

NATIONAL ENERGY ISSUES

HEARINGS

BEFORE THE

COMMITTEE ON

ENERGY AND NATURAL RESOURCES

UNITED STATES SENATE

ONE HUNDRED SEVENTH CONGRESS

FIRST SESSION

TO RECEIVE TESTIMONY ON THE ADMINISTRATION'S NATIONAL ENERGY POLICY REPORT, AND TO RECEIVE TESTIMONY ON THE PRICE-ANDERSON ACT PROVISIONS OF PENDING ENERGY LEGISLATION, INCLUDING S. 388, THE NATIONAL ENERGY SECURITY ACT OF 2001; S. 472, NUCLEAR ENERGY ELECTRICITY SUPPLY ASSURANCE ACT OF 2001; AND S. 597, THE COMPREHENSIVE AND BALANCED ENERGY POLICY ACT OF 2001

TO RECEIVE TESTIMONY ON PROPOSED AMENDMENTS TO THE PRICE-ANDERSON ACT (SUBTITLE A OF TITLE IV OF S. 388; SUBTITLE A OF TITLE I OF S. 472; TITLE IX OF S. 597) AND NUCLEAR PRODUCTION AND EFFICIENCY INCENTIVES (SUBTITLE C OF TITLE IV OF S. 388; AND SECTION 124 OF S. 472)

NATIONAL ENERGY SECURITY ACT AND OTHER PENDING LEGISLATION

MAY 24, 2001

JUNE 26, 2001

JULY 12, 2001

PART 1



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NATIONAL ENERGY ISSUES

THURSDAY, MAY 24, 2001

U.S. SENATE,
COMMITTEE ON ENERGY AND NATURAL RESOURCES,
Washington, DC.

The committee met, pursuant to notice, at 9:30 a.m. in room SD-106, Dirksen Senate Office Building, Hon. Frank H. Murkowski, chairman, presiding.

OPENING STATEMENT OF HON. FRANK H. MURKOWSKI, U.S. SENATOR FROM ALASKA

The CHAIRMAN. Good morning ladies and gentlemen. Are the microphones on? Well, that is nice to know. Must be part of the energy crisis. I want to welcome the Honorable Secretary of Energy Spencer Abraham. I think what we will do today in view of the fact that both the Democrats and Republicans have conferences—and then there is a conference on a tax bill where I am a conferee on that—is do the best we can. Senator Bingaman and I will make opening statements and then we will hear from the Secretary.

Today, I am pleased to tell you that we begin the process of ensuring America's energy security. This is the first in a series of hearings Senator Bingaman and I and our staffs have jointly put together. It will consist of briefings later, and hopefully mark-ups, to set us on a course for legislation on the Senate floor, hopefully by July 4.

We begin today with a review of the administration's recently released National Energy Policy, and again I want to welcome the Secretary. We will also hear from a second panel on the need to renew the Price-Anderson Act. Now I am not sure if we will be able to get to that panel, so I want to alert you ahead of time.

First let me applaud the President and his task force members for their leadership because a few days ago we did not have a plan, and now we have an energy plan, something in black and white that we can debate, review and analyze. It is a blunt admission that we face an energy crisis in this country. The reality is that supplies are not keeping up with demand and I think it is fair to say that this work product is the first national energy strategy in some 10 years. It is comprehensive. It is balanced. It is long-term.

Now, some have said, well, it is not balanced. But let us look at it in some detail. There are 42 recommendations to improve energy efficiency and conservation and to protect consumers from price spikes. There are 35 specific recommendations on increasing the energy supply and 25 recommendations to enhance our national security.

Now it is kind of interesting because I have been on this committee for about 21 years and looking over our shoulder 10 years ago, this committee passed a comprehensive energy bill. It was called the Energy Policy Act of 1992. A lot of people have forgotten that. The bill had 16 titles when it left this committee. It increased CAFE, fuel economy standards. It opened ANWR, the coastal plain, to oil and gas development. And the bill also had provisions on alternative fuels, on mass transit, renewables, energy efficiency and research and development.

But after Congress finished with it, ANWR was out. CAFE was out. What we have remaining is the low-flush toilets. That is not much to be said for supply-side. We do not want to make that same mistake again. We left the tough decisions for another day. That day is now. Ten years later, today, we face an energy crisis. We are importing more foreign oil than ever, 56 percent. Our energy infrastructure is falling apart. We find that we do not have refining capacity. We open up SPRO and find that we do not have the capability to refine it. We simply offset what we import. We find our national gas prices have gone from \$2.16 to \$5, \$6, \$7, \$8. Supply is insufficient to meet the demand. No new nuclear plants. No new coal plants since 1995.

I can go on and on, but it is said by many that those who do not learn from the past are doomed to repeat it. We had good intentions 10 years ago, ladies and gentlemen. But our inability to make the tough choices really helped us get to where we are today. I do not think the American people will accept failure again.

Now there is no short-term fix to this energy crisis. Some have suggested that instead of comprehensive policy we should seek a quick fix for higher gasoline prices and California blackouts. We have looked at several options and none of them are very good. You take away the gas tax. You repeal the reformulated gasoline restrictions. You put back-up generators on barges and nuclear ships. They all have a down side. So let us make it clear. There is no magic bullet. There is no quick fix that will make this energy crisis go away.

It took us several years of neglect to get us here. It will take a long-term approach to get us out. In my view, the best thing we can do for consumers is act quickly and decisively now to enact comprehensive energy legislation to increase the supply of conventional renewable fuels, to improve energy efficiency and encourage conservation, to invest in necessary infrastructure to move energy from where it is produced to where it is needed the most. America is waiting for us to provide relief.

I think the President's National Energy Policy contains 102 specific proposals. It is a plan of action and not words. It uses America's technology and ingenuity to meet our energy needs without damaging our environment. It reduces our dangerous dependence on foreign oil. It ensures clean, affordable, renewable energy supplies, a requirement for continued American prosperity.

My commitment is to work with Senator Bingaman and the administration to assist the President in implementing those suggestions that may require legislation. It is time for leadership, vision and bold action, not quick fixes, posturing or short-term political gains. The President has acted decisively, so let us follow his lead

and make the tough choices that we avoided 10 years ago. Thank you.

Senator Bingaman.

[A prepared statement from Senators Campbell, Johnson, Akaka, and Gordon Smith follow:]

PREPARED STATEMENT OF HON. BEN NIGHTHORSE CAMPBELL,
U.S. SENATOR FROM COLORADO

Thank you, Mr. Chairman. I would like to thank you for holding this hearing and I would like to thank and congratulate my friend, Secretary Abraham for testifying before us and for his part on the President's National Energy Policy.

The reality is that to end this energy crisis we must develop a comprehensive national energy strategy that increases production, expands the use of alternative and renewable energies, and improves energy efficiency and conservation. I've said this many times—we need a balanced comprehensive approach to meeting our energy needs. And, now we finally have it. The President's National Energy Policy is intended to provide the blueprint for the nation's energy policy over the next decade. It is a comprehensive and balanced long-term plan designed to address the imbalance we currently face between energy supply and demand.

I know that the extreme environmental community are up in arms against this policy. But, it has come to my attention that the Sierra Club recently put out a set of energy proposals for how to deal with the energy problem in this country, and that a majority of those proposals, 11 of those 12 proposals, are incorporated in this policy. I guess they just need something to protest, even if it has 11 of their 12 proposals in it.

Another issue we must address is our dependence on foreign oil. In 1973, the year of the Arab oil embargo, the U.S. bought 35 percent of its oil from foreign sources. Today, we buy 56 percent, by some reports 62 percent, and Iraq is the fastest growing source of U.S. foreign oil. This is too much. Americans fought a war in the Persian Gulf where 147 American lives were lost out in the sand because of this very issue. We need to reassess our situation and the President's policy will help us become less dependent on foreign oil.

This policy will also increase our supply of conventional fuels like oil, gas and coal. In the past, public lands were locked up, and oil and gas exploration and extraction was prohibited, often without legislative oversight. Known resources are sitting idly by when our nation could be tapping into these new sources of energy. And, this energy crisis is only going to get worse this summer.

We are a nation that could use our resources to supply a majority of our power needs, which would also help us to decrease our dependence on foreign oil. No one wants to see strip mines or polluted waterways, but we can and should responsibly develop our natural resources. The President's plan I will help increase our supply and will help this nation in the long run.

Coal has historically been America's number one source for providing affordable electricity; it currently powers half of America's electricity generators, and provides the vast majority of power in my home state of Colorado. At today's recovery rates, our nation has enough coal to keep those plants running for the next 250 years.

The President's policy also expand the use of renewable energy and alternative fuels. Many on this committee will probably ask you about this because the DOE budget does not fully reflect this statement. But, I know that you are already working on this issue and I know you are committed to restoring funds to these programs. I am proud to say that the National Renewable Energy Laboratory (NREL) is in my home state.

Also, our energy infrastructure—the network of the generators, transmission lines, refineries and pipelines that convert raw resources into usable fuel—is woefully antiquated and inadequate to meet our future needs. This plan will give investments to repair and expand energy infrastructure—generators, transmission lines, pipelines, and refineries. We must not allow the current situation in California to become the blueprint for the rest of our nation.

I am an enthusiastic supporter of the President's national energy policy, but I am troubled by a potential proposal to give the Federal Energy Regulatory Commission (FERC) eminent domain power to speed expansion of power lines. As you all know, the agency now has condemnation power only for natural gas pipelines. I believe that eminent domain is primarily a state issue and private property rights have to take precedence. I can not support expanding the power of eminent domain to the FERC.

Lastly, the National Energy Plan will enhance energy security to protect consumers from price spikes and supply disruptions. Higher gas prices affect us all: 98 percent of all the things you buy and use are shipped by truck. If the rigs stop rolling, this nation stops rolling. This problem also extends to our American farmers and ranchers. The increased cost to our farmers and ranchers, coupled with declining commodity prices, makes it very difficult to run a farm or ranch. We certainly do not want to become as dependent on foreign produced food as we are now on foreign oil.

I believe that the President and his Energy Task Force have made bold strides to help fix our energy problems and should be commended. The National Energy Policy has some things that we will have to work out, but I still wholeheartedly endorse this policy and will work with this committee to implement this blueprint for our future.

I have some questions for the Secretary that I would like him to address so that we can further explore these issue during the time for questions.

Thank you Mr. Chairman.

PREPARED STATEMENT OF HON. TIM JOHNSON, U.S. SENATOR FROM SOUTH DAKOTA

Mr. Chairman, I am pleased that we are holding this hearing today on this critical issue. The nation's energy policy is currently the subject of heated debate and discussion. Rising gas prices, higher electricity bills and rolling blackouts in California have heightened the public's awareness of the difficulties and the strains on the country's energy system. Demand for energy is growing at an unprecedented rate and we need to find ways to keep up with the demand in a responsible way. Our economic future and well-being is largely dependent on a sound energy policy, and the decisions that Congress and the Administration make will have ramifications for years to come. It is important that we approach these issues in a thoughtful and thorough manner so that the right choices are made.

Along those lines, it is important for all sides to work together so that we can come up with bipartisan solutions. We may have policy disagreements but we need to discuss these openly. There has been a great deal of finger pointing as to whose fault it is that we are in the present situation. This talk is unproductive and does not help us to reach consensus on these issues as we move forward. The fact remains that neither Democrats nor Republicans had proposed anything comprehensive in the form of energy policy in the recent past. We must not dwell on the past and instead look to the future to see what we can accomplish.

I am pleased that the Administration has made energy policy a priority and has released its report. I am also pleased that both the Chairman and Ranking Members of the Committee have drafted and introduced substantive legislative energy policy proposals. These are all good starting points and give us much to think about as we consider these issues.

I am a cosponsor of Sen. Bingaman's bill because I believe it has the most balanced and comprehensive approach to the problems we face. In my view, energy legislation must look at all sides of the equation—increase traditional sources of supply, increase energy conservation, increase the use of renewable and alternative fuels, and encourage the development of new technologies that can supply power in the future.

My concerns with the Administration's proposal lie chiefly with its lack of balance. The report has a number of directives on increasing domestic supply, particularly in oil and gas. It does not have nearly as many directives that address conservation, energy efficiency, renewable fuels and new technologies, although it does have many non-binding recommendations in these areas. I am not ignorant to the fact that additional supplies of traditional fossil fuels are needed and finding ways to increase domestic supplies would reduce our dependence on foreign oil. But there is evidence that additional drilling is occurring in the marketplace already. We should spend more time learning how to increase our energy efficiency.

Judging from comments that we have been hearing from some in the Administration, the words "energy efficiency" have taken on a negative connotation. This is unfortunate. There are ways to promote and support efficiency programs that minimize sacrifices to the consumer. This could go a long way towards reducing the strain on our system.

In addition, while the Administration has a number of recommendations for renewable and alternative fuels, very few of them are substantive legislative solutions. While there is some support in the report for tax credits for wind and biomass, some of these already exist, and much of the additional research funding for renewables would come from ANWR lease sales, which may not ever occur. The report also has

a number of studies and non-binding recommendations on renewables. These are fine in and of itself but much of the impact of renewable fuels has been studied already and has shown that they can have a positive affect on our energy supply and reduce our dependence on foreign oil.

Sen. Hagel and I recently wrote a letter to the Vice President that was signed by 16 other Senators, 8 Democrats and 8 Republicans, requesting that the Administration work with us to increase the role for renewable fuels such as ethanol and biodiesel. We are also considering legislative proposals that would increase the use of these fuels. They would help to reduce our dependence of foreign oil. Moreover, utilizing renewable and alternatives fuels such as ethanol can have a beneficial effect on our agricultural economy as the sources of these fuels come from agricultural products. For rural communities, this can have a great benefit beyond just the additional source of fuel.

In addition, there are other alternative sources that need to be developed further. Wind power is still a largely untapped source that has great potential in states with a great deal of wind. South Dakota is fourth in the nation in wind potential energy (behind the President's home state of Texas, which is second in the nation) and finding ways to harness and use it could greatly help reduce the strain on the energy system.

Moreover, we need to find more incentives to create new technologies such as fuel cells and other innovative ideas. While the Administration's plans touches on this there should be a greater emphasis. We may need more power plants but we also need to aggressively search for technologies that could move us away from old, less efficient technologies. A boost from the Administration and Congress could go a long way towards moving us ahead in these fields.

In short, Mr. Chairman, a balanced, innovative approach is needed. The Administration's report has some good ideas but its emphasis and incentives are tilted too much towards traditional sources of supply. Since much of that is already occurring in the marketplace, I would prefer that the Administration and Congress place some additional emphasis on long-term innovative ideas and conservation so that we can tackle these problems in a balanced manner. I look forward to the Secretary's testimony.

PREPARED STATEMENT OF HON. DANIEL K. AKAKA, U.S. SENATOR FROM HAWAII

Mr. Chairman, thank you for holding this hearing in such a timely fashion. Speedy action is necessary if we are to ensure that Americans do not continue to suffer from our ongoing energy problems.

I would like to welcome Secretary Abraham. It is always a pleasure to welcome our former colleague to the Committee.

President Bush's energy plan is a starting point for a national debate on how to craft a practical blueprint for meeting the nation's current and long-term energy needs. But it is only a start. It is incumbent upon Congress to debate this plan expeditiously and develop legislative approaches that will provide what American consumers want and need—reliable and affordable energy.

We have had record-breaking increases in the price of gasoline and natural gas. The gasoline price increases that we have already seen this spring indicate that the pocketbooks of Americans will be severely affected this summer and beyond. The President's plan fails to address our short-term energy problem and relies heavily on increasing production of fossil fuels to solve long-term problems. It offers no solutions to alleviate the chronic problems of high energy prices in Hawaii and also falls short of addressing concerns of citizens in California and the Pacific Northwest. The Bush strategy lacks a vision for addressing short-term solutions across the nation.

I am concerned that the President's plan relies on the domestic production of oil and gas at the expense of wise environmental protections. Current clean air, clean water, and conservation policies were developed after a great deal of research and debate, and they reflect priorities shared by most Americans. While I welcome proposals aimed at increasing our energy supplies, we must continue to safeguard the environment.

Our nation has made great progress in improving our energy efficiency and conservation since the oil embargo of 1973, and we need to accelerate that commitment. Over the last three decades, the gas mileage of American cars has more than doubled. Twenty-five years ago, American vehicles were averaging only 12 miles per gallon. Today's new cars average more than twice this gas mileage in spite of our failure to maintain efficiency standards. Our home appliances require about a third of the electricity they did 30 years ago. This progress is the result of a long-term commitment to improve the efficiency of technologies that we depend upon. We must

remain steadfastly committed to making energy efficiency a central component of our energy policy.

America needs to invest more in the development of renewable energy resources such as wind and solar energy and alternative energy resources like hydrogen. Making the investment in the development of these resources contingent upon royalties from the production of oil from controversial Arctic drilling is risky. The nation cannot afford to jeopardize the future of renewable energy by gambling on prospective royalties. Proper investment combined with American ingenuity will provide the advances we need in ensuring that Americans enjoy clean and reasonably priced energy.

Mr. Chairman, I am committed to the development of policies that encourage energy efficiency and conservation, and policies that encourage renewable and alternative energy resources. More fundamentally, I am committed to policies that ensure all Americans, regardless of where they live, whether on the neighbor islands of Hawaii, native communities of Alaska, or the far corners of New England, have adequate supplies of reasonably priced energy. To achieve this goal, we need policies that renew and expand our energy infrastructure and facilitate the development of new, efficient technologies. We must invest in research and development to ensure that a full range of fuels and technologies are available in the future. New technologies will save Americans money and stimulate economic growth.

As we work to address our nation's energy needs, we should not overlook the buildup of carbon dioxide and other greenhouse gases forcing climate change. Global climate change is one of the paramount challenges we face in the 21st Century. We cannot afford to ignore this global problem and its dire long-term consequences.

I am interested in hearing what the Secretary has to say.

PREPARED STATEMENT OF HON. GORDON SMITH, U.S. SENATOR FROM OREGON

Mr. Chairman, I appreciate your leadership on the issues of energy policy, and want to thank you for convening this hearing in an expeditious manner to discuss the Administration's national energy plan. I would also like to extend a warm welcome to Secretary Abraham as he appears before the Committee today.

For the past several months, and for many months to come, we on the west coast are feeling the tangible effects of the lack of a national energy policy for almost a decade. Electricity prices have skyrocketed, natural gas prices have doubled or tripled, and gasoline prices are at all time highs. Seniors, low-income families and small businesses will continue to be hurt by these prices on such basic necessities.

California will continue to experience rolling blackouts throughout the summer, and power customers in neighboring states that must compete with California for spot power will be hurt by prices that seemed inconceivable a year ago.

The President's plan is a realistic assessment of our current energy supply situation and our needs through the year 2020, based on current demand. It serves as a starting point for the debate as to how this nation will address its long-term energy supply needs in an environmentally responsible manner. It contains a number of recommendations on issues which I support, and for which I have advocated in the past, including: increased funding for the LIHEAP and low-income weatherization programs; tax credits for hybrid vehicles, wind and bio-mass; the need for enhanced reliability of the transmission system; and conservation at federal facilities.

I remain very concerned, however, that while the plan discusses the impacts on families, seniors, and businesses of recent price increases in the energy sector, it fails to propose any near-term actions to address these impacts, particularly in the western energy market. As legislation moves forward in the coming weeks, I will continue to press for electricity price mitigation in the west, as well as other actions designed to provide near-term relief.

I am also concerned that the plan fails to recognize the significant contribution made by consumer-owned utilities—the municipal utilities, cooperatives and peoples' or public utility districts—to meeting the electricity needs of our country. The plan fails to recognize the issues related to these utilities, such as the "private use" issue or the "85/15 rule" that must be addressed in order for electricity restructuring to work effectively, even in the states where it has already been enacted.

The issue of greenhouse gases is also not addressed in this plan. We must continue to control and reduce carbon dioxide emissions as we work toward our future energy security.

I look forward to hearing from the Secretary today, and to working with my colleagues in the coming weeks as we attempt to craft legislation to meet the nation's energy supply needs.

**STATEMENT OF HON. JEFF BINGAMAN, U.S. SENATOR
FROM NEW MEXICO**

Senator BINGAMAN. Thank you very much, Mr. Chairman. Welcome Secretary Abraham. The National Energy Policy Group's report, I believe, does make a useful contribution to the debate that needs to take place here in Washington and here in the Congress. I'd point out a couple of obvious conclusions from looking at the report. First, the majority—the substantial majority of the recommendations in the report are recommendations by the National Energy Policy Development Group to the President. They are not recommendations to Congress.

There are some significant recommendations to the Congress. I think 23 of the 105 recommendations do involve action by Congress. As we read them, we are anxious to get down to some specific questions that will obviously have to be answered as we put forward and move ahead with legislation in these regards. There is not a focus, as Senator Murkowski said, in this energy report. There is not a focus on the short-term. And I firmly believe there are actions Congress can take and should take in the short-term to deal with energy issues, as well as many of the actions that are recommended that need to be taken in the long-term.

I hope we'll get a chance to discuss those as well. I'd also, of course, want to focus to some extent in this hearing if we can, and in future hearings, on the issue of overlap. Senator Murkowski has a fairly comprehensive bill, setting out a variety of proposals to deal with some of these energy issues. I have introduced a similar bill that also is comprehensive in that it tries to deal with a great many issues. Of course, the administration's report does the same. There are many areas of common agreement between those three. We need to identify what those are and determine whether it makes sense to go ahead with the areas we agree upon in the short-term. And I'll be interested in getting the Secretary's views on that. But again, thank you for coming.

The CHAIRMAN. Thank you.

Mr. Secretary, please proceed.

**STATEMENT OF HON. SPENCER ABRAHAM, SECRETARY,
DEPARTMENT OF ENERGY**

Secretary ABRAHAM. Mr. Chairman, Senator Bingaman, Senator Burns, Senator Wyden. Good to be with you again. I appreciate the chance to come by today to discuss at this hearing the President's National Energy Policy which, as you know, was developed by our National Energy Policy Development Group, which was under the direction of the Vice President.

The analysis which we engaged in, in developing this report, began first with an attempt to project America's energy demands. Where they are today. How they are being met. And then where we anticipated the future would take us.

Let me just begin with a brief comment on that. Today, America consumes 98 quadrillion Btu's, or quads as they are called, a year in terms of all energy forms. Our domestic energy production is 72 quads. The imbalance between energy demand and domestic energy production is made up with imports. Between now and the year 2020, our energy demand is projected to rise significantly. In

fact, if the energy intensity of the United States—that is the amount of energy needed to generate a dollar of GDP—remains constant, our energy demand in the year 2020 would go from 98 to 175 quads.

However, the current policies which we have in place, the policies which we recommend in this plan, and things that happen without government playing a direct role, that is structural changes in the economy and so on, will in our judgment improve energy efficiency to the point that demand in 2020 will not hit the 175 quad level, but rather we would project, at least according to the Energy Information Administration at the Department, that demand level would be about 127 quads, which means that improved energy efficiency can help close a great deal of the gap between projected energy demand and domestic energy production.

However, it cannot do the whole job and for that reason we believe the United States needs to embark upon a very comprehensive long-term plan, to both make sure we gain the energy efficiency objectives outlined a moment ago, and increase supply—domestic supply in particular—so that we do not end up in a deficit position. The question is where do we get the increased supply when over the past decade domestic supply production has remained relatively flat.

To address these challenges our National Energy Plan has adopted an approach which is, in my judgment, balanced and comprehensive. As the President said, we are looking for a new harmony among our priorities.

So let me just briefly outline the philosophy of balance that is incorporated in the plan. First, our policy balances the need for increased supplies of energy with the need to modernize our conservation efforts by employing cutting-edge technology. For example, as we call for recommendations to enhance oil and gas recovery from existing and new sources through new technology, we also call for recommendations for changes in corporate average fuel economy standards.

Second, our plan calls for a balance in terms of our supply sources. With electricity demand forecast to rise 45 percent by the year 2020, we estimate the need for an additional 1,300 to 1,900 new powerplants in the country. Current policy anticipates that over 90 percent of those new plants will be fired by natural gas. We believe energy security dictates a more balanced approach to new power generation. In addition to natural gas, the National Energy Plan looks to such sources as clean coal generation, nuclear power and hydropower, among others to give us a broad mix of energy to meet our future needs.

Third, our plan seeks to balance our need for traditional sources of energy such as oil and natural gas with the need for renewable and alternative sources such as biomass, solar, wind, hydrogen and others. Consequently, our plan recommends more focused research on new sources such as hydrogen infusion and proposes tax incentives for the use of certain renewables. The plan also seeks to increase exploration of domestic sources of oil and gas.

Fourth, our plan attempts to harmonize growth in domestic energy production with environmental protection. Our commitment to conservation and environmental protection is not an afterthought.

It is a commitment that is woven throughout our energy plan. Energy production without regard to the environment is simply not an option. For example, in addition to recommendations seeking to streamline the permitting process for plant siting as well as building new infrastructure, the National Energy Policy also proposes mandatory reduction targets for emissions of three major pollutants: sulfur dioxide, nitrogen oxides, and mercury.

We believe this balanced approach makes sense. And it yields recommendations that fall basically into six categories. First, we need to encourage industry to repair and update the nation's antiquated energy infrastructure. From our ability to turn raw materials into useful energy to the pipelines that carry natural gas and oil to our electricity grid, America's ability to deliver energy to those who need it is definitely ready for the year 1960. It is not, however, up to the demands of our 21st century economy.

Second, the plan contains a variety of recommendations on how we might better employ modern technology to achieve gains in conservation as well as in domestic supply. A good example of this is the plan's emphasis on innovative technologies such as fuel cell vehicles for which we propose certain tax credits.

Third, streamlining the regulatory process is a key priority. We have found areas where the permitting process for energy projects in infrastructure improvement moves too slowly. One recent hydro-power relicensing case took 23 years. We must improve these processes without sacrificing our commitment to the health, the safety and the environment the people of this country deserve and demand.

Fourth, the report contains recommendations recognizing the global nature of today's energy markets. As we pay attention to the need to enhance our domestic supply, we also need to diversify and increase our sources of energy around the world. For example, our plan highlights opportunities for supply in the resource rich Caspian Sea area.

Fifth, the plan addresses the critical problems faced by low-income families as they confront rising energy costs. It calls for, among other things, a significant increase in the Weatherization Assistance Program, which was already reflected in our budget this year. Finally, our plan recognizes the impact energy price spikes can have on working families and we are committed to taking action to lighten that burden.

Lastly, our National Energy Plan seeks to enhance competition across the board. Helping to create a level playing field where a free market in energy can flourish will be one of the best ways to secure our energy future with an affordable and reliable access to a diverse supply of resources.

In terms of how we proceeded, Mr. Chairman, where possible the President moved immediately to implement key parts of the plan. Hence, last Friday, he issued two executive orders directing Federal agencies to expedite approval of energy-related projects, and directing Federal agencies to consider the effects of proposed regulations on energy supply distribution or use. Moreover, where appropriate, the President is directing Federal agencies, including ours, to take a variety of actions to improve the way they use energy and to carry forward critical aspects of the policy—and I will

be keeping the committee apprised of the actions which we take at the Department of Energy in accordance with recommendations in the plan.

But as Senator Bingaman noted, key portions of the energy policy demand legislation. I am looking forward to working with this committee and with other House and Senate committees to move such legislation through the process. In my opinion we start from a wide base of agreement. We all recognize energy as a critical challenge. As noted, both the chairman and the ranking member of this committee have sponsored robust energy bills, and I am struck by how much common ground there is between those bills and our proposals.

In fact, I have asked my staff to do a quick comparison of the energy bills that have been introduced by Chairman Murkowski and Senator Bingaman with our National Energy Plan, and was pleased to discover that there is considerable agreement. In fact, over 30 of the recommendations included in the National Energy Plan are also included in the comprehensive energy bills that have been introduced by the chairman and ranking member. They include increasing support for the LIHEAP Program; increasing funding for Weatherization Assistance; promoting greater energy efficiency programs; conserving energy in Federal facilities; promoting the use of technological advances to better protect our environment; exploring opportunities for royalty reductions as economic incentives for environmentally sound off-shore oil and gas development; repealing the Public Utility Holding Company Act; reforming the Public Utility Regulatory Policies Act; continuing to develop advanced clean coal technology; extending the Price-Anderson Act; and a variety of others.

Naturally, there will not be complete agreement and the President is strongly committed to the adoption of his recommendations. But I truly believe that we have the basis for working together to meet America's energy crisis and the administration looks forward to working with the committee. I particularly look forward to working with all of you to advance the legislative components of this agenda, and to work together on a broader basis to address our energy challenges.

Mr. Chairman, thank you for the opportunity to make these remarks. I look forward to any questions.

[The prepared statement of Secretary Abraham follows:]

PREPARED STATEMENT OF HON. SPENCER ABRAHAM, SECRETARY,
DEPARTMENT OF ENERGY

INTRODUCTION

Thank you Mr. Chairman.

I appreciate the opportunity to discuss the President's National Energy Policy, which was developed by the National Energy Policy Development Group under the direction of Vice President Cheney.

If I might, I would like to make a brief opening statement.

AMERICA'S ENERGY CHALLENGE 2001-2020

Today, America consumes 98 quadrillion British thermal units (or quads) a year in all forms of energy. Our domestic energy production is 72 quads. The imbalance between energy demand and domestic energy production is made up with imports.

Between now and 2020, our energy demand is projected to rise significantly. If the energy intensity of the U.S. economy—the amount of energy needed to generate

a dollar of Gross Domestic Product—remained constant, our energy demand in 2020 would be 175 quads. However, our Plan and current policies will improve energy efficiency to the point that energy demand in 2020 can be lowered from 175 quads to 127 quads.

That means improved energy efficiency can help close much of the gap between projected energy demand and projected domestic energy production.

However, improved energy efficiency cannot do the whole job. For that reason, the United States will need more energy supply. The question is: where do we get that increased supply when over the past decade domestic supply production has remained relatively flat?

OUR BALANCED APPROACH

To address these challenges, the national energy plan is shaped by the need for a balanced and comprehensive approach. As the President said, we are looking for a new harmony among our priorities.

Let me briefly outline this approach for the Committee.

First, our policy balances the need for increased supplies of energy with the need to modernize our conservation efforts by employing cutting edge technology. And so, for example, as we call for recommendations to enhance oil and gas recovery from existing and new sources through new technology, we also call for recommendations for changes in Corporate Average Fuel Economy standards.

Second, our Plan calls for a balance in terms of our supply sources.

With electricity demand forecast to rise 45 percent by 2020, we estimate the need for an additional 1,300 to 1,900 new power plants in the country. Current policy anticipates that over 90 percent of those new plants will be fired by natural gas. We believe energy security dictates a more balanced approach to new power generation. In addition to natural gas, the National Energy Plan looks to such sources as clean coal generation, nuclear power, and hydropower to give us a broad mix of energy to meet our future needs.

Third, our plan balances our need for traditional sources of energy, such as oil and natural gas, with the need for renewable and alternative sources such as geothermal, solar, wind, and hydrogen. Consequently, our Plan recommends more focused research on new sources such as hydrogen, and fusion, and proposes tax incentives for the use of certain renewables. The Plan also seeks to increase exploration of domestic sources of oil and natural gas.

Fourth, our energy plan harmonizes growth in domestic energy production with environmental protection. Our commitment to conservation and environmental protection is not an afterthought; it is a commitment woven throughout our energy policy. Energy production without regard to the environment is simply not an option. For example, in addition to recommendations seeking to streamline the permitting process for plant sitings as well as building new infrastructure, the National Energy Policy also proposes mandatory reduction targets for emission of three major pollutants sulfur dioxide, nitrogen oxides, and mercury.

OUR OVERARCHING PRIORITIES

This balanced approach yields recommendations that fall for the most part into six basic categories.

First, we need to encourage industry to repair and update the nation's antiquated energy infrastructure. From our ability to turn raw materials into useful energy, to the pipelines that carry natural gas and oil, to our electricity grid, America's ability to deliver energy to those who need it is definitely ready for the year 1960; it is not, however, up to the demands of our 21st Century economy.

Second, the plan contains a host of recommendations on how we might better employ modern technology to achieve gains in conservation as well as domestic supply. A good example of this is the Plan's emphasis on innovative technology, such as fuel cell vehicles, for which we propose certain tax credits.

Third, streamlining the regulatory process is a key priority. We have found areas where the permitting process for energy projects and infrastructure improvement moves too slowly. One recent hydropower relicensing case took 23 years. We must improve this process.

Fourth, the report contains recommendations recognizing the global nature of today's energy market. As we pay attention to the need to enhance our domestic supply, we also need to diversify and increase our sources of energy around the world. For example, our National Energy Plan highlights opportunities for supply in the resource rich Caspian Sea area.

Fifth, our energy Plan addresses the critical problem faced by low-income families as they confront rising energy costs. We therefore support a strong Low Income

Home Energy Assistance Program, and propose increases in our weatherization assistance program funding in the amount of \$1.2 billion over the next ten years. Our Plan recognizes the impact energy price spikes can have on working families and we are committed to taking actions to lighten the burden.

And finally, our National Energy Plan seeks to enhance competition across the board. Helping to create a level playing field where a free market in energy can flourish will be one of the best ways to secure our energy future with a affordable and reliable access to a diverse supply of resources.

CONCLUSION: A COOPERATIVE APPROACH

Where possible, the President moved immediately to implement key parts of his plan. Hence, last Friday he issued two executive orders directing Federal agencies to expedite approval of energy-related projects and directing Federal agencies to consider the effects of proposed regulations on energy supply, distribution, or use. These are important actions.

What's more, where appropriate, the President is directing Federal agencies, including my own, to take a variety of actions to improve they way they use energy and to carry forward critical aspects of his policy.

But, key portions of the energy policy will demand legislation. I am looking forward to working with this Committee and with other House and Senate committees to move this legislation though the process.

In my opinion, we start from wide base of agreement. We all recognize energy as a critical challenge. Both the Chairman and Ranking Member of this Committee have sponsored robust energy bills and I am struck by how much common ground there is between these bills and our proposals.

In fact, I asked my staff to compare the comprehensive energy bills that have been introduced by Chairman Murkowski and Senator Bingaman, with our National Energy Plan and was pleased to discover that there is considerable agreement. Indeed, over 30 of the recommendations included in the National Energy Policy are also included in the comprehensive energy bills that have been introduced by the Chairman and Ranking Member. Just a few examples include, supporting the LIHEAP program; increasing funding for the Weatherization Assistance Program; promoting greater energy efficiency programs; conserving energy on federal facilities; promoting the use of technological advances to better protect our environment; exploring opportunities for royalty reductions as an economic incentive for environmentally sound offshore oil and gas development; repealing the Public Utility Holding Company Act; reforming the Public Utility Regulatory Policies Act; continuing to develop advanced clean coal technology; extending the Price-Anderson Act; improving the hydropower licensing process; increasing support for research and development of renewable energy resources and improving the reliability of the interstate transmission system.

Naturally, there will not be complete agreement and the President is strongly committed to the adoption of his recommendations. But I truly believe we have the basis for working together to meet America's serious energy crisis.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you very much, Mr. Secretary. You are to be complemented for, I think, getting a running start when you are kind of all by yourself. Senator Bingaman and I are actively engaged in the process in trying to clear some of your nominees.

