lowest in cost of any free market society. Low cost electricity is part of America's competitive edge in international markets. Cheap power translates to prosperity and available resources to overcome problems in many areas unrelated to energy but essential to our quality of life. A major reason that electricity in the U.S. is relatively inexpensive is that roughly one-half of our generation comes from coal.

S. 485, the Clear Skies Act of 2003, is a multi-pollutant, market-based cap and trade program that will reduce power plant emissions of sulfur dioxide (SO_2), nitrogen oxides (NOx) and mercury by approximately 70 percent from today's levels—and do it faster, with more certainty, and at less cost to American consumers than would current law.

Flexibility of compliance choices, maintenance of fuel diversity, and the cost savings passed on to consumers through lower electricity prices are among the benefits of the approach taken in Clear Skies, particularly when compared with other proposals that support more stringent targets, shorter compliance periods, or command and control regulatory approaches. The cap-and-trade system of emission reductions used in S. 485 should translate into reduced impacts on fuel markets—in particular, coal and gas—than equivalent emission reductions achieved through other approaches.

The Clear Skies Act substantially expands one of the most successful Clean Air Act programs—the Acid Rain Program—and reduces the need to rely on complex and less efficient programs. Power plants would be allowed to choose the pollution reduction strategy that best meets their needs (e.g., installing pollution control equipment, switching to lower sulfur or mercury coals, buying excess allowances from plants that have reduced their emissions beyond required levels). And like the Acid Rain program, Clear Skies includes banking provisions, enabling companies to save unused allowances for future use. The result would be significant nationwide human health and environmental benefits; certainty for industry, states and citizens; energy security; and continuing low costs to consumers.

S. 485 establishes a coordinated timeline for control of major emissions that provides adequate time to attract investment funds and avoids premature retirement of working capital. The patchwork of existing and soon-to-be-implemented regulations under the Clean Air Act, coupled with the delays bred by continuous litigation over them, has created enormous uncertainty for utilities, co-ops, and municipal generators. This uncertainty has curtailed investments in technology that would reduce emissions at existing plants and prevented numerous new facilities from coming online. Clear Skies provides industry with the time needed to attract capital necessary to reduce emissions without jeopardizing energy security.

ENERGY IMPACTS OF CLEAR SKIES

It is difficult to quantify what the cost or energy impacts will be if multipollutant legislation is not enacted. The EIA "baseline" includes all future legislation and regulations that have been specified, but does not include regulations that have not yet been promulgated. We know that in the absence of S. 485, mercury regulations will be promulgated by December 2004. But we do not know what those regulations will require; that knowledge will come only after a lengthy rulemaking process. We can anticipate that additional reductions in SO_2 and NOx will be required to attain ambient air quality standards for fine particulate matter. But we do not know what those regulations will be. We can anticipate additional regulations to reduce regional haze, but again, we do not know what those regulations will require.

What we should be concerned with is this: uncertainty, delay, and litigation are not likely to produce greater environmental benefits; they instead are likely to lead to more costly solutions, and they risk affecting the energy fuel mix in ways that are unwarranted and unforeseen.

Although we have not contrasted Clear Skies to this unknown regulatory future, we have compared it to a future predicated on current control programs. Under Clear Skies, natural gas consumption, which is projected to increase from 23 to 35 trillion cubic feet of gas in our baseline projection to 2025, increases to 36 trillion cubic feet per year in 2025. However, we do not project that a significant change in natural gas supply is needed due to the implementation of Clear Skies. Wellhead

natural gas prices follow the baseline pattern, after decreasing from the unusually high prices that occurred in 2001.

Clear Skies helps maintain coal as an important fuel source, thereby avoiding excessive pressure on natural gas prices. In our baseline projection, coal consumption would increase about 38 percent through 2025. Under S. 485, we project approximately a 26 percent increase.

EIA projects that electricity prices will be lower throughout the projection period than in 2001, for both the baseline scenario and under S. 485. The effect of the emission reductions is roughly a 0.3 cent per kilowatt-hour price increase above the baseline in 2025.

One of the concerns we have is in the ever-increasing reliance on natural gas for generation of electricity. As I have noted previously, this is primarily a function of efficiency and costs, but because our marginal supply of natural gas will increasingly come from imported LNG we should be concerned that we not place too much stress on natural gas supply by forcing a level of fuel switching from coal to gas that leads to higher volatility and higher prices. Natural gas supply as a low-cost and reliable source of electricity is not automatic—one has only to witness the winters of 2000–2001, and 2002–2003 to see the point.