Secretary ABRAHAM. We would be grateful.

The CHAIRMAN. You are doing pretty well writing your own material. Let me just focus for a moment on, I think, a prevailing attitude among many Americans and many members of Congress that somehow there ought to be an immediate relief, a short-term fix to get us over this hump. And we generalize a good deal and say we want to work toward a short-term solution so we can get the relief we need until we can resolve a long-term fix. But we have not seen an awful lot of identification outside of generalizations on just how to achieve a short-term fix.

We talked about suspending the Federal gasoline tax of 18.4 cents a gallon. Of course, the down side to that are the consequences to the Federal Highway Trust Fund. Then what does

that do for conservation? If there is no pinch, why, there is no incentive to conserve.

We talked about increasing refined products from Canada, Mexico, Venezuela without reformulated gasoline requirements. There is a trade-off there on air quality. We talked about reducing EPA boutique fuels. I think we've got 15 different kinds of reformulated gasoline, but some of that would require legislation. There is a question of what the ethanol mix might be and the significant change; waving oxygenates; increasing per mile deduction for gasoline for businesses and charitable purposes. We talked even about toll road waivers during concentrated driving times. Somebody did some figuring here and estimated that conservation could be aided by reducing the 6.7 billion gallons of gasoline wasted annually while idling in congestion.

So what we have seen here, at least to my attention, is an effort to identify some short-term fixes, but not really coming up with anything significantly achievable. The last point is that there is an allegation out there that big oil is gouging—or big utilities, or whatever and yet the FTC had just completed a 3-year study of gasoline prices on the West Coast and the result is no evidence of price fixing or collusion. I mean, they say no evidence. Instead, they determined the boutique fuels and the inadequacy of refineries were part of the problem.

A similar study was done last summer in the Midwest as prices sky-rocketed. The study found again that infrastructure, refineries and pipelines were to blame. So it is a lot easier to kick big oil and blame them then going down to the root of the problem. I would like to hear your comments on those two areas. Is there a quick fix in the sense of relief? And what about this price gouging issue?

Secretary ABRAHAM. Well, Mr. Chairman, the experience we are going through right now on gasoline prices is, of course, very similar to what we encountered last summer. I remember as a member of the Senate offering an amendment to some legislation—I can't remember the bill now—to try to suspend the Federal gas tax. I didn't fare very well in the votes. But the kind of repetitious nature of these problems suggests that there is an underlying cause that goes beyond simply accusations of inappropriate conduct.

And to that end, I just want to make it clear, the President has made it very apparent to all of us in the administration that he expects the FTC and other relevant agencies to maintain a strong vigilance against any inappropriate behavior, and we will.

I have, in fact, asked the Energy Department to look into some of the rumors which we encountered a couple of weeks ago where suddenly we were being told there was going to be \$3 gasoline. At least we were being told that in the newspapers. The local dealers were being told that by their suppliers. We immediately set in motion a process to track down the rumors. Sometimes these rumors can become self-fulfilling prophecies when people say they have now an excuse to begin increasing charges. We have tried to track that down.

And I have noticed that, in fact, the *USA Today* has this week the very same publication that had said we would have \$3 gas now says gas price may level off until next summer. So these things tend to change.

Certainly, we have not seen any evidence in the inventory analysis done by the Department that \$3-a-gallon gas is coming. But nonetheless we are trying to monitor that. At the same time, what we have tried to do in this plan is address some of the underlying issues that we feel are going to cause these problems to repeat on a consistent basis. I mean, if we do not have adequate refining capacity, if every time there is sort of a peak period, whether it's as we move into the wintertime and there is a need to transition to heating fuel or as we move into the summer driving season and there is a need to transition into more gasoline production, especially on the gasoline side because of the variety of different fuel types, the inadequacy of refining capacity immediately causes supply problems.

The CHAIRMAN. I do not want to let you off without any mention of short-term solutions because my light is on here. Any short-term solutions?

Secretary ABRAHAM. Well, there are some and on problems that we regarded as immediate problems I reported to this committee actions we have taken in respect to California on the electricity issue. We did not wait until the plan came out to begin trying to take action. But there are limits as to what we can do in the short-term to address problems that have developed over long periods of time. I think that is the fundamental point.

At the same time, I would say to members that we need to get the plan moved forward because the problems that repeat themselves every year do not have to repeat themselves well into the future if we can address the underlying reasons behind them.

The CHAIRMAN. Thank you. My time is up.
Senator Bingaman.

Senator BINGAMAN. Thank you very much. Let me ask first on this low-income home energy assistance program. You have said and I believe your report says that you are requesting increased funds for that. There are 2 fiscal years that are relevant to that discussion, it seems to me. The one we are in today and will be until the first of October and then the next fiscal year. The one we are in today there is clearly a shortfall of funds for low-income home energy assistance.

We have passed an increase in the authorizing levels through the Senate. The House has not acted on it. We have urged that the administration request additional, supplemental appropriation so that we can actually get funds to the States to continue with that program during the rest of this fiscal year. Do you know if the administration supports doing that? Some type of supplemental appropriation to get us through until October 1?

Secretary ABRAHAM. I do not know. I know that, as I remember when we put the budget together when I was still a member, that we'd had \$300 million in emergency money, but we spent that, as I remember before the end of last year—that is by December 31. Because this is not in my Department, I do not know—and it is traditionally in OMB and the relevant Department—I am not sure what the status of that is. What I can comment on is the nature of the recommendation. It was our decision, or as we put the plan together, that we needed to find a more effective way to run this program.

So what we have proposed is not only an increase in the base funding over this year's appropriation level, but also to try to work with the Secretaries of the Interior and Health and Human Services to find a way to perhaps trigger increased supplies of money to LIHEAP based on triggers that would be set when prices would exceed a trigger price. So that we would begin supplementing the LIHEAP program in the future with monies that would be moved over from Federal oil and gas royalties. That's the future. I can't tell you what the status of the supplemental is.

Senator BINGAMAN. Well, let me ask about next year. As I understand it, during this current year we have appropriated and spent \$2.25 billion so far. Your plan proposes that next year we spend \$1.7 billion. I don't see how that's an increase.

Secretary ABRAHAM. I think it is an increase over the regular 2001 appropriation.

Senator BINGAMAN. But not over what was actually appropriated.

Secretary ABRAHAM. I do not think it contemplated what was included in emergency additions. And I think what is meant here, if you would look at the recommendation. The recommendation is to increase the base to start with, but then also direct the Secretaries of the Interior and HHS to propose legislation to bolster LIHEAP funding by using a portion of oil and gas royalty payments, redirecting royalties above a set trigger price to LIHEAP whenever crude oil and natural gas prices exceed the trigger price.

I think what we have envisioned here is working with Congress to see if we cannot change from a situation where we lurch in the face of emergencies to try to come up with a supplemental, which may or may not happen, to a situation where the pool of monies available for LIHEAP would grow as there is evidence in the markets that the price of heating oil is going to go up. That was—the idea was to try to get away from estimating and emergency kind of responses into a situation where the available funds would be larger—

Senator BINGAMAN. So we can expect some legislation along those lines?

Secretary ABRAHAM. That's the goal. And again, I think that certainly we would anticipate that in putting together such legislation—our goal is to try to find a way around the sort of crisis approach to something where we are expanding that pool of money without the need to get to supplementals at some point, and hopefully we can find one.

Senator BINGAMAN. Let me move on to another one of your recommendations. It says that the Cheney task force recommends—and this is a quote from it—recommends “that the President direct the Secretary of Energy to propose comprehensive electricity legislation.”

The previous administration did propose comprehensive electricity legislation. It was agreed to by some and disagreed with by others, but it was a fairly comprehensive proposal. When could we expect to see a proposal from your Department in the nature of a comprehensive electricity—

Secretary ABRAHAM. This week, now that the plan has been finalized, I've asked our staff to begin the process of looking at components that might be included in a comprehensive bill. Some of it

will depend, I guess, on definitions too because obviously one of the issues that we want to address is reliability. And there is a separate recommendation with regard to reliability that is in this—in our plan. And some bills I know would merge reliability legislation into comprehensive legislation. Some wouldn't.

But the question you ask is the timetable—we have just begun at the Department to begin examining possible inclusions in such legislation. I'm hopeful we will be able to move ahead fairly quickly. But we also do want to have a discussion with members of Congress to get a sense of priorities here.

The one area that I would highlight, as I mentioned in my statement, that already I can assure you would be part of any legislation we might offer, unless the Congress acts prior to that, would be the repeal of PUHCA. Because that's a position the President outlined already in his campaign.

Senator BINGAMAN. You also, in your statement to us today, said that the administration proposes mandatory reduction targets for emissions of three major pollutants: sulfur dioxide, nitrogen oxides and mercury. My impression is that a number of utilities, and other companies, oil companies and others would like to know where the administration is going to be on greenhouse gas emissions before they make major investments.

The constant drum beat is that we are going to need 1,300 new powerplants over the next 20 years. What can you tell us about your intentions? Are you going to set CO₂ criteria? Are you going to give any direction as to where you believe we should be on that issue?

Secretary ABRAHAM. Senator, on a separate track from the National Energy Policy Development Task Force track, the President has launched a multi-department review of climate policy. In fact this afternoon I will be participating in yet another of these task force meetings, which is a principals level task force.

Senator BINGAMAN. Who is in charge of that?

Secretary ABRAHAM. It is being run by the White House, coordinated by—I believe by the offices of National Security and National Economic Policy of the White House. But it includes the Administrator of the EPA, the Secretaries of the Treasury, the Interior, myself and others at a principals level. My understanding is that this summer that review and set of recommendations will be completed. And that would presumably address these issues.

But it started later than the Energy Task Force started, and so it is a little bit later in terms of when it will finish. But that'll be, I think, the administration's statement on policy in this area will emanate from those recommendations.

Senator BINGAMAN. Do you agree with my basic point that in order to give companies the certainty that they need to be going forward with these major investments and new plan, we really do need to come up with a policy on CO₂ emissions?

Secretary ABRAHAM. I think that clear guidance and certainty of any sort, whether it is on CO₂, it's on the other pollutants that are mentioned here—the pollutants that are mentioned here, the emissions levels and so on of these different greenhouse gases, I should say, is very important. We have certainly heard from the same industries you have asking for some clarity as soon as possible. That

is, I think, one of the reasons we wanted to move forward with the multi-pollutant bill at the same time we complete this other study, so that we really would be able to establish some guidelines people would be comfortable following.

Senator BINGAMAN. I guess my time is up. There are only two lights in this room, is that right? You are either go or stop. No slow down. Thank you very much, Mr. Chairman.

The CHAIRMAN. That is a good question, Senator Bingaman. So if the yellow light is on, it is just a warning, nothing more. We need one that gives you a little jolt.

Senator Wyden.

**STATEMENT OF HON. RON WYDEN, U.S. SENATOR
FROM OREGON**

Senator WYDEN. Thank you Mr. Chairman and Mr. Secretary. Welcome. It is good to have a chance to work with you.

Mr. Secretary, there is a veil of secrecy that envelops today's energy markets. Energy is now being traded as a commodity all across the country on trading floors, but the information that is needed in order to really protect the public interest is not available. I am talking about systems information, information about transmission capability, outages and this sort of thing. Not proprietary information; information about systems.

I intend to introduce legislation shortly to change that, to bring about some transparency. I would like to know at the beginning conceptually—you cannot comment on a bill you have not seen—but conceptually whether you would support legislation to lift this veil of secrecy that surrounds energy markets. So at a time when energy is being traded like a commodity, the public can get the information about systems that is needed to make markets work.

Secretary ABRAHAM. Obviously, I would not at all rule out supporting such legislation in a conceptual sense. One of the issues that I have asked our Energy Information Administration to look at is the question of going beyond the kind of things that we currently examine with regard to gasoline to try to give consumers an understanding of what the prices are at each of the stages in the process, because when people are upset, they deserve to know where the fluctuations are taking place.

Senator WYDEN. This is not about prices. I am going to talk about that in a second. This is about information on the trading floors where energy is being bought and sold. You lift this veil of secrecy so that people can find out how to make markets work.

Secretary ABRAHAM. Again, I cannot state any objection to that notion at the onset.

Senator WYDEN. The administration recommends fast tracking the siting process for powerplants. And it just seems to me there is an opportunity to be more creative here. I want to ask you about a specific approach. Instead of just saying you are going to fast track the siting process for everybody, why not say that for a developer for a company who fast tracks the environmental compliance side, that those are the people who go to the head of queue when it comes to siting. That way you've got a chance to ensure that there is environmental protection and sensitivity to economics,

rather than just say, well, okay, let's push everybody to the front of the line. Wouldn't that be a more creative way to approach it?

Secretary ABRAHAM. I do not think there is any desire on the part of the administration to diminish the focus on the environmental components of these permitting processes, which is why I know that the Council on Environmental Quality at the White House has been proposed as the entity that would make sure that any permitting process expediting would be consistent with the rules.

One of things which we have tried to recommend is to start focusing on the kinds of permits that affect processes such as combined heat and power systems, where sometimes the permit process, as I understand it at least, the lack of flexibility in the permitting has really slowed up what could be the introduction of much, in our judgment at least, preferable ways of energy production. But I can assure you that there is every interest in our part in trying to simply eliminate what seemed to be unnecessary delays.

I found this, in a separate area in my Department, with respect to transmission systems. We were holding up our responsibility with respect to international transmission siting between the United States and Mexico. It turned out, for reasons that had nothing to do with issues related to environment, health or safety, but just had to do with bureaucratic log jams. And that's, I think, what the principal goal we have here is and to make sure through the Council on Environmental Quality that we do not in any sense diminish the rigorous nature of those reviews.

Senator WYDEN. When we come to that part of the legislative debate, I want assure you I am going to try to change the siting initiative because I think it one thing to say that you are going to put everyone on a fast track. There are delays. There is no question about it. But what we ought to be doing is in effect saying we want to fast track it for those address the other issues that are important to communities such as environmental compliance.

Secretary ABRAHAM. And we should—like I said, one of the key recommendations is the recommendation that the EPA Administrator promote combined heat and power systems through flexible permitting process. We might want to try to identify preferable areas in which we would want to be generating, and that is a good example.

Senator WYDEN. On the question of gas pricing and energy pricing, I am very troubled by the administration's unwillingness to tackle practices that are clearly anti-consumer and anti-competitive, but do not seem to technically be illegal under current law. And let me be specific. The Federal Trade Commission found in their study on the west coast that our gasoline markets are being redlined.

We have communities where the companies actually draw a line and say distributors cannot go here. Juries in my State are handing out multimillion dollar awards because of redlining. So the government has found that west coast gasoline markets are being redlined. It is about as an anti-competitive practice as you can find, but it is not technically illegal under current law.

I would like to see the administration go after those kinds of practices and I do not see them mentioned anywhere in the pro-

posal. And yet that is taking a toll right now in my State where we have lost 600 gasoline stations. In much of the west coast a handful of companies control 60-70 percent of the gas market. And I would like to see the administration go after some of those practices.

Secretary ABRAHAM. I would be glad to talk further with you, Senator, on what appropriate action there might be. I would not hesitate to examine that, if there is a suggestion you might have as to an activity we might—

Senator WYDEN. The suggestion I have is just because it is not illegal under current law does not mean that everybody should say, well, let's just ignore it. It is almost as if now unless a handful of these oil companies are huddled up in a hotel somewhere, nobody is going to say that we ought to be looking at these issues.

The Federal Trade Commission found evidence of redlining. West coast gas markets are being redlined and I would hope, and I have always enjoyed working with you, that we would say that practices that are anti-consumer, anti-competitive, and anti-market are areas that we would also try to change even if they are not strictly illegal under current law.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator. Senator Bayh is next. I have been advised that this is not really a yellow light, it's a red light. So if anyone is color blind, I will remind them after 6 minutes.

Thank you. Please proceed.

**STATEMENT OF HON. EVAN BAYH, U.S. SENATOR
FROM INDIANA**

Senator BAYH. It is not the only example around here, Mr. Chairman, of things not appearing quite the way they are in fact.

The CHAIRMAN. That's very true.

Senator BAYH. Thank you, Mr. Chairman. Mr. Secretary, welcome again. It was good being with you last night for President Ford's wonderful address to the members of the Senate. And it is good to have you back before this committee.

Secretary ABRAHAM. Thank you. Good to be with you.

Senator BAYH. I have two brief points, Mr. Secretary. First, it seems to me that this is a difficult issue and we all understand that. But sometimes out of difficulty comes the opportunity to make a great advance or to break out of old ways of thinking. In all candor, I am concerned that the administration may not be making the most of this opportunity.

Let me deal with it in general strategic terms and then give you some specific examples. In general philosophical terms, the old debate, the sterile debate, of the last 20 to 30 years has been some people have argued that more production alone is the answer to all of our energy problems. I think all of us up here recognize that more production is a part, an important part, of the answer to our problems but alone it is not going to be enough to solve America's energy crisis.

On the other side, there are those that say, well, we can just conserve our way out of this problem, and implicit in that is too often a lower standard of living for the American people. Conservation

is a critically important part of the overall answer but by itself is not enough.

The American people are hungry for a third way, a new approach to this, which would aggressively invest in new technologies to promote clean, renewable, alternative energy sources that are domestically-based.

And I must say that when we look at specifics, and I am going to get down to specifics here, there is a disconnect between some of the language in the energy proposal put forward by the administration and the specifics in the budget. We need a way of resolving this issue.

Let me just list some of the specifics. The proposal put forward instructs you and the Secretary of the Interior to promote enhanced oil recovery with new technologies. But the gas exploration and production programs are cut by 34 percent. Petroleum and oil technology is cut by 54 percent. The Natural Gas Technologies Program is cut by 53 percent. The Efficient and Renewable Energy budget is cut by 27 percent. Gas hydrates research, a very promising long-term initiative, is cut by 52 percent.

The proposal recommends that agencies be directed to reduce energy use, but the Federal Energy Management program is cut by 48 percent. Transportation research and development is cut by 21 percent. The Industries of the Future program is cut by 35 percent. The Office of Nuclear Energy, Science and Technology is cut by 9.3 percent.

My question, Mr. Secretary, is how do we square the rhetoric and the language of the energy proposal with some of these reductions in research programs that represent our national commitment to new research, new energy and that really promise to break us out of this sterile debate of the last 20 to 30 years.

Secretary ABRAHAM. Well, if I can, it may take a little longer and I don't want to cheat you out of your second question, but it would take a little time to answer that. I would like to answer it comprehensively.

First of all, I totally agree with your analysis that we must—and I mentioned in my statement and have in public speeches—understand that the solution cannot lie on either end of the traditional debate here. We cannot possibly conserve our way to energy security by the year 2020. There is no doubt in my mind that we can't simply produce our way to security. The differential between where we would be in the absence of a balanced approach and where we are is too great. So, we absolutely must do that.

Now the question you raised is what about this year's budget and how does it square with the recommendations. Let me just begin by talking about the process that brought about the budget. When I took office, within a matter of a week we were expected to begin the process of providing recommendations for our budget. We then went back and forth with the White House. I found myself in a slightly different position than some of my colleagues in the cabinet because in the very first week we were in office, the President launched the Energy Policy Task Force and indicated very clearly that it would incorporate all these various areas of energy policy that our Department funds.

We were, therefore, without much guidance as to where as of June we would find ourselves versus where we were in February. And it was—we were somewhat reluctant to begin suggesting changes in budgets, or increases or even the maintenance of some programs.

Senator BAYH. Are you suggesting that we may see some changes in these recommended allocations?

Secretary ABRAHAM. You absolutely will because there are two very clear directives in here, which I am very enthusiastic about, to my Department and me to launch reviews. One of which, for example, in the area of energy efficiency I launched yesterday, which gives clear direction for us to review and make recommendations with respect to funding levels in the areas that you have mentioned that have in fact in this budget been either held in place or reduced.

So I think that process is beginning and it will also be applied to the areas of renewable energy and alternative energy sources, as well as to some of the programs you mentioned in the area of fossil energy.

I do want to though make a couple of qualifying comments. We did find after some analysis—we had two guiding principles where we did make reductions that are reflected here. And they are going to continue to be guiding principles even though we may significantly change the budget. One is in the area of energy efficiency the President already had established, this is an area where we had some guidance, his desire to increase the Weatherization program very substantially by \$120 million over the previous level. We have done that in the budget submission.

In order to fund that within the budget number that we were passed back from the Office of Management and Budget, we had to make some choices. And I did make some decisions which may be affected by this review. But I did make some decisions to shift monies from programs like the Industries of the Future and from the buildings programs and others to the Weatherization program because we felt that the notion of—at least at the level of partnership from the private sector in the areas that have been beneficiaries—

Senator BAYH. My yellow/red light is already on, Mr. Secretary, so I do not want to interrupt you. Just two final statements and then I will turn it over to the chairman.

Secretary ABRAHAM. Maybe I could in writing flesh out the rest of this answer because—

Senator BAYH. That would be great if you could include in a written response. I know that the Defense Department is undergoing a significant—a similar, broad review of its mission and how to meet its mission in the future. And yet they held back the Defense Department budget submission out of respect for that review process. There seems to have been a different approach with regard to the energy issue. I would be interested in why the two different approaches were taken.

Secretary ABRAHAM. Well, actually part of what the Defense review is undertaking affects my Department with respect to the National Nuclear Security Administration and indeed those issues which tend to maybe come up a little bit more often in our Armed

Services hearings than here. But the areas that deal with defense programs and non-proliferation programs are also under review and may well be affected by the defense posture review. In fact, we have been working very closely with them and they will perhaps be included in what he might submit here soon. So, in part our Department was affected that way but the decision was to do that in that area but not in this.

Senator BAYH. Thank you, Mr. Secretary. My final point simply is, we understand the budget was submitted under difficult circumstances where there was a search on for dollars to help make the tax cut, which now is on the verge of becoming a reality, possible. My broader concern is that tax cuts are appropriate and I support significant tax cuts as part of a broader economic strategy. But there has to be a broader economic strategy. Long-term energy independence, and investment in technologies and renewable and alternative energy sources have to be a part of that strategy. We cannot let the tax agenda crowd out the important investments in energy research for the future.

Secretary ABRAHAM. I appreciate that, and if I could just make one comment back, if time permits, Mr. Chairman. That is certainly not what we were involved in. What we were involved in was trying to gauge where this Energy Task Force set of recommendations would go. Our total budget for some of these programs was reduced though based on some analysis which we did. I don't want to leave this point unstated.

You mentioned, for example, the area of transportation efficiency. We did what we considered to be due diligence on the programs in place. This is an area where I have a lot of personal interest because it's obviously one that affects Michigan. It is also a program, when I was a member, that I was ardently pushing every year in the budget process.

But we had a very serious analysis of the program and I guess it demonstrates that there are no sacred cows in our budget because we did scale back a component of the program that went towards the development of a vehicle—it started in all the best faith back in the early 1990's but which we concluded was not going to translate into the production of a real vehicle for the marketplace. We decided that in that area to continue to spend the taxpayer's money was not wise.

Now in the process of the analysis that we will initiate, we might find other transportation priorities. We funded the rest—the truck program and the fuel cell program—very strongly. But we want to be very sure we are spending dollars in the Department on these technologies in areas which will actually find real world applications. And we look forward to working with Congress to hopefully come to agreement on what the priorities in these areas should be.

Senator BAYH. Thank you, Mr. Secretary. Thank you, Mr. Chairman.

The CHAIRMAN. Thank you very much.
Senator Feinstein, good morning.

**STATEMENT OF HON. DIANNE FEINSTEIN, U.S. SENATOR
FROM CALIFORNIA**

Senator FEINSTEIN. Good Morning. Thank you very much, Mr. Chairman. Welcome Mr. Secretary. I just wanted to say about the report, you know, I think there are some good things in it. There is much that I profoundly disagree with, but I wanted to think aloud with you for just a moment.

You and I have talked about the California energy situation a number of times. I just want you to know where this Senator is. I am really coming to question the concept of deregulation in the energy area. I want to tell you why. As a consumer when you deregulate airlines, the consumer has a choice of airlines. If you do not like one airline—the time, the price, whatever it is—you can go to another. If you deregulate telephone service, the consumer has a choice. If I do not like one telephone company, I can go to another. If I do not like one service provider, I can go to another. I have full transparency on my bill.

You do not have that with energy. The consumer has no choice. When my natural gas bill goes up two-thirds, I have no choice and I have no way of knowing why. When my electricity bill goes up, I have no way of making a choice.

It is pretty well established that in 1999 the total cost of energy for California was \$7 billion. To date this year, the total cost varied between \$25 billion and \$30 billion, and is going to go up, and by the end of the year it is projected to be as much as \$65 billion.

Now there are those that say there is no evidence of price gouging. Everything is fine. Let the market work its will. The market cannot function as a market should right now. In your report, and I am quoting, you say “unfortunately there are no short-term solutions to long-term neglect.”

See, I profoundly differ with this. Today, California per capita is the most energy efficient State in the Union. We are building new power. It is going to take a period of time. And if the Federal Power Act is not being followed, and it isn't, the Federal Energy Regulatory Commission has a mandate under that act that if rates are unjust and unreasonable to regulate. And they refuse to do it. They say it is within their discretion to refuse to help.

If that is the way deregulation of energy is going to be carried out, it is a supplier's marketplace dramatically. There is no choice for the consumer. There is no transparency of why natural gas prices are three to four times higher than anywhere else in the United States. We know that in overall costs the escalation is from \$7 billion in 2 years to \$25 to \$30 billion. I really question whether energy should be deregulated. And I would like your response to that.

Secretary ABRAHAM. Well, let me make a couple of comments. I think how you deregulate is as important as whether or not you deregulate. What constitutes real deregulation to me is the principal issue, at least with respect to California. You and I have talked about this. Obviously, people will draw conclusions from the California experience. They will draw conclusions from the Pennsylvania experience. They may draw very different conclusions because of the different approaches taken.

But I think if you try to, and I am not trying to go back 5 years or whatever, but if you tried to create a regulatory approach that—emphasized deregulation, you would not, in my judgment, go the route that has been pursued in California. You would not only deregulate on the wholesale price side and not the retail side. By capping the amount of charges that could be assessed by the utility companies, you put the companies in a situation where they were totally at the mercy of wholesale spot market price fluctuations.

Then when you further prevented, and I do not mean you, if any State did this—if they prevented the companies, the utility companies, from entering into—hedging their bets with long-term contracts and exclusively relying on a single type of contractual market system, the spot market, I think you exacerbate the problem much further.

And therefore I'm not—I guess certainly today nobody can say deregulation, if you want to call it that, in California worked. I do not think California did deregulate. I think they didn't. They regulated the kind of contracts utilities could engage in and regulated how much their utilities could charge.

Senator FEINSTEIN. Stop for just a minute because I agree with everything you have said but it is not the point. The point is that you have what you have. And I agree with you. H.R. 1890 in California was a bad bill. I happen to agree. I was the first one that said that the prices have to be passed on. The result of not passing them on is you bankrupt whomever has to buy the power.

But the problem becomes that when you do have a problem you have no way of adjudicating it. You have no way of regulating it because the Federal Commission will not do the job it is supposed to do. And so you have these enormous price spikes.

Secretary ABRAHAM. Well, the other point I was going to make has to do with whether or not—I mean, in terms of market competition obviously you also have a problem, and we have talked about this. If you don't have—you know, if we have not added supply, which has been unfortunately the case for a number of years, while demand continues to go up—and California I would echo completely and the President did the other day that California deserves a lot of credit for its conservation leadership in terms of its actual accomplishments.

But the demand still has gone up in spite of conservation. Part of the problem, and I think we addressed this in our recommendations, is that we have significant constraints in terms of who you can buy from because of the bottlenecks and the limits within the electricity grids. I think one of the underlying principles of this set of recommendations of our report is that we need to address that issue as well.

Right now, there is a finite amount of electricity that can get into California and into the Western grid. I mean, the Western grid has a finite amount and it is unconnected to the other grids. So we have this unusual and unfortunate situation in America of having surpluses in some parts of the country, deficits in others and no capacity for us to move electricity to help people where there are in fact shortages.

Senator FEINSTEIN. You are circumnavigating my point.

Secretary ABRAHAM. I am not trying to.

The CHAIRMAN. Senator—

Senator FEINSTEIN. Just quickly let me just do this one. Just this one. My point is that you have an improper deregulation system. Granted. And you have people taking advantage of it. And you have a Federal law that says when that happens there should be regulation. And the Federal body empowered to do that regulation refuses to do it. That is the flaw I am trying to get at in the short-term.

Secretary ABRAHAM. Well, let me just kind of—I mean, I'm not trying to—I mean, I thought your point was that deregulation might not be a good idea. I think it depends how it is done. But what I would say is that—you know, and I have raised this issue at a previous hearing here.

The Federal Energy Regulatory Commission has the ability to regulate, as you note, within the Federal Power Act certain enumerated entities that sell electricity in the wholesale market in California, not all of them. Roughly half I think. The others, which are among others are the municipals and cooperatives in the State, are not regulated. The price that they charge is—they can do whatever they want. They're not under the—a FERC price cap would not apply to them.

The State of California, I believe, could impose price caps on those entities. We cannot at the Federal level. Yet, no action has been taken to put a cap on those entities. And yet, because of the structure of the purchases, the purchase arrangement, the power exchange, they were charging and, in fact, have clearly charged the same kinds of rates as the other entities who were selling.

So it is not simply a situation where Washington or the FERC has this authority, the State has it and has not acted on that either. I'm sort of—I am not sure why, I really have not queried anybody, but I am not sure why they have not done it.

Senator FEINSTEIN. I want to respond but my time is up. Thank you, Mr. Chairman.

Thank you, Secretary.

The CHAIRMAN. Senator Bingaman and I want to apologize. A number of things are happening. The Secretary has to leave at 11 o'clock. I want to make sure everybody has an opportunity to question him. We have another panel on Price-Anderson and we have agreed to first apologize to our witnesses, Mr. Eric Fygi, the Acting General Counsel for the Department of Energy; Mr. Bill Kane, Deputy Executive Director, Reactor Programs, U.S. Nuclear Regulatory Commission of Rockville, Maryland; Mr. John Bradburne, president and CEO of Fluor Fernald of Hamilton, Ohio; Mr. John Quattrocchi, senior vice president for Underwriting of American Nuclear Insurers of West Hartford, Connecticut; Mr. Marvin Fertel, senior vice president of the Nuclear Energy Institute of Washington, D.C.; and Ms. Anna Aurilio, legislative director of the National Association of State Public Interest Research Groups.

With our apologies, we, as a consequence of the conflicts, are going to prevent us being able to question the witness on the second panel. We have a balanced panel. We are most appreciative. We will take the prepared statements of the witnesses for the record. So if you will submit your written statements, we will have questions for the witnesses for the record from the members. I

would ask all members to submit those questions by the close of business today.

We will also accept additional statements on comments for the record. Now this is covering Price-Anderson. Price-Anderson is generally supported, to my knowledge, by the members of the committee but I wanted to extend my apologies and let you gentlemen and ladies who were going to testify know the circumstances. Our next questions or statement will come from Senator Graham, followed by Senator Cantwell, followed by Senator Landrieu, followed by Senator Johnson.

Senator CANTWELL. Mr. Chairman, I think Senator Landrieu arrived before I did.

The CHAIRMAN. Okay. I am sorry. I am keeping track of this. The staff does a better job than I do.

Senator Graham.

**STATEMENT OF HON. BOB GRAHAM, U.S. SENATOR
FROM FLORIDA**

Senator GRAHAM. Thank you, Mr. Chairman. I want to welcome our good friend and Secretary, Spencer Abraham. I am going to submit some questions for subsequent response because they are relatively detailed, but let me just ask one which will sort of open up an area of my interest.

It is has been my experience in dealing with complicated subjects such as National Energy Policy that it is helpful at the beginning to set some goals that are quantifiable and placed in a time sequence, so that you know what you are going to be graded by at the end of the process. I will be submitting some questions which will be probing what this policy intends to do.

But just let me ask you as an example, in the area of electric generation. Could you give us what this policy's goals would be in terms of the distribution of sources of energy for electric generation, let us say by the year 2020 as among natural gas, coal, nuclear or other sources of electric generation?

Secretary ABRAHAM. We have not set a specific percentage for each of those sources. But let me just talk about what the current set of policies projects into the future. When we did the assessment of our future demand levels, we assessed that electricity generation would increase by about 45 percent over the next 20 years. This is done by the Energy Information Administration in the Department, which is an independent assessment office.

They further concluded that approximately 90 percent of that increase would be in the area of natural gas driven generation. That is assuming current policies, practices and so on were maintained. They further estimated that there would probably be a decline in the role of hydropower and nuclear, a slight decline in terms of their generation. Coal would, as a total, decline although levels would probably remain the same as today but because of the larger pie it would probably be a smaller percentage. They actually saw a net reduction in terms of hydropower and nuclear, and a very slight increase in terms of renewable and alternative energy as means for producing electricity.

Our conclusion was that the ultimate number was probably correct, in terms of the 45 percent increase. If anything that might be

a conservative estimate because in recent years the percentage increase has exceeded that which EIA is projecting forward because of new technologies, particularly computer-driven technologies that seem to be moving at a faster pace.

Our general conclusion, Senator, to have all of the increase essentially a natural gas-driven increase was a risky course in the sense that it could place us very dependent on a specific source, not all of which could be generated domestically. And therefore the goal of the plan was to try to not just propose policies that would allow for natural gas production and distribution, but also to try to give the other components of renewable, coal, nuclear and hydropower a chance to remain active at levels hopefully that would not decline. And that is essentially what, I think, is our projection. How that translates directly into percentages, I would have to get back to you to see if I can do that. But we did not try to set a number. We tried to balance the sources.

Senator GRAHAM. Well, I would urge you, as a matter of policy, to establish some goals. I recognize that those goals are not mandatory, but they give you some general direction. I strongly agree with what you have said relative to the increasing reliance on natural gas not being in the nation's interest. But I am afraid there is such a momentum towards that that unless there is a clear goal as to the alternatives to natural gas that we will not end up with the policy changes that will be required to avoid the kind of 90 percent of our new generating capacity being in natural gas.

Let me move to a second issue and that is budget. Has there been a budget developed for the total number of recommendations that are in this report?

Secretary ABRAHAM. No, not yet.

Senator GRAHAM. When can we anticipate that?

Secretary ABRAHAM. Obviously, some of these are in areas outside of my department. What I have been charged with is to examine our budgets relative to energy efficiency, renewable energy and some of the fossil oil and gas technology areas. I have already launched the review that will result in the energy efficiency recommendations. I hope we can get those—we have set an initial period between now and July 1 and then a second phase through September 1. But I honestly cannot tell you where the other departments might be in that assessment. I would be happy to keep the committee apprised as I learn of information or even try to solicit from the other departments their timeframes. But we are trying to move quickly to determine what budget adjustments are relevant to me, as a department head.

Senator GRAHAM. Do you think we might get some initial numbers by the first of July, and more refined numbers by the first of September?

Secretary ABRAHAM. The first area that I launched is the review in the area of energy efficiency. I expect to make further announcements very soon in regards to other areas where I was asked to do budget related assessments. Our goal is to move quickly on that. But we also want to engage a lot of participation in that set of reviews.

Senator GRAHAM. One area that concerned me is on page 57. I recognize this is outside of your Department. But in the—

The CHAIRMAN. Senator, could I—he's got to leave. Please wind up. Your time is up and I have three more Senators.

Senator GRAHAM. I will submit this in writing but it has to do with encouragement for outer continental shelf drilling through waivers or diminutions in current royalty levels. I will submit maybe to you or Ms. Norton some request for some specifics of what is being suggested there.

Secretary ABRAHAM. My understanding, and just to be brief in response and I am happy to stay extra minutes so I may give you this response, is that the goal here was to identify whether or not there were areas where because they were on the frontiers, because of the high level of financial risk that might be involved in considering even exploration operations in these areas would warrant some adjustment in the royalties. The notion of trying to identify high-risk, financial-risk areas is I think at the heart of that recommendation, but I would want the Department of the Interior to participate in helping shape any answer.

Senator GRAHAM. This is a comment rather than a question and will take just a second, Mr. Chairman. Yesterday, the Senate voted to utilize the full tax reduction authority that has been granted under the budget resolution from now until the year 2011. So any additional tax-oriented changes, which would have the effect of reducing revenue, are going to require offsets. I would, as part of this review, I would like your recommendation as to where we should be looking to offset any of the additional diminution of tax revenue as a result of implementing this energy policy.

Secretary ABRAHAM. Well, I would just say two things. My impression would be that the principal focus here would be in areas where there was no anticipated revenue to the Treasury because the risk level would basically discourage investments at all and so any royalty receipts even if they were lower would, in fact, be additions.

Senator GRAHAM. I was not speaking to that specific example but to the totality—

The CHAIRMAN. I have three more Senators. I am going to reduce your time to 5 minutes each, if that is fair, because we have got to leave, and he has got to leave.

Senator Landrieu.

**STATEMENT OF HON. MARY L. LANDRIEU, U.S. SENATOR
FROM LOUISIANA**

Senator LANDRIEU. Thank you. And I'll try to help, I may stick to 4 minutes and giving some extra time to my colleagues. Mr. Secretary, it is going to be a pleasure working with you on this particular subject and I look forward to working with you closely and think there is some promise in the the plan that has been laid out. But there is obviously a lot of work that needs to be done and there are some areas that are of great concern to me and the people of Louisiana.

Let me just begin by associating myself, Mr. Chairman, with the remarks from the Senator from Indiana who I think raises an excellent point that all the great plans, and rhetoric, and promises in the world do not mean very much if there is not budget author-

ity and real money to back them up, whether we need tax cuts or tax credits or new investments in alternative energies.

So as we move forward to develop a plan, I think we have got to be very honest and responsible to make sure that the initiatives that we propose, and hopefully can work together in a bipartisan way, there are actually, Mr. Secretary, dollars that can carry those out and help create a supply of energy that this Nation can depend on and grow with.

My second point is that I think in the plan I agree with the focus that must be made to increase production in our Nation. And this is sensitive in many areas. I believe we can increase production and still maintain our commitment to the environment. We are doing a very good job of that in Louisiana, and the technology has improved substantially. I want to commend the industry. The industry gets beat up on this committee from both sides and I want to say that the industry over the last 20 years has made remarkable investments and changes to be able to drill in areas that we were not able to drill before and do it in an environmentally sensitive way.

So I want to commend you for your emphasis on production both onshore and offshore. I am hoping that in the Gulf of Mexico, including Lease 181, we can look at in reasonable ways and try to increase the supply which is very important for our Nation. My colleague from California is not here, but she made a statement, and I just want to respond, "California is the most energy efficient State in the Union." And with all due respect to that, and I most certainly think it is true and have appreciated her leadership, it brings me to my point exactly, that energy efficiency does not guarantee adequate supply. Yes, being energy efficient is important, but it is also very important to have a supply and reliable sources of energy.

The second thing that I want to say on a positive note is that I think the focus on nuclear, and the role that nuclear power can play in our Nation now that we have become more sophisticated about controlling the liabilities, more sophisticated about approaches for the waste, and more sure of our science to make sure that the public is protected and is safe. Nuclear power as has been used in France can be a very good mix for the Nation of a clean and efficient fuel. So I want to commend you on that.

But let me say that one of the negatives from the perspective of Louisiana particularly. There is a point in the plan that says that we might want to take royalties from offshore/onshore revenues and fund weatherization plans for the Nation. But then it goes a step further to say also to help with low-income energy assistance. But as you know, Southern States are not really treated as fairly in that formula and there is no help for cooling.

So I want you to know that I think it is ironic, and I am certain that we will make this change, that if you are expecting some of the gulf coast States to actually produce the revenues necessary to fund programs that we ourselves are not able to participate in, that is a great weakness in this plan. So I wanted to call that to your attention, to say I look forward to working with you, as we hopefully develop this royalty conservation fund program which is, I think, of good merit, maybe not exactly the way it has been pro-

posed but something along those lines. But to urge you as we do help consumers in my State in Louisiana, around the nation, with their energy bills that you recognize that what you are proposing the money is coming from basically off the shores of Louisiana. We produce 85 percent of the offshore oil and gas yet the formula does not accommodate Louisiana. Obviously, I cannot support that and look forward to working with you to correct it. Mr. Chairman, thank you for the time, but I look forward to working with you.

The CHAIRMAN. Thank you very much, Senator Landrieu. I appreciate you staying within your time allotment. The last member of the panel, Senator Cantwell, please proceed.

**STATEMENT OF HON. MARIA CANTWELL, U.S. SENATOR
FROM WASHINGTON**

Senator CANTWELL. Thank you, Mr. Chairman. Mr. Secretary, good to see you here. Obviously, my colleagues have run through some the issues and I do want to associate myself with the comments from the Senator from California about the lack of, what I believe, is a short-term solution in this plan. And I think that we have had a couple of exchanges on that, and will not focus my comments on that at this moment. But I continue to be extremely concerned about the next 10 to 24 months in the Northwest and the larger Western economy as we struggle through this. I am hopeful as we go through this process here that any energy plan that comes out of the committee will provide some short-term relief for the Northwest and the West.

I wanted to ask you a couple of things in general about the report and specifically about the recommendations in the report as it relates to a couple of issues. I know the President basically during his campaign had a pledge to keep the existing moratoria on outer continental shelf leases. And I know that Secretary Norton, when she came before the committee, was asked about this and said the same thing. Yet the report calls for a reexamination of off-shore leasing. So basically it is saying we need to determine if changes are needed regarding energy related activities and siting of energy facilities in the coastal zone and on the outer continental shelf. Currently we in Washington State have a moratoria. Is the administration suggesting that should change?

Secretary ABRAHAM. No, I think my understanding of that area, and I am happy to do my best here to represent all the different departments who participated, so I want to be as effective as I can be in representing an area that the Department of the Interior had the lead on in the compilation of this set of recommendations, but my understanding was that there were some concerns. There are no implications here and none should be drawn with respect to existing moratoria. I think the concern was about the implementation of the Coastal Zone Management Act in areas where, in fact, exploration is permissible beyond the area in which the States have direct authority. As you know in the way the law works, after so many miles, 3 miles, or whatever, the States still have a role but it is not the same kind of control that exists closer to the shore.

And my understanding is that there has been, in some areas, the goal of trying to get the Federal Government's decision making process and the State's process operating together in a consensus

and harmonious way has not always worked out. The way the process—I think there are multiple sorts of steps which begin with decisions by the Interior which can then be challenged by the States which are then adjudicated by the Department of Commerce and then can be taken to court. And I think the goal was to try to look at these regulations to see if there was a way to better harmonize the relationships between the State and the Federal Government in these decisions. That is my understanding of the thrust of that recommendation.

Senator CANTWELL. So you believe the administration still supports the moratoria on offshore drilling?

Secretary ABRAHAM. That's my understanding, yes.

Senator CANTWELL. Thank you. That is very helpful. The issue of natural gas supply in Canada is something that has come up in conversations with you before this committee and in some of the recommendations in looking at a closer energy integration plan with Canada. Can you update us on what has been happening?

Secretary ABRAHAM. Sure. One of the things the President had recommended in the campaign was the need for us to look at energy policy on a North American basis, and had recommended that we forge a North American energy framework or strategy with our partners in Mexico and in Canada. I had the opportunity to have the first trilateral meeting with my counterparts from those two countries in March at the Hemispheric Energy Initiative Conference in Mexico City. We agreed at that time that there were areas of common interest that had to do with a variety of cross-border matters and so on that we wanted first to identify and then perhaps assign to working groups.

And it is my understanding we are on track to have the first working group meetings in June, probably here in Washington. At which point we will principally try to identify areas of interest that each of the countries would like to work together on. If there are suggestions for topics that we might include as a list of proposed areas of joint effort, I would be very receptive to getting those from the committee, and would welcome them.

Senator CANTWELL. We will certainly supply that, given the large natural gas supply just over the border from us and the energy crisis that continues to prevail in the Northwest. I think it becomes a very important discussion point that I would like to see accelerated with the Canadian government. It brings up a related issue of regarding the need for strong pipeline safety legislation. Does the administration support Senator McCain's pipeline safety bill?

Secretary ABRAHAM. That is the Department of Transportation's ultimate responsibility, but I do know that a set of recommendations in this report call for the President to direct the agencies to continue their inter-agency efforts to improve pipeline safety and expedite pipeline permitting in an environmentally-sound manner, as well as recommend that the President support legislation to improve the safety of natural gas pipelines. Those are two separate recommendations on the topic. I honestly cannot tell you but I would be glad to get an answer for you as to whether that translates into the McCain bill.

Senator CANTWELL. That would be great. I know my time has expired here. But I think it is an important question because I think

we will go through a mark-up process and I think that particular legislation, which seems to be stalled and seemed to be stalled in the past, is very important. And yet we want this larger integration effort with our partners. We have to assure the communities' security in how that supply is delivered.

Secretary ABRAHAM. That was one of the recommendations, and I would be glad to determine if that suggests a separate legislation initiative by the administration. I'll look into that for you.

Senator CANTWELL. I'm specifically inquiring as to their support or nonsupport of Senator McCain's bill. Thank you very much, Mr. Chairman.

The CHAIRMAN. Thank you, Senator. For your information, I advise you that I attended a U.S.-Canadian interparliamentary meeting and there was a proposal as a consequence of the new government of British Columbia under Premier Campbell, to, I guess, reconsider the OCS activity off the west coast of British Columbia, which you might be interested in.

Secretary ABRAHAM. Mr. Chairman, could I just make two quick comments. One, I was just informed by my staff that apparently that there is a statement of the administration's position in support of Senator McCain's bill. And second, I would just want to make sure that the record does not leave in doubt that in addition to our trilateral efforts with both Canada and Mexico, we also have a very robust and continuing on-going effort on a bilateral basis with Canada that is independent of anything we might do as part of a North American strategy. And I do not want to leave any implication that the only activities between the United States and Canada now will take place within the context of the North American initiative.

The CHAIRMAN. Thank you very much. I want to thank the Secretary and the members for their effort to try to live within the time sequence. And again, I want to apologize to those witnesses that came here to testify on Price-Anderson. Their statements will be taken by the staff and entered in the record.* Again, I want to thank the Secretary. I gather your short-term solution would be to challenge us to repeal the laws of supply and demand as one solution. With that profound observation, again let me thank you, Mr. Secretary. The hearing is concluded.

[Whereupon, at 11:05 a.m., the hearing was recessed, to be reconvened on June 26, 2001.]

*The statements can be found in the proceedings of day 2 or the appendix.

NATIONAL ENERGY ISSUES

TUESDAY, JUNE 26, 2001

U.S. SENATE,
COMMITTEE ON ENERGY AND NATURAL RESOURCES,
Washington, DC.

The committee met, pursuant to notice, at 9:34 a.m. in room SD-366, Dirksen Senate Office Building, Hon. Jeff Bingaman, chairman, presiding.

OPENING STATEMENT OF HON. JEFF BINGAMAN, U.S. SENATOR FROM NEW MEXICO

The CHAIRMAN. Why don't we go ahead and start. I am told Senator Murkowski is coming, but has been delayed. This morning's hearing is on three bills to reauthorize the Price-Anderson Act, and also on three separate provisions to increase power production at existing nuclear powerplants. The Price-Anderson Act has served the Nation well for over 40 years.

The act has made it possible for electric utilities to build and operate nuclear powerplants, for private companies and universities to perform nuclear research, and national security work for the Government without the threat of unlimited liability. At the same time, the act has ensured that adequate funds would be available to compensate the public in the event there were an accident. Although not everyone agrees, I believe there is reasonably strong bipartisan support for renewing the act. Senator Murkowski, Senator Dominici, and I each have introduced bills to reauthorize the act. All three bills are essentially identical. In addition, the President's energy policy group recommended renewal of the act, as did the Clinton administration before that.

In view of this consensus, I would hope that we might be able to resolve any remaining issues quickly, and we might reauthorize the act before it expires next year. We will also look at three other nuclear provisions in Senator Murkowski's and Senator Dominici's energy bills this morning. These three provisions would provide various financial incentives to utilities to increase the production of existing nuclear powerplants. The need for these provisions is not as clear as it is for the Price-Anderson Act, but I thought it would be useful to ask our witnesses for their comments on these provisions. We have six excellent witnesses this morning. Let me introduce them all, and ask them each to make a statement.

Mr. Eric Fygi, is that correct?

Mr. FYGI. That's correct, Mr. Chairman.

The CHAIRMAN. Who is the Deputy General Counsel for the Department of Energy. Mr. Joseph Gray, who is the Associate General

Counsel for Licensing And Regulation in the Nuclear Regulatory Commission. Mr. John Bradburne, who is the president and chief executive officer for Fluor Fernald in Ohio. Mr. Marvin Fertel, who is senior vice president for business operations at the Nuclear Energy Institute. Mr. John Quattrocchi.

Mr. QUATTROCCHI. Very good.

The CHAIRMAN. Who is the senior vice president for underwriting with the American Nuclear Insurers in West Hartford, Connecticut. And Mr. Erich Pica, who is the economic policy analyst with Friends of the Earth. Thank you all very much for being here. Mr. Fygi, why don't we start with you.

[A prepared statement from Senator Domenici follows:]

PREPARED STATEMENT OF HON. PETE V. DOMENICI, U.S. SENATOR
FROM NEW MEXICO

Mr. Chairman, thank you for calling this hearing to discuss Price-Anderson legislation as well as efficiency improvements in nuclear plants. I'm pleased that both these subjects address areas of emphasis in the President's National Energy Policy. That Policy calls for extension of the Price-Anderson Act and encourages the NRC to facilitate efforts by utilities to expand nuclear power generation by "uprating" existing plants.

Each of the bills under discussion today has similar language on Price-Anderson extension. Renewal of this legislation is clearly part of the equation to keep nuclear energy as a viable component of our nation's energy portfolio.

The current electricity shortfalls around the country are urgently calling for increased production. The Nuclear Energy Electricity Supply Assurance Act of 2001, which I introduced, directly addresses one approach to increasing our capacity by encouraging operating nuclear plants to undertake capital improvements to increase their electrical output.

A total of 18 Senators are now supporting this Act's new approach to encourage increased capacity from nuclear plants. Our approach would authorize funds to cover NRC fees incurred by plants as they "uprate" their plants. Preference would be given to uprating actions that benefit multiple plants. We also propose to cover up to 10 percent of the capital costs for such uprates as long as it achieves at least a 5 percent boost in capacity and is operational by the end of 2004.

Mr. Chairman, I concur with most of the draft legislation under review today and look forward to development of legislation that implements these and all other provisions of the President's National Energy Policy as rapidly as possible.

**STATEMENT OF ERIC J. FYGI, DEPUTY GENERAL COUNSEL,
DEPARTMENT OF ENERGY**

Mr. FYGI. Thank you, Mr. Chairman, and with your permission, I would propose briefly to summarize.

The CHAIRMAN. We would wish that each of you just summarize your statements. We will include the full statements in the record.

Mr. FYGI. The Department of Energy recommends without reservation reauthorization of the Price-Anderson Act. The Department's outlook primarily is directed to the provisions of that statute that require indemnification of the Department's contractors that conduct nuclear activities, many of which as you are aware are extremely sensitive and of critical import to the interest of the Nation and its defense posture.

The Price-Anderson Act regime, as you observed, affords certainty to compensation of individuals should a nuclear occurrence happen. And in that sense, we view it as a public protection measure that is of critical importance to be continued and affords clear rules of understanding how certain sorts of liabilities potentially af-

fecting our contractors' activities in the nuclear area would be resolved.

Although the Price-Anderson Act will not expire until next year, we think it prudent that the hearing process is turning the Congress' attention to this matter before, well before, the expiration date. We once went through a hiatus in Price-Anderson coverage in the 1980's, and that required certain adjustments that were something of a makeshift, character that we would recommend that the Government not have to go through again, because for many of these sensitive activities, there is no substitute for continuity of contractor operations, including the weapons laboratories.

In one respect, the position stated by the Department in its 1999 report, which recommended a straight-line extension of the statute as it was then structured, has come to be altered slightly. That involves the question of fines and penalties for alleged violations of safety regulations, a component of the Price-Anderson Act that was added in 1988. As originally enacted, that component contained a categorical exemption from this regime for several identified contractors, an approach that all have come to agree is outdated.

The legislation that you are considering now in essence reflects the approach currently employed in other regimes or one other regime, involving regulation of classified information held by contractors. There are, however, some technical distinctions in the formulation for dealing with the nonprofit contractor segment, as between the enacted provision that was included in the 2000 Defense Authorization Act, and the language in the bill. Therefore we would recommend that there be some technical scrutiny given to the actual phraseology of the provisions in the pending legislation with a view to harmonizing that phraseology with that which is contained in the currently existing law on that subject. Thank you very much, Mr. Chairman. I'll be pleased to respond to any question you may have.

[The prepared statement of Mr. Fygi follows:]

PREPARED STATEMENT OF ERIC J. FYGI, DEPUTY GENERAL COUNSEL,
DEPARTMENT OF ENERGY

Thank you, Mr. Chairman and members of the Committee, for the opportunity to discuss renewal of the Price-Anderson Act (Act) to provide liability coverage for Department of Energy nuclear activities. This is an opportune time to discuss renewal of this important indemnification scheme in light of the recommendation in the Report of the National Energy Policy Development Group that the Price-Anderson Act be extended. The Administration welcomes your attention to this important issue for the future of nuclear energy in the United States and looks forward to working with you to finish work on it this year.

In response to a question from the Chairman of this Committee during confirmation hearings, Secretary Spencer Abraham stated that he agreed with the recommendations in the *Department of Energy Report to Congress on the Price-Anderson Act* (DOE Price-Anderson Report) (1999) that supported continued coverage of DOE nuclear activities under the Price-Anderson Act without any substantial changes. Secretary Abraham stated that indemnification of DOE contractors under the Price-Anderson Act was essential to the achievement of DOE's statutory missions in the areas of national security, energy policy, science and technology, and environmental management. Further, he indicated that he looked forward to working closely with members of both parties and with individuals from inside and outside government to secure the early renewal of the Price-Anderson Act.

Based upon over 40 years of experience, DOE believes that renewal of the Price-Anderson Act is in the best interests of the government, its covered contractors, sub-contractors and suppliers, and the public. In 1957, Congress enacted the Price-Anderson Act as an amendment to the Atomic Energy Act of 1954 to encourage the

development of the nuclear industry and to ensure prompt and equitable compensation in the event of a nuclear incident. Specifically, the Price-Anderson Act established a system of financial protection for persons who may be injured by a nuclear incident by cutting through tort defenses of the intermediary licensees and contractors. With respect to activities conducted for DOE, the Price-Anderson Act achieves these objectives by requiring DOE to include an indemnification in each contract that involves the risk of a nuclear incident. This DOE indemnification: (1) provides omnibus coverage of all persons who might be legally liable; (2) indemnifies fully all legal liability up to the statutory limit on such liability (currently \$9.43 billion for a nuclear incident in the United States); (3) covers all DOE contractual activity that might result in a nuclear incident in the United States; (4) is not subject to the usual threshold limitation on the availability of appropriated funds; and (5) is mandatory and exclusive. Through these means the public is afforded a streamlined means of compensation for any injury from a nuclear incident.

DOE is convinced that the indemnification provisions applicable to its activities should be continued without any substantial change because it is essential to DOE's ability to fulfill its statutory missions involving defense, national security and other nuclear activities; it provides proper protection for members of the public that might be affected by DOE's nuclear activities; it is cost-effective; and there are no satisfactory alternatives.

Elimination of the DOE indemnification would have a serious effect on the ability of DOE to perform its missions. Without indemnification, DOE believes that it would be difficult to obtain responsible, competent contractors, subcontractors, suppliers and other entities to carry out work involving nuclear materials. Other means of indemnification have practical and legal limitations, do not provide automatic protection and depend on cumbersome contractual arrangements.

Private insurance generally would not be available for many DOE activities. Even when available, it would be extremely expensive, limited, and restricted. Because the DOE indemnification operates as a form of self-insurance for claims resulting from nuclear incidents, DOE incurs no out-of-pocket costs for insurance. Moreover, thus far, it has not paid out significant amounts for claims pursuant to its indemnification authority.

With respect to the three bills pending before the Senate to renew the Price-Anderson Act, their provisions are very similar—they would continue to provide indemnification for DOE nuclear activities without substantial change. We have reviewed the following bills in light of the five recommendations in the 1999 DOE Price-Anderson Report:

- S. 388, National Energy Security Act of 2001, introduced by Chairman Murkowski
- S. 597, Comprehensive and Balanced Energy Policy Act of 2001, introduced by Senator Bingaman; and
- S. 472, Nuclear Energy Electricity Assurance Act of 2001, introduced by Senator Domenici.

DOE Price-Anderson Report Recommendation 1. The DOE indemnification should be continued without any substantial change.

The bills are consistent with DOE's primary recommendation that the Act be renewed without substantial change. They extend DOE's responsibility to indemnify its contractors as well as extend the NRC's authority to indemnify its licensees. Under the current Act, the authority of DOE and the NRC to indemnify is scheduled to expire on August 1, 2002.

DOE Price-Anderson Report Recommendation 2. The amount of the DOE indemnification should not be decreased.

The bills establish a flat amount of \$10 billion for DOE indemnification and requires DOE to adjust this amount for inflation every five years. These provisions are consistent with the recommendation of the report not to decrease the DOE amount of indemnification below the current amount of \$9.43 billion. In the current Act, DOE's indemnity amount is pegged to the NRC aggregate amount and to the NRC inflation adjustment of that amount. DOE believes the continuation of an amount at least this high is essential to assure the public that prompt and equitable compensation will be available in the event of a nuclear incident and its consequences, as well as a precautionary evacuation. Further, the bills increase the amount of indemnification for nuclear incidents outside of the United States from \$100 million to \$500 million.

DOE Price-Anderson Report Recommendation 3. The DOE indemnification should continue to provide broad and mandatory coverage of activities conducted under contract for DOE.

These bills continue to provide broad and mandatory coverage of contractual activities conducted for DOE. The protection afforded by the DOE indemnification should not be dependent on factors, some of them predictive, such as whether an activity (1) involves the risk of a substantial nuclear incident, (2) takes place under a procurement contract (as opposed to some other contractual relationship that might not be so denominated), or (3) is undertaken by a DOE contractor pursuant to a license from the Nuclear Regulatory Commission (NRC). Limitations based on such factors would likely render uncertainty as to public protection and be cumbersome to administer without achieving any significant cost savings.

DOE Price-Anderson Report Recommendation 4. DOE should continue to have authority to impose civil penalties for violations of nuclear safety requirements by for-profit contractors, subcontractors and suppliers.

These bills continue DOE's authority to impose civil penalties for violations of nuclear safety requirements. They modify, however, DOE's conclusion that nonprofit entities should remain exempt from civil penalties. Instead, the bills make DOE nonprofit contractors subject to civil penalties capped by the amount of fee paid under each contract.

Concerning the exemption of nonprofit entities from civil penalties in these bills, we recently testified on similar provisions found in H.R. 723. On March 22, 2001, we testified before the Subcommittee on Energy, Committee on Science, U.S. House of Representatives. In this testimony, we stated that the Department could generally support in concept the limitation of the nonprofit exemption up to the amount of the contractor's or subcontractor's fee paid. I pointed out several concerns raised by the provisions of H.R. 723, including the definition of a contractor's fee, the time period over which the fee is paid, the effective date of application to contracts entered into after the date of enactment, and the repeal of the automatic remission. Should this concept be pursued these concerns should be addressed carefully in crafting a legislative implementation of them.

I also noted in my testimony that in the information security area, Congress decided, following issuance of the DOE Price-Anderson Report, to impose potential liability for civil penalties on nonprofit organizations in a manner similar to that proposed by H.R. 723. For violations of regulations relating to the safeguarding and security of Restricted Data, the National Defense Authorization Act for Fiscal Year 2000 made nonprofit contractors, subcontractors, and suppliers subject to civil penalties not to exceed the total amount of fees paid by the DOE to each such entity in a fiscal year. I stated that a similar limitation of the exemption, up to the amount of the contractor's or subcontractor's fee paid, also would be a feasible approach for violations of DOE's nuclear safety regulations. The limitations in this legislation, however, should be structured to yield uniform standards for decision.

While the Senate bills differ in certain ways from each other on the nonprofit exemption issue, the concerns I raised in my testimony before the House may also be relevant to their companion provisions in the Senate bills.

Recommendation 5. The Convention on Supplementary Compensation for Nuclear Damage should be ratified and conforming amendments to the Price-Anderson Act should be adopted.

DOE has examined the potential effects on the Price-Anderson Act of the Convention on Supplementary Compensation for Nuclear Damage and has concluded ratification of the convention would not necessitate any substantive changes in the Price-Anderson Act. Nonetheless were this convention to be submitted and ratified by the Senate, it is conceivable that some technical and conforming changes to the Price-Anderson Act might be desirable, such as provisions to make clear the geographic jurisdictional bounds of each legal regime.

This concludes my prepared statement. I will be pleased to respond to any questions the Committee may have.

The CHAIRMAN. Thank you very much.
Mr. Gray.

STATEMENT OF JOSEPH R. GRAY, ASSOCIATE GENERAL COUNSEL FOR LICENSING AND REGULATION, U.S. NUCLEAR REGULATORY COMMISSION

Mr. GRAY. Mr. Chairman, I am pleased to appear before you today to present the views of the Nuclear Regulatory Commission on extending and amending the Price-Anderson Act, and on nuclear energy production and efficiency incentives. We hope that these views will assist the committee in its consideration of these provisions in the energy bill, policy bills, S. 388, S. 472, and S. 597 that are pending before you. Our testimony, of course, addresses the application of these provisions to nuclear powerplants regulated by the NRC.

As to Price-Anderson, I am here to deliver a strong unanimous recommendation from the Commission that the Price-Anderson Act be renewed with only minor modifications, but I would like to preface that statement of position with a reminder that the Commission's primary concern is public health and safety. Our mission is to ensure the safe use of nuclear power. We can look back on a successful history of safe operation and intend to exercise vigilance to maintain or improve on this record of safety.

Nonetheless, it remains important to assure that if an improbable accident should occur, the means are provided to care for the affected members of the public. It is also important that, if the Congress intends that nuclear power remain a part of the nation's energy mix, this option is not precluded by the inability of nuclear plant licensees to purchase adequate sums of insurance commercially.

In 1998, as mandated by Congress, the Nuclear Regulatory Commission submitted to the Congress its report on the Price-Anderson system. The report included a concise history and overview of the Price-Anderson Act, and its amendments, as well as an update on legal developments and events pertaining to nuclear insurance and indemnity in the last decade. Congress had also required the NRC to address various topics that relate to and reflect on the need for continuation or modification of the act. The condition of the nuclear industry, the state of knowledge of nuclear safety, and the availability of private insurance.

After evaluating pertinent information, the Commission considered what its recommendations should be. It concluded then that it should recommend that Congress renew the Price-Anderson Act because it provides a valuable public benefit by establishing a system for the prompt and equitable settlement of public liability claims resulting from a nuclear accident. As I said earlier, that remains today the strongly held position of the Commission.

The NRC did suggest that consideration be given to doubling the ceiling on the annual installment from the current sum of \$10 million to \$20 million per year per accident. The total allowable retrospective premium per reactor per accident was to remain unchanged at the statutory \$63 million level adjusted for inflation. But the Commission recommended consideration of an increase to \$20 million for the annual retrospective premium because it then appeared likely that in the coming decade, a number of reactors would permanently shut down. The effect of these shutdowns

would have been to reduce the number of contributors to the reactor retrospective pool.

Fewer contributors would in turn reduce the funds that in the event of a nuclear accident would become available each year to compensate members of the public for personal or property damage caused by an accident. Increasing the maximum annual contribution available from each reactor licensee would provide continuing assurance of up-front money to assist the public with prompt compensation until Congress could consider whether to enact additional legislation providing further relief, should it be needed.

Recent events have led the Commission to review its 1998 recommendation, and to re-evaluate its recommendation that Congress consider increasing the annual installment to \$20 million. There is now a heightened interest in extending the operating life for most, if not all, of the current operating power reactors, and some power companies are now examining whether they wish to submit applications for new reactors, or complete construction of reactors that had been deferred. As a result, the Commission does not believe that there is now justification for raising the maximum annual retroactive premium above the current \$10 million level.

Moving to, briefly to the matter of nuclear energy production and efficiency incentives contained in certain of the pending bills, we would first note by way of background that the Nation's nuclear electricity generators have worked over the past 10 years to improve nuclear power performance, reliability, and efficiency. According to the Nuclear Energy Institute, the improved performance of the U.S. nuclear powerplants since 1990 is equivalent to placing 23 new 1,000 megawatt electric powerplants on line. The average capacity factor for U.S. light-water reactors was 88 percent in the year 2000, up from 63 percent in 1989. And I am going to stress that the Commission has always focused on ensuring that safety is not compromised as a result of these industry efforts to improve efficiency and increase production.

With regard to the production incentive provision in S. 388, the Commission would advise some caution. The Commission has previously elaborated upon the potential impacts of performance incentives in a 1991 policy statement, Possible Safety Impacts of Economic Performance Incentives, which was published in the Federal Register on July 24, 1991. The Commission stated the concern with incentive plans, such as the one proposed here, that in the interest of real or perceived short-term economic benefit, the utility might hurry its work, take shortcuts, or delay a shutdown for maintenance in order to meet a deadline, a cost limitation, or other incentive plan factor.

Such an incentive program could directly or indirectly encourage a utility to maximize measured performance in the short term, at the expense of plant safety and public health and safety by keeping a reactor on line when it should be taken down for preventive or corrective maintenance, and by using shortcuts or compressed work schedules to minimize down time, the licensee could decrease the margins of safety. The primary problem with the proposed production incentive is the short-term interval for measuring performance. Performance measurements for short-term intervals would encourage the licensee to focus on short-term targets potentially di-

verting attention from long-term goals of reliability and operational safety.

In contrast, performance measures for long-term intervals would prompt the utility to follow sound maintenance and operational practices to improve operating performance. For example, an incentive program could include evaluation of a 3- or 4-year capacity factor with account taken for other factors such as refueling outages, inclement weather, and other periodic events. Short-term measurements tend to make safety and economic goals conflict with each other, while long-term measurements tend to make the two goals complimentary.

If a production incentive provision is enacted, the NRC would, of course, continue to maintain its safety oversight to ensure that reactor licensees operations are adequate to protect public health and safety. However, the Commission would not like to see the introduction of any production incentive with the potential to distract licensees from safe operation.

On the matter of incentives for reactor power uprates, we would note that in recent years the Commission has approved numerous license amendments that permit licensees to make relatively small power increases or uprates. Typically, these increases have been approximately 2 percent to 7 percent. These uprates in the aggregate resulted in adding approximately 2,000 megawatts electric or the equivalent of two new 1,000 megawatt electric powerplants to the grids.

The NRC is now reviewing six license amendment requests for larger power uprates. These requests are for boiling water reactors and for uprates of 15 percent to 20 percent. Based on a recent survey, the NRC staff estimates that as many as 46 plants may request uprates over the next 5 years. These uprates, if allowed, could add substantial additional capacity to the grid. The incentive provisions in the pending bills could result in even more additions or an acceleration of requests for uprates.

Approvals for uprates are granted only after a thorough evaluation by the NRC staff to ensure safe operation of the plants at the higher power level. Plant changes and modifications are necessary to support a larger power uprate, and thus requires significant financial investment for the licensee. While the NRC does not know the number of uprate requests that will be received, the staff is evaluating ways to streamline the review and approval process. We would note that power uprates of 5 percent or more are considered by the NRC staff to be substantial and to require significant technical review and analysis. Should the power uprate incentive provisions of the pending bills be enacted, the NRC will need to evaluate the agency resource and budget implications, and possibly make adjustments to ensure that it can maintain thorough and timely reviews.

Mr. Chairman, members of the committee, the NRC appreciates this opportunity to present its views, and we stand ready to accept your comments and questions.

[The prepared statement of Mr. Gray follows:]

PREPARED STATEMENT OF JOSEPH R. GRAY, ASSOCIATE GENERAL COUNSEL FOR
LICENSING AND REGULATION, U.S. NUCLEAR REGULATORY COMMISSION

Mr. Chairman, Members of the Committee, I am pleased to appear before you today to present the views of the Nuclear Regulatory Commission (NRC) on extending and amending the Price-Anderson Act and on nuclear energy production and efficiency incentives. We hope that these views will assist the Committee in its consideration of these provisions in the energy policy bills pending before you (S. 388, S. 472, and S. 597). Our testimony, of course, addresses the application of these provisions to nuclear power plants regulated by the NRC.

PRICE-ANDERSON ACT RENEWAL

As to Price-Anderson, I am here to deliver the strong and unanimous recommendation of the Commission that the Price-Anderson Act be renewed with only minor modifications. But I would like to preface my statement of that position with the reminder that the Commission's primary concern is public health and safety. Our mission is to ensure the safe use of nuclear power. We can look back on a successful history of safe operation and intend to exercise vigilance to maintain or improve on this record of safety. Nonetheless, it remains important to assure that if an improbable accident should occur, the means are provided to care for the affected members of the public. It is also important, if the Congress intends that nuclear power remain a part of the nation's energy mix, that this option is not precluded by the inability of nuclear plant licensees to purchase adequate sums of insurance commercially.

As you know, Congress first enacted the Price-Anderson Act in 1957, nearly a half century ago. Its twin goals were then, as now:

1. To ensure that adequate funds would be available to the public to satisfy liability claims in a catastrophic nuclear accident; and
2. To permit private sector participation in nuclear energy by removing the threat of potentially enormous liability in the event of such an accident.

On original passage the Congress provided a term during which the Commission could extend Price-Anderson coverage to new licensees and facilities. When that term expired, the Congress then, and repeatedly since, has decided that the nation would be served by extending the Price-Anderson Act so that new coverage would be available for newly licensed reactors. This action preserved the option of private sector nuclear power and assured protection of the public. At this point, in order to avoid confusion, I should note that Price-Anderson coverage for NRC licensees is granted for the lifetime activities of the covered facility and does not "expire" in 2002. Thus, in any event, Price-Anderson coverage with respect to already licensed nuclear power reactors will continue and will afford prompt and reasonable compensation for any liability claims resulting from an accident at those facilities.