In both the near and long term, the price of a commodity like natural gas is determined by the interaction of supply and demand. However, the determinants of supply and demand in the near term can be quite different than the factors that determine prices in the long term. In the near term, factors such as weather related increases in demand, storage levels, productive capacity at the wellhead, and disruptions in supply lines can be paramount because of the difficulty of quickly increasing the number of producing wells. Long-term market conditions, however, depend more on such factors as:

- The ability of markets to respond to price increases with adequate investments in new wells;
- Continuing availability of alternative fuels for generation;
- A viable market for imported gas;
- The continued development of new technologies; and
- Emissions reductions required under future regulation

The difference in what affects natural gas prices in the near term versus long term has important policy implications. We have to recognize that in the short run it is hard to do much about natural gas supply. From the time natural gas prices spike, the industry rule of thumb is that it takes 6–18 months for production to increase. And, unlike oil, there is currently no large international spot market in liquefied natural gas to moderate gas supply scarcity.

The elasticity of natural gas demand plays a significant role in price volatility. Because many users cannot switch to alternative fuels quickly, demand tends to be more inelastic in the short run. Inelastic demand means that small changes in demand lead to significantly higher prices than under less inelastic demand. Demand becomes less elastic as electric generators or industrial users lose their ability to switch to another fuel or as any user loses the ability to reduce consumption in response to higher prices.

It is, therefore, critically important that we maintain a balanced diversity of fuels to provide low-cost and abundant electricity. And the key to this is that we not assume that all policy objectives can simply be achieved with unlimited reliance on natural gas.

THE ROLE OF RESEARCH

One of DOE's fundamental missions is the advancement of energy-related technology. I would be remiss if I did not emphasize again that the projections I have presented today assume only a continuation of historic trends in technology evolution. We have the ability to change those trends through dramatic technology improvements. We intend to do exactly that.

The President has launched a suite of relevant technology initiatives: FreedomCAR and the Hydrogen Fuel Initiative (the hydrogen/fuel cell vehicle and infrastructure program), FutureGen (a program to develop a zero-emission coal-based power plant, coproducing low-cost hydrogen and sequestering CO_2), and fusion electric power plants. Success in these areas will dramatically change the energy, economic, and environmental future of the Nation.

The future role of coal in our energy mix may also be highly sensitive to the success we have in our program to improve Integrated Gasification Combined Cycle (IGCC) technology, an inherently clean way to produce power from coal. This technology has already been demonstrated at commercial scale, but additional support is being provided by DOE to enhance its efficiency, reduce technological risk, and

drive down capital costs. In addition, as I mentioned earlier, we are also pursuing R&D targeted specifically on one of the tougher challenges in Clear Skies—mercury control.

CONCLUSION

In conclusion, we believe that Clears Skies, which provides a range of benefits—improved health, cleaner air, and economic efficiency—is the best approach to address our dual energy and environmental challenges. Clear Skies avoids the more serious economic consequences of other approaches to cleaner air and provides market-based flexibility to the energy sector. Clear Skies, combined with our many other efforts to develop new, reliable, and secure sources of energy, will deliver significant environmental protection. It will help us to achieve our national goal of abundant, affordable, and clean sources of energy by maintaining fuel diversity and by providing greater regulatory certainty.

STATEMENT OF JEFFREY HOLMSTEAD, ASSISTANT ADMINISTRATOR, U.S. ENVIRONMENTAL PROTECTION AGENCY, JULY 8, 2003

I. INTRODUCTION

Thank you, Mr. Chairman and Members of the Committee for the opportunity to speak with you today about the Clear Skies Act of 2003. Based on one of the most successful programs created by the Clean Air Act, Clear Skies is a proposal to substantially reduce emissions of the three most harmful pollutants from power generation—and to do so in a way that is much faster and more efficient than under current law.

As President Bush said in the State of the Union Address, Clear Skies will advance our goal of "promot[ing] energy independence for our country, while dramatically improving our environment." The Administration is committed to working with this Subcommittee and Congress to pass legislation this year. The widespread support for multi-pollutant legislation to reduce power plant emissions is a strong indicator that the time for action on this critical issue is now. Failure to enact Clear Skies this year will delay important public health and environmental benefits.

This country should be very proud of the progress we have already made in cleaning up our air. According to the Environmental Protection Agency's (EPA) first Draft Report on the Environment, since the Clean Air Act was first enacted in 1970, total national emissions of the six most common air pollutants have been reduced 25 percent. Remarkably, this improvement in national air quality has occurred even while, during the same 30-year period, the U.S. Gross Domestic Product increased 161 percent, energy consumption increased 42 percent, and vehicle miles traveled increased 149 percent.