While Congress has amended the Price-Anderson Act from time to time, it has done so cautiously so as to avoid upsetting the delicate balance of obligations between operators of nuclear facilities and the United States government as representative of the people.

Perhaps the most significant amendments to date were those that effectively removed the United States government from its obligation to indemnify any reactor up to a half billion dollars and that placed the burden on the nuclear power industry. Congress achieved this by mandating in 1975 that each reactor greater than 100 MWe, essentially each reactor providing power commercially, contribute \$5 million to a retrospective premium pool if and only if there were damages from a nuclear incident that exceeded the maximum commercial insurance available. The limit of liability was then \$560 million. Government indemnification was phased out in 1982 when the potential pool and available insurance reached that sum.

In 1988, Congress increased the potential obligation of each reactor in the event of a single accident at any reactor to \$63 million (to be adjusted for inflation). The maximum liability insurance available is now \$200 million. When that insurance is exhausted each reactor must pay into the pool up to \$83.9 million, as currently adjusted for inflation, if needed to cover damages in excess of the sum covered by insurance. The \$83.9 million is payable in annual installments not to exceed \$10 million. Today, the commercial insurance and the reactor pool together would make available over \$9 billion to cover any personal or property harm to the public caused by an accident.

In 1982, when the federal government ceased to be the backup insurer in the event of a power plant accident, the retrospective premium pool was still counted in hundreds of millions of dollars. Today the funds available to assist the public, counted in billions of dollars, are more than 15-times as great as they were in 1982.

No other country in the world today matches this level of protection available for people injured and property damaged by a nuclear power plant accident.

In 1998, as mandated by Congress, the Nuclear Regulatory Commission submitted to the Congress its report on the Price-Anderson system. The report included a concise history and overview of the Price-Anderson Act and its amendments as well as an update on legal developments and events pertaining to nuclear insurance and indemnity in the last decade. Congress had also required the NRC to address various topics that relate to and reflect on the need for continuation or modification of the Act: the condition of the nuclear industry, the state of knowledge of nuclear safety, and the availability of private insurance.

After considering pertinent information, the Commission considered what its recommendations should be. It concluded then that it should recommend that Congress renew the Price-Anderson Act because it provides a valuable public benefit by establishing a system for the prompt and equitable settlement of public liability claims resulting from a nuclear accident. That, as I said at the outset, remains today the strongly held position of the Commission.

Having noted that substantial changes in the nuclear power industry had begun and could continue, the Commission believed it would be prudent to recommend renewal for only ten years rather than the 15-year period that had been adopted in the last reauthorization so that any significant evolution of the industry could be considered when the effects of ongoing changes would be clearer. Notwithstanding that view, the Commission, recommended that the Congress consider amending the Act to increase the maximum annual retrospective premium installment that could be assessed each holder of a commercial power reactor license in the event of a nuclear accident.

The NRC suggested that consideration be given to doubling the ceiling on the annual installment from the current sum of \$10 million to \$20 million per year per accident. The total allowable retrospective premium per reactor per accident was to remain unchanged at the statutory "\$63 million" adjusted for inflation. (It is now \$83.9 million as so adjusted). The Commission recommended consideration of an increase to \$20 million because it then appeared likely that in the coming decade a number of reactors would permanently shut down. The effect of these shutdowns would have been to reduce the number of contributors to the reactor retrospective pool. Fewer contributors would, in turn, reduce the funds that, in the event of a nuclear accident, would become available each year to compensate members of the public for personal or property damage caused by an accident. Increasing the maximum annual contribution available from each reactor licensee would provide continuing assurance of "up front" money to assist the public with prompt compensation until Congress could consider whether to enact additional legislation providing further relief, should it be needed.

Recent events have led the Commission to review its 1998 recommendations and to reevaluate its recommendation that Congress consider increasing the annual installment to \$20 million. There is now a heightened interest in extending the operating life for most, if not all, of the currently operating power reactors, and some power companies are now examining whether they wish to submit applications for new reactors or complete construction of reactors that had been deferred. As a result, the Commission does not believe that there is now justification for raising the maximum annual retroactive premium above the current \$10 million level.

NUCLEAR ENERGY PRODUCTION AND EFFICIENCY INCENTIVES

Moving briefly to the matter of nuclear energy production and efficiency incentives contained in certain of the pending bills, we would first note, by way of background, that the nation's nuclear electricity generators have worked over the past 10 years to improve nuclear power plant performance, reliability, and efficiency. According to the Nuclear Energy Institute, the improved performance of the U.S. nuclear power plants since 1990 is equivalent to placing 23 new 1,000 MWe power plants on line. The average capacity factor for U.S. light water reactors was 88 percent in 2000, up from 63 percent in 1989. I must stress that the Commission has always focused on ensuring that safety is not compromised as a result of these industry efforts to improve efficiency and increase production.

With regard to the production incentive provision in S. 388, the Commission would advise caution. The Commission has previously elaborated upon the potential impacts of performance incentives in a 1991 policy statement "Possible Safety Impacts of Economic Performance Incentives: Final Policy Statement," published in the Federal Register on July 24, 1991 (56 FR 33945). The Commission stated a concern with incentive plans such as the one proposed here, that, in the interest of real or perceived short-term economic benefit, the utility might hurry work, take short cuts,

or delay a shutdown for maintenance in order to meet a deadline, a cost limitation, or other incentive plan factor. Therefore, such an incentive program could directly or indirectly encourage the utility to maximize measured performance in the short term at the expense of plant safety and public health and safety. By keeping a reactor on line when it should be taken down for preventive or corrective maintenance and by using shortcuts or compressed work schedules to minimize down time, the licensee could decrease the margin of safety.

A primary problem with the proposed production incentive is the short-term interval for measuring performance. Performance measurements for short-term intervals would encourage the licensee to focus on a short-term target, potentially diverting attention from long-term goals of reliability and operational safety. In contrast, performance measurements for long-term intervals would prompt the utility to follow sound maintenance and operational practices to improve operating performance. For example, an incentive program could include evaluation of a three or four-year capacity factor, with account taken for other factors such as refueling outages, inclement weather and other periodic events. Short-term measurements tend to make safety and economic goals conflict with each other, while long-term measurements tend to make the two goals complementary.

If a production incentive provision is enacted, the NRC would of course continue to maintain its safety oversight to ensure that reactor licensees' operations are adequate to protect public health and safety. However, the Commission would not like to see the introduction of any production incentive with the potential to distract licensees from safe operation.

On the matter of incentives for reactor power uprates, we would also note that in recent years, the Commission has approved numerous license amendments that permit licensees to make relatively small power increases or uprates. Typically, these increases have been approximately 2 percent to 7 percent. These uprates, in the aggregate, resulted in adding approximately 2,000 MWe or the equivalent of two new 1,000 MWe power plants.

The NRC is now reviewing six license amendment requests for larger power uprates. These requests are for Boiling Water Reactors (BWRs) and are for uprates of 15 percent to 20 percent. Based on a recent survey, the NRC staff estimates that as many as 46 plants may request uprates over the next 5 years. These uprates, if allowed, could add substantial additional capacity to the grid. The incentive provisions in the pending bills could result in even more additions or an acceleration of requests for uprates.

Approvals for uprates are granted only after a thorough evaluation by the NRC staff to ensure safe operation of the plants at the higher power level. Plant changes and modifications are necessary to support a large power uprate, and thus require significant financial investment by the licensee. While the NRC does not know the number of uprate requests that will be received, the staff is evaluating ways to streamline the review and approval process. We would note that power uprates of 5 percent or more are considered by the NRC staff to be substantial and to require significant technical review and analysis. Should the power uprate incentive provisions of the pending bills be enacted, the NRC will need to evaluate the agency resource and budget implications and possibly make adjustments to ensure that it can maintain its thorough and timely reviews.

The NRC appreciates the opportunity to present its views, and will elaborate further on any of them at your request. Mr. Chairman and Members of the Committee, I welcome your comments and questions.

The CHAIRMAN. Thank you very much. Before we go on with the other witnesses, Senator Murkowski, did you have any opening statement that you wanted to make at this point?

**STATEMENT OF HON. FRANK H. MURKOWSKI, U.S. SENATOR
FROM ALASKA**

Senator MURKOWSKI. I'll be very brief, Mr. Chairman. I apologize for being late, but we had the U.S.-Canadian parliamentary group down here from Ottawa talking about energy. As you and I both know, this is the second hearing we have had on Price-Anderson. We had one back in May, and I am pleased to see four of the six witnesses that were there are back today because at that time, we had a little schism or whatever you want to call it occurring here in the Senate and as a consequence, we adjourned to see what was

ultimately going to happen, and you can see the results. I am on the left, and Senator Bingaman is on the right.

But in any event, we agreed in the last Congress to renew Price-Anderson. Both of our comprehensive energy bills, Senator Bingaman's and mine, contain the same language based on the recommendations of the Department of Energy and the NRC. And renewal of the act, as you know, is in the President's 102 recommendations in the National Energy Policy. The act has worked well for 40 years. Renewal of the act is really necessary if we are to build new nuclear plants and ensure relicensing.

It is important to recognize that nuclear is about 20 percent of the energy mix in this country, and there are no greenhouse gases associated with nuclear generation. Its record is extraordinary, and plants are efficient and safe. U.S. plants are operating at record efficiencies. Total efficiency increases have been dramatic during the 1990's at existing plants. Increases were the equivalent of adding approximately 23 1,000 megawatt plants and Price-Anderson was enacted to facilitate the development of nuclear power. It worked well. It definitely should be extended. I don't have to comment on the role of nuclear power, and given the importance, both Senator Dominici and I included incentives in our energy bills to encourage increased and more efficient production. Provisions would help increase nuclear generation and improve generating efficiencies.

I think if you recognize reality our economy depends on nuclear energy. Our national security depends on nuclear energy. Our environment depends on nuclear energy and our future depends on nuclear energy. But as you can see by this ad, gentlemen, there is a very strong lobby that is very much opposed to the development of nuclear energy and is very critical of the President's plan. It says "the Bush energy plan, what a waste." "Bush energy plan proposed building more nuclear powerplants, even though nuclear power wastes billions in taxpayers' dollars and produces dangerous radioactive waste."

This is the mentality that we are up against relative to the nuclear industry and the role that it should be playing in our future energy plans, and I am not going to comment on the drivel that is associated with the text of this, and other than it is the traditional scare tactics used by environmental groups that don't accept the responsibility of coming up with any alternatives.

As you know, we do have an energy crisis in this country, and those that want to blame it on the President for his association with the oil and gas industry, or big oil or whatever are not facing realities. It is different this time. We all know it is different. We have not built a new coal powered plant since 1995. We haven't built a new nuclear plant in 25 years. Have not built a new refinery in 25 years. The price of gas has gone from \$2.16 to \$4 to \$5 to \$6. Fifty-seven percent dependent on imported oil. Our transmission grids are inadequate, both gas and electricity. So it is different this time.

But it galls me to see that the Sierra Club, the National Resources Defense Council, the Physicians for Responsible Environmental Defense, Nuclear Information Resource Service, Public Citizen, Safe Energy Communication, Friends of the Earth, Center for International Environmental Law, National Environmental Trust,

Greenpeace adamantly oppose nuclear development. They adamantly oppose Price-Anderson. So I would hope that you folks in your various capacities can speak out and continue to speak out on the necessity of maintaining a balance in our energy mix and the important role that nuclear energy is going to play. But clearly, we are up against fear tactics, and you should recognize that as well as the political world that Senator Bingaman and I live in with regard to the future role in this industry. Thank you, Mr. Chairman.

The CHAIRMAN. Thank you very much.

Mr. Bradburne, why don't you go right ahead.

STATEMENT OF JOHN BRADBURNE, PRESIDENT AND CHIEF EXECUTIVE OFFICER, FLUOR FERNALD, INC., CINCINNATI, OH, ON BEHALF OF ENERGY CONTRACTORS PRICE-ANDERSON GROUP

Mr. BRADBURNE. Thank you, Mr. Chairman. And members of the committee. I am here this morning representing fellow Department of Energy contractors on behalf of the Energy Contractors' Price-Anderson Group. This group is an ad hoc organization made up of the following companies. Fluora Corporation, Mattel Memorial Institute, BNFL, Incorporated, BWX Technologies, Incorporated, Johnson Controls Worldwide Services Corporation, Nuclear Fuel Services, Incorporated, Washington Group, International, Incorporated, and USAC, Incorporated. This represents a significant cross-section of DOE contractors, current DOE contractors. Each of these entities is covered by one or more nuclear hazard indemnity agreements with the U.S. Department of Energy under Section 170d of the Price-Anderson Act.

Collectively, we are here today to advocate an extension of the Price-Anderson Act. We support another extension sooner, rather than later to ensure there is not a break in this vital authority next year. Protection of the public has been the principal purpose of Price-Anderson since its adoption. Failure to extend the act would result in substantially less protection for the public in the event of a nuclear insurance departments at a DOE site or in transporting materials from a DOE site. Absent Price-Anderson Act coverage, the Department of Energy would be greatly inhibited in attracting and hiring the kinds of contractors needed to tackle some of the tough work that lies before them.

Without Price-Anderson protection, most private contractors and suppliers could not prudently take the financial risk associated with assisting DOE to perform its vital cleanup, national defense, and other missions. Price-Anderson indemnification is simply the only viable substitute for the commercial insurance that prudent contractors doing work for the Federal Government would purchase if they could to protect themselves. In 1999, the Department of Energy submitted a report to Congress calling for renewal of Price-Anderson.

We support that recommendation. Attached to their 1999 report was a letter from American Nuclear Insurers indicating that commercial insurers are not in a position to guarantee that any nuclear liability insurance would be written for DOE facilities. Further stated that even if it were, it could not replace the 9.4 billion

of indemnity granted under Price-Anderson since ANI has been limited in their ability to write coverage beyond \$200 million.

There would be strong reluctance on the part of existing and potential contractors to do nuclear business with the Department if authority to enter into Price-Anderson indemnity agreements were discontinued. The strong reluctance, if not inability to do business, would apply especially to contractors as nuclear activities are only a small percentage of their overall business. This would lessen competition, and otherwise increase costs to the Government.

A strong resistance also would extend to subcontractors and equipment suppliers, including many small businesses throughout the country who might be held liable for an accident, but not have the financial resources to cover that liability, or the legal defense costs associated with such litigation. With regard to safety, Price-Anderson indemnification provides an incentive for safety, not only are there existing criminal laws to punish egregious behavior, in the 1988 amendments to Price-Anderson, Congress added enhanced criminal and civil provisions to further encourage DOE contractor accountability.

These provisions are now rigorously enforced. In addition, DOE can and does hold contractors accountable by other actions such as performance fee reductions, stop work orders, contract modification, and even contract revocation.

Reducing the number of potential contractors and suppliers to DOE would obviously have an adverse impact on Department's costs and schedules. Of even greater concern would be the potential adverse impact upon the overall quality and safety levels of DOE contract work since the most qualified and most safety conscious contractors and suppliers would most probably be the first to abandon DOE work because of inadequate liability protection.

In conclusion, the Price-Anderson indemnity system should be continued in substantially its present form. After nearly 45 years of Price-Anderson indemnification, private industry has assumed, as Congress intended, a larger role in assisting the Federal Government in carrying out its own nuclear activities safely and efficiently. In other words, Price-Anderson contractor indemnification is a system that has worked well in encouraging this private industry participation. It should be promptly extended again.

Thank you for the opportunity to testify before your committee. I'd be happy to answer any questions that you might have. I have with me Omar Brown, who is counsel to our group, in the event that there are any technical questions that you might have that I would be unable to answer.

[The prepared statement of Mr. Bradburne follows:]

PREPARED STATEMENT OF JOHN BRADBURNE, PRESIDENT AND CHIEF EXECUTIVE
OFFICER, FLUOR FERNALD, INC., CINCINNATI, OH

Mr. Chairman and Members of the Committee, my name is John Bradburne and I am President and CEO of Fluor Fernald, Inc. I am here this morning representing fellow Department of Energy contractors through the Energy Contractors Price-Anderson Group.¹ We appreciate this opportunity to testify before your Committee and

¹The Energy Contractors Price-Anderson Group is an *ad hoc* group composed of Battelle Memorial Institute; BNFL, Inc.; BWX Technologies, Inc.; Fluor Corporation; Johnson Controls World Services Corporation; Nuclear Fuel Services, Inc.; Washington Group International Inc.; and USEC Inc. Each of these entities now is covered by one or more nuclear hazards indemnity

for the fact that you have scheduled this hearing about extension of the Price-Anderson Act (“Price-Anderson”).

Price-Anderson Act authority of the Department of Energy (DOE) provides indemnity protection for nuclear risks associated with DOE contracts and is to expire on August 1, 2002. We are here today to ask for its renewal. We support extension, sooner rather than later, to ensure there is not a break in this vital authority next year.

Protection of the public has been the principal purpose of Price-Anderson. Failure to extend Price-Anderson would result in substantially less protection for the public in the event of a nuclear incident at a DOE site or in transportation. Moreover it would greatly inhibit the Department of Energy in attracting and hiring the kinds of contractors needed to tackle some of the tough work that lies before them.

For almost 45 years, through Price-Anderson, the Congress has been able to ensure the availability of adequate funds to the public (now about \$9.4 billion) in the unlikely event of a catastrophic nuclear accident. In addition, other benefits to the public include such provisions as emergency assistance payments, consolidation and prioritization of claims in one court, channeling of liability permitting a more unified and efficient approach to processing and settlement of claims, and waivers of certain legal defenses in the event of a large accident (“extraordinary nuclear occurrence”).

The 1988 Price-Anderson Amendments Act required DOE and the Nuclear Regulatory Commission (NRC) to submit to Congress reports containing their recommendations for continuation, repeal or modification of the Price-Anderson Act. The DOE Report was submitted to Congress in March 1999 recommending an extension. NRC’s Report, which also strongly recommended an extension (with relatively minor changes), was filed in October 1998.

The 1999 DOE Price-Anderson Report makes five basic recommendations, which we support:

(1) DOE indemnification of its contractors for nuclear risks should be continued without substantial change, because it is “essential to DOE’s ability to fulfill its statutory mission.” The Report further makes the point that DOE indemnification guarantees the availability of funds to ensure prompt and equitable compensation for the public, provides for consolidating claims in one federal court, and minimizes protracted litigation. DOE goes on to state that Price-Anderson indemnification is cost-effective, pointing out that DOE payments to date “have not been significant.”

(2) The amount of DOE indemnification (about \$9.4 billion) should not be decreased.

(3) DOE indemnification should continue to provide broad and mandatory coverage of activities conducted under contract for DOE.

(4) DOE should continue to have authority to impose civil penalties on for-profit contractors, subcontractors and suppliers for nuclear-safety violations.

(5) The 1997 International Atomic Energy Agency Convention on Supplementary Compensation for Nuclear Damage (CSC) should be ratified, and conforming amendments to the Price-Anderson Act should be adopted. (Technically, U.S. ratification of the CSC would have little impact on the portions of the Price-Anderson Act applicable to indemnification of DOE contractors. The CSC is of more relevance to commercial nuclear activities, which would enjoy substantial benefits from its ratification by the United States and other countries. For example, the CSC would provide a portion of the funds for a power plant accident in the United States through international contributions.)

This year, we have seen several comprehensive energy bills containing nearly identical Price-Anderson extension provisions introduced: S. 388, S. 472, and S. 597. These are based on last year’s bipartisan bill, S. 2162 (106th Congress), introduced by Senator Frank Murkowski (R-Alaska) and Senator Jeff Bingaman (D-New Mexico). We support extension of the DOE contractor provisions of these bills whose simplicity, similarity and bipartisan nature reflect a consensus on a simple extension of Price-Anderson. We further note that the President’s National Energy Policy Report also supports extension of the Price Anderson Act.

Without Price-Anderson protection, most private contractors and suppliers could not prudently take the financial risks associated with assisting DOE to perform its vital cleanup, national defense, and other missions. Price-Anderson indemnification is not a “subsidy” to DOE contractors and suppliers. It simply is the only viable substitute for the commercial insurance that prudent contractors doing work for the Federal Government would purchase, if they could, to protect themselves, and the public.

agreements with the U.S. Department of Energy (DOE) under Section 170d of the Price-Anderson Act.

Attached to the 1999 DOE Report to Congress is a letter from American Nuclear Insurers (ANI) indicating that commercial insurers are not in a position to guarantee that any nuclear liability insurance would be written for DOE facilities. It further states that even if it were, it could not replace the \$9.4 billion of indemnity granted under the Price-Anderson Act, since ANI has been limited to nuclear liability limits of only \$200 million.

In any case, ANI observed that it would be much easier for it to write nuclear liability insurance for new DOE facilities than for existing ones. The insurers said, for facilities which have, in some cases, operated for decades, ANI "would have obvious concerns about picking up liability for old exposures, which may well preclude insurability." Even if some limited private insurance were available for some DOE nuclear activities, it would not protect against all nuclear hazards, and would increase Government costs substantially, as the DOE Report to Congress observes. Few nuclear claims have ever been paid by the Government, so DOE has concluded it is cost-effective for the Government to continue to self-insure the nuclear risks associated with its own activities.

With regard to safety, Price-Anderson indemnification does not provide a disincentive to safety any more than the purchase of liability insurance by an individual or a corporation provides a disincentive to safety. There are existing criminal laws to punish egregious behavior. Furthermore, in the 1988 Amendments, Congress added enhanced criminal and civil penalty provisions to further encourage DOE "contractor accountability." These provisions, which now are being rigorously enforced, were added to enable DOE to impose civil fines of up to \$110,000 per day and increased criminal penalties for violations of DOE nuclear safety rules. DOE also can hold contractors accountable by other actions, such as award-fee reductions, stop-work orders, contract modification, and contract revocation.

There would be strong reluctance on the part of existing and potential contractors to do nuclear business with the Department if authority to enter into Price-Anderson indemnity agreements were discontinued. The strong reluctance, if not refusal to do business, would apply especially to contractors whose nuclear activities are only a small percent age of their overall businesses. This would lessen competition and otherwise increase costs to the Government. The strong resistance also would extend to subcontractors and equipment suppliers, including many small businesses through out the country, who might be held liable for an accident but not have the financial resources to cover that liability or the legal defense costs associated with such litigation.

Reducing the number of potential contractors and suppliers to DOE would obviously have an adverse impact on their costs. Of even greater concern would be the potential adverse impact upon the overall quality and safety levels of DOE contract work since the most qualified and most safety conscious contractors and suppliers would most probably be the first to abandon DOE work because of inadequate liability protection.

Contractor coverage prior to Price-Anderson often was inconsistent, subject to individual contract idiosyncrasies, inapplicable to subcontractors, and subject to the availability of appropriated funds. Subsection 170d was carefully designed to correct many of these deficiencies and to provide a uniform system of public protection. Without Price-Anderson, DOE would be faced with performing its missions with small, lightly capitalized contractors or Federal employees. In those situations, the public would not be as well protected. Contractors without assets could not pay claims. Use of Federal employees would mean that the Federal Tort Claims Act would apply, which would eliminate jury trials and the possibility of class actions, and require the submission of individual administrative claims.

The Price-Anderson system specifically was developed to provide assurance that significant sums of money would be available over an extended period of years to make prompt payment to victims in the remote case of a nuclear accident. The only fundamental change since the original adoption of Price-Anderson in 1957, has been the revolutionary change in the American tort system, most of which has occurred over the last twenty-year period. This change has increased greatly the unpredictability of the probable dollar damages resulting from any major accident, whether it is nuclear or non-nuclear in nature. This makes a system such as Price-Anderson only more essential for the period beyond 2002.

Unlike NRC-licensed nuclear power plants that are "grandfathered" under Price-Anderson (i.e., their coverage lasts for the duration of their license), DOE sites and facilities are not. Most DOE contracts expire in five years or less. Indemnity in DOE contracts signed or extended prior to the Act's expiration will remain in effect for the duration of the contract, but contracts entered into or extended after that date will have no indemnity. There are major DOE contracts that will be coming up for

renewal as early as September 2002. Therefore, it is critical to the public to have Congress renew the Act before its 2002 expiration.

In conclusion, the Price-Anderson indemnity system should be continued in substantially its present form. It should also be clarified that the Act does apply to the new National Nuclear Security Administration. After nearly forty-five years of Price-Anderson Act indemnification, private industry has assumed, as Congress intended, a larger role in assisting the Federal Government in carrying out its own nuclear activities without any significant damage or injury to the public. In other words, Price-Anderson contractor indemnification is a system that has worked well. It should promptly be extended again.

Thank you again for this opportunity to testify before your Committee.

The CHAIRMAN. Thank you very much.

Mr. Fertel, why don't you go right ahead.

**STATEMENT OF MARVIN S. FERTEL, SENIOR VICE PRESIDENT,
BUSINESS OPERATIONS, NUCLEAR ENERGY INSTITUTE**

Mr. FERTEL. Thank you, Mr. Chairman. First, let me thank you and Senator Murkowski for your leadership on pursuing the prompt renewal of Price-Anderson. We certainly appreciate that, and look forward to supporting you. The Price-Anderson Act is the most comprehensive effective liability protection law in the world. It has been proven effective for nearly 45 years, and over that period of time, it is been renewed three times by Congress. The industry fully supports renewal of Price-Anderson. It is a proven law that works.

The industry also recommends that the law be renewed permanently. Obviously even with permanent renewal, the Congress could review it at any point in time, and request status reports from the NRC on any proposed changes to the law. The Price-Anderson Act supports our nation's program to build new nuclear powerplants which are essential to meet our energy and environmental protection goals. The law provides effective no fault insurance. It ensures the availability of money for claims immediately in the event of a reactor accident, and it provides congressional authority to provide additional funding for claims if the more than \$9.5 billion immediately available from the industry is not sufficient.

Over the more than 45 years that the law has been in effect, no taxpayer dollars have been paid related to the commercial coverage for nuclear powerplants. In fact, the Government has received \$21 million in payment from the industry as part of the collecting of Price-Anderson premiums during the early years. And over the entire history of the Act, the total payments made by the industry insurance program, including those related to the Three Mile Island accident, is less than \$190 million. This is compared to the \$9.5 billion of industry funding required to be available for coverage immediately.

In conclusion, renewal of the Price-Anderson Act is not only required to ensure the protection of the public for existing and new nuclear powerplants. As you have just heard, it is absolutely essential for ensuring that the Government will be able to effectively retain contractors to work at Department of Energy facilities. Again, I thank you for the opportunity to testify today. I would be pleased to answer any questions you may have, and I will take any questions you have on the incentive program during the question period.

[The prepared statement of Mr. Fertel follows:]

PREPARED STATEMENT OF MARVIN S. FERTEL, SENIOR VICE PRESIDENT, BUSINESS OPERATIONS, NUCLEAR ENERGY INSTITUTE

Chairman Murkowski and distinguished members of the Senate Energy and Natural Resources Committee, I am Marvin Fertel, Senior Vice President of the Nuclear Energy Institute. The Institute is the Washington, D.C.-based policy organization for the nuclear industry. I am pleased to have this opportunity to testify regarding the renewal of the Price-Anderson Act, nuclear energy research and development funding and industry workforce issues.

The Nuclear Energy Institute (NEI) establishes public policy on various issues affecting the nuclear energy industry, including federal regulations that help ensure the safety of the 103 commercial nuclear power plants operating in 31 states. NEI represents nearly 275 companies, including every U.S. utility licensed to operate a commercial nuclear reactor, their suppliers, fuel fabrication facilities, architectural and engineering firms, labor and law firms, radiopharmaceutical companies, research laboratories, universities and international nuclear organizations.

Congress should renew the Price-Anderson Act, and it should do so with an indefinite renewal. This is a proven framework that has worked for nearly 50 years. Given this proven record, Congress should renew it indefinitely. Congress can reopen the law if modifications are needed. In addition, Congress can request updates on the status of Price-Anderson Act implementation from the NRC.

The Price-Anderson Act is necessary to assure the public that the industry is prepared for contingencies. The law assures the availability of billions of dollars to compensate members of the public who suffer a loss as the result of a nuclear incident. It establishes a simplified claims process for the public to expedite recovery for losses and provides immediate reimbursement for costs associated with any evacuation that may be ordered near nuclear power plants.

OVERVIEW OF NUCLEAR POWER PLANT PERFORMANCE

Nuclear power produces 20 percent of the nations' electricity supplying power to one of every five U.S. homes and powering our high-tech economy. The commercial nuclear industry is a dynamic, growing sector that has played a key role in the economic growth and environmental protection of our nation for decades.

After many years of steady improvements, U.S. nuclear power plants achieved record safety and reliability levels in 2000. The industry set another production record last year, generating 754 billion kilowatt-hours in 2000, or 3.5 percent more than in 1999.

The increased electricity generation from nuclear power plants in the past 10 years was the equivalent of adding 22 new, 1,000-megawatt plants, or enough to meet 23 percent of our nation's demand during the past decade.

The industry's performance has been outstanding over the past 20 years, and we believe it will continue to improve. The Nuclear Energy Institute announced earlier this week Vision 2020 a strategic plan to build 50,000 megawatts of new nuclear power generation during the next 20 years. This new nuclear power generation is essential to meet both our increasing electricity demand and to maintain the 30 percent share of all emission-free electricity generation today.

Many Americans are just beginning to focus on our increasing energy needs, and many are just learning that for decades, nuclear energy has played a vital role in protecting our air quality. Between 1973 and 1999, nuclear plants avoided emission of 32 million tons of nitrogen oxide, 62 million tons of sulfur dioxide and 2,620 million tons of carbon.

Nuclear energy is the only expandable large-scale source of emission-free electricity and is the largest source of voluntary reduction as part of DOE'S climate challenge program. Reports last year from the Energy Department's Energy Information Administration made a direct connection between increased production from nuclear plants and the fact that greenhouse gases and other emissions increased less than they otherwise would have.

CONGRESS SHOULD RENEW PRICE-ANDERSON ACT INDEFINITELY

The Price-Anderson Act of 1957, signed into law as an amendment to the Atomic Energy Act, provides for payment of public liability claims related to any nuclear incident. In its 1998 report to Congress, the Nuclear Regulatory Commission said that the Price-Anderson Act has "proven to be a remarkably successful piece of legislation" that has grown in depth of coverage and that proved its viability in the aftermath of the Three Mile Island accident.

Since the inception of the Price-Anderson Act, the law has been extended three times for successive 10-year periods, and in 1988 it was extended for 15 years. Unless Congress renews the Price-Anderson Act, it will expire on August 1, 2002.

The Price-Anderson Act is a proven law that works in these important ways:

- Assures the availability of billions of dollars to compensate affected individuals who suffer a loss as a result of a nuclear incident.
- Establishes a simplified claim process for the public to expedite recovery of losses.
- Provides for immediate emergency reimbursement for costs associated with any evacuation of residents near a nuclear power plant.
- Establishes two tiers of liability for each nuclear incident involving commercial nuclear energy and provides a guarantee that the federal government will review the need for compensation beyond that explicitly required by law. The Price-Anderson framework provides \$9.5 billion of coverage in the two levels of protection.

For the primary level, the law requires nuclear power plant operators to buy nuclear liability insurance available or provide for an equal amount of financial protection. That amount of insurance is \$200 million.

For the second level, power plant operators are assessed up to \$88 million for each accident that exceeds the primary level at a rate not to exceed \$10 million per year, per reactor for a total of \$9.3 billion. The NRC increases the level for inflation every five years. An important feature of the law is that it spreads the liability for a major accident across the entire industry. In addition, Congress may establish more assessments if the first two levels of coverage are not adequate to cover claims. The Price-Anderson Act framework provides the same level of liability for DOE facilities as for the commercial sector.

Research or small power reactors are required to self-insure at least the first \$250,000 of any nuclear incident. The federal government also provides up to \$500 million of indemnity. At present, there are no small power reactors in operation that qualify for this coverage. But the groundwork is being laid to design power reactors that would be smaller, safer and more cost effective to build. That very extensive research and development would be jeopardized if the Price-Anderson Act is not renewed expeditiously.

The costs of Price-Anderson coverage are included in the cost of electricity, they are not a taxpayer expense or federal subsidy. That means the nuclear industry bears the cost of insurance, unlike the corresponding costs of some major power alternatives. For example, risks from hydropower (dam failure and flooding) are borne directly by the public. The 1977 failure of the Teton Dam in Idaho caused \$500 million in property damage. The only compensation for this event was about \$200 million in low-cost government loans.

In addition to the approximately \$180 million paid in claims by the insurance pools since the Price-Anderson Act went into effect, the law has resulted in payment of \$21 million back to the government in indemnity fees.

The NRC and DOE has recommended renewal of the Price-Anderson Act to Congress. The NRC, in its 1998 report, describes the benefits the law provides to the public. The agency says that "the structured payment system created to meet the two objectives stated in the Price-Anderson Act has been successful." The Commission believes that in view of the strong public policy benefits in ensuring the prompt availability and equitable distribution of funds to pay public liability claims, the Price-Anderson Act should be extended to cover future as well as existing nuclear power plants.

The Department of Energy in 1999 has also recommended renewal of the law. The Energy Department said that its indemnification "should be continued without any substantial change because it is essential to DOE's ability to fulfill its statutory missions involving defense, national security and other nuclear activities."

The Price-Anderson Act has withstood court challenges dating back to 1973 when the Carolina Environmental Study Group, the Catawba Central Labor Union and 40 individuals brought suit against Duke Power Co., which was building nuclear power plants in North and South Carolina.

In June 1978, the U.S. Supreme Court upheld the constitutionality of the law. In an opinion written by Chief Justice Warren Burger, the court held that because the liability limit was created to encourage private sector construction of nuclear power plants it was neither arbitrary nor irrational.

The industry recommends an indefinite renewal of the Price-Anderson Act. Like any other legislation, if Congress wants to reconsider and amend the law it can do so at anytime. We would encourage Congress to hold periodic oversight hearings and, if required, modify the law accordingly.

The industry believes that the retrospective premium should remain at \$10 million per nuclear plant. The NRC initially recommended it be increased to \$20 million, based in part on the assumption that 25 nuclear plants would be closed without relicensing, and that total insurance coverage would decrease as a result. However, most nuclear plants will be relicensed. NRC Chairman Richard Meserve, in a May 11, 2001 letter to members of Congress, retracted this recommendation based on the number of plants seeking license renewal. The NRC no longer believes that the increase in the retrospective premium to \$20 million is necessary.

NUCLEAR ENERGY RESEARCH AND DEVELOPMENT FUNDING

For the United States to remain the world leader in nuclear safety and technology, it is crucial that industry and government continue to invest in nuclear technology research and development.

U.S. electricity demand grew by 2.2 percent a year on average during the 1990s, and by 2.6 percent in 2000. Even if demand grows by a modest 1.8 percent annually over the next two decades, the nation will need nearly 400,000 megawatts of new electric generating capacity, including replacement of retired capacity, according to the U.S. Energy Information Administration. This capacity is the equivalent of building about 40 new mid-size (500-megawatt) power plants 20,000 megawatts every year for the next 20 years.

NEI urges the committee to approve \$433 million in FY-2002 for DOE's Office of Nuclear Energy, Science and Technology twice the current budget. This level of funding is consistent with recommendations in legislation recently introduced authorizing increases in nuclear energy programs. Funding increases also have been suggested in recent years by the President's Committee of Advisors on Science and Technology (PCAST), the Secretary of Energy's Nuclear Energy Research Advisory Committee and DOE's Near-Term Deployment Group.

The Nuclear Energy Research Initiative (NERI) which seeks to expand America's nuclear energy program in the 21st century fills a vital need identified in a 1997 report by PCAST. The report recommended an R&D program to address potential barriers to the long-term use of nuclear energy and to maintain America's nuclear science and technology leadership. The PCAST report also recommended another R&D initiative the Nuclear Energy Plant Optimization (NEPO) program aimed at getting more low-cost energy from America's nuclear power plants.

A blue ribbon panel of seven experts appointed by the Nuclear Energy Research Advisory Committee has offered recommendations on how DOE can support university nuclear engineering programs, help to maintain university research and training reactors and promote collaboration between universities and DOE laboratories. DOE's Near-Term Deployment Group is developing recommendations on agency actions needed in FY-2002 and 2003 to facilitate the NRC review of early site permitting applications for new nuclear power plants.

Also, authorizing legislation introduced this year in the Senate and House of Representatives would expand funding in these areas as well as provide incentives to increase electricity generation from nuclear power plants.

The nuclear energy industry urges the committee to approve \$60 million in FY-2002 for the NERI program, which is paving the way for the expanded use of nuclear energy and maintaining U.S. leadership in nuclear plant technology and safety. In FY-2001, NERI received \$22.5 million less than one-half of the \$50 million annual appropriation recommended by PCAST in its 1997 report. Beginning in FY-2002, PCAST recommended NERI funding be increased to \$100 million a year. Although current funding has been sufficient to continue projects initiated in previous fiscal years, it leaves little money to launch new R&D projects.

The nuclear energy industry also encourages the committee to allocate \$15 million for the NEPO program, which improves efficiency and reliability while maintaining outstanding safety at U.S. nuclear power plants. This public-private partnership is helping to facilitate America's economic growth and prosperity and improving our nation's air quality. NEPO received \$5 million in FY-2000 and 2001 half the annual funding recommended by PCAST.

DOE has launched a project to prepare a technology roadmap for developing and deploying next generation nuclear plants, called Generation IV. As a part of its roadmap effort, DOE is preparing a report on near-term deployment activities that will need to be implemented, in order to have new nuclear plants in operation by 2010 or sooner, while longer term technologies are being developed. DOE is coordinating its efforts with NEI's Executive Task Force on New Nuclear Plants. In the interim, recommendations on activities requiring immediate attention are being prepared by DOE and will be released imminently. To support completion of the DOE technology roadmapping effort and to begin implementation of these near term rec-

ommendations, NEI urges the Committee to approve \$42 million in FY-2002 for the Nuclear Energy Technology Development program.

The industry also requests \$34.2 million for DOE's University Support Program, which enhances vital research and educational programs in nuclear science at the nation's colleges and universities. The number of college programs in nuclear engineering and science is dwindling. To maintain our nation's position as the international leader in the nuclear field, it is vital that this trend is reversed and that our nation's best and brightest technical minds be attracted to the nuclear technologies fields. We urge Congress to sufficiently fund student recruitment, teaching facilities, fuel and other reactor equipment, and instructors to educate a new generation of American nuclear specialists.

The industry asks the committee to support the new initiatives included in authorization legislation introduced this year. One such initiative is the Production Incentive Programs, which the industry believes should be funded at \$15 million.

Building a skilled workforce is essential for future success:

Attracting and maintaining a skilled workforce is essential to the future success of the nuclear industry. Consequently, NEI is working with the industry to implement a plan to address workforce demands through a newly created task force. A major concern is recruitment of new workforce, as well as retention of staff.

Additionally, the industry has an on-going young generation initiative to increase the number of students that can be sponsored by the DOE Nuclear Engineering Fellowship program. Similarly, the industry is working to sponsor students in other engineering disciplines interested in careers in nuclear technology. The Administration's national energy policy, along with growing widespread support in the public sector, is sending a strong message to students and educators that nuclear technology, and nuclear generation in particular, has a bright future.

CONCLUSION

Nuclear energy is the second-largest source of electricity in the United States, and the only large source that is both emission free and readily expandable. The industry's safety record, reliability, efficiency and price stability make nuclear energy a vital fuel for the future.

One need only look at the current energy situation in the United States, marked by thinning capacity margins and volatile prices for fossil fuels, to see why nuclear energy is so important to our nation's energy mix.

In the future, as electricity demand continues to rise, nuclear energy will be even more important to American consumers, and to our nation's economy as a whole. Our nation's nuclear power industry has proven over the past two decades that nuclear energy is a reliable, efficient and safe source of electricity for our nation's economic growth. I urge the members of this committee to continue to support the role of nuclear energy as part of the United States' diverse energy policy.

This support should include indefinite renewal of the Price-Anderson Act, increased funding for nuclear energy research and development and congressional support for new programs that ensure a growing talent bank to design and operate advanced nuclear technologies.

Thank you for giving me this opportunity to share the industry's perspective on oversight of nuclear facilities and related matters.

The CHAIRMAN. Thank you very much.

Mr. Quattrocchi, go right ahead.

STATEMENT OF JOHN L. QUATTROCCHI, SENIOR VICE PRESIDENT, UNDERWRITING, AMERICAN NUCLEAR INSURERS, WEST HARTFORD, CT

Mr. QUATTROCCHI. Thank you, Mr. Chairman, and Senator Murkowski. I am John Quattrocchi, chief underwriting officer at the American Nuclear Insurers, which I'll abbreviate as ANI. I am here today representing the member companies of ANI, which are some of the largest insurance companies in the Nation. ANI is a joint underwriting association or a pool of insurance companies that were formed for the special purpose of insuring the nuclear risk.

We were created in 1956 in response to Congress' desire that the insurance industry find a way to insure what was then a new technology. We worked very closely with Congress in those early days

to develop the Price-Anderson law, which essentially is an insurance program. The law had several purposes in mind. The first was to encourage private development. The second was to establish a framework for handling potential liability claims, and the third was to provide a ready source of funds to compensate potential accident victims.

My purpose today is to let you know that from our perspective as insurers, the Act has served the American public well and should be renewed with little, if any, change. Let me just quickly mention a couple of key provisions of the Act that have allowed us to provide this market for more than four decades without interruption. First, the law requires reactor operators to maintain primary financial protection equal to the maximum amount of liability insurance available from private sources. That requirement is satisfied under the nuclear liability policies that we write.

Over the years, the primary insurance limit has increased from \$60 million in 1957 to \$200 million today. The primary limit was last increased in 1988, coincident with the last renewal. Second point. In the event of loss that exceeds the primary layer of insurance, the law requires reactor licensees to participate in what's called the secondary financial protection program which we at ANI administer. Under that program, each licensee is retrospectively accessible for any loss in excess of the primary limit up until maximum assessment of \$88.1 million per reactor per accident.

So the second layer of protection is actually drawn from reactor operators' own funds and with 106 reactors currently in this program, the total level of financial protection available to the public is just over \$9.5 billion. Now, there are a number of other key provisions in the law that are critical to the interests of insurers and to the general public. Those are outlined in my testimony, and I won't go through them now.

Just some other quick points, though. I mentioned earlier that our primary insurance limit has not increased since 1988, and obviously inflation has taken a toll, so assuming the act is renewed essentially intact, we will canvas our members to see if we can increase the limit from \$200 million to something in the range of \$300 million. Now, we have also begun talking about their interest in a possible new coverage that would pay the retrospective assessment in the second layer for the reactor that has the accident.

We think that in the unlikely event of an accident that requires assessment, the utility that suffers the loss will be under the most severe financial pressure. And this new coverage would shift that pressure to insurers at least for one full retrospective assessment. And I'll just sum up by saying that the financial protection that this law provides the public far surpasses any other system that we know of. The Act is clearly in the public interest.

In its first true test in 1979, after the Three Mile Island accident, it served the public well. We as insurers responded under the act within 24 hours of the evacuation advisory. We made emergency assistance payments to some 3,100 families without requiring a liability waiver of any kind. I was actually part of that effort, and I am proud of what we were able to do to help those affected by the accident. There is a little amusing, and I should say short story that I would like to share with you about that difficult time.

The insurance team that I was with was staying in a motel that was about 10 miles from the accident scene. And at breakfast one morning, I spotted a young couple with two children, mom and dad were clearly distraught, they were worried about the potential negative impact on their children. A waitress walked over to their table and tried to console them. She said to the couple, do you see those people over there? They are with the insurance company. And there is no way they would be here if we were in any real danger. And then she added, but watch them very closely, because when they leave, we leave. Now, I don't expect that to happen again, but if it does, the public needs the protection that this Act provides. We, therefore, urge the committee to support renewal of the Act in its existing form. And I thank you for your time and for the opportunity to express the views of insurers on this important topic.

[The prepared statement of Mr. Quattrocchi follows:]

PREPARED STATEMENT OF JOHN L. QUATTROCCHI, SENIOR VICE PRESIDENT,
UNDERWRITING, AMERICAN NUCLEAR INSURERS, WEST HARTFORD, CT

Mr. Chairman and distinguished members of the Committee, I am John Quattrocchi, Senior Vice President, Underwriting at the American Nuclear Insurers—or ANI. Joining me today is Mr. Tim Peckinpugh, Washington, D.C. Counsel to ANI. We appear today on behalf of the member insurance companies of ANI. The National Association of Independent Insurers also joins in our statement. We appreciate your invitation to present our views on the nuclear risk with a special focus on the financial protection requirements of the Price-Anderson Act.

ANI is a joint underwriting association that acts as managing agent for its member insurance companies. We are, in effect, a “pool” of insurance companies formed for the purpose of insuring a unique risk. Together with our reinsurance partners from around the world, we represent the worldwide insurance community.

We will not dwell on the advantages of nuclear power. We are not advocates for any particular energy source. However, as professional insurers and long-term observers of the energy scene, we believe nuclear power represents a safe, reliable and environmentally friendly part of our nation's energy mix. The nuclear industry has achieved an impressive safety record and, as insurers, we are proud of the role we've played in supporting their efforts.

ANI and its predecessor organizations were created in 1956 in response to Congress' urging that insurers find a way to insure what was then a fledgling technology. We worked closely with Congress and with the industry to develop the Price-Anderson law. The law is essentially an insurance program that had several purposes in mind.

- The first was to encourage the private development of nuclear power.
- The second was to establish a legal framework for handling potential liability claims.
- And the third was to provide a ready source of funds to compensate injured victims of a nuclear accident.

The Act represents a careful balancing of the interests of the public as private citizens and as participants in and beneficiaries of private business enterprise. We also believe the Act has been critical in enabling us to provide stable, high quality insurance capacity for nuclear risks in the face of normally overwhelming obstacles for insurers those obstacles being catastrophic loss potential, the absence of credible predictability, a very small spread of risk and limited premium volume. This has been accomplished for more than four decades without interruption and without the “ups and downs” (or market cycles) that have affected nearly all other lines of insurance.

KEY PROVISIONS OF THE PRICE-ANDERSON ACT

Financial Protection¹ . . . In Two Layers

To assure a source of funding to compensate accident victims, the law requires reactor operators to maintain primary financial protection equal to the maximum amount of liability insurance available from private insurance sources at reasonable terms.² This provision has enabled insurers to develop and sustain secure, high quality insurance capacity from worldwide sources. Evidence of this lies in the stability of limits, price and coverage that insurers have provided in what is a very special line of business. Indeed, primary insurance limits actually increased after the Three Mile Island (TMI) accident in 1979 from \$140 million to \$160 million, and prices rose only modestly. The primary limit was last increased to \$200 million in 1988 coincident with the last renewal of the Act. This limit is written by ANI at each operating power reactor site in the U.S., which satisfies the requirement for primary financial protection.

The Act also requires reactor operators to participate in an industry-wide retrospective rating program for loss that exceeds the primary insurance limit.³ ANI writes a Secondary Financial Protection (SFP) Master Policy through which we administer the SFP program. Under this policy, each insured is retrospectively assessable for loss that exceeds the primary insurance limit up to a maximum retrospective assessment currently set at \$88.095 million (adjusted every five years for inflation) per reactor, per incident. In other words, the second layer of protection is drawn from reactor operators' own funds. Insurers have a contingent liability to cover potential defaults of up to \$30 million for one incident or up to \$60 million for more than one incident. Under the terms of the contract, however, ANI would expect to be reimbursed with interest for any funds it advances under this program. With 106 reactors in the program, the total level of primary and secondary financial protection is just over \$9.5 billion (\$200 million in the primary layer + \$88.095 million in the secondary layer X 106 reactor units participating).

Limitation on Aggregate Public Liability⁴

The Act limits the liability of reactor operators or others who might be liable for a nuclear accident to the combined total of primary and secondary financial protection, though Congress is committed to providing additional funds if financial protection is insufficient.⁵ Knowing the extent of one's liability provides economic stability and incentives that would not exist without a limit.

Legal Costs Within the Limit⁶

The expenses of investigating and defending claims or suits are part of and not in addition to the limit of liability. The inclusion of these costs within the limit enables insurers to offer their maximum capacity commitments without fear of exceeding those commitments. This provision is absolutely essential if insurers are to maintain and hopefully increase the assets they place at risk.

Economic Channeling of Liability⁷

The Act channels the financial responsibility and insurance obligation for public liability claims to the nuclear plant operator. This helps assure that injured parties will be able to establish with certainty liability for a nuclear accident that will be backed by solid financial resources to respond to those liabilities.

Waiver of Defenses⁸

In the event of what is called an Extraordinary Nuclear Occurrence (ENO),⁹ insurers and insureds waive most standard legal defenses available to them under state law.¹⁰ The effect of this provision is to create strict liability for a severe nu-

¹ Defined in Section 11.k. of the Atomic Energy Act of 1954, as amended.

² The Atomic Energy Act of 1954, as amended, Section 170.b.(1).

³ *Ibid.*

⁴ The Atomic Energy Act of 1954, as amended, Section 170.e.(1)(A) and Section 170.o.(1)(E).

⁵ The Atomic Energy Act of 1954, as amended, Section 170.e.(2).

⁶ The Atomic Energy Act of 1954, as amended, Section 170.e.(1)(A).

⁷ The Atomic Energy Act of 1954, as amended, Section 11.t. and 170.c.

⁸ The Atomic Energy Act of 1954, as amended, Section 170.n.(1).

⁹ Defined in Section 11.j. of the Atomic Energy Act of 1954, as amended. Without citing all the specifics, the term refers to a significant nuclear incident that results in severe offsite consequences.

¹⁰ The legal defenses waived in the policy include (i) any issue or defense as to the conduct of the claimant or the fault of the insured, (ii) any issue or defense as to charitable or governmental immunity, and (iii) any issue or defense based on any statute of limitations if suit is

clear accident. Claimants in these circumstances need only show that the injury or damage sustained was caused by the release of nuclear material from the insured facility. Fault on the part of a particular defendant does not have to be established.

*Federal Court Jurisdiction in Public Liability Actions*¹¹

Historically, state tort law principles have governed nuclear liability determinations. The Price-Anderson Act provides for a federal overlay to the application of state law. The Act confers jurisdiction over public liability actions on the Federal District Court in which the accident occurs. This removes the confusion and uncertainties of applicable law that would otherwise result when multiple claims and lawsuits are filed in multiple courts. The provision also reduces legal costs and speeds the compensation process.

*Precautionary Evacuations*¹²

The system anticipates that insurers will provide immediate financial assistance to people who are forced to evacuate their homes because of a nuclear accident or because of imminent danger of such an event.

The Act, and these provisions in particular, have stood the test of time and served the public well as demonstrated by the response at Three Mile Island.

THE ACCIDENT AT THREE MILE ISLAND

The accident at Three Mile Island occurred on March 28, 1979. Within twenty-four hours of the Pennsylvania Governor's advisory for pregnant women and pre-school age children to evacuate a five-mile area around the site, we had people in the area making emergency assistance payments. Two days later, a fully functioning claims office staffed with some 30 people was open to the public. The claims staff grew to over 50 people within the next two weeks. All of the claims staff came from member insurance companies from around the country. I spent about 10 days at the claims office shortly after it opened to lend whatever support I could.

As the office was being set up, we placed ads on the radio, television and in the press informing the public of our operations and the location of the claims office. Those people affected by the evacuation advisory were advanced funds for their immediate out-of-pocket living expenses, that is to say, expenses for food, clothing, shelter, transportation and emergency medical care. Approximately \$1.3 million in emergency assistance payments were made to some 3,100 families without requiring a liability waiver of any kind.

We responded as quickly as we did because we had prepared for emergencies in advance. Emergency drills were conducted periodically, and an emergency claim response manual helped guide our response. Checks and other claim forms that had been pre-printed and stored for emergencies were immediately available to us. The insurance industry received high praise for its quick response at TMI. In responding as we did, we helped to alleviate some of the fear and dislocation of those affected by the accident.

POLICY COVERAGE AND CLAIMS EXPERIENCE

The nuclear liability policy written for nuclear site operators is designed to respond to an insured's liability for damages because of bodily injury or offsite property damage caused by a large, sudden catastrophic accident. However, it can also respond to allegations of injury from very small amounts of nuclear material. That bears repeating. In addition to providing coverage for catastrophic events, we are providing coverage for alleged offsite damages from normal plant operations.

All of our insured facilities release very small amounts of material within acceptable regulatory limits. But the public perception of what is "acceptable" and what constitutes "damage" is a moving target. Indeed, almost all of our claims allege injury or damage (or fear of future injury or damage) from little or no documented radiation exposure. And, with the exception of the accident at Three Mile Island, few of the claims from members of the offsite public are the result of a clearly identifiable event. Instead, our claims experience is more related to routine releases and the latent injury phenomenon now popular—at least in the U.S.—in the toxic torts arena. The alleged damages usually involve somatic, psychosomatic or genetic effects from exposure to radiation at de minimis levels.

From inception, ANI has handled some 205 reported claims or incident notifications. We've paid just under \$187 million for indemnity and legal defense and have

instituted within three years from the date on which the claimant first knew, or reasonably could have known, of his bodily injury or property damage and the cause thereof.

¹¹The Atomic Energy Act of 1954, as amended, Section 170.n.(2).

¹²Defined in Section 11.gg. of the Atomic Energy Act of 1954, as amended.

incurred losses of \$463 million, all through March 1 of this year. The difference between the paid and incurred loss figures represents what is reserved for indemnity and defense on outstanding claims.

Radiation claims are costly to defend and there is often no relationship between the amount of radiation alleged and the expense necessary to defend the claim. While the judicial process is expensive, it does expose claims that have no basis in scientific fact. Given the finite resources available to compensate truly injured victims, it serves no one's interest for insurers to compensate claims without merit. The importance of the legal framework established in the Act, including the cost of defense within the system, cannot therefore be overstated.

NRC'S REPORT TO CONGRESS . . . PRIMARY LIABILITY LIMITS

In its 1998 Report to Congress on the status of the Act, the NRC strongly supported reauthorization of the Price-Anderson Act and offered eight recommendations. In the interest of time, and because the Committee is, I'm sure, familiar with the report, I will focus particular attention on just one of the recommendations—specifically, that Congress discuss with insurers the potential for increasing the primary liability insurance limit. The NRC indicated in its report that an increase to roughly \$350 million would at least keep pace with inflation since 1957.

As was noted earlier in my testimony, the Act requires power reactor licensees to maintain primary financial protection equal to the maximum amount of liability insurance available from private sources at reasonable terms. But for this provision, it is doubtful that limits at the levels written could have been sustained without interruption or fluctuation for more than forty years. To illustrate the point, when, in the mid-1980's, liability insurance became unavailable at almost any price for conventional lines of business, nuclear liability insurers continued to provide a stable market for their limited customer base—thanks, in part, to this provision.

Liability limits have been increased periodically from \$60 million in 1957 to \$200 million presently. The limit was last increased to its present level in 1988 coincident with the last renewal of the Act. The attached Table of Limits outlines the history of primary liability limits from 1957.

We believe an increase in the level of primary insurance coverage would benefit the system and enhance public protection for a number of reasons:

(1) The existing limit has not changed since 1988 and its value has, in fact, been eroded by inflation. When measured against the rate of inflation from 1988 to June 1998, the limit would have grown to roughly \$275 million. When measured against inflation from 1957 to June 1998, the limit would have increased to about \$350 million.

(2) An increase in the primary limit to reflect the impact of inflation is consistent with inflationary increases mandated by the Price-Anderson law in the second layer. Section 170.t. of the Act requires that the maximum retrospective premium in the second layer be adjusted at five-year intervals. The maximum retrospective premium in the second layer has, in fact, been increased twice since 1988 to reflect the impact of inflation.

(3) A higher primary limit would provide an added buffer between loss in the primary layer and retrospective assessments on utility operators in the second layer. Sound funding for the remote but nevertheless possible nuclear catastrophe calls for pre-funding a substantial portion of the costs of that accident. The higher the potential retrospective liabilities on the nuclear industry in the second layer, the more desirable reasonable increases in the primary insurance layer become.

(4) The number of reactor licensees can be expected to decrease in the coming years as reactor units are sold to a relatively smaller number of buyers. The effect of this would be to substantially increase the maximum potential retrospective assessment on those remaining operators at a time of severe economic stress for nuclear utilities generally—that is to say, following a large-scale nuclear accident. In these circumstances, a higher primary liability limit would provide a better balance between pre- and post-funded layers of accident protection, in effect enhancing the protection to the public.

(5) Deregulation of the electric utility industry may hamper a utility's ability to pass on to ratepayers the cost of a retrospective assessment. A higher primary limit would reduce the chances of, or at least delay, an assessment in the second layer.

Consistent with the long-standing objective of Congress to provide the most financial protection possible to compensate the public, we will work with our members and reinsurers to develop higher primary insurance limits coincident with the renewal of the Act. This assumes the Act is renewed in essentially its existing form. Any effort on our part to increase the primary limit would also have to be balanced against the needs and desires of our customer base. If these needs can be balanced,

our goal would be to develop only capacity that is financially secure and committed for the long term. While I cannot provide any commitments at this time, a reasonable goal might be a primary limit in the range of \$300 million, again assuming a satisfactory renewal of the Act.

POSSIBLE NEW PROTECTION IN THE SECOND LAYER

As my testimony has indicated, in the unlikely event that retrospective premiums in the second layer need to be assessed because of a severe nuclear accident, those assessments will be levied at a time of great political and financial stress. The pressures on the utility that suffers the accident will, in all likelihood, be the most severe. For that reason, we have begun to discuss with the industry a potential new coverage under the existing Secondary Financial Protection (SFP) program that would pay up to one full retrospective premium (currently up to \$88.095 million) on behalf of the utility at whose site the accident occurs. Payment of this retrospective premium would be made on a guaranteed cost basis—that is to say, we would not expect to be reimbursed. Since coverage would apply on a guaranteed cost basis, we would have to secure additional capacity over and above whatever additional capacity might be developed for the primary layer.

We envision that coverage would be added by endorsement to the existing SFP program for an additional per reactor premium. We would prefer that coverage be purchased on a voluntary basis and not made part of the financial protection requirements. For the coverage to be viable, at least half the number of reactor units in the SFP program would have to participate.

This coverage would shift to the insurance industry some of the strain that would undoubtedly be felt within the utility industry after a severe nuclear accident. If the potential new coverage is something the industry desires, we will try to implement it coincident with the renewal of the Act, or as soon thereafter as reasonably possible.

PRICE-ANDERSON AS A SUBSIDY?

Some have argued that Price-Anderson is a subsidy for the nuclear industry. For what it's worth from our perspective as independent insurers, that view is clearly inaccurate. We are not aware of any payments made by the Federal Government to private licensees under Price-Anderson. Indeed, the industry not only pays the cost of the insurance required by the Act, it has paid millions of dollars in indemnity fees and has assumed more than \$9 billion in potential retrospective assessments to compensate injured accident victims—all of this at no cost to the government.

Some argue that the Act's limitation on liability is a subsidy for the industry in that it limits potential recoveries of accident victims. The fact is, however, that, in exchange for the limit on liability, the Act provides for a large, ready source of funds for accident victims that would not otherwise exist.

Insurers have a great deal of experience handling litigation that is "unfettered" by limitations on liability. No case stands out in my mind more than the Bhopal accident in India in 1984. As many as 4,000 people died and another 500,000 were injured. After years of litigation, Union Carbide settled with the Indian Government for \$470 million—or roughly \$1,000 in compensation for each of those killed or injured.

The simple fact is that there is always a limit on liability—that limit equal to the assets of the company at fault. Those who helped shape the Price-Anderson Act understood that fact. It was their belief that those who share in the benefits of nuclear energy should also share in the risks through a system of solid financial protection provided by industry and by government.

Beyond serving the public interest, the limitation on liability enables insurers to quantify their potential liabilities. Without the limitation, suppliers and others who might incur potential nuclear liabilities would be forced to seek separate insurance protection for their own accounts, in turn, exposing insurers to unacceptable accumulations. In these circumstances, the level of available liability insurance might well diminish.

CONCLUSION

To the best of our knowledge, the financial protection that the Act provides the public far surpasses the performance of any other system in place in the United States. The essential fact is that the public is far better off with this system of financial protection than without it. For us as insurers, its provisions make an otherwise difficult risk insurable. We therefore urge the members of this Committee to support expeditious renewal of the Act with little if any change as recommended by the NRC report to Congress and the Administration's *National Energy Policy* re-

leased last month. In terms of the legislation pending before this Committee, we support in general the Price-Anderson reauthorization provisions of S. 388, the National Energy Security Act of 2001 (Subtitle A of Title IV); S. 472, the Nuclear Energy Electricity Supply Assurance Act of 2001 (Subtitle A of Title I); and S. 597, the Comprehensive and Balanced Energy Policy Act of 2001 (Title IX).

We are grateful to the Committee for the opportunity to express the views of insurers on this important issue.

TABLE OF LIMITS

History of Maximum Nuclear Liability Insurance Available From 1957 to Present

Year	Liability limits (\$ in million)	% Increase
1957	\$ 60	—
1966*	74	23.3%
1969	82	10.8%
1972	95	15.8%
1974	110	15.8%
1975*	125	13.6%
1977	140	12.0%
1979	160	14.3%
1988*	200	25.0%

* Coincident with the renewal of the Price-Anderson Act.

The CHAIRMAN. Thank you very much. Mr. Pica, why don't you go right ahead.

STATEMENT OF ERICH PICA, ECONOMIC POLICY ANALYST, FRIENDS OF THE EARTH

Mr. PICA. Thank you, Mr. Chairman. Friends of the Earth is a national nonprofit environmental organization, and has an international affiliates in 69 countries around the world. Thank you for allowing me to testify.

Friends of the Earth has a long history of working for clean, affordable energy future. Our goal is to shift from polluting and dangerous sources such as nuclear and fossil to energy efficiency and clean renewable energy sources. As part of this goal, Friends of the Earth, along with Taxpayers for Common Sense and U.S. Public Interest Research Group have published the annual Green Scissors report, which highlights environmentally harmful, fiscally wasteful government programs. The Price-Anderson Act, as well as other Department of Energy research and development programs, including the Nuclear Energy Research Initiative, or NERI, and the Nuclear Energy Plan Optimization program, or NEPO, are highlighted under the Green Scissors report.

Nuclear power is unsafe, unreliable, uneconomic and generates long lived radioactive waste for which there is no safe solution. We believe it should be phased out as soon as possible, and it should not be encouraged as a future energy source. The Price-Anderson Act represents just one of the unwarranted subsidies enjoyed by the industry. Others include the lion's share or 60 percent which equates to about \$66 billion of Federal research and development dollars since 1948.

The Federal nuclear waste disposal program and more than \$100 billion repair bailouts from utility deregulation plans. During the reauthorization of the Price-Anderson Act in the 1980's, the Environmental Policy Institute, the predecessor to Friends of the Earth,

the PIRGs, and other environmental consumer and taxpayer groups advocated for reforms of the Price-Anderson Act. Our policy then, as it is now, is that the American public deserves a sound and responsible nuclear accident policy. Such a policy would accomplish three fundamental goals. One, assure full compensation of any nuclear accident victim. Two, protect taxpayers from subsidizing nuclear industry negligence, and three, increase safety incentives and require high standards of nuclear accountability.

Unfortunately, the Price-Anderson Act as amended in 1988 does not accomplish these goals. Instead, this act does not guarantee full compensation for victims of nuclear accidents, perpetuates a long history of Federal subsidies and policies which reward the nuclear industry at public expense, and exempts contractors from liability for public damages, even if they were reckless or woefully negligent.

We are also extremely concerned about the push to create new production incentives for the nuclear power industry. New production incentives proposed in the 107th Congress would continue the nuclear power industry alliance on taxpayer dollars. Furthermore, we should not be considering increasing production while a solution for the high level of nuclear waste currently generated by this industry.

In conclusion, the Price-Anderson Act was supposed to be a temporary measure for a fledgling industry. Today, that industry has grown enormously and has reaped substantial benefits from this and other taxpayer policies. Meanwhile, victims of a major nuclear accident would be left to plead their case to Congress. This is not good government, nor is it good policy. The Price-Anderson Act should not be renewed and should be either radically reformed or replaced by legislation that truly protects the public. Thank you, and I'll answer any other questions.

[The prepared statement of Mr. Pica follows:]

PREPARED STATEMENT OF ERICH PICA, ECONOMIC POLICY ANALYST,
FRIENDS OF THE EARTH

Chairman Bingaman, Ranking Member Murkowski and distinguished members of the Energy and Natural Resources Committee, my name is Erich Pica and I am an Economic Policy Analyst at Friends of the Earth. Friends of the Earth is a national non-profit environmental advocacy organization and is part of the Friends of the Earth International network which has affiliates in 69 countries around the world. Thank you for the opportunity to speak today.

Friends of the Earth has a long history of working for a clean affordable energy future. Our goal is to shift from polluting and dangerous sources of energy such as nuclear and fossil energy to increased energy efficiency and clean renewable energy sources. As part of this goal, Friends of the Earth along with Taxpayers for Common Sense and the U.S. Public Interest Research Group publish the annual Green Scissors Report (www.greenscissors.org), which highlights environmentally harmful and fiscally wasteful government programs. The Price-Anderson Act, as well as other Department of Energy research and development programs are highlighted in the Green Scissors report.

Nuclear power is unsafe, unreliable, uneconomic and generates long-lived radioactive wastes for which there is no safe solution. We believe it should be phased out as soon as possible and should not be encouraged as a future energy source.

Nuclear power would not exist today if it weren't for massive government subsidies and other unfair policies. Jerry Taylor of the Cato Institute agrees.

In the final analysis, the nuclear industry is purely a creature of government. The administration needs to practice the free-market rhetoric that it preaches and put away its nuclear pompoms.¹

The Price-Anderson Act represents just one of the unwarranted subsidies enjoyed by the industry. Others include: the lion's share, 60% or \$66 billion, of federal research and development dollars since 1948;² a federal nuclear waste disposal program,³ and more than \$100 billion in ratepayer bailouts from state utility deregulation plans.⁴ Current programs include the Nuclear Energy Research Initiative and the Nuclear Energy Plant Optimization program.

During reauthorization of the Price-Anderson Act in the 1980's, Environmental Policy Institute (the predecessor to Friends of the Earth), the PIRGs, and other environmental, consumer and taxpayer groups advocated for reforms of the Price-Anderson Act. Our policy then, as it is now, is that the American public deserves a sound and responsible nuclear accident policy. Such a policy would accomplish three fundamental goals:

- Assure full compensation of any nuclear accident victims,
- Protect taxpayers from subsidizing nuclear industry negligence, and
- Increase safety incentives and require high standards of industry accountability.

Unfortunately, the Price-Anderson Act as (amended in 1988) does not accomplish these goals. Instead, this Act does not guarantee full compensation for victims of a nuclear accident, perpetuates a long history of federal subsidies and policies which reward the nuclear industry at public expense, and exempts contractors from liability for public damages even if they were reckless or willfully negligent.

We also are extremely concerned about the push to create new production incentives for the nuclear power industry. New production incentives proposed in the 107th Congress would continue the nuclear power industry reliance on federal taxpayers. Furthermore, we should not be considering increasing production without a solution for the high-level nuclear waste currently generated by this industry.

BACKGROUND

Enacted in 1957, the Price-Anderson Act was intended to be a temporary solution to a temporary problem—the refusal of insurers to underwrite nuclear risks. According to a 1957 Senate report, it was expected that after the Act expired in ten years, “. . . the problem of reactor safety will be to a great extent solved and the insurance people will have had an experience on which to base a sound program of their own.”⁵

Forty-four years later, few of these expectations have been realized. Many of the problems of reactor safety continue to be unsolved. In addition certain reactor components such as reactor pressure vessels and steam generator tubes have exhibited unanticipated aging-related problems. The nuclear industry continues to be unwilling to assume the risks of its activities.

In its current form, the Price-Anderson limits liability for damages to the public in the case of a nuclear accident. The Act expires on August 1, 2002. Existing reactors will continue to operate under the current system if it is not extended.

Price-Anderson currently requires owners of licensed commercial reactors to carry \$200 million of liability insurance. If claims following an accident exceed that amount, all commercial reactor operators must contribute up to \$83.9 million per reactor. With 106 reactors currently covered by Price-Anderson, the total pool of funds is approximately \$9.09 billion for public compensation.⁶ The public has no legal right to compensation for damages exceeding the limit. Price-Anderson leaves this question to Congress.⁷

Companies that build, design, and supply parts for nuclear power plants are completely exempt from public liability.⁸

¹ Taylor, J., “Nuclear Power Play”, Washington Post, 5/18/01.

² Congressional Research Service

³ <http://www.greenscissors.org/energy/nuclearwastefundfee.htm>

⁴ <http://www.safeenergy.org/ratepayer.htm>

⁵ Berkovitz, Dan. Price-Anderson Act: Model Compensation Legislation?—The Sixty-Three Million Dollar Question, Harvard Environmental Law Review, 1989.

⁶ Holt, M. and Behrens, C. “Nuclear Energy Policy”, Congressional Research Service IB88090, 3/22/01, p. 14.

⁷ 42 U.S.C. 2210(e).

⁸ Berkovitz, Dan. “Price-Anderson Act: Model Compensation Legislation?—The Sixty-Three Million Dollar Question, Harvard Environmental Law Review, 1989.

DOE contractors are indemnified up to a total of \$9.43 billion. This means taxpayers could pay \$9.43 billion in case of an accident caused by a DOE contractor regardless of the contractor's conduct. While the 1988 amendments allow DOE to assess civil fines and penalties against its contractors, it specifically exempts seven non-profit institutions. These institutions plus their for-profit subcontractors are exempt from civil penalties.