Although we have made much progress since 1970, we still face major air quality challenges in many parts of the country. Clear Skies is the most important next step we can take to address these challenges and achieve healthy air and a clean environment for all Americans. Clear Skies would make great strides toward solving our remaining air quality problems in a way that also advances national energy security and promotes economic growth. It would reduce power plant emissions of sulfur dioxide (SO_2), nitrogen oxides (NOx) and mercury by approximately 70 percent from today's levels and do it faster, with more certainty, and at less cost to American consumers than would current law. With Clear Skies, power plants would emit far less over the next decade than they would under the current Clean Air Act. Because of the innovative cap-and-trade approach used in Clear Skies, power plants would have an incentive to start reducing emissions as soon as Clear Skies is passed, resulting in emissions reductions more quickly than required.

EPA recently updated our analyses of Clear Skies using the most recent air quality data, population census information, and modeling techniques. This modeling represents the most sophisticated, comprehensive, detailed national modeling EPA has ever produced. These analyses reaffirm that Clear Skies would greatly reduce air pollution from power plants while ensuring a reliable, affordable supply of electricity.

When fully implemented, Clear Skies would deliver tens of billions of dollars in annual health benefits, prolong thousands of lives and prevent millions of illnesses each year, provide billions of dollars of economic benefits, and save millions of dollars in health care costs. The added benefit of Clear Skies would virtually assure attainment of the new ozone and particulate matter standards for much of this country, providing air that meets the new, more protective health-based national air quality standards to millions of people. Achieving the national standards has been

a problem that has plagued our nation's communities for decades. Clear Skies would also virtually eliminate chronic acidity in northeastern lakes, reduce nitrogen loading in coastal waters, and help restore visibility in our national parks and wilderness areas.

The Clean Air Act has been, and continues to be, a vehicle for great progress in improving the health and welfare of the American people. The Clear Skies Act substantially expands one of the most successful Clean Air Act programs—the Acid Rain Program—and reduces the need to rely on complex and less efficient programs. The result would be significant nationwide human health and environmental benefits; certainty for industry, states and citizens; energy security; and continuing low costs to consumers.

II. CLEAR SKIES PROVIDES SIGNIFICANT BENEFITS

The heart of Clear Skies is a proven cap-and-trade approach to emissions reductions. Mandatory caps restrict total emissions and decline over time. When fully implemented, Clear Skies would result in a 70 percent reduction in emissions of SO_2, NOx and mercury from today's levels. Clear Skies would continue the existing national cap-and-trade program for SO_2, but dramatically reduce the cap from 9 million to 3 million tons. Clear Skies would also use a national cap-and-trade program for mercury that would reduce emissions from the current level of about 48 tons to a cap of 15 tons, and would employ two regional cap-and-trade programs for NOx to reduce emissions from current levels of 5 million tons to 1.7 million tons.

Although national in scope, Clear Skies recognizes and adjusts for important regional differences in both the nature of air pollution and the relative importance of emissions from power generation. The eastern half of the country needs reductions in NOx emissions to help meet the ozone and fine particle standards, which generally are not a regional issue in the western half of the county (with the exception of California, which does not have significant emissions from existing coal-fired power plants). The western half of the country needs NOx reductions primarily to reduce the regional haze that mars scenic vistas in our national parks and wilderness areas, and the nitrogen deposition that harms fragile forests. Recognizing these regional differences, Clear Skies would establish two trading zones for NOx emissions and prohibit trading between the zones to ensure that the critical health-driven goals in the East are achieved.

Clear Skies also recognizes the special visibility protection measures that have been developed by states participating in the Western Regional Air Partnership (WRAP). Clear Skies would essentially codify the WRAP's separate SO_2 backstop cap-and-trade program, which would come into effect only if the WRAP states did not meet their 2018 SO_2 emissions targets.

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

Significant Public Health and Environmental Benefits

The public health and environmental benefits of Clear Skies present compelling reasons for its immediate passage. EPA's new analysis projects that, by 2010, reductions in fine particle and ozone levels under Clear Skies would result in billions of dollars in health and visibility benefits nationwide each year, including prolonging as many as 7,900 lives annually. Using an alternative methodology, Clear Skies would prolong 4,700 lives annually by 2010. EPA's base methodology for calculating benefits shows that Americans would experience significant health benefits each year by 2020, including:

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

Using an alternative methodology, by 2020 Americans would experience 8,400 fewer premature deaths each year.

We have not developed methodologies for quantifying or monetizing all the expected benefits of Clear Skies. Still, under all of our analytical approaches, it is clear that the benefits far exceed the costs. EPA estimates that the monetized value of the health benefits we can quantify under Clear Skies would be $110 billion annually by 2020—substantially greater than the projected annual costs of approximately $6.3 billion. An alternative approach projects annual health benefits of $21 billion, still significantly outweighing the costs. The Agency estimates an additional

$3 billion in benefits from improving visibility at select national parks and wilderness areas. These estimates do not include the many additional benefits that cannot currently be monetized but are likely to be significant, such as human health benefits from reduced risk of mercury emissions, and ecological benefits from improvements in the health of our forests, lakes, and coastal waters.

Clear Skies would achieve most of these benefits by dramatically reducing fine particle pollution caused by SO_2 and NOx emissions, which is a year-round problem. Of the many air pollutants regulated by EPA, fine particle pollution is perhaps the greatest threat to public health. Hundreds of studies in the peer-reviewed literature have found that these microscopic particles can reach the deepest regions of the lungs. Exposure to fine particles is associated with premature death, as well as asthma attacks, chronic bronchitis, decreased lung function, and respiratory disease. Exposure is also associated with aggravation of heart and lung disease, leading to increased hospitalizations, emergency room and doctor visits, and use of medication.

By reducing NOx emissions, Clear Skies also would reduce ozone pollution in the eastern part of the country and help keep ozone levels low in the western portion of the country. Ozone (smog) is a significant health concern, particularly for children and people with asthma and other respiratory diseases who are active outdoors in the summertime. Ozone can exacerbate respiratory symptoms, such as coughing and pain when breathing deeply, as well as transient reductions in lung function and inflammation of the lung. Ozone has also been associated with increased hospitalizations and emergency room visits for respiratory causes. Repeated exposure over time may permanently damage lung tissue.

Clear Skies would help move us from a situation where nearly every major urban area is projected to be out of attainment with the ozone and fine particle standards, to a scenario where only a few major cities would continue to have nonattainment problems. Based on current data (1999–2001 data), 129 counties nationwide (114 counties in the East) currently exceed the fine particle standard and 290 counties nationwide (268 counties in the East) currently exceed the new ozone standard. As a result, 45 percent of all Americans live in counties where monitored air was unhealthy at times because of high levels of fine particles and ozone. Clear Skies would dramatically reduce that number. By 2020, the combination of Clear Skies, EPA's proposed rule to decrease emissions from nonroad diesel engines, and other existing state and Federal control programs, such as pollution controls for cars and trucks, would bring all but 18 counties nationwide (including only 8 counties in the East) into attainment with the fine particle standards and all but 27 counties nationwide (including only 20 counties in the East) into attainment with the ozone standards. Even in the few areas that would not attain the standards, Clear Skies would significantly improve air quality. This would make it easier for state and local areas to achieve the new ozone and fine particle standards. Throughout the West, Clear Skies would hold emissions from power plants in check, preserving clean air in high-growth areas and preventing degradation of the environment, even as population and electricity demand increase.

[See Attached Figures 1 and 2, Attainment with Fine Particle and Ozone Standards]

Clear Skies would also reduce mercury emissions from power plants. EPA is required to regulate mercury because EPA determined that mercury emissions from power plants pose an otherwise unaddressed significant risk to health and the environment, and because control options to reduce this risk are available. Mercury, a potent toxin, can cause permanent damage to the brain and nervous system, particularly in developing fetuses when ingested in sufficient quantities. People are exposed to mercury mainly through eating fish contaminated with methylmercury.

Mercury is released into the environment from many sources. Mercury emissions are a complex atmospheric pollutant transported over local, regional, national, and global geographic scales. EPA estimates that 60 percent of the mercury falling on the U.S. is coming from current man-made sources. Power generation remains the largest man-made source of mercury emissions in the United States. In 1999, coal-fired power plants emitted 48 tons of mercury (approximately 37 percent of man-made total). These sources also contribute 1 percent of mercury to the global pool.

Mercury that ends up in fish may originate as emissions to the air. Mercury emissions are later converted into methylmercury by bacteria. Methylmercury accumulates through the food chain: fish that eat other fish can accumulate high levels of methylmercury. EPA has determined that children born to women who may have been exposed to high levels may be at some increased risk of potential adverse health effects. Prenatal exposure to such levels of methylmercury may cause developmental delays and cognitive impairment in children. Clear Skies will require a 69 percent reduction of mercury emissions from power plants.