The seven institutions listed in the Price-Anderson Act are: The University of Chicago for activities at Argonne National Laboratory; The University of California for activities at Los Alamos; Lawrence Livermore, and Lawrence Berkeley National Laboratories; American Telephone and Telegraph and its subsidiaries for activities at Sandia National Laboratory (now operated by Lockheed Martin which is subject to civil penalties); Universities Research Association for activities at FERMI National Laboratory; Princeton University for activities at the Princeton Plasma Physics Laboratory; the Associated Universities Inc for activities at Brookhaven National Laboratory (now operated by Brookhaven Science Associates which is subject to civil penalties) and Battelle Memorial Institute for activities associated with the Pacific Northwest Laboratory.⁹

THE PRICE-ANDERSON ACT IS AN UNWARRANTED SUBSIDY TO THE NUCLEAR INDUSTRY

Because reactor operator liability is limited, the Price-Anderson Act denies accident victims full compensation and will inevitably result in either taxpayers or victims footing the bill for catastrophic nuclear accidents. Because DOE contractors are not held responsible for any public damages in nuclear accidents they cause, the taxpayer will foot the bill for commercial nuclear waste transport accidents, accidents at research reactors and weapons site cleanups. Taxpayers will foot the bill for DOE contractor accidents even if they resulted from recklessness, gross negligence, or intentional disregard for public health and safety. The companies that design, build and supply parts for nuclear power plants are totally exempt from any liability for damages to the public. These commercial nuclear contractors are not responsible for damages to the public even if they were reckless, grossly negligent, or intentionally disregarded public health and safety.

Estimates of the value of this subsidy to nuclear power plant owners range from \$3.45 million¹⁰ to \$33 million¹¹ (2001 dollars) per reactor per year. With 106 reactors covered, is a total annual subsidy to the nuclear industry of \$366 million to \$3.5 billion.

The nuclear industry and its cheerleaders keep touting the safety of nuclear power and its cost-effectiveness. Yet, they are here today, asking that they not be held fully responsible for the public consequences of designing, building and operating these "safe" reactors and transporting the lethal waste generated from these activities.

Even the Vice President admits that the industry needs continued subsidies. If the Price-Anderson Act is not renewed, Vice President Cheney said, "Nobody's going to invest in nuclear power plants."¹²

The industry cannot have it both ways. If nuclear power is cost-effective and safe, then the nuclear industry should bear full liability for the costs of a nuclear accident. Insurance for these risks should be internalized as a cost of doing business, just as it is for every other industry. The Act should not be re-authorized in its current form. Either Congress should radically reform the Price-Anderson Act or it should enact separate legislation, which will provide fair and full compensation to the public in the event of a nuclear accident.

THE PRICE-ANDERSON ACT PROTECTS THE NUCLEAR INDUSTRY BUT NOT THE PUBLIC

Under Price-Anderson, nuclear reactor operators get a guarantee of limited liability for public damages in the event of a nuclear accident. The designers, builders and suppliers of the reactors are exempt from all liability for damage to the public. DOE contractors are fully indemnified by the government. In contrast, the public gets no guarantee of full compensation.

All players in the last Price-Anderson debates, including the Nuclear Regulatory Commission (NRC), the Department of Energy, and the nuclear utilities testified in

⁹U.S. DOE, "Report to Congress on the Price-Anderson Act," March 1999, p. 23.

¹⁰Heyes, A., and Liston-Heyes, C. "Liability Capping and Financial Subsidy in North American Nuclear Power; Some Financial Results based on Insurance Data," Department of Economics, University of London, England.

¹¹Dubin, J.A. and Rothwell, G.S. "Subsidy to Nuclear Power Through Price-Anderson Liability Limit," Contemporary Policy Issues, Vol. III, July, 1990.

¹²"Cheney Says Push Needed to Boost Nuclear Power," Reuters News Service, 5/15/01.

favor of full compensation for victims. Because liability is limited to a little more than \$9 billion, no one is legally obligated to pay damages over the limit and no one has a right to recover for those damages. The current system puts much of the risk of a catastrophic nuclear accident on the shoulders of its victims. Victims would have to plead their case before Congress.¹³

The question of who should pay when damages exceed the limit has never been fully resolved. If there is an accident, the money will have to come from somewhere, and we see only three choices. It will come from the victim's pockets, from the taxpayers' pockets, or the industry's pockets. We believe it should come from the industry. However, under the current law, it seems inevitable that taxpayers would foot the bill or victims would go uncompensated.

The Price-Anderson Act calls for Congressional action to "provide full and prompt compensation to the public for all public liability claims resulting from a disaster of such magnitude."¹⁴ On July 29, 1987, during the floor debate on amendments to the house bill (H.R. 1414) that was ultimately enacted into law, Representative Morris Udall described compensation for damages above the limit as the "third level."

The third layer is the disaster layer. Let us say the Indian Point Nuclear Plant in New York has a meltdown or some very serious matter affecting whole cities and regions. We could not decide whether that ought to be \$20 billion or \$50 billion or \$100 billion or what, so we decided that the third layer will be determined by a commission appointed by the President and given two years to come up and say how we should handle claims above the \$7 billion or \$8 billion. Obviously, you would have to have a large amount of money, and it should not be the ratepayers of the nuclear utilities who paid for the first two levels. We believe, and so wrote the bill that the third level will come from ratepayers everywhere and taxpayers everywhere and the commission will tell us in advance how we ought to finance this and set it up and distribute the available money.¹⁵

In 1990, as authorized by the Act, the Presidential Commission on Catastrophic Nuclear Accidents issued a report on "the means of fully compensating victims of catastrophic nuclear accident that exceeds the amount of aggregate public liability."¹⁶ While the report affirmed that victims be fully compensated, it ducked the question of who should pay.¹⁷ It should be no surprise that the Presidential Commission refused to lay the ultimate responsibility for public damages from a catastrophic nuclear accident on the shoulders of the responsible industry. For from being "representative of a broad range of interests" as required by the Price-Anderson Act, it consisted entirely of men with ties to the nuclear industry.¹⁸

We support a mechanism similar to that recommended in a report authored by the NRC in 1983.¹⁹ This would provide a legal guarantee of full compensation for victims. I would also retain the industry's protections against the full liability that it would have if there were no Price-Anderson scheme at all.

Basically, in order to shield both victims and taxpayers from unwarranted risk, the NRC unanimously recommended a system that would subject reactor licensees to annual assessments. Unlike current law which caps total retrospective premiums at \$83.9 million, the 1983 NRC reported recommend these premiums be paid until all public liability has been satisfied. The NRC concluded that this approach represents the best alternative for minimizing the potential for both uncompensated losses by the victims of an accident and additional contributions by the taxpayers to meet public liability claims.

According to the NRC report, the key to any fair and effective compensation scheme is the assurance that all valid claims will be paid. The current cap on total liability completely undermines that principle. Victims should not have to plead their case before Congress or go uncompensated. Federal taxpayers should not foot the bill, either.

The nuclear industry that profited from the activities creating the risk of an accident should be obligated to pay all damages through these retrospective premiums.

¹³ Magavern, W. Testimony to the Presidential Commission on Catastrophic Nuclear Accidents, 10/25/89.

¹⁴ 42 U.S.C. 2210(e).

¹⁵ Report to the Congress on Catastrophic Nuclear Accidents, August, 1990, p.15.

¹⁶ U.S.C. 42 Section 2210 (i).

¹⁷ Washington Post, "Nuclear Claims Envisioned: Panel's Calls for Catastrophic Compensation Omits Source of Funds," 9/21/90.

¹⁸ Testimony of Bill Magavern, Staff Attorney, U.S. PIRG to the Energy and Environmental Subcommittee of the House Interior Committee, 9/26/90.

¹⁹ NUREG-0957

If that became overly burdensome, the industry could always go to Congress to get relief. That way, the burden is on the industry, not the victims or taxpayers.

Currently, if there is an accident above \$200 million, each nuclear operator contributes up to \$10 million per reactor per year in “retrospective premiums” until the current cap of \$83.9 million is reached.²⁰ In contrast, the 1983 NRC report recommended annual payments of \$10 million per plant for as many years as necessary to compensate all public damages. Unfortunately, under pressure from the nuclear industry, all but one of the commissioners reversed their stance by the time Representative Markey chaired a hearing on the issue in July 1986. Commissioner James Asseltstine continued to support the original recommendation of no cap on total liability to protect taxpayers.

Having provided by law that the industry’s liability would be fixed at a specific dollar level and with new indemnity contracts in effect which reflect this limited liability, I think it will be difficult for the Congress to obtain additional funding from the industry after an accident has occurred. Thus, it is likely that additional funding to pay liability claims, funding which could run into the billions of dollars, would have to come from the federal Treasury.²¹

Friends of the Earth and others supported lifting the total liability cap and replacing it with an annual cap during the debate over the 1988 amendments. We believe that this would be a fair way to ensure that victims were compensated and the industry would have an affordable and predictable way to assure this.

NRC recently recommended raising the retrospective premium to \$20 million per reactor per year (still capped at \$83.9 million). NRC justified this increase that would “. . . substantially increase the amount of funds available shortly after a nuclear accident to pay public liability claims but should not jeopardize the financial viability of the participating utilities.”²² Provisions to increase this premium are also contained in several bills introduced by members of this committee. Strangely, the NRC has now reversed its earlier recommendation.²³

As part of a more equitable nuclear accident compensation package, Congress should consider mechanisms to fully compensate victims of a catastrophic accident. One way would be to lift the total liability cap and implement the original 1983 NRC concept of an annual retrospective premium for as many years as necessary to compensate all public damages. Since NRC has more recently stated that the industry could afford a \$20 million annual premium and that a higher premium would help victims get compensated faster, Congress should ensure that annual premiums be no lower than \$20 million per reactor per year.

THE INDUSTRY CAN AFFORD TO PAY THE FULL COSTS OF AN ACCIDENT

The nuclear industry opposes paying its own way. Yet this industry has benefited greatly from unjustified federal and state subsidies. With deregulation of many state’s electricity industry came billions in bailouts for the industry (and blackouts for hapless Californians!). These bailouts (also known as “stranded costs”) have increased the profitability of nuclear power plants according to Lehman Brothers Managing Director and former NRC Commissioner James Asseltstine.²⁴

According to a report released in 1998 with the Safe Energy Communication Council entitled “Ratepayer Robbery” we estimated these bailouts could total more than \$132 billion for just eleven states. Surely an industry that is receiving billions of dollars in public bailouts could afford \$20 million per year per reactor to compensate the public in case of an accident. Along with unjustified bailouts, state deregulation bills have left consumers at the mercy of large, unregulated power generators. Several large nuclear operators are enjoying the high prices for electricity generated.

For example, Southern Company, which operates six reactors reported net income for 2000 of \$1.313 billion—a record profit for that company. In case of an accident, the \$20 million retrospective premium represents less than 9% of their profits.

²⁰Holt, M. and Behrens, C., “Nuclear Energy Policy”, Congressional Research Service IB88090, 3/22/01.

²¹Testimony of James K. Asseltstine, before the House Committee on Energy and Commerce, 7/17/86.

²²NUREG/CR-6617 p. 131.

²³“NRC Drops Recommendation to Double Some Coverage in Price-Anderson,” Platt’s Inside NRC, Vol. 23, No. 11, 5/21/01.

²⁴Testimony of James K. Asseltstine, Managing Director, Lehmann Brother, Inc. Before the Senate Energy and Natural Resources Committee, 5/3/01.

Entergy, which touts itself as “the fastest growing nuclear operator in the nation.”²⁵ is proposing to build new reactors and currently operates eight reactors, reported \$160.9 million in net income for the first quarter of 2001, a nearly 50% increase from the same time last year. A \$20 million retrospective premium for all its reactors is less than the profits for one quarter. This is a company that should be embarrassed to ask for a penny of taxpayer assistance.

Exelon Corporation touts itself as the “largest nuclear generation operator in the country with approximately 20% of the nation’s nuclear generation capacity.”²⁶ which is proposing to build a risky new reactor that would cut costs by not including conventional containment, reported \$586 million in net income last year. This company has testified that the public should fund the work of the government agencies responsible for certifying the safety of these new designs.

Duke Energy reported \$1.776 billion in net income last year. Duke Power operates 7 reactors. A \$20 million retrospective premium represents less than 8% of their profits.

CONCLUSION

The Price-Anderson Act was supposed to be a temporary measure for a fledgling industry. Today that industry has grown enormously and has reaped substantial benefit from this and other taxpayer subsidies. Meanwhile, victims of a major nuclear accident would be left to plead their case before Congress. This is not good government. The Price-Anderson Act should not be renewed and should be either radically reformed or replaced by legislation that truly protects the public.

The CHAIRMAN. Thank you very much. Let me start with a question about just basic numbers here. There seems to be some disagreement in the testimony. Everyone seems to agree that the maximum amount of insurance is \$200 million. I think everyone has said that. But there seems to be a dispute over whether there are 103 or 106 licensed plants. As I understand it, the Nuclear Regulatory Commission, NEI cited 103. Mr. Quattrocchi, you said 106. Also, there seems to be disagreement on whether the maximum deferred premium is 83.9 million, which the Nuclear Regulatory Commission indicates, or 88 million, as you indicated, Mr. Quattrocchi. Do any of you have some insight as to why these figures are different?

Mr. QUATTROCCHI. Yes, Senator Bingaman. I’ll take a shot at that. The number 83.9, is it?

The CHAIRMAN. 83.9.

Mr. QUATTROCCHI. 83.9 does not include a factor of 5 percent which is included in the Price-Anderson Act. It was added at the last renewal in 1988 to essentially say that if the total amount of financial protection is insufficient, then an additional 5 percent would be levied on top of that, so if you take that number of 83.9 and multiply it by 1.05, the number is in fact 88.1. The concept or the idea back in the 1980’s or 1988 was to take into account defense costs. The cost of litigation. It was meant to compensate for those costs, so that is where the 88, the difference comes. It is simply a 5 percent surcharge on top of the 83.9.

The CHAIRMAN. What about this dispute over the number of plants that are licensed? Is there—you say 106, and NRC says 103.

Mr. GRAY. I think NRC would agree with 106 that are participating in the retrospective premium pool. There are 106 reactors licensed to operate. There are 103 that are currently operating.

²⁵ Testimony of C. Randy Hutchinson, Senior Vice President, Entergy, before the Energy and Air Quality Subcommittee of the House Energy and Commerce Committee, 3/27/01.

²⁶ Testimony of Edward F. Sproat III, Vice President, Exelon Generation Company, before the Energy and Air Quality Subcommittee of the House Energy and Commerce Committee, 3/27/01.

The CHAIRMAN. I see. Okay. Well that is good. That clears that up. Thank you very much.

One of the other issues that seems to be in dispute amongst some of the witnesses here is the question of whether we should do a reauthorization for 10 years or for a longer period, indefinitely I guess, Mr. Fertel, you recommended a permanent reauthorization. Does anybody have any other comments on which of those two courses of action is best? Mr. Gray, did you have a point of view that you wanted to express there?

Mr. GRAY. The NRC recommended a 10-year extension, taking into account the fact that the electric utility industry, including the nuclear electric utility industry, is in the process of substantial deregulation, reregulation, transfers of ownership, things of this nature, which may hold out the possibility that there will be a need for adjustments to the legislation over the next 10 years, and rather than recommending an indefinite extension, the NRC recommended a 10-year extension so that the matter could be revisited in 10 years.

The CHAIRMAN. Okay. Mr. Fertel, did you want to make another comment?

Mr. FERTEL. Just from our perspective, Mr. Chairman, we don't necessarily disagree with Joe that there may be reasons you would want to revisit Price-Anderson over the next 10 or 20 years. We just feel you can always revisit it, and what you might have in law is a report from the NRC every 5 years on the status of what's happening. We just didn't see, we have renewed it for 10 years, and we went to 15 years, and now we are going to go back to 10, and our feeling was Congress can always modify the law if it needs to be modified, and why not deal with reports to Congress and modification as required rather than sort of set up the sudden death play that we seem to come to every time it comes up for renewal.

The CHAIRMAN. Mr. Bradburne, did you have a point of view?

Mr. BRADBURNE. Mr. Chairman, we agree that a permanent extension would be appropriate for many of the same reasons that Mr. Fertel just articulated. It does take out that uncertainty. And one never knows when the bid cycles are going to occur in the Department of Energy's business area, and so having an uncertainty as to whether Price-Anderson coverage would be available or not has, could have a chilling effect if there was that uncertainty on the kind of competition that the Department could get.

The CHAIRMAN. Okay. Did you wish, Mr. Fygi?

Mr. FYGI. Yes. If I could add an overlay. The circumstances that bear upon the NRC's structure governing licensees are not the same as the circumstances that bear on the Department of Energy's operational relationships with its major nuclear contractors. And therefore, it is not necessarily the soundest approach to analyze the question of duration as though we were dealing with a monolithic circumstance.

So that from the Energy Department's perspective, we do not anticipate the sort of changed environment that was alluded to by the NRC a moment ago, and therefore for the Energy Department's side of the equation, we would recommend an indefinite extension.

The CHAIRMAN. Okay.

Mr. Quattrocchi.

Mr. QUATTROCCHI. Mr. Chairman, from the insurance industry's perspective, I would just say that we could support a 10-year extension, a 15-year extension, or an open-ended extension. The important thing from our standpoint is that Price-Anderson is such an important piece of legislation, has been so beneficial in terms of protecting the American public that it really needs to be extended. I guess at the end of the day, because of what I just said, I would opt for an open-ended extension, but we could certainly live with 10, 15.

The CHAIRMAN. Mr. Quattrocchi, let me ask you about the act currently requiring plants to maintain the maximum amount of insurance that is available on reasonable terms from private sources, and you folks have essentially set that at \$200 million, as I understand it, and are thinking about going to \$300 million. Is that right?

Mr. QUATTROCCHI. Yes. That's right, Mr. Chairman. We—although I would just say, we have not set the limit at \$200 million. The limit is determined by economic or market forces within the insurance industry. As capacity becomes available, we try to make it available, so it is not, it is not a question of setting a limit. It is a question of developing capacity that becomes available within the insurance market based on conditions in the market. As I mentioned in my testimony, the limit has not been increased since 1988. And that was coincident with the last renewal.

So obviously inflation has taken a toll. We think that for a number of reasons, it would be beneficial to increase the primary limit, and as I said, assuming the Act is extended essentially intact, we would seek to increase the primary limit to something in the range of \$300 million. We think that is a reasonable goal.

The CHAIRMAN. Do you see any reason Congress should be involved in that decision from \$200 to \$300 million, or is that something that should better be left to the insurance market, as it has been in the past?

Mr. QUATTROCCHI. I would say that is really, as I mentioned earlier, the limit issue is a function of economics and market realities within the, within the insurance market. So it really is something that should be left to the market. Now, the Congress has always expressed the view that we collectively should make as much insurance capacity as is available to protect the public, but I think it would be better left to market forces.

The CHAIRMAN. Finally, let me ask about these provisions that are in both Senator Murkowski and Senator Dominici's bills to provide financial incentives for increased production and increased efficiency. Mr. Gray, you testified on that. We had a hearing this last month that was referred to that, where Corbin McNeil, chairman of Exelon Corporation, testified "production costs for nuclear power are lower than that for coal."

And Mr. Asselstine, who is a Wall Street analyst, testified that a well-run nuclear plant can produce power as cheaply as coal and at half the cost of the gas-fired plant. It is hard, given that testimony, to, for me to understand how we could justify providing additional incentives for nuclear power production when the incentives, the economic incentives seem to be so obvious. Mr. Fertel, do you have a point of view on that?

Mr. FERTEL. Thank you, Mr. Chairman. Obviously, we are very proud of the performance of the nuclear plants, and I think what both Corbin McNeil and Jim Asselstine testified to, is certainly true, the plants are performing extremely well and extremely efficiently. And just as something that Joe Gray raised from an NRC perspective, the industry is never going to take any shortcuts to save a million dollars or make a million dollars that jeopardizes safe, reliable operation.

You have got a lot more at risk than making a million dollars, so I think that conservative decision making will continue to be the staple of the way we want to do things. Going to your specific question, we certainly appreciate the intent of both Senator Dominici and Senator Murkowski to provide incentives for us to maybe move faster on making up rates and getting more efficient, and any incentives always can provide some help.

I think that what you will see is the industry will move down that road on its own to produce as much safe, reliable electricity as we can in this country, so I think that while we appreciate the incentives, I think that they may expedite things, but they are probably not going to cause a radical change in behavior on what the industry will do to be as efficient as it can be for at least our existing plants right now.

The CHAIRMAN. Anybody else have a point of view on this question of incentives. Mr. Gray, you did testify as I understand it that you do not favor the incentives for increased production. But you have concerns about the incentives that would be directed toward increasing production. You didn't seem to say the same thing about incentives to improve efficiency.

Mr. GRAY. No. Actually, we have no real view on the incentives to undertake up rates. My only point was that to the extent that those sort of incentives accelerate the industry's efforts to ask for up rates, that will put, would impact—put a burden on NRC and we will have to look at the budget.

The CHAIRMAN. This is a little far afield from this, the subject of this hearing. But let me ask at any rate since you are here, Mr. Fertel. A good share of our national debate here on energy has involved this prediction about the extent of the demand we would have for increased powerplants, increased number of powerplants in the next 20 years.

My impression on that is the Energy Information Agency put out their report called Energy 2001. And indicated that they estimated that something like 1,300 new plants, 300 megawatt plants would be required over the next 20 years, and part of the reason for that increased number of plants was the fact that the 16 percent of current production that they attributed to nuclear plants, they saw going out of existence because they assumed that all the nuclear plants would not seek relicensing and will essentially shut down.

From what I have heard both in our previous hearing and today, there is no evidence that that is happening. In fact, the amount of production from nuclear plants is increasing, rather than decreasing, even if no new nuclear plants are built, so I am just wondering if you could clarify your understanding of that, and you know, what do you anticipate over the next several years as far as the amount of nuclear power generated for electricity in this country.

Mr. FERTEL. Certainly, Mr. Chairman. First of all, we have spoken with EIA on a number of occasions trying to help them understand what's happening in the real energy market and certainly the nuclear part of it. We disagree with their basic assumptions and actually a lot of their basic data that they use so we don't agree that you are going to lose the nuclear plants that they lose in the 2001 to 2020 period, so from that perspective, they are showing a need for greater capacity.

However, given what I would think are errors in their model in general, I am not sure what it tells you about what you may really need. You may need more, for all you know. When you look at the model, it is not a market-based model. What it does is it makes a quick comparison of what they think is the competitive price of say a nuclear plant to a new gas plant and instantaneously takes that nuclear plant out if it is over the price they think, and instantaneously puts the gas plant in. And as this committee is well aware when you look at what happens in the real world, when a plant even goes off line, prices go up. Let alone, I take it out of service completely.

So their model isn't particularly a very good model, and one thing the Energy Committee may look it, is I hate to say you want to give them more resources, but you may want to look at helping them figure out how to get better models so that they can actually give you good information. What we expect for nuclear, Mr. Chairman, as was mentioned by Senator Murkowski, before we have increased since 1990 energy output by about the equivalent of 22 or 23,000 megawatts of capacity. Our estimate now is we can get another 8 to 10,000 megawatts out of both the up rates that you are hearing about and efficiency improvements, and we think that will be over the next 5 years. Then you basically tap about all you can get from our existing plants and you have to look at new plants.

The CHAIRMAN. All right. Thank you all very much. Let me now defer to Senator Landrieu for her questions or opening statement or whatever she would like to do.

**STATEMENT OF HON. MARY L. LANDRIEU, U.S. SENATOR
FROM LOUISIANA**

Senator LANDRIEU. Thank you, Mr. Chairman. First of all, let me commend you for calling this hearing. I think it is very important as our committee pursues the issues regarding nuclear, and it is been really a bipartisan effort to try to reinvigorate and to move us forward, so I have just got a brief statement really for the record and just a question that hasn't come up, and I know it is not exactly the topic of our discussion, what we are talking about liability, and relicensing and insurance and incentives which the Chairman is rightly focusing on.

[The prepared statement of Senator Landrieu follows:]

PREPARED STATEMENT OF HON. MARY L. LANDRIEU, U.S. SENATOR
FROM LOUISIANA

I thank the Chairman for calling this hearing today to discuss the importance of the Price-Anderson Act to the nuclear power industry and to express my support for its re-authorization. Also, I look forward to hearing from our witnesses about some specific provisions pertaining to nuclear energy production and efficiency incentives that are included in Senator Murkowski's bill, the National Energy Secu-

rity Act of 2001 and Senator Domenici's bill, the Nuclear Energy Electricity Supply Assurance Act of 2001, of which I am an original co-sponsor.

As we continue to debate an energy policy for our country, it is important to point out that one of the great strengths of the electric supply system in this country is the contribution that comes from a variety of fuels. The diversity of fuels we have at our disposal should enable us to balance cost, availability and environmental impacts to the best advantage. One source of energy which I believe we must emphasize is nuclear power.

In order for nuclear power to play an appropriate role in the energy policy debate taking place in our country, the Price-Anderson Act must be re-authorized. Not only does the act ensure that adequate and timely funds will be available to compensate victims of a nuclear accident but it also removes the threat of unlimited liability which discourages private companies from engaging in nuclear activities. Finally, I am interested in learning more about how we can further increase the energy production and efficiency of an already highly competitive industry.

Senator LANDRIEU. But I wanted to get on the record maybe a brief comment from each of you about the waste issue. And what either you are hearing in your respective responsibilities about the resolution, and you don't have to go into any specifics about the specific site, but just any new technologies you are hearing. I know that these are generators and regulators, but the waste issue is something, Mr. Chairman, as you know, we are going to have to solve one way or the other eventually, I think, as a key component of what we want to do, and as a Senator who is a co-sponsor of Senator Domenici's bill, I am a strong advocate of nuclear, keeping it as a strong part of our fuel mix, thinking it is a very important component for our Nation and frankly, the world.

So maybe just briefly if each one of you that wanted to could make some sort of for the record statement about the progress being made in a variety of different areas on that issue.

Eric.

Mr. FYGI. Well, of course, I have the deficiency in answering or addressing your question from the perspective of being a lawyer, and the legal reality, however, is that Congress legislated a very, very intricate regime in 1982 that currently governs the Government's activities in this very realm. And as the courts have interpreted that regime, the Government has a contract obligation to the utility contract holders for waste disposal activities, even though that capability has not matured. Nonetheless, the scientific work necessary to determine whether to proceed to seek licensing of a repository at Yucca Mountain is still ongoing.

So it is not as though from that perspective that we approach this issue as though it were an entirely clean slate. There is an enormous amount of scientific evaluation that has occurred on the back end of the nuclear fuel cycle, both under the 1982 Act program and even in prior studies done through the National Academy of Sciences in the years before that legislative solution was adopted. So that is the best answer I can think of on the spur of the moment to your question.

Senator LANDRIEU. And I'd like you each to continue briefly. I appreciate that. I am going to ask a follow up to be thinking of what the current situation in your mind has a minimal or great effect on the financing capabilities of the market based on the fact that this issue isn't resolved, but you can think about that.

Joe.

Mr. GRAY. Senator, following on to Mr. Fygi, from the NRC standpoint, we would—we think that some progress is being made.

The Environmental Protection Agency issued its standard for Yucca Mountain. The Commission is proceeding to work on its rule-making to incorporate that standard and to prepare itself for a potential application from DOE. The Commission is focusing and concentrating its resources in that vein, and again, preparing for, to review the site recommendation that DOE may make within this year, and to proceed from there. We are——

Senator LANDRIEU. Working on it.

Mr. GRAY. Working on it, but getting ourselves in a position to be able to deal with any licensing application that may be made.

Senator LANDRIEU. John.

Mr. BRADBURNE. Senator, thank you. Of course, the two responses that you have just heard deal with high-level waste. And there is an additional general category that we have to work with, and that is low-level waste. The contractor group that I represent is involved in both areas of, of waste disposal and waste stabilization, waste management. I am personally more familiar over the last 6, 7 years with the low-level waste efforts that are going on, especially in the Department of Energy complex.

And I can tell you I have seen a dramatic positive change in how these waste streams are characterized, managed, stabilized, and then disposed of. It is a very positive story. We have gotten safer and we have gotten far more efficient in this process. We are encouraged to do this. It is the right thing to do. And I think it is only going to continue to improve.

And some of the high-level waste left over from reprocessing during the Cold War era, I have seen similar developments in those areas also, so I have a very positive feeling about it. I have personal experience on the low-level waste side, and what I have seen as an advisor or a member of a board of directors of a company involved in high-level waste, I have a good feel about that, too.

Senator LANDRIEU. Excellent.

Marvin.

Mr. FERTEL. Thank you for the question, Senator. Let me just touch on low-level waste for a second from the commercial powerplant standpoint. When the Low-Level Waste Policy Act was passed in 1980, since then, which is 20 years, we have doubled the number of nuclear powerplants that operate in our country, and we have cut the amount of low-level waste to a third of what it was in 1980, so you have doubled the number of units, and you have actually cut waste to a third of what existed. That is nice on our side because of waste minimization.

What it is done is it is made the Low-Level Waste Policy Act almost impossible to implement from an economic standpoint, because you are not generating enough waste to make it economical for some of the compact sites to go forward, let alone the political resistance to it, so while that is probably something that is almost untouchable to go back and revisit, it is probably a law that is almost impossible to implement economically these days and what the powerplants are doing is waste minimization, onsite storage, and then sending most of it to either Barnwell or Envirocare.

On high-level waste, I think the first thing I would say is that one of our problems on a commercial side is we manage the waste so well. If it was truly a threat at any of the sites, Congress would

have acted a long time ago to make sure it wasn't at the sites, but since the waste is managed very safely at the sites, the threat and the impetus for the Department to move faster hasn't really been there so it is sort of a mixed blessing. We'll never do anything to handle the waste in an unsafe way, but the safer we handle, it the less there is an impetus to do something.

On the other hand, all the science that is come out from the Department of Energy on Yucca Mountain over the last 3 years seems to indicate that the site looks like it ought to be suitable and everything that we are hearing from the administration is that they are planning on moving ahead to try and make a decision. If their decision is it is not suitable, then it can come back to Congress and you all can decide what to do, but we need a decision.

No decision just as unfortunate delay and the liability to the Government will continue to escalate as people sue, so our hope right now is that we will get a Presidential decision one way or the other, and we think it ought to be that the site is suitable, which would then allow you to move into licensing. It doesn't move any waste, it just allows you to move into the licensing process, and I think that would all be positive.

And going to your second question on the financial community perspective and one of the responsibilities I have at NEI is to interface with the financial community and I make frequent trips up to meet with rating agencies and analysts, and I would say over the last couple, 3 years, their impression on the waste issue has modified a bit to it's an unsolvable problem to know there really is progress being made even though it is much slower than we think, and I think from their perspective, continued responsible progress is required.

They have no illusions that waste will move next year or 2 years, and I am not even sure they believe 2010, but as long as they see continued responsible progress, I think that they are willing to support not only the current plants but new plants in our country.

Senator LANDRIEU. Thank you.

John.

Mr. QUATTROCCHI. Well, thank you, Senator, for the question. I will preface my remarks by saying that the views that I would offer are my personal views and not necessarily those of ANI. The issue of waste breaks down into two areas, obviously low-level and high-level. We at ANI have been insuring the low level waste sites for decades, the two operating sites now are Barnwell and Richland and I guess Envirocare.

We have insured these low-level waste sites without any real issue, without any real problem. That is not to say that there may not have been claims from time to time, but there have certainly been know incidents emanating from these sites, so we have a great deal of experience insuring them and we know that they have been safely operated.

With regard to high-level, Mr. Fertel has pointed out that spent fuel has been stored at reactor sites now for years without any issue, without any safety problem. We insure every operating power reactor in the United States, and therefore we do insure spent fuel in storage at these reactor sites, again with no problem.

With regard to Yucca Mountain, all of the scientific information that I have seen indicates that this is an area that is been geologically stable for a million years, and will likely remain geologically stable for another million years or so, so I think from a technical standpoint, again, based on the information that I have seen, spent fuel can be safely stored in this case at Yucca Mountain. I don't believe we are dealing with a scientific or a technical problem. I think those issues have really been resolved. What we are dealing with, I think, is a political issue. The not in my backyard syndrome, I think exists here, so I think at some point if we can manage to get beyond that, I think we have a way to address the waste issue in this country.

Senator LANDRIEU. Erich.

Mr. PICA. Thank you, Senator. Friends of the Earth remains concerned about high-level nuclear waste repository at Yucca Mountain. We fear that the science isn't quite there yet. We are talking about probably the most lethal waste man has ever created. We are talking a quarter of a million years worth of deterioration that needs to be stored somewhere safely. Given the confidence that Marvin and John both stated with the current onsite storage capacity, I think it is right for Congress to be concerned and take their time in evaluating the various, the various sites that are currently being considered.

Senator LANDRIEU. Thank you. And this is just my last, just a follow up. I didn't get to read your statement ahead of time, I am sorry, but are you all supportive of nuclear generally or against it completely?

Mr. PICA. Friends of the Earth and U.S. PIRG, who I both gave testimony for it, we're opposed to nuclear—

Senator LANDRIEU. For it?

Mr. PICA. Opposed.

Senator LANDRIEU. Oh, you are opposed.

Mr. PICA. Opposed to nuclear power generators.

Senator LANDRIEU. Thank you, Mr. Chairman. I have just got a brief statement for the record, and unfortunately, I have got another hearing so I am going to just stay for a minute.

The CHAIRMAN. Well, thank you for coming, and I appreciate your statement and your questions.

Let me ask one final question here. I guess this would be directed to you, Mr. Gray. Price-Anderson Act ties a requirement to maintain financial protection not to each nuclear reactor, but to each license.

How does the Commission intend to license modular reactors? Will each module be licensed separately, in which case each module would be subjected to a separate \$83.9 million or \$88.1 million deferred premium, or will the entire multimodule system be licensed under one license, in which case the entire system would only be subject to a single \$83.9 or \$88.1 million deferred premium?

Mr. GRAY. That is a question that the Commission is struggling with as we speak. It is Senator Murkowski's question that was submitted to the NRC earlier this month, and the Commission is in fact examining that at this time, and I don't have an answer for you, but we will provide an answer as the Commission works through this very question, and it is an important question.

The CHAIRMAN. I think we would appreciate that. Obviously, if we need to clarify the statute to make it clearer what Congress thinks makes sense here, we would be glad to try to do that if we are able to go ahead with this reauthorization. All right. Well thank you all very much. I think it is been a useful hearing. I appreciate the testimony. That concludes the hearing.

[Whereupon, at 10:46 a.m., the hearing was recessed, to be reconvened on July 12, 2001.]

NATIONAL ENERGY ISSUES

THURSDAY, JULY 12, 2001

U.S. SENATE,
COMMITTEE ON ENERGY AND NATURAL RESOURCES,
Washington, DC.

The committee met at 9:40 a.m., in room SD-366, Dirksen Senate Office Building, Hon. Jeff Bingaman, chairman, presiding.

OPENING STATEMENT OF HON. JEFF BINGAMAN, U.S. SENATOR FROM NEW MEXICO

The CHAIRMAN. Let me ask Secretary Norton if she could come forward, please, and also the Deputy Secretary of the Department of Energy, Francis Blake.

The purpose of this legislative hearing is to complete our record prior to starting a markup of a comprehensive energy bill later this month, in a couple of weeks. I know the committee has already held hearings on many of the components of the bills that are pending in the committee, particularly Senator Murkowski's bill. It is my intention to try to fill in some of the niches that were not covered. I know that all members are anxious to move ahead with a comprehensive energy bill, and I think this hearing will help us to do that.

We start this morning with conventional fuels. We will look at various oil and gas provisions, both from Senator Murkowski's bill, S. 388, and from the bill that I introduced, S. 597. We will also look at bills by Senators Graham and Boxer and Corzine, dealing with leasing moratoria on the Outer Continental Shelf; and Senator Durbin's bill to set up a consumer energy commission. We will turn to a number of nuclear energy initiatives that Senator Domenici has in a bill he has introduced; and two separate nuclear energy bills introduced by Senators Thurmond and Nickles.