In addition to substantial human health benefits, Clear Skies would also deliver numerous environmental benefits. Nitrogen loads to the Chesapeake Bay and other nitrogen sensitive estuaries would be reduced, reducing potential for water quality problems such as algae blooms and fish kills. In fact, the Chesapeake Bay States, including NY, VA, MD, PA, DE, WV and DC, recently agreed to incorporate the nitrogen reductions that would result from Clear Skies legislation as part of their overall plan to reduce nutrient loadings to the Bay. Clear Skies would also accelerate the recovery process of acidic lakes, eliminating chronic acidity in all but 1 percent of Northeastern lakes by 2030. For decades fish in the Adirondacks have been decimated by acid rain, making many lakes completely incapable of supporting populations of fish such as trout and smallmouth bass. The Acid Rain Program has allowed some of these lakes and the surrounding forests to begin to recover; Clear Skies would eliminate chronic acidity in Adirondack region lakes by 2030. Clear Skies would also help other ecosystems suffering from the effects of acid deposition by preventing further deterioration of Southeastern streams. Finally, Clear Skies would improve visibility across the country, particularly in our treasured national parks and wilderness areas, resulting in improvements of approximately two to seven miles in visual range in many areas. For example, in the Southeast, Clear Skies would improve the visual range by two to four miles.

Clear Skies is designed to ensure that these public health and environmental benefits are achieved and maintained. By relying on mandatory caps, Clear Skies would ensure that total power plant emissions of SO_2, NOx and mercury would not increase over time. This is a distinct advantage over traditional command-and-control regulatory methods that establish source-specific emission rates but which allow total emissions to increase over time. Like the Acid Rain Program, Clear Skies would have much higher levels of accountability and transparency than most other regulatory programs. Sources would be required to continuously monitor and report all emissions, ensuring accurate and complete emissions data. If power plants emit more than allowed, financial penalties are automatically levied—without the need for an enforcement action. More importantly, every ton emitted over the allowed amount would have to be offset in the following year, ensuring no net environmental harm. This high level of environmental assurance is rare in existing programs; Clear Skies would make it a hallmark of the next generation of environmental protection.

Reasonable Costs and Energy Security for Consumers and Industry

The President directed us to design Clear Skies to meet both our environmental and our energy goals. Under Clear Skies, electricity prices are not expected to be significantly impacted. Our extensive economic modeling of the power industry looked at a broad array of factors to gauge the effects of Clear Skies on the energy industry—and they all show that cleaner air and energy security can go hand-in-hand.

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

Under Clear Skies by 2010, more than two-thirds of U.S. coal-fired generation is projected to come from units with billions of dollars of investment in advanced SO_2 and/or NOx control equipment (such as scrubbers and Selective Catalytic Reduction, which also substantially reduce mercury emissions). In 2020, the percentage is projected to rise to over 80 percent. Cost effective strategies and technologies for the control of sulfur dioxide and nitrogen oxides emissions exist now, and—thanks in good part to the Clear Skies market-based system—improved methods for these pollutants, and for mercury, are expected to become increasingly cost-efficient over the next several years. In fact, the Institute of Clean Air Companies forecasts that the U.S. markets for most technology sectors will remain fairly strong, adding momentum to the air pollution control technology industry. We expect that the Clear Skies Act will provide great benefits to American jobs in the engineering and construction industries.

One of the key reasons Clear Skies would be cost-effective is its reliance on cap-and-trade programs. Like the Acid Rain Program upon which it is based, Clear

Skies would give industry flexibility in how to achieve the needed emission reductions, which allows industry to make the most cost-effective reductions and pass those savings on to consumers. Power plants would be allowed to choose the pollution reduction strategy that best meets their needs (e.g., installing pollution control equipment, switching to lower sulfur coals, buying excess allowances from plants that have reduced their emissions beyond required levels). Like the Acid Rain program, Clear Skies includes banking provisions, enabling companies to save unused allowances for future use. Banking creates a tangible, quantifiable, economic incentive to decrease emissions beyond allowable levels, which EPA projects will result in significant early benefits due to over-compliance in the initial years, particularly for SO_2. It also leads to gradual emissions reductions over time, and therefore a less disruptive transition to tighter emission controls needed to address lingering problems. Based on past experience under the Acid Rain Program, by placing a monetary value on avoided emissions, Clear Skies would stimulate technological innovation, including efficiency improvements in control technology, and encourage early reductions.

EPA's models, however, do not predict this technological innovation. The updated analyses show that mercury control costs would be higher than were estimated last year. We are still in the early stages of understanding how different technologies will affect mercury emissions from power plants because mercury is not currently regulated in the power sector. There is an ongoing dynamic research process sponsored by EPA, the Department of Energy (DOE), the Electric Power Research Institute (EPRI), and vendors specifically aimed at furthering our understanding of mercury control, with new data being made available on a continuous basis.