Senator Murkowski, did you have an opening statement before we call on the witnesses?

[A prepared statement from Senator Campbell and Johnson follow:]

PREPARED STATEMENT OF HON. BEN NIGHTHORSE CAMPBELL, U.S. SENATOR
FROM COLORADO

Thank you, Mr. Chairman. I would like to thank all of the witnesses for appearing before the committee today, especially my friend and fellow Coloradan, Secretary Gale Norton, and Teamster's President James Hoffa. I am looking forward to the testimony that you will be providing us shortly.

I would like to first make a few comments on the nominees that were just voted out of this committee. I believe that Bennett Raley's experience will help accelerate and improve work at the Department of Interior. In my home state of Colorado,

where water literally equates with life, Bennett already has worked for many years in the water field and has an extensive knowledge of these issues.

Also, Ms. Mainella's background and experience in parks and recreation will be invaluable in helping to restore our national parks and alleviate the backlog of maintenance in our parks which has loomed for some time now. And, Mr. Key's experience will help enhance the work by the Bureau of Reclamation and across the nation as well. These three individuals are important to my home state of Colorado.

I have discussed many issues important to me and all Coloradans with all three of these nominees, and I look forward to working with them in the future to implement our proposals like boundary expansion for the Little Bighorn Battlefield, Old Spanish Trail legislation and addressing the Black Canyon of the Gunnison water rights dispute so that the state of Colorado has a greater role and the affected parties' voices can be heard.

In the past, public lands were locked up often without legislative oversight, and oil and gas exploration and extraction were prohibited. Known resources in our nation are sifting idly by. We need to be able to do studies to see what is out there and we need to know what infrastructure needs we require so that we can help our consumers.

Granted, some of the lands which are protected are worthy of the protection, but others were locked up for the sole purpose of prohibiting exploration and extraction of oil and gas. These are the lands and regulations that need to be revisited. Since 1992, U.S. crude oil production is down while our consumption has substantially climbed. We can help ourselves get out of this mess, but we have to be allowed to do so, even if that means opening up more lands.

Don't get me wrong, we must have environmental safeguards so that we do not do more harm than good. The technology is there to accomplish this goal. We must be able to use these new technologies, not ignore them.

Some are going to say that any development of our natural resources is unacceptable. But, we have to be realistic. Many want the cheapest and cleanest form of energy, but they do not have any "real" solutions to replace our traditional types of power. Sure they claim that renewables are up-and-coming, but they are not in full swing yet. Trucks do not run on solar or wind power. We have to deal with the situation facing us, while working to develop new, alternative energy forms.

We are a nation that could use our resources to supply a majority of our power needs, which would also help us decrease our dependence on foreign oil. Our locked public lands have discouraged many from trying to do what is right and now our nation is reaping the bitter fruits of this practice.

We simply cannot let this nation and our economy grind to a halt while we have accessible energy resources at our disposal. I am confident these nominees are all qualified to help implement the development of our domestic energy sources in a responsible manner which recognizes that our public lands deserve the appropriate development and protections that will preserve them for generations of future Americans to come.

Thank you Mr. Chairman.

PREPARED STATEMENT OF HON. TIM JOHNSON, U.S. SENATOR FROM SOUTH DAKOTA

Mr. Chairman, I am please that we are holding the first in a series of several hearings on long-term energy needs. We have a unique opportunity in this committee to consider and hopefully enact legislation that will address the problems in the nation's energy system and infrastructure. The American is more focused and more concerned about the problems we are facing than ever before. Rising gas and heating prices, rolling blackouts and strain on the electricity system have demonstrated the need for a strategy that will address our rising energy demand. Enacting a balanced package that addresses all parts of the energy equation is the best way to bring greater energy security to our nation.

It is clear that we need to find ways to increase our energy supply. Oil and gas production is and will continue to be the largest source of energy for the near future for this nation. Changing technologies and long-term supply and demand issues indicate that we need to find more diverse sources of supply. But fossil fuels will still be the biggest source of supply in the years to come.

Given this reality, it is important that we explore ways to maintain and increase our oil and gas supply. Our dependence on foreign oil has grown significantly over the last several years to over 50%. The goal of many is to bring this down to at least 50%. While I don't think there is magic number that will eliminate our energy security issues, it is certainly should be a goal of this committee and Congress to reduce foreign dependency.

This is clearly not an easy goal to reach. Disputes have arisen over which lands and whether certain offshore areas should be open to drilling and how such activities should be administered. While there are differing opinions on these matters, the purpose of this committee is to work through these disputes to find where we have common ground, rather than begin finger pointing. Solutions have been found on the past on these matters and it is imperative that we find them now. The nation is looking to us for answers and we must set an example to address the nation's needs.

In my view, any fossil fuels strategy must be supplemented with other proposals to increase our energy security. As many of you know, Sen. Hagel and I have introduced legislation that would require that a percentage of all transportation fuels would be comprised of renewable fuels. This would go a long way toward reducing our dependency on foreign oil. But the goal of my legislation is that it would be enacted in concert with a larger energy strategy that would increase overall production while promoting conservation. Only with this sort of balanced strategy will our energy situation improve.

Thank you, Mr. Chairman, and I look forward to the testimony.

**STATEMENT OF HON. FRANK H. MURKOWSKI, U.S. SENATOR
FROM ALASKA**

Senator MURKOWSKI. Well, Senator Bingaman, we certainly look forward to working with you to move a comprehensive bill, and we would hope that we could perhaps be well on our way prior to the August recess, with the recognition that in both the bills that are before the committee and the amendments and the administration's recommendations and the number of hearings that we have had in the last year, I think we are pretty well on our way towards proceeding with a markup, as you have indicated.

I think it is fair to say that some people are of the opinion that the energy issue is kind of off the table, and I think that is contrary to the administration. I understand the Vice President is going to be out in Pennsylvania on Monday. A number of Cabinet members are going to be at various places around the country—talking about the reality that we do have a crisis in this country—that America has become dependent on an affordable, uninterrupted supply of energy for the prosperity that we all somewhat take for granted. Clearly that is in jeopardy.

I think the point that needs to be communicated a little bit more is why things are different this time, and if one can reflect on the reality that we have had an increasing demand over the last decade and we have not kept up with that demand, either by providing an alternative, renewable or increased supply of energy, and as a consequence, we've found ourselves in a situation where we haven't built a new nuclear plant in this country in 25 years and haven't had a new coal-fired plant come on line since 1995.

We have seen our increased dependence on imported oil go from 37 percent to 56, 57 percent, and now forecasts from the Department of Energy suggest we will be in the low 60s in a few years. What does that do to the national security of this country? We have seen natural gas prices go up as high as \$10 per mcf. They have relaxed somewhat now, but the reality is we are using our natural gas reserves faster than we are finding new ones. We have not built a new refinery in this country in almost 20 years.

The recognition that the last administration's experiment in pulling crude oil reserves out of SPR are quickly forgotten by some, but the reality is that the Secretary of Energy proposed to take out 30 million barrels to relieve the heating oil crisis on the Northeast cor-

ridor. We found that when we took that oil out of the Strategic Petroleum Reserve, we didn't have the refining capacity, and as a consequence, all we did was replace imported oil, and I think out of that 30 million barrels, we got about a one-day supply of heating oil.

Compounded with the reality of those facts, we find ourselves in a position where we don't have the transmission capability for our natural gas, for our electric power transmission, so things are different now. There is a crisis, and it is up to the Congress and, I think, particularly this committee to address it along with the administration in a manner that uses new technology, that has a real sensitivity on the environment and the ecology, recognizes that new technology is available, but faces the harsh recognition that we have to separate energy into two areas: one, clearly the electric energy and the sources of power, whether it be hydro or nuclear or coal or natural gas, and we have alternatives there. And, two: we don't move America on any other source of energy other than oil, move the world for that matter, and the foreseeable future indicates that we are going to be continually dependent on oil for the foreseeable future.

So the question is: To what extent do we want to become more dependent on imported oil? I think one of the realizations that I had a short time ago was associated with the action by Iraq when they pulled 2½ million barrels a day of production off the world market. They did that, objecting to the policies within the United Nations.

Now, many people expected OPEC to simply increase its output by 2½ million barrels. OPEC decided not to do that. Now, I am not going to debate the merits of why they made that decision, but I think one can see that they recognized the effectiveness of the cartel and the realization that by holding tough, why, they could, in effect, hold the United States hostage to some extent, to a price scale that we have seen pretty well established by the discipline of OPEC, \$22 floor, \$28 ceiling. It has gone beyond that.

And the question I think we have to pose before the American people and responsibly to ourselves is: To what extent do we want to extend that dependence on imported oil, or do we want to try and relieve it by developing more resources here at home? And I think the Department of the Interior and the Secretary, who I am pleased is here before us today, can address the realities of whether or not we can do this safely, whether we have the technology.

What is the impact on the environment and the ecology? I think these are the things that we have to recognize, and also recognize the influence of America's extreme radical environmental community that in many cases is opposed to any new development and does not recognize the technology, the advancement, the lowering of the footprint, and so forth, and I think we have to weigh these things. Now, these are powerful lobbies, and they have an objective. Their objective obviously is their cause.

If one has an occasion—I think every member of this committee should read the series that was run recently in the Sacramento Bee about the power and the influence of America's environmental lobby and how they work and what their objectives are, to a large degree. The fear tactics associated with the process would curl your

hair. I don't have that much left, but in any event, it makes some very interesting and rewarding reading, and it puts another sidelight on the issue of how and when and if America is going to responsibly use its technology to develop its resources.

So there's no question in my mind that we have an energy crisis in this country. The question is: What is this committee going to do about working with the administration to ask whether we're going to seek relief on our own public lands in this country, and ask can we do it safely, recognizing that in many cases, the environmental community is looking for a cause, a cause far away, looking for membership, looking for dollars, and the harsh reality of sound science associated with the development hardly enters into the picture.

I can't help but comment—and anybody that would like to review it—a letter put out by Robert Redford relative to the issue of ANWR, and it is totally full of falsehoods, and I am not going to take the time now, Senator Bingaman, to go into that, but I would be happy to spend the time if anybody would care to want to spend that kind of time, to go over the inaccuracies and the blatant lies that are put forth on the issue to appeal to the American public. And I would hope that people would recognize reality and the motivation behind some of these efforts.

So I look forward to working with you to get on with the responsibility at hand. Thank you, Mr. Chairman.

The CHAIRMAN. Thank you. In the interest of going ahead and getting our hearing completed, let me just start with the witnesses. Secretary Norton, why don't you begin. Thank you for coming.

**STATEMENT OF HON. GALE NORTON, SECRETARY,
DEPARTMENT OF THE INTERIOR**

Secretary NORTON. Thank you very much. I would like to thank you, Mr. Chairman, and the committee today, not just for the opportunity to discuss with you the President's energy proposals, but for the fact that you have moved forward the nominees for my Department. I greatly appreciate that, and I am sure that you found they are a good bunch of people, and I am anxious to have them get started and get to work.

I have submitted written remarks, and so I will take my oral time today to discuss with you a few things. We are working through a process with the staffs on the various pieces of legislation to provide to you detailed comments on the particular legislative language.

Of the 105 recommendations in the President's plan, over half will modernize and increase conservation, protect the environment, and help diversify our supply of clean, affordable energy. Our comprehensive plan expands conservation by increasing funding for energy efficiency programs, encouraging development of fuel-efficient vehicles, creating tax credits to encourage conservation, and increasing the use of renewable energy, such as wind, solar, biomass, and geothermal.

The plan provides stability to what might otherwise be an uncertain energy future. It diversifies our energy supplies in the long run. In the nearer term, it provides assurance that domestic traditional energy sources will be available.

I would like to do a little show-and-tell here with a few charts. Let's start with the other one. Our concern is one that, I think, you all have seen in the past, that our production is declining for the simple fact that as you draw the oil from a reservoir, that reservoir eventually runs out of oil, and it is something that has to be replenished by having new places to look for supply. This is a projection on what we would see in the future if we just go forward with everything that is currently on the table, compared to the consumption of oil that we see for the long-term future.

The figures for natural gas are even more dramatic, because we have put ourselves on a path of wanting to use natural gas for the air quality benefits. There are some very good reasons for wanting to do that, so our projected need for natural gas is going to be increasing while our projected supply does not come anywhere close to meeting that demand.

The next chart shows something that really affects the work of this committee, and that is the increasing reliance on Federal and Indian lands for energy supply. This chart goes back from beginning in 1970 to the year 2000. The chart shows the percentage of our domestic sources of various types of energy that come from Federal lands. The lower level is oil; the mid-level is gas; the coal is the dark brown area; and then hydro-electric has stayed fairly constant over time.

We have seen a movement toward our public lands as the places where we rely for energy sources, and this is a trend that has been going on in the past. Today we find that approximately a third of our coal, oil, and natural gas that are domestically produced come from Federal lands and Federal resources. The Federal areas are projected to contain 68 percent of undiscovered U.S. oil resources and 74 percent of undiscovered natural gas resources.

We appreciate the opportunity to move forward with the legislative aspects of the President's energy plan and the attempts to address energy concerns in this country. There are other aspects of the plan that do not require legislative action, and we are moving forward with those.

As one example, the Department of the Interior will be bringing together State and local officials with industry leaders and other citizens for a renewable energy summit this fall. The summit will focus on ways to maximize wind, solar, and geothermal energy production on public lands to help stabilize our Nation's energy needs.

Currently, 48 percent of geothermal energy production is from Federal lands, and it produces enough to provide the energy for 570,000 homes. Wind energy from public lands is sufficient for 87,000 homes. And while we don't see this taking the place anywhere in the near term of coal and oil and natural gas, we think that we can do more in these areas, and we are moving ahead with the process to do that.

Americans have a core belief in American ingenuity. American ingenuity is a major factor in everything from our military victories and status as the only remaining super power to our development of cures for once deadly diseases, and our ability to vastly improve our air and water quality. American ingenuity is directly tied to our technological advancements. Nothing puts our Nation's skills to

the test like a challenge, a challenge like the one we face today to ensure a comprehensive energy strategy.

The President has also directed Interior to work with Congress in developing legislation to authorize environmentally safe leasing of oil and gas in the Arctic National Wildlife Refuge. Our plan emphasizes that Congress should require the use of best-available technology and ensure that energy-production activities protect the ANWR environment.

We live in the 21st century. Our technology has advanced since Prudhoe Bay was opened. Ice roads, 3-D seismic to target exploration activities, horizontal drilling that allows a surface pad to reach for miles underground to find oil deposits allow us to proceed in an environmentally safe way. Any legislation to open ANWR must contain stringent environmental standards.

Our country faces a national energy problem, but I believe it can and will be managed. Working with Congress, the Bush administration is committed to finding workable solutions that improve our national energy problem. American ingenuity has never let us down in the past, and by acting wisely today, it will help us provide for future generations.

Thank you.

[The prepared statement of Secretary Norton follows:]

PREPARED STATEMENT OF HON. GALE NORTON, SECRETARY,
DEPARTMENT OF THE INTERIOR

Mr. Chairman, members of the Committee, it is a pleasure to be here to testify on the energy issues before this Committee that would affect the Department of the Interior.

The need for a national energy policy becomes clear when you look at the numbers. Take clean-burning natural gas, for example. Over the next 20 years, U.S. natural gas consumption has been projected to grow by more than 50 percent while production will grow by only 14 percent if it grows at the rate of the last 10 years. U.S. energy production is not keeping up with our growing consumption, creating a rapidly increasing gap between domestic supply and demand.

Energy reserves contained in the lands and offshore areas managed by the Department of the Interior are an important source of potential energy production. The Department of the Interior manages energy production on all Federal lands, both onshore and the Outer Continental Shelf (OCS). These Federal lands provide nearly 30 percent of annual national energy production. In the year 2000, 32 percent of oil and 35 percent of natural gas were produced from Federal lands. In addition, Federal lands produced 37 percent of domestic coal production and 48 percent of geothermal energy production in 2000. Federal lands are also estimated to contain significant undiscovered domestic energy resources. Estimates suggest that these lands contain approximately 68 percent of all undiscovered U.S. oil resources and 74 percent of undiscovered natural gas resources.

The Department also owns and operates hydro power facilities in the 17 western states. These facilities produce about 16 percent of all the hydro power in the United States.

President Bush has developed a balanced plan to produce more reliable, affordable and environmentally clean energy that is built on three principles:

It is comprehensive and forward-looking.

It utilizes 21st Century technology to promote conservation and diversify supply.

And the plan will increase the quality of life for Americans by providing reliable energy and protecting our environment.

The President's policy calls for increasing domestic energy production, seeks to improve the aging energy infrastructure network by creating a new high tech energy delivery network and promotes energy conservation. It is important to point out that more than 50 percent of the President's plan focuses on energy efficiency, encouraging the development of fuel efficient vehicles and encouraging consumer conservation. The President's policy proposes new tax incentives to help increase the contribution that alternative and renewable energy can make to our nation's energy supply. The President's policy includes recommendations to invest \$2 billion over 10

years to fund more clean coal technology research and development and to support a permanent extension of the existing research and development tax credit.

President Bush has directed his Administration to work with the Congress to develop comprehensive legislation that would help those with low-incomes pay their energy bills, stabilize our current situation, while seeking those new resources and technologies to support our energy needs for the future.

The President directed The Department of the Interior to seek authority to redirect a portion of oil and gas royalties to the Low Income Home Energy Assistance Program whenever oil and natural gas prices exceed pre-set trigger prices.

The President also directed us to work with Congress on legislation authorizing the leasing of oil and gas in that portion of the Arctic National Wildlife Refuge (ANWR) defined as the Coastal Plain in section 1002 of the Alaska National Interests Lands Conservation Act. The President's Policy emphasizes that Congress should require the use of the best available technology and require that energy production activities have no significant adverse impact to the environment in the ANWR 1002 area.

There are a number of elements in the National Energy Policy that do not require legislation. Yesterday I announced that the Department of the Interior will host a summit aimed at expanding renewable energy production on public lands. To further the priorities of Congress and the President, we will bring state and local officials together with industry leaders and other citizens for a renewable energy summit this fall. The summit will focus on maximizing wind, solar and geothermal energy production on public lands. Enhancing production of renewable energy is important for energy stability and a healthy environment. For example, with low emission levels and availability in public lands in the West, geothermal energy provides an excellent opportunity to reduce our dependency on foreign oil. Thanks to American ingenuity and cutting-edge technology, 47 percent of geothermal energy is produced on public lands. With cooperation and partnerships, our geothermal production can increase.

All of these steps are needed to solve the energy problems facing our country, and to secure our energy supply while protecting the environment.

If U.S. oil production follows the same historical pattern of the last 10 years, it will decline by 1.5 million barrels per day. Since a vital portion of our energy development occurs on Federal lands, I am going to tailor my remarks today to Interior's energy policy implementation plans on Federal lands.

IMPROVING AND ACCELERATING ENVIRONMENTAL PROTECTION

More than half of the domestic recommendations in the National Energy Policy report are targeted to conservation, environmental protection, renewable and alternative energy, and measures aimed at helping consumers deal with rising energy costs. The National Energy Policy promotes the use of new, 21st century technologies to increase energy efficiency and conservation.

In the implementation of this energy policy, our Department will strive to focus efforts among the Interior agencies on priority setting, resource allocation, and jointly focusing on the recovery and restoration of particular species or habitat types to improve the environmental baseline.

There are also a number of existing federal programs that can assist in restoring habitat on private lands, such as the Fish and Wildlife Service Partners for Fish and Wildlife and Coastal Programs and various Department of Agriculture programs. These and other private landowner incentive programs could be used to contribute to the conservation of important environmental resource values. Actions on Federal lands could also be coordinated with activities undertaken on non-federal lands to increase their effectiveness. Another possibility is a federal/state coordinated effort using grants to stabilize the status of a listed species through the conservation of important habitat by acquisition or regulatory control.

Our Department has worked to develop new and innovative ways to manage our national treasures in our parks and on other Federal lands. To bolster funding for land conservation efforts, the National Energy Policy Development Group has recommended that the President direct Interior to work with Congress to create a "Royalties Conservation Fund." This fund would earmark potentially billions of dollars in royalties from new oil and gas production in ANWR to fund land conservation efforts. This fund would also be used to help eliminate the maintenance and improvements backlog on federal lands.

The Department of the Interior has reduced its energy consumption in buildings and facilities by about 10% since 1985. However, we need to do better. I am going to continue to push the Department to strive to become a more efficient energy consumer. The commitment extends to all of our facilities. For example, the Green En-

ergy Parks Program, a successful partnership between the National Park Service and the Department of Energy, has fostered over 200 energy and water conservation projects saving the American taxpayers millions of dollars. We hope to use this effort as a model for establishing additional partnership efforts within Interior.

Regulatory and Legislative Tools

Improving the Implementation of the National Environmental Policy Act

The NEPA process is often perceived as lengthy and arduous. The fundamental premise of ensuring that public decision makers have good information that is scrutinized by the public before decisions are made must always be maintained. However, we can seek to improve the process in a variety of ways. For example, the process could be streamlined through better use of joint agency documents for environmental reviews for proposed energy developments. This may be especially applicable when projects, such as transmission lines and pipelines, cross jurisdictional boundaries and require approvals from more than one Federal agency, State, or Tribe.

Expedited Permitting

Permitting for energy-related projects is often a lengthy multi-agency process. The President has issued an Executive Order directing Federal agencies to expedite the review of permits and other federal actions necessary to accelerate the completion of energy-related project approvals on a national basis. The Administration will work to establish a task force to ensure that Federal agencies set up appropriate mechanisms to coordinate Federal, State, tribal, and local permitting activity in particular regions where increased activity is expected.

Improving the Endangered Species Act Consultation Process

The Endangered Species Act (ESA) Section 7 consultation process is an important component of reviewing projects for their potential adverse effects on threatened and endangered species and their habitat. The FWS has recently implemented several initiatives to increase the efficiency and effectiveness of the Section 7 consultation process. Interior is also considering a number of other actions to improve the Section 7 consultation process.

ENSURING DIVERSE DOMESTIC ENERGY SUPPLIES

At the core of any long-term national energy policy are strategies to increase the Nation's energy supplies. The President's plan lays out a roadmap for meeting our future energy demands from diverse fuel sources through the use of 21st century technologies. The United States has significant domestic energy resources, and remains a major energy producer. Between 1986 and 2000, production of coal, natural gas, nuclear energy, and renewable energy increased. However, these increases have been largely offset by declines in oil production. If we wish to maintain a large measure of energy independence, our Nation must rise to meet this challenge.

Federal Onshore Lands

The Congress, in the Energy Policy and Conservation Act, directed the Department to study the impediments to Federal onshore oil and gas exploration and development and then review the results with full public consultation. The Department will expedite completion of this study. As appropriate, Interior will consider making changes to land use plans based on the findings of the study.

The Outer Continental Shelf

The Outer Continental Shelf (OCS) encompasses 1.76 billion acres. As you know, Congress has designated about 610 million acres off-limits to leasing on the OCS, which has been extended by Presidential action through 2012. For available OCS areas, it is imperative that the variety of Federal and State statutes, regulations, and executive orders are clear to ensure effective and efficient environmentally sound development. For this reason, the President has directed the Departments of the Interior and Commerce to re-examine the current federal, legal and policy regime surrounding energy-related activities in the coastal zone and on the OCS to determine if any changes are needed.

Although significant technological breakthroughs have allowed for more deep-water production, substantial economic risks remain. The Deep Water Royalty Relief Act of 1995, which granted variable royalty reductions for new leases in deep water, contributed to much of the increase in deepwater leasing in the central and western Gulf of Mexico over the last five years. Similar incentives could help spur development in other technological frontiers, such as deep natural gas, or make possible continued production from both offshore and onshore fields near the end of their eco-

conomic life. The President has directed us to continue to explore opportunities for royalty reductions, consistent with a fair return to the public, in areas where production might not otherwise occur.

I know that the Committee has before it a number of bills related to limiting the development of our offshore resources. The President supports the existing Congressional moratoria and the 1998 Presidential directive that withdrew until 2012 many areas of the OCS from future leasing consideration. Therefore I do not believe legislation limiting OCS development is necessary.

During your consideration of these measures, it is important to keep in mind that the OCS provides more than 26 percent of the natural gas and 25 percent of the oil produced in the United States. The MMS administers about 7,500 active leases on 40 million acres of the OCS. In addition, the OCS contains about 19 percent of the Nation's proven natural gas reserves, 18 percent of its proven oil reserves, and is estimated to contain more than 50 percent of the Nation's remaining undiscovered oil and natural gas resources.

This Administration has made it clear that we want to work closely with affected States when it comes to developing these resources. A good example of this commitment is evidenced with respect to Sale 181. Mr. Chairman, I understand that Title X of S. 597, your comprehensive energy bill, addresses Sale 181 (Eastern Gulf of Mexico) by requiring that 120 blocks in a narrow strip beginning 15 miles from the coast of Alabama be excluded from the sale. On July 2, 2001, I announced that I was excluding those 120 blocks and more from the offering. The sale area was first proposed by Interior Secretary Babbitt and President Clinton after negotiations with Florida Governor Lawton Chiles and other coastal Governors in 1997.

As part of determining the area to be offered in Sale 181, we listened and worked carefully with officials and affected citizens around the 181 lease area. I believe the outcome is a balanced and common sense proposal consistent with the President's National Energy Policy. Our modified Sale 181 area has been adjusted from 5.9 million acres to 1.4 million. The adjusted area is at least 100 miles from any portion of the Florida coast. For example, its northern border is more than 100 miles from Pensacola, Florida and the eastern edge is 285 miles from the shores of Tampa Bay.

The modified 181 Area will help expand our domestic sources of oil, and reduce our dependence on foreign oil. The proposal also works to meet the President's commitment to develop our nation's energy needs in an environmentally safe way. The Department projects the adjusted area contains 1.25 trillion cubic feet of natural gas—enough to serve one million U.S. families for 15 years. The area also contains 185 million barrels of oil—enough to fuel the automobiles of a million families for nearly six years.

The Alaskan North Slope

I had the opportunity to go to Alaska in March and again in June to visit the North Slope, talk to the local citizens and learn about current and potential future energy and environmental issues in the region. I would like to take a few minutes to discuss four Department of the Interior initiatives specific to the Alaskan North Slope.

NPR-A

Let me turn first to the National Petroleum Reserve-Alaska, or NPR-A. Leasing was reinitiated in NPR-A a few years ago. The President's National Energy Policy calls for the Department of the Interior to consider additional oil and gas development, based on the best available environmentally protective technology, through further lease sales in the NPR-A, including areas not currently leased in the Northeast sector of the Reserve. In support of the President's policy, Interior will take a number of steps, including: conducting additional leasing in the northeast sector of NPR-A on a biennial basis; preparing to hold lease sales in other NPR-A sectors; initiating environmental analysis for a full field development; completing and publishing updated estimates of the undiscovered oil and gas resources of the NPR-A; completing unitization, suspension, and extension regulations for NPR-A; and, if necessary, promulgating regulations to issue rights-of-way in NPR-A to cover potential NPR-A and OCS oil and gas development.

ANWR

Next, let me discuss the Administration's position on energy activities in the Arctic National Wildlife Refuge (ANWR). The President is proposing to open a small fraction of the 19 million acres in ANWR for oil exploration using the most high-tech, environmentally responsible methods. The President and I both believe that oil and gas development can successfully coexist with wildlife in Alaska's arctic region.

ANWR is located in the northeast corner of Alaska. The Refuge is about the size of South Carolina; however, the portion of the Refuge known as the 1002 Area is only about 6 percent of the total Refuge. We expect that no more than 2000 acres will be disturbed if the 1002 Area is developed. The 1002 Area was excluded from wilderness designation and Congress specified that it be studied further through a comprehensive inventory of its fish and wildlife resources, and the potential for oil and gas production. Estimates of substantial resources in the 1002 Area based on nearby drilling results and seismic data have made it one of the most promising prospects for oil and natural gas in the United States.

In 1998, a USGS assessment of petroleum resources of the entire 1002 Area estimated the expected volume of technically recoverable oil beneath the 1002 area to be 10.4 billion barrels, with a 95 percent chance of 5.7 billion barrels and a 5 percent chance of 16.0 billion barrels. For comparison, the U.S. currently consumes about 7 billion barrels per year. Of this, the U.S. imports about 4 billion barrels and produces about 3 billion barrels. Congressional action would also open up Native-owned lands.

The Refuge provides a variety of arctic habitats supporting fish and wildlife species. The wildlife most associated with the 1002 Area is the Porcupine caribou herd, named after its wintering grounds along the Porcupine River of northwest Canada. Currently numbering nearly 130,000 caribou, the herd migrates each year across the Brooks Range to arrive in early summer on the North Slope's coastal plain in the 1002 Area and eastward into Canada.

Contrasting with the migratory nature of the Porcupine caribou herd, muskoxen are year-round residents on the 1002 Area. According to the Fish and Wildlife Service, to survive the long winter, approximately 250 animals in scattered groups carefully conserve their energy reserves by minimizing their activities until summer.

In the fall, polar bears from the Beaufort Sea region visit the area along the coast and barrier islands to forage, rest, and wait for the sea ice to form. Later toward winter, pregnant females enter dens either on the sea ice or on land and give birth to their young.

One hundred forty-six bird species are known to visit the 1002 Area. Approximately one-third of these nest and raise broods during the brief summer while the remainder use the refuge as a resting stopover during spring and fall migrations. The 1002 Area, including its lagoons, support 8 species of marine mammals, 62 species of coastal fish, and 7 species of freshwater fish of which the Arctic grayling and Arctic char are common. Several of these species are important as subsistence food resources.

The Inupiat Eskimo Village of Kaktovik is located on the northern border of the Arctic Refuge coastal plain. Their subsistence resources include marine mammals, fish, caribou and muskoxen. The Kaktovik Inupiat Corporation (KIC) owns 92,000 acres of private land within the Refuge boundary. This land cannot be developed for oil and gas unless Congress authorizes leasing of the 1002 Area. On the whole, Kaktovik residents support oil and gas development in the 1002 Area.

South of the 1002 Area and on the other side of the Brooks Range, the Gwich'in Athabascan people live in villages in Alaska and Canada. Gwich'in rely heavily on the Porcupine caribou herd for subsistence, and caribou figure prominently in their cultural heritage. Because of their concern over the potential impacts to the herd, the Gwich'in villages of this region oppose oil development in the 1002 Area.

Our support for enactment of authority to lease oil and gas resources in ANWR is a prime example of the Department's dual commitment to energy development and environmental conservation. We recognize that the ecological resources of the Refuge are unique and precious. We must respect and conserve this wealth for future generations of Americans. However, because of advances in technology and in our enhanced understanding of the ecology, we are now able to proceed with exploratory work with very little long-term effect.

If this exploration discovers as much oil and gas as we hope, we will proceed cautiously with development and production. To achieve this goal under our proposal, lessees will be required to use directional drilling and ice road technologies to reduce the extent of surface alteration. We will require lessees to operate in a no discharge, no litter mode. All materials and fluids brought into the Refuge will be taken out or injected into deep wells. We will require monitoring of wildlife populations and habitat conditions so that unexpected degradation is identified early and actions are taken to prevent and restore. We will require restoration, both as activities proceed and when production is shut down at the end. Our goal must be to have no significant alterations in wildlife populations or the environment after oil and gas production are finished.

The President and I know that there is a long history of debate surrounding opening ANWR to energy development. However, we believe that new technologies en-

able us to conduct environmentally safe oil and gas exploration and production. Any legislation must contain adequate safeguards to protect wildlife and other environmental values.

Arctic Outer Continental Shelf

The third part of a comprehensive North Slope package involves the Arctic Outer Continental Shelf. The Beaufort Sea Planning Area encompasses approximately 65 million acres. Active leases in this area represent only 0.4 percent of the total acreage, and only 5 percent of the leased acreage is being actively pursued for development and production. The Northstar project, scheduled to come on-line later this year, will yield the first federal OCS production from offshore Alaska. The Chukchi Sea Planning Area encompasses approximately 63.7 million acres, none of which is currently leased. Both of these areas are under active consideration for the next 5-Year Plan for 2002-2007.

Infrastructure

The fourth component of the North Slope strategy concerns infrastructure. The right-of-way permit for the Trans-Alaska Pipeline System (TAPS) must be renewed by January of 2004. The President has directed our Department to work with Alaska to ensure an expeditious process for the renewal of the lease and right-of-way for TAPS.

One of the largest known reserves of natural gas in the United States has been found in the Arctic. The existing production areas of the North Slope contain large amounts of gas that have been reinjected rather than marketed. The President has asked Departments of Energy and State, along with the Department of the Interior, to work with Canada, the State of Alaska, and other interested parties to expedite the permitting process for construction of a pipeline to deliver natural gas to the lower 48 states once an application is filed. In addition, the Department will continue participating in interagency efforts to improve pipeline safety and expedite permitting in an environmentally sound manner.

Enhanced Oil and Gas Recovery from Existing Wells

From 30 to 70 percent of oil and 10 to 20 percent of natural gas, is not recovered in normal field development. It is estimated that enhanced oil recovery techniques, through new technologies, could add about 60 billion barrels of oil nationwide through increased use of existing, not new, oil fields. This translates into more energy supply with fewer environmental effects because enhanced recovery does not require drilling in new areas. For this reason, the President has directed both the Departments of Energy and the Interior to promote enhanced oil and gas recovery from existing wells through new technology.

Coal

Coal is one of our country's most abundant resources. The United States possesses one-fourth of the world's coal resources. Part of the National Energy Policy is to maintain and improve the Department's coal leasing activities to assure that coal supplies are adequate for electricity generation.

Renewable and Alternative Energy Supply

At the heart of any national energy policy are strategies to augment the Nation's energy supplies. Renewable and alternative energy sources such as wind, hydropower, biomass, solar, and geothermal are critical components of this plan. Renewable and alternative energy supplies not only help diversify our energy portfolio, but they are sources of clean energy for current and future generations. While the current contribution of renewable and alternative energy resources to America's total electricity supply is small, the renewables and alternative energy sectors are integral to U.S. energy security.

The President has directed the Departments of the Interior and Energy to re-evaluate access limitations to Federal lands in order to increase renewable energy production, such as biomass, wind, geothermal, and solar. The identification of potential locations for renewable energy production on Federal lands will assist in the planning and development of alternative energy resources. A review of administrative impediments and access limitations will aid in the development of these resources.

The Department will look for ways to reduce delays in geothermal lease processing to encourage more geothermal energy production. Most geothermal plants are located in the West, in California, Nevada, Utah, and Oregon. An expeditious leasing process could be an important source to help meet the energy needs of California and the West.

Finally, per the President's request, Interior will seek to work with Congress on legislation to use an estimated \$1.2 billion of ANWR bonuses for funding research into alternative and renewable energy resources, including wind, solar, geothermal, and biomass.

Hydropower

Although the majority of the Nation's electricity is generated using fossil fuels, hydropower also plays an important role. Western states, such as Idaho, Washington, Oregon, Montana and California, rely on hydropower for a significant portion of their electricity supply. Other states, such as South Dakota and New York, also depend to some substantial extent on hydropower for their electricity. Hydropower is a clean, domestic, and renewable source of electricity. The Administration seeks to increase electricity generation from hydropower plants. The Department is committed to accomplishing these gains in an environmentally sound manner.