Over the last year, both EPA and DOE's Energy Information Agency (EIA) used updated information to reassess what mercury emissions levels would be in 2010 after installation of NOx and SO_2 controls necessary to meet the Clear Skies' SO_2 and NOx caps (NOx and SO_2 control equipment also reduce some mercury emissions—i.e., "cobenefit" reductions). Due to differences in assumptions and models, the Administration estimates that these mercury emissions would range from 34 to 46 tons. EIA's and EPA's updated analyses estimate the incremental cost now of complying with the 2010 cap to be $650 to $750 million per year.

A key feature of understanding this cost is the Clear Skies' safety valve provision that sets a maximum cost of $35,000 per pound of mercury emissions. The safety valve is designed to minimize unanticipated market volatility and provide more market information that industry can rely on for compliance decisions. The updated modeling projects that the safety valve provision would be triggered if technology does not improve in the future (the modeling does not include any assumptions about how technology will improve). If the safety valve is triggered, EPA will borrow allowances from the following year's auction to make more allowances available at the safety valve price. The future year cap is reduced by the borrowed amount, and the emissions reductions are ultimately achieved.

EPA believes that, as technology develops, the cost of mercury controls will decrease. If it does not, the new analyses project greater mercury emissions in 2020 than did the 2002 analyses due to the triggering of the safety valve.

Assistance to State and Local Governments

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

As noted previously, the combination of Clear Skies, EPA's proposed rule to decrease emissions from nonroad diesel engines, and other existing state and Federal control programs—such as pollution controls for cars and trucks—would, by 2020, bring all but 18 counties nationwide (including only 8 counties in the East) into attainment with the fine particle standards and all but 27 counties nationwide (including only 20 counties in the East) into attainment with the ozone standards. Even in the few areas that would not attain the standards, Clear Skies would significantly improve air quality. This would make it easier for state and local areas to reach the ozone and fine particle standards.

Clear Skies' assistance to states goes beyond ensuring that power plants will reduce their emissions. Clear Skies relies on a common-sense principle—if a local air quality problem will be solved in a reasonable timeframe by the required regional reductions in power plant emissions, we should not require local areas to adopt local measures. Under Clear Skies, areas that are projected to meet the ozone and fine

particles standards by 2015 as a result of Clear Skies would have a legal deadline of 2015 for meeting these standards (i.e., will have an attainment date of 2015). These areas would be designated "transitional" areas, instead of "nonattainment" or "attainment," and would not have to adopt local measures (except as necessary to qualify for transitional status). They would have reduced air quality planning obligations and would not have to administer more complex programs, such as transportation conformity, nonattainment New Source Review, or locally based progress or technology requirements in most circumstances.

III. IMPROVING THE CLEAN AIR ACT WITH CLEAR SKIES

Clear Skies would improve the Clean Air Act in a number of ways. It would build on the proven portions of the Clean Air Act—like the national ambient air quality standards and the Acid Rain Program—and reduce reliance on complex, less efficient requirements like New Source Review for existing sources. The mandatory emissions caps at the heart of Clear Skies guarantee that reductions will be achieved and maintained over time. In contrast, uncertainties with respect to regulatory development, litigation, and implementation time make it difficult to estimate how quickly and effectively current regulations would be implemented under the current Clean Air Act. The level of SO_2 and NOx reductions we expect by 2010 with Clear Skies legislation would not be achieved under the existing Act. After that, we know that Clear Skies would achieve significant reductions, while both the timing and level of reductions under the current Clean Air Act are unclear.

Early Reductions

One of the major reasons we need Clear Skies now is that adoption of Clear Skies would provide greater protection over the next decade than the traditional regulatory path. The Clear Skies Act will result in significant over-compliance in the early years, particularly for SO_2, because sources are allowed to bank excess emissions reductions. Because of the incentives provided by the cap-and-trade approach used in Clear Skies, power plants would start reducing emissions almost as soon as Clear Skies is passed. Without Clear Skies, EPA and the states will have to go through regulatory processes to put the necessary emission control programs in place. These regulatory processes take years and are subject to litigation—and power plants would have no incentive to reduce emissions before the outcome of those regulatory processes were known.

As a result, emission reductions under Clear Skies would start years earlier than under the current regulatory approach. Clear Skies' emissions reductions would cost less since EPA does not have statutory authority under the current Clean Air Act to design an integrated program that is as cost-effective as Clear Skies. Every year that emissions reductions are delayed, we delay the health and environmental benefits that would be achieved if Clear Skies were to become law.

Our analysis suggests that the amount of pollution controls that the industry will have to install under Clear Skies over the next decade will stretch the limits of available labor and other construction resources, but can in fact be accomplished while maintaining energy reliability and continuing competitive electricity prices.

Legislation Now Is Better than Regulation Followed by Years of Litigation

Even if Clear Skies is not passed by Congress, power plants will be required to reduce their emissions of SO_2, NOx and mercury. There is no more cost-effective way than Clear Skies to meet the requirements of the current Clean Air Act or to achieve our public health and environmental goals. We know that, absent new legislation, EPA and the states will need to take a number of regulatory actions, although it is unclear now when the requirements will come into effect or what their control levels will be.

Clear Skies has several benefits over the regulatory scheme that will otherwise confront power generators. Clear Skies provides regulatory certainty and lays out the timeframes necessary for managers to design a cost effective strategy tailored to both their current budgets and future plans. Clear Skies is designed to go into effect immediately upon enactment. Power plants would immediately understand their obligations to reduce pollution and would be rewarded for early action. As a result, public health and environmental benefits would begin immediately and result in emissions reductions more quickly than required. Given Clear Skies' design, it is unlikely that litigation could delay the program (particularly since Congress would decide the two most controversial issues—the magnitude and timing of reductions). In contrast, under the current Clean Air Act, power plants would not know what their obligations would be until after EPA and states started and completed numerous rulemakings.

Past experience suggests that litigation delays on the regulatory path are likely. Our experience with two cap-and-trade programs—the legislatively created Acid Rain Trading Program and the administratively created NOx SIP Call—illustrates the benefits of achieving our public health and environmental goals with legislation rather than relying solely on existing regulatory authority.

Though we project a great deal of benefits will arise from implementation of the NOx SIP call, the journey down the regulatory path has been difficult and is not yet over. The NOx SIP call was designed to reduce ozone-forming emissions by one million tons across the eastern United States. The rulemaking was based on consultations begun in 1995 among states, industry, EPA, and nongovernmental organizations. A Federal rule was finalized in 1998. As a result of litigation, one state was dropped and the 2003 compliance deadline was moved back for most states. Most states are required to comply in 2004, although two states will have until 2005 or later. Meanwhile, sources in these states continue to contribute to Eastern smog problems. Although the courts have largely upheld the NOx SIP Call, the litigation is not completely over. Industry and state challenges to the rules have made planning for pollution control installations difficult, raised costs to industry and consumers, and delayed health and environmental benefits.

In contrast, reductions from the Acid Rain Program began soon after it passed (even before EPA finalized implementing regulations). There were few legal challenges to the small number of rules EPA had to issue—and none of the challenges delayed implementation of the program. The results of the program have been dramatic—and unprecedented. Compliance has been nearly 100 percent. Reductions in power plant SO_2 emissions were larger and earlier than required, providing earlier human health and environmental benefits. Now, in the ninth year of the program, we know that the greatest SO_2 emissions reductions were achieved in the highest SO_2–emitting states; acid deposition dramatically decreased over large areas of the eastern United States in the areas where they were most critically needed; trading did not cause geographic shifting of emissions or increases in localized pollution (hot spots); and the human health and environmental benefits were delivered broadly. The compliance flexibility and allowance trading has reduced compliance costs by 75 percent from initial EPA estimates.

[See 2001 Acid Rain Program Progress Report submitted for the record.]

It is clear from this example that existing regulatory tools often take considerable time to achieve significant results, and can be subject to additional years of litigation before significant emissions reductions are achieved. Under this scenario, there are few incentives to reduce emissions until rules are final and litigation is complete, posing potentially significant delays in achieving human health and environmental benefits.

The Clean Air Act contains several provisions under which EPA will be required to impose further emission controls on power plants in order to enable states to meet the new national ambient air quality standards (NAAQS) for $PM_{2.5}$ and ozone. For example, Section 126 of the Clean Air Act provides a petition process that states can use to force EPA to issue regulations to reduce emissions of SO_2 and NOx from upwind sources, including power plants. A number of states have indicated that they intend to submit Section 126 petitions in the near future. However, compared to Clear Skies, this approach will almost certainly involve years of litigation and uncertainty about reduction targets and timetables.

Additional reductions are required from power plants through the regional haze rule's BART (Best Available Retrofit Technology) requirements and forthcoming mercury MACT (maximum achievable control technology) requirements. EPA is required to propose by the end of 2003 a MACT standard for utility mercury emissions that must be met, plant-by-plant, by every coal-fired utility with unit capacity above 25 megawatts. EPA is required to finalize this rule by the end of 2004. The Act generally gives sources 3 years within which to comply with MACT standards. This compliance obligation could be delayed by a court if EPA's rule is challenged.