Bureau of Reclamation Efficiency Improvements

The Bureau of Reclamation has undertaken an aggressive uprating and efficiency improvement program, which has significantly expanded the capacity of our hydropower system. For example, Bureau of Reclamation has ongoing turbine runner work at Grand Coulee Dam in eastern Washington, which is ultimately expected to result in 45-50 MW of additional capacity. Replacements are also underway at Yellowtail Dam in Montana, and turbine runner replacements at the Shasta Powerplant in California are planned. These three programs will result in an equivalent of 250 new megawatts of capacity over the next nine years.

With an average age of 43 years, Interior's generation capacity is old. While two-thirds of the facilities have been uprated and/or rewound, one-third have not been modified. The efficiency of the existing generators could be increased by replacing aging windings inside the generator. In fact, there often can be substantial increases in capacity by installing windings using modern insulation technology. Reclamation presently has rewinding projects ongoing on units at Alcova and Davis Powerplants which could result in the equivalent of an additional 10 megawatts.

Using Market-Oriented Incentives

Another potential source of additional power is leasing water that could then be used to generate power. Such leasing arrangements would be between willing non-federal buyers and sellers. Reclamation will work to facilitate such arrangements and will shortly initiate an internal effort to identify potential opportunities in this area.

Reclamation continues to work on flexible power generation schedules to support the needs of the western power grid. In many cases, Reclamation has asked its project pumping customers to shift the timing of their deliveries to off-peak times to make more peaking power available to the market. At Grand Coulee Dam in eastern Washington, we have been able to shift more than 300 megawatts of pumping load to off-peak times making it available to the Bonneville Power Administration for peaking purposes. There are likely to be additional opportunities in this area, especially if power marketers are willing to provide financial incentives to project water users to shift the timing of their use.

Infrastructure

Our energy infrastructure includes many components, such as the physical network of pipelines for oil and natural gas, electricity transmission lines and other means for transporting energy to consumers. Unfortunately, the Nation's energy infrastructure has not kept up with the changing requirements of our energy system. The demand for additional energy and electricity is expected to increase the need for rights-of-way across federal lands. To help with this process, we have identified a number of opportunities to expedite the processing of energy rights-of-way applications by streamlining the application process.

CONCLUSION

Mr. Chairman, while the challenge facing us is significant, it is not insurmountable. By building on new 21st century technologies, this country can produce ample domestic resources while enhancing and protecting the environment. I look forward to working with this Committee and others in Congress to implement Interior's pieces of the President's National Energy Policy.

Mr. Chairman, this concludes my statement. I would be pleased to answer any questions that you or members of your Committee might have.

The CHAIRMAN. Thank you very much. Our next witness is the Deputy Secretary of Energy, Francis Blake. Why don't you go right ahead.

**STATEMENT OF FRANCIS BLAKE, DEPUTY SECRETARY,
DEPARTMENT OF ENERGY**

Secretary BLAKE. Mr. Chairman, members of the committee, thank you very much for the invitation to appear before you today. I would like to echo Secretary Norton's thanks for moving on the nominees for the Department of Energy.

I would also like to thank you for the leadership you have shown in taking action on our Nation's energy issues. The comprehensive, long-term energy legislation that you are now considering is an important step forward, and I think that as we go through this, we will find a great deal of common ground and a basis for moving forward.

The basic facts are fairly straightforward. As a nation, we consume about 99 quadrillion Btu's of energy; that is 99 quads. We produce about 72 quads. If the energy intensity of the United States remained flat through the year 2020, that number would increase to 175 quads. We anticipate that through conservation efforts and the changing nature of our economy, that that number will go down to about 127, but there is still an enormous gap to make up.

As Secretary Norton stated, 50 percent of the President's energy policy addresses conservation and the role technology can play in improving the conservation efforts of our country, but even as you do that and even with best efforts, I think we still have to be candid in acknowledging that there will remain a gap, and the policy attempts to put programs in place that address that gap:

First, on conservation, by looking at new technologies and the role new technologies can play in improving our conservation efforts. Second, in balancing our power generation; over 90 percent of new power generation now is natural gas for some of the environmental reasons and economic reasons that Secretary Norton mentioned. We have an installed base of nearly 800 gigawatts of capacity that runs at about 33 percent efficiency, and we need to improve that.

On renewables, I think there is a great deal of common ground on the need for additional research. There are interesting new technologies in addition to wind and solar. Hydrogen is going to be an interesting area for future research and development, and I think there are additional areas as well.

On exploration and production, we are opening up an effort to identify new technologies that will improve our drilling in an environmentally sound way, and I think throughout the energy policy that the President has put forward, environmental stewardship is one of the hallmarks of the policy.

As I said, I think we have a great deal of agreement. We look—we see over 30 items in your legislation that you're considering that are consistent with the policy. We aren't going to find unanimity on all points, but we believe that this is a very good basis for going forward.

Thank you very much for the opportunity to appear before you, and I would submit my full statement for the record. Thank you. [The prepared statement of Secretary Blake follows:]

PREPARED STATEMENT OF FRANCIS S. BLAKE, DEPUTY SECRETARY,
DEPARTMENT OF ENERGY

Mr. Chairman and Members of the Committee, I welcome the opportunity to testify before you today on various legislative proposals currently pending before the Committee: S. 388, S. 597, S. 472, S. 771, S. 900, S. 901, S. 919, S. 1086 and S. 1147.

First, I would like to thank the Chairman and Members of the Committee for your leadership and commitment in addressing the nation's energy issues. I applaud the Committee's efforts in moving ahead to shape comprehensive long-term energy legislation and look forward to working with you to find areas of common ground between the Congress and President Bush's policy proposals outlined in the National Energy Policy. Mr. Chairman, I am confident that our best efforts will move us toward a consensus and commitment to action.

Today, America consumes 99 quadrillion British thermal units (or quads) a year in all forms of energy. Our domestic energy production is 72 quads. The imbalance between energy demand and domestic energy production is made up with imports. Our nation's demand for energy is estimated to increase 33 percent by the year 2020. If energy efficiency continues to improve, projected energy demand in 2020 can be lowered from 175 quads to 127 quads. We recognize that we need to do more. People who say that the President's Energy Policy does not focus sufficient attention on conservation simply haven't reviewed the basics of the Policy. It is important to note that more than 50 percent of the National Energy Policy focuses on energy efficiency, encouraging the development of fuel efficient vehicles and encouraging consumer conservation. However, conservation alone will not be sufficient. You either have to accept an ever-widening gap between demand and domestic supply, with all the negative consequences that entails, or you have to begin thinking about how we increase our own energy supply. The question is: where do we get that increased supply when, over the past decade, domestic supply production has remained relatively flat?

To address these challenges, The President's National Energy Policy has adopted an approach that is balanced and comprehensive. As the President has stated, we are looking for a new harmony among our priorities.

First, our policy balances the need for increased supplies of energy with the need to modernize our conservation efforts by utilizing cutting edge technology. For example, increased utilization of net metering, time-of-day rates, and other techniques can give individuals greater control over their own conservation efforts.

Second, we believe energy security dictates a more balanced approach to new power generation. In addition to natural gas, the National Energy Policy looks to clean coal generation and nuclear power to give us the broad mix of energy needed to meet growing demand and support energy security. We have an installed generating capacity of nearly 800 GWs, with an overall efficiency of about 33 percent. We need to spend more attention to improving and increasing that installed capacity, and we need to redress the governmental policies that inhibit that.

Third, our policy balances our essential requirements for traditional sources of energy with the need for renewable and alternative energy sources such as hydro-power, biomass, solar, wind and geothermal. It also recommends tax incentives for the use of certain renewables and more focused research on next-generation sources like hydrogen.

The policy seeks to increase exploration and production of domestic sources of oil and natural gas. Through improved access to resources, reduced regulatory burdens, and the use of advanced technologies that allow us to produce oil and natural gas deeper, faster, cheaper and cleaner, we will be able to succeed in an environmentally responsible fashion.

The President's energy policy also harmonizes growth in domestic energy production with environmental protection. This commitment to conservation and environmental protection is not an afterthought; it is a commitment woven throughout. Energy production without regard to the environment is simply not an option.

We support this balanced approach with over 100 recommended actions. These cover the full range of energy challenges confronting this nation—from how best to enhance renewable sources, to oil and natural gas development in the Caspian Sea. The Administration can carry out many of these recommendations on its own, either through executive orders or agency-directed actions. We are moving ahead to imple-

ment proposals as quickly as possible. One day after the release of our National Energy Policy, the President issued two executive orders directing Federal agencies to accelerate approval of energy-related projects and directing Federal agencies to consider the effects of proposed regulations on energy supply, distribution or use.

Moreover, where appropriate, the President is directing Federal agencies, including the Department of Energy, to take a variety of actions to improve energy use and to carry forward critical aspects of his policy.

Twenty of the recommendations contained in the National Energy Report require legislative action and we can find more areas for concurrence than disagreement. We all recognize energy as a critical challenge. We all recognize that parts of our energy supply and delivery system need enhancement or modernization. And we all recognize that conservation and stewardship must go hand in hand with increasing domestic supply.

Recently, staff at the Department of Energy initiated a comparison of comprehensive energy bills S. 597 by Chairman Bingaman and S. 388 and S. 389 by Senator Murkowski with the National Energy Policy. We were pleased to find considerable agreement with several of the measures. Over 30 of the recommendations included in the National Energy Policy are also included in the comprehensive bills you are discussing today. A few examples include: increasing funding for the Weatherization Assistance Program and LIHEAP program; advancing effective energy efficiency programs; conserving energy at federal facilities; promoting the use of technological advances to further protect our environment; reforming the Public Utility Regulatory Policies Act; extending the Price-Anderson Act; increasing funding for advanced nuclear energy systems; improving the hydropower licensing process; increasing support for research and development of renewable energy resources; enhancing the reliability of the interstate transmission system and exploring opportunities for royalty reductions as an economic incentive for environmentally sound offshore oil and gas development.

It is encouraging that there are so many areas of agreement. This Committee has a long and proud tradition of developing bipartisan energy legislation. The Administration recognizes that all major energy bills have been bipartisan in nature and looks forward to working closely together with you to develop bipartisan energy legislation.

The legislation introduced and discussed today also represents the first major nuclear energy legislation since enactment of the Energy Policy Act of 1992. Principally, S. 388, S. 597, S. 472, and S. 919 all promote the expanded use of nuclear energy systems through increased research, improved regulation, increased output of the nation's existing nuclear power plants and through the development of advanced nuclear energy systems. In general, there is good agreement among these bills on the legislative actions required and with the President's National Energy Policy. For example, the National Energy Policy specifically recommends legislation for renewal of the Price Anderson Act. Finally I would like to express our general support for legislation such as S. 919 that seeks to evaluate the feasibility of developing commercial nuclear energy systems at our sites.

We believe that the objectives of this bill are consistent with the President's comprehensive energy policy and that this is an issue that requires further consideration.

Naturally, there will not be complete unanimity and the President is strongly committed to the adoption of his recommendations. But I truly believe we have the basis for working together to enhance America's energy security.

In closing, let me say, Mr. Chairman, that I believe the Department of Energy is particularly well suited to make a serious contribution to finding solutions to the energy supply challenges we will face over the next twenty years. The Department is the single largest funder of basic research in the physical sciences and manages major programs in basic energy science, high energy and nuclear physics, fusion energy sciences, environmental research, and advanced scientific computing research. In different ways, each of these areas will play a role in providing greater energy security for the American people. As our report notes, "The President's goal of reliable, affordable and environmentally sound energy supplies will not be reached overnight. It will call forth innovations in science, research and engineering. It will require time and the best efforts of leaders in both political parties."

Mr. Chairman, that ends my testimony and I would be happy to answer any questions the Committee may have at this time.

Thank you.

The CHAIRMAN. Thank you very much.

Let me start with questions. Secretary Norton, you made a decision this last week to substantially scale back the size of the sale

of 181 from 5.9 million acres to 1.5 million acres. Can you explain what changed in your thinking or in the Department's thinking from the time that that decision—as I understand it, the initial proposal for the sale of 181 was one that had been developed or agreed to when former Governor Chiles, former Senator Chiles, and the Clinton administration talked about this issue. And obviously factors have intervened that's caused you to reverse course. What's your thinking on that?

Secretary NORTON. Mr. Chairman, you are correct that the original approximately 6 million acre lease sale 181 was proposed and was adopted, including an action by Congress to release the area from moratoria in the late 1990's, and that was done with the boundaries drawn to address some requests from former Governor Chiles.

The current round that we went through in terms of the process for considering an actual sale in the area involved obtaining comment from the Governors of the four affected States, which are Florida, Alabama, Mississippi, and Louisiana. And we obtained their comments. We also had the process going on of hearing the House consideration of it, the Senate discussions of it. We heard feedback from members of Congress about it.

After discussing with my staff various options that might have tried to balance the concerns and after working with those in the administration and throughout my Department, we came to the conclusion that reducing it so that every area is at least 100 miles off of the coast and everything is on the Alabama side of the Florida-Alabama border would best reconcile that. It still allows us to obtain access to about 44 percent of the resources from the entire sale area as we estimated it, and that would provide enough oil to heat or to power a million families' cars for 6 years and to provide enough natural gas to power a million homes for 15 years.

The CHAIRMAN. Let me ask you also about the emphasis that the administration is putting on the opening of ANWR for exploration and drilling. When you and Senator Murkowski and I visited the North Slope, I got the distinct impression that there was substantial enthusiasm by people in the oil industry there for increasing development in the National Petroleum Reserve Alaska on the North Slope, that there were very promising prospects there, that they had brought in some wells that they felt were very large, and that they looked forward to doing more there.

Why is that not given emphasis in what the President's energy plan is or in any of your statements? It always seems to be, when you talk about North Slope oil and gas production, it's always ANWR and not NPRA, which NPRA strikes me as something which holds great promise.

Secretary NORTON. The NPRA process is already in the works. Leasing up there took place in the prior administration. We are continuing with future lease sales in that area and are moving forward. We have some additional environmental planning there that's underway. The simple fact is that that does not require congressional action. The rest of it, working on ANWR, does require that. ANWR is predicted to have large amounts of potential supply, and so as we go about discussion of our comprehensive approach

to energy, that has seemed to be one of the areas that we certainly need to look to.

The CHAIRMAN. On Monday, the *Wall Street Journal* had a report of a 10,000-gallon spill of crude oil and salt water from operations on the North Slope. Can you give us any information about that? Have you looked into that?

Secretary NORTON. I do not have details on that. I have seen some press reports on it. We are concerned about that kind of thing when it does happen, and we will be trying to learn what we can about that. We want to ensure that when Federal production goes forward, that Federal regulators will have very high standards for enforcement. These are currently State-operated areas that are currently under production.

The CHAIRMAN. Let me ask Secretary Blake just a minute about—in early June, the ExxonMobil announced that Saudi Arabia had selected it as a project leader for two Saudi natural gas ventures. This will involve an investment of about \$20 billion, as I understand the news reports. Royal Dutch Shell was chosen to lead a Saudi project with a value of \$7 to \$10 billion. There are other examples we could cite. BP announced a \$1.3 billion gas project offshore from Vietnam. Chevron is participating in a \$1.6 billion investment in Western Australia.

What are the most important things that we can do to attract and keep some energy investment here in this country as you see it? Are there some actions we ought to be taking? It seems as though all of our—all of the major players are investing enormous amounts in these foreign activities which may inure to our benefit, but clearly having some domestic investment would also benefit us. What are your thoughts on that?

Secretary BLAKE. Senator, the President's energy policy outlines a number of potential steps that would encourage additional development in the United States. I think first a regulatory structure that is reasonable, protective of the environment, but also enabling responsible development. We are looking at technologies where you can get additional recovery from wells in an environmentally sound way. I think there are polices as well as technologies where we can help in improving domestic oil production.

The CHAIRMAN. Senator Murkowski.

Senator MURKOWSKI. Thank you very much, Senator Bingaman.

I wonder if we should clarify the spill that Senator Bingaman referred to. I believe that was a spill that occurred sometime in April on State land. The temperature, I think, was around zero, and it was cleaned up. And obviously I am not making any excuse for a spill. Spills shouldn't occur. But I think the record should indicate that as the circumstance surrounding that particular incident.

Can you tell me what the State and Federal regulations are with regard to reporting spills of any kind?

Secretary NORTON. I know it is a very small threshold and that any spill that is over that threshold needs to be reported. I think it depends on the substance, but I have been told it is as small as a coffee cup. I think that is an exaggeration, but it is a small amount that triggers that reporting.

Senator MURKOWSKI. It is my understanding the terminology is notice of quantity, which in effect means a teaspoon, and it is not

just of oil; it is of any substance. And as you and I recall, I think it is noteworthy to recognize that the vehicles that are up there carry a diaper under the oil pan. I don't know of anyplace else that I have ever been where that kind of environmental oversight was carried to that degree. And I am, again, commending them for the manner in which—if you look in garage, your car leaks a little oil. Up there, you have got a diaper under your car. Anyway, for whatever that is worth.

Let me identify a little bit more of the circumstances surrounding the ANWR issue. ANWR is a refuge. It is my understanding that we currently have oil and gas activities in about 30 refuges in this country, and about 118 refuges have some kind of activity in it. Yet we seem to have an assumption that refuges are kind of like wildernesses or national parks, where no exploration, drilling production is allowed. Then we have the issue of national monuments, which are kind of nebulous. We addressed those on the floor yesterday.

Why is—what is the presumption on refuges, and why is ANWR any different than any other refuge?

Secretary NORTON. On refuges overall where we do have substantial amounts of economic activity taking place. The question is whether that activity is compatible with the purposes of the refuge. That is what is usually applied. ANWR is somewhat unique, because the 1002 area has, since the creation of the area, has been designated as something that might become an oil and gas production area. And so it has a somewhat different legal status than other refuges.

Senator MURKOWSKI. It is basically made up of three classifications. Out of the 19 million acres, 8½ million acres are in a wilderness in perpetuity; another 9 million are in a refuge in general; and then the 1002 area was distinguished by Congress to be somewhat separate in any attention given for oil and gas leasing. Is that correct?

Secretary NORTON. Yes.

Senator MURKOWSKI. Let me ask you again relative to the issue of the Porcupine Caribou Herd and the historic range. It is my understanding that this year, the Porcupine Caribou did not calve in the 1002 area.

Secretary NORTON. I was there slightly after the calving season, and they had not yet arrived at ANWR. They calved in Canada, and that has occurred several years in the past.

Senator MURKOWSKI. But there is no fence. They are free to come and go as they wish.

Secretary NORTON. No passport problems.

Senator MURKOWSKI. And I gather that in 11 of the last 18 years, there was little, if any, concentrated calving. Is that what your chart shows over there?

Secretary NORTON. Actually this chart is one that shows the concentrated calving area of the herds. This is on our Department web sites at doi.gov, and basically this is an historical, year-by-year tracking of where the caribou calved and where the most concentrated areas were.

Senator MURKOWSKI. There is some comparison in caribou observation in Alaska in the sense of Prudhoe Bay which carries the

Western Arctic herd, I gather, and the significant amount of activity occurred in the last 27 years in Prudhoe Bay. Can you give us a comment relative to what happened to the caribou there and the size of the herd.

Secretary NORTON. The Central Arctic caribou herd has increased in size since the production began at Prudhoe Bay. The figures that I have heard is that it went from about 3,000 animals to about 27,000 now.

Senator MURKOWSKI. We are going to give you a picture and identify it as soon as we get it, but in any event, let me move on here very briefly.

Secretary NORTON. The one thing that you may, on the concentrated calving areas—

Senator MURKOWSKI. That happens to be Prudhoe Bay, and those are not stuffed caribou there. It is my understanding that herd had about 3-4,000 animals in 1976 or 1977. It is about 24-25,000 animals now. You can't take a gun in there; you can't shut them. You can't run them down in a snow machine. They seem to be—they made the transition quite well.

Let me ask you a little bit about the time element associated with a lease sale. When would you anticipate, if Congress authorized the opening of ANWR, that you could get a lease sale?

Secretary NORTON. We would be trying to move very quickly. Approximately 2004.

Senator MURKOWSKI. So in about 3 years.

Secretary NORTON. Yes.

Senator MURKOWSKI. And you would have to go through the process of advertising and environmental impact statements, various other details of—

Secretary NORTON. Right.

Senator MURKOWSKI. Let me ask you the last question, because my time is up. We are continually asked, What is there in terms of resources? And it is very difficult to give a reasonable explanation when most people assume you just go in, send your geologists and make a determination of what your best guess is. Why is this different historically? Why are we—why do we have so many estimates that vary so significantly?

Secretary NORTON. There has not been seismic work done there recently, and—

Senator MURKOWSKI. Why?

Secretary NORTON. Because the area has been closed to that. There was seismic work done in the mid-1980's, and what has taken place since then is reanalysis of that seismic work. This reflects the current thinking in terms of what the resources are and what the structures are. This is based on a better ability now to analyze the data that came from earlier. These are figures that were done within the last 2 years by my Department.

Senator MURKOWSKI. Well, would you conclude by giving us your best estimate of the range of what might be there and how significant is it, because some people say it is a 60-day supply or something.

Secretary NORTON. Well, as you can see here, it depends on which area we are looking at. The oil tends to be on the western

edge of the 1002 area. The area on the eastern side is more the gas area. But putting those together—

Senator MURKOWSKI. That is the area where the caribou traditionally don't go, where the oil—

Secretary NORTON. The western area is not generally within the core calving area. The estimate currently is about 7.7 billion barrels of oil for the 1002 area overall, and that is our average estimate, and that is based just on the Federal lands areas. You sometimes hear a 10-billion-barrel estimate, and that includes the native lands that cannot be accessed without congressional action, as well as some State lands.

Senator MURKOWSKI. Is that significant?

Secretary NORTON. That is definitely one of our largest areas potentially in the entire United States. I don't know exactly what the equivalent is in terms of how many vehicles that powers for how long, but it is about the equivalent of what we are getting today from Saddam Hussein, and the projection is that it would be enough to have that kind of an impact on our imports.

The CHAIRMAN. Senator Dorgan.

Senator DORGAN. Mr. Chairman, thank you very much.

First, thank you for your testimony. I wanted to just comment at the opening of the hearing, and we didn't have an opening comments. I wanted to make the point that I think if we spend so much time on the issue of ANWR, we are going to spend too little time on the broader questions of energy policy.

I have mentioned to my colleagues before that my first car was a 1924 Model T Ford that I restored, and when I restored it and began to drive it in a parade or two when I was young boy, you put gas in that car exactly the same way you put gas in a 2001 car. You stick a hose in the pump and pump gas. I mean, nothing has changed. Things have changed in virtually area of our lives except that, and it seems to me that the question of independence is an important one. We should aspire to not just be independent of the OPEC countries but also of the oil industry, if we can.

Now, I happen to think we should produce more oil, use more oil and natural gas, produce more. We are going to need to use more coal. I understand all that. But a good energy policy is not just dig and drill, which I think predominantly the President's policy is. A good energy policy is not just yesterday forever. A good energy policy is to look out 50 years and to try to think: how can we have a different mix of energy use?

And so what I would like to ask—and we talk about energy with respect to, quote, the future, unquote. We never talk about what kind of a future, how long. When we talk about Social Security, we talk about 30 or 50 years. Let me ask you. Fifty years from now, if we were to embrace the major components of the energy policy proposed by the administration or the components of what we have discussed, what kind of energy picture will we have 50 years from now? What will be our major uses of energy? Will we have made significant progress in renewables or limitless energy sources, or will we, when someone 50 years from now buys an antique car from the year 2001 and restores it, will we still be sticking a hose in that tank and pumping gasoline?

Secretary NORTON. I will probably defer to the Department of Energy on some aspects of that, but it is very clear that we are trying to move in both the short term and long term to have a good mix of different approaches and to use high tech to move us beyond where we are today.

Senator DORGAN. Yes. But I am really asking: Where do you want us to be 50 years from now with respect to energy use? What kind of energy?

Secretary BLAKE. Senator, just a couple of comments on that. First, on your Model T Ford, in our time frame, certainly the planning horizon of the policy, you can anticipate—well, you already have—hybrid vehicles and potentially fuel cell vehicles that run on hydrogen. I think if you take two steps back, which is—or many steps back, which is what your question was asking, and you think about the basic process of converting thermal to power, it is all a conversion process.

You can think about thermal to motive, which is automobile; that is your hybrid vehicle. Fuel cell vehicles tremendously change the landscape over the next 20 years. You can think about thermal to power, which is your power generation. Distributed generation, I think, could dramatically change the landscape.

Open up new technologies, again fuel cell technologies, micro-turbines, a lot of other things that will allow more individual energy independence, and finally just the electric to electric conversion process, we are seeing phenomenal gains in efficiency, clean-burning power as you replace valves, actuators, gears with silicon chips. I mean, that is what is happening now in our economy, and I think with the kinds of R&D efforts that the Department and elsewhere that we are doing, we will see that accelerate.

Senator DORGAN. But I am asking the question: What goals do we have with respect to that? Do we aspire to certain goals 50 years out, and if so, what are they?

Secretary BLAKE. To exactly that question, there is one of the recommendations in the policy is for us to set what our energy intensity goals should be. We don't have an answer to that yet, but I think that is exactly the right way to look at it.

Senator DORGAN. When will that goal-setting be complete?

Secretary BLAKE. We are looking at that as a study process, and in the fall, I hope we will be able to come back and say, here is where we are now; here is a reasonable goal for the country.

Senator DORGAN. Secretary Norton, let me ask about refining. I just toured a refinery some days ago, and you indicated there have essentially been no new refineries built. Has refinery capacity increased in this country, and if so, by how much in recent years?

Secretary NORTON. I think perhaps again I need to defer to the Energy Department on that.

Secretary BLAKE. What we have seen is, as you know, a lot of refining capacity that has been lost over the last several years. Where—

Senator DORGAN. That is not my question. My question is: Has refinery capacity increased, because Secretary Norton made a comment that most people make. They say, there have been no new refineries built. Well, I understand that. The question is: Have we increased refinery capacity in this country?

Secretary BLAKE. And I think the answer is, yes, we have, but what the percentage increase is, I need to get that for you for the record.

Senator DORGAN. Would you do that and submit it.

Secretary BLAKE. Yes.

Senator DORGAN. The chief economist for British Petroleum was here and gave a briefing, I believe it was, this week and said the reason we haven't built a refinery is because we didn't need to. And I use that quote only to say that every time we have someone testify, they say, as the Secretary did, no new refineries have been built. And as I said, I just toured a refinery, talked about the costs of building refineries, so on and so forth.

My understanding is that refinery capacity has increased in this country. Existing refineries have been made more efficient. They are producing more. And I am not suggesting we don't need additional capacity still, but it ought not be left with people—the impression ought not be left that somehow no refineries have been built, and therefore, there has been a static capacity in refinery output. That is not the case. Am I not right about that?

Secretary BLAKE. I think you are right. The capacity has increased, and then the question is, looking forward, can you reasonably anticipate that we will have adequate refining capacity. And also there are some issues, again, as this committee knows with boutique fuels that has—that the way we impose our requirements for the production of fuel has an impact on how existing capacity is utilized.

Senator DORGAN. I understand that. I wish we had the numbers here, because I think they should be part of the hearing. But we have had, in fact, an increase in refinery capacity in this country because of substantial efficiencies.

Well, my time is up. Let me again say that I think there are a fair number of things that have been recommended by the administration that should be part of a significant energy policy, and those are items in the Murkowski bill. There are many items in the Bingaman proposal that ought to be part of an energy program. I mean, it seems to me that we ought to be able to fashion an energy policy that is sensible and thoughtful, using the best of what each have to offer rather than the worst of both.

And I hope we don't get hung up dancing on the head of this needle called ANWR. Frankly, ANWR is not going to happen in this Congress, and there is so much more to talk about, so much more to do, and so much more we can be productive about in terms of creating an energy policy, I hope we don't spend all of our time on that subject.

Mr. Chairman, thank you very much.

The CHAIRMAN. Thank you very much.

Senator Graham.

Senator GRAHAM. Thank you, Mr. Chairman.

I would like to start by setting the record a little straighter relative to our former colleague and now deceased Governor of Florida, Lawton Chiles, and his feeling relative to site 181. He did on October 28, 1996 write a letter to the then Director of the Minerals Management Service, relative to site 181.

But what is frequently omitted from that discussion is the third paragraph of his letter, in which he states, after having discussed some of the specifics of the proposed lease site, "A remaining concern, however, is the potential for development of the existing leases in the eastern gulf. I am still quite concerned about the dangers the State's pristine coastline faces from production activities on these leases offshore of Northwest Florida."

So his support for lease site 181 as it was being proposed in 1996 was linked to a policy of the elimination of those leases which were already in existence close to the coastline in northwest Florida. I wanted to enter that to give a textured statement as to what Governor Chiles' position was. And I might say that in the 5 years since this letter was written, there has been no progress towards eliminating those leases.

But I want to return to the questions that Senator Dorgan was just asking. I am a strong believer that if you have a plan, the absolute first step is to set your goals. It is like the old story that if you don't know where you want to go, you can take any path, because you will get there. Assumedly, if we are launching what will be one of the major national initiatives of the beginning of the 21st Century to have a national energy policy, a first step is a thoughtful judgment of where we do want to go, and that judgment should also have some numbers and quantification assigned to it.

Without that, you have no means of accountability. You don't know—you can't answer the question five or ten years from now, Have we made progress, unless you know where you are trying to go and have some numbers to describe your method of getting to the destination. So let me ask a few questions of either of the witnesses, and I would like numbers.

Is it correct that today the United States is using approximately 17 million barrels of petroleum per day?

Secretary NORTON. That's approximately correct.

Senator GRAHAM. What is the national energy policy as to how many barrels of petroleum we should be using in the year 2015? Or if that is not a year for which you have a number, what is the year that you have a number for?

Secretary BLAKE. In terms of the numeric targets, the policy recognized exactly your point, Senator, that you need some understanding of what your target is in terms of the energy intensity of the economy. There were some shorter-term issues that we have such as we are putting substantial investments in generating capacity—

Senator GRAHAM. No. I—

Secretary BLAKE. I was just—in terms of the sequencing of the policy—

Senator GRAHAM. If you don't know where you—how can you develop shorter-term goals—if your goal is to move from Washington, D.C., to Chicago, and suddenly you find yourself in Phoenix, you probably aren't on the right road. How do we know—unless we know what our destination is on something as basic as what should be our daily national consumption of petroleum at the target date for which we are planning, how can you evaluate whether any of your interim steps are contributing to getting to a desirable ultimate location?

Secretary BLAKE. I think you can know directionally what you need to do in terms of the need for increased energy security, transmission capacity, additional supply, additional conservation.

Senator GRAHAM. So is the answer we don't know—does the national energy policy have a quantifiable statement of what our national goal is in terms of daily consumption of petroleum?

Secretary BLAKE.

[Shaking head.]

Senator GRAHAM. No. The witness shook his head in a negative direction.

Secretary BLAKE. No.

Senator GRAHAM. Then let me ask the second question which I assume we also don't have an answer to, and that is, as I understand it today, a majority of that 17 billion barrels of daily consumption is produced outside the United States. Do we have a goal at the target date of what the relative proportion of domestic and international production should be of our daily consumption of petroleum?

Secretary NORTON. I think what we are talking about is trying to change the direction of the trend line. We know what the trend lines are, and the trend line is toward increasing dependence on foreign sources. While we don't think we are ever and we don't have as a plan to get to zero dependence on foreign sources, obviously that increase, we think, needs to be moved around to give us more ability for us to have our own control over that.

And so on a number of things, in the short time that was available to us in putting together this plan, we identified what the trends were, the ones that seem to be out of kilter, and that we needed to change the direction of the trends. I think we still need more work in terms of filling in the additional information on exactly what the target points are in changing those trend directions.

Senator GRAHAM. Well, Mr. Chairman, I will just say, as my time has expired, that it is not very confidence-building to have a plan that is presented as being the national energy plan where there are not the most fundamental statements of what our destination for that plan is, and therefore, no means of holding the plan accountable for any accomplishments or shortfalls. To me, that ought to be the first thing that was done, not an afterthought.

The CHAIRMAN. Senator Landrieu.

Senator LANDRIEU. Thank you. I am happy to get back from the Armed Services meeting just to be brief in my questions, but to follow up—and the staff briefed me that Senator Murkowski spoke about ANWR, and I think Senator Graham from Florida has been good at all of these hearings to try to focus on some more specifics so we can, in fact, have some guideposts to, as we try to develop an energy policy that is clearly needed for the nation.

And I want to agree with Senator Murkowski earlier that this crisis is far away from being over, and if the situation of unstable and very high energy prices are not dealt with in a responsible and reasonable way in this Nation, not only is California going to continue to suffer and other States in the West, but many States, Madam Secretary, are having great difficulty.

I said on the floor yesterday that our farming community is hurting. Our chemical industries, our petrochemical industries, are

hurting. Any industry that requires large amount of natural gas to operate or large amounts of energy—let me talk about hospitals, schools. There are millions and millions of dollars of energy bills, and so trying to get those prices not only down but stable over a long period of time is critically important to this nation.

I don't think there is anyone on our committee that disagrees with that really. We have different views of how to accomplish it, but I have to tell you that I am perplexed and never thought I would say on this committee that I found the former administration of Democrats led by President Clinton, more moderate or more effective than this administration on opening up access to public lands.

And I know that sounds—that is a strong statement to make, but based on the reversal of the 181 compromise that was reached and based on the lack of a commitment to alternative technologies in terms of research and investment, based on not the rhetoric but the actions don't support what I hear from this administration, and the actions of the former administration, despite that they were criticized sometimes even by myself and others on the Republican side, I find this quite perplexing, and particularly in dealing with lease sale 181.

You talked initially before I left about the great demand for natural gas, but yet the administration has taken not one but several positions to minimize the opportunity to increase natural gas production. You have talked about the need for alternative energy, but you have slashed the budgets for research into alternative energy. So I just ask you if you could maybe comment particularly because for Louisiana, this is a very important issue, but it is important to our whole nation, to focus maybe on lease sale 181, since that is up today.

Is the administration taking a position that we are just not going to move forward with the compromise that was reached to drill hundreds of miles off of the shore, to tap into the huge reserves of natural gas that could supply the energy for the powerplants that we need in California, in Florida, in Louisiana? Is that the position of this administration? And if so, why, and could you try to explain it again.

Secretary NORTON. Well, essentially the situation we found is probably the disagreement that would exist between you and the gentleman sitting next to you. Florida and Louisiana have very different views, and the issue was one on which we tried to reach a reasonable compromise, and on that, I talked with officials in the various States and tried to balance the different views from the different States.

The essential outcome is that we are looking to coordinate with the States in whose waters the proposals are located to talk about new drilling.

Senator LANDRIEU. I'd like to just correct, if I could—and I don't mean to interrupt, but just for the record, in my last minute, I just want to refer to that chart there. And with all due respect to the Senators from Florida and California, outside of the States—we have 3-mile limits in Louisiana—they are 10-mile limits. First of all, these are not State waters. They are Federal waters. They don't belong to the State of Florida necessarily or necessarily