Because these regulations will be the product of separate Federal, state and judicial processes, comparable health and environmental protection is likely to cost more under the current Clean Air Act than under Clear Skies. EPA estimates that a comprehensive, integrated approach relying on cap-and-trade programs could reduce costs by one-fourth as compared to the regulatory approach achieving comparable emission reductions. These cost savings would be passed on to the public through lower electricity prices and greater profitability to investors and owners of electric generation.

New Source Review

Some have suggested that Clear Skies is an attempt to undermine the Clean Air Act. This is simply not true. To achieve the next generation of environmental progress, we must build on the successful provisions in laws that have served us well—and learn from those provisions that have not served us well, or have had only limited success. New Source Review (NSR) is an example of a program that EPA and stakeholders have long recognized is not working well.

There is a misconception that the principal goal of the NSR program is to reduce emissions from power plants. This is simply incorrect. Reducing emissions from power plants is the principal goal of Clear Skies. The NSR program is triggered only when facilities emitting large amounts of air pollution are built, and when modifications at these facilities result in significant increases in air pollution. The NSR program is not designed to result in nationwide reductions of air pollution from power plants. When it comes to reducing harmful air emissions from power plants, Clear Skies would accomplish more than NSR. Figure 3 illustrates how the coordinated reductions that result from Clear Skies would improve air quality in the air shed that affects the Great Smoky Mountains National Park. In our estimate, such significant regional improvements could not be obtained in this timeframe under the NSR framework.

Clear Skies would significantly modify the NSR program for power plants, but contain some important backstops. We expect that existing power plants would not have to go through NSR for modifications. New sources would no longer have to go through the entire NSR process, but some aspects of the process would still apply. Although we believe that with a tight cap on emissions, new sources will always install good controls, we did not want to run the risk that a new source would be uncontrolled. Therefore, as a backstop, Clear Skies would require all new power plants to meet New Source Performance Standards (NSPS) that are set in the statute at levels significantly more stringent than current NSPS levels.

In addition, new power generators locating within 50 km of a Class I area (e.g., national parks or wilderness areas) would still be subject to the current NSR requirements for the protection of those areas. Finally, new power plants will also have to meet the current NSR requirements that they will not cause or contribute to a violation of the national ambient air quality standards.

IV. WINDOW OF OPPORTUNITY

Because of the lessons learned over the last decade, there is increasing support for legislation such as Clear Skies that would significantly reduce and cap power plant emissions and create a market-based system to minimize control costs. From environmental groups to coal companies, there is increasing broad-based support demonstrating that multipollutant legislation is a preferable path to cleaner air. Such an approach would address an array of air pollution concerns associated with power generation—including fine particles, smog, mercury deposition, acid rain, nitrogen deposition, and visibility impairment—at lower cost and with more certainty than currently allowed by the Clean Air Act.

There is no better time for Congress to be considering multipollutant legislation. President Bush has indicated that Clear Skies is his top environmental priority. The number of proposals being considered by Congress also indicates a consensus behind the basic idea of a multipollutant cap-and-trade approach. Organizations including the National Governors Association, U.S. Conference of Mayors, National Association of Counties, Large Public Power Council, Edison Electric Institute, Adirondack Council, and numerous individual utilities have all expressed support for the scope and framework of Clear Skies. If legislation passes quickly, we will begin achieving emissions reductions and related health benefits now, not years from now. Congress needs to act now so that we do not lose a decade's worth of health and environmental benefits from reducing fine PM pollution, smog, acid deposition, nitrogen deposition, and regional haze. Further, as EPA continues to implement additional forthcoming regulations under the existing framework of the Act, the likelihood of our ability to pursue an integrated program diminishes—and with it diminish the numerous advantages that I have delineated today of an approach like Clear Skies.

Legislation is also needed now to help states with their air quality planning and provide incentives for industry innovation, which, in turn, would lower costs and emissions. Such incentives are particularly compelling this year as we approach the task of reducing mercury emissions from the power industry. If designed correctly, legislation could provide the incentive that spurs technological innovation. When stringent yet flexible mechanisms exist, substantial technological improvements and steady reductions in control costs can be expected to follow.

I hope this Congress will concur that there is no better time to pass this important legislation. Every day that passes represents a lost opportunity to reduce emissions and reap human health and environmental benefits. The "regulatory window" is open now, allowing Congress to pass Clear Skies, based on a proven program, before EPA and the states must embark on a more complex and expensive traditional regulatory process. Clear Skies provides a balanced approach that our nation needs for meeting clean air goals, while safeguarding our economy and promoting energy security. In short, Clear Skies is a clear win for the American people.

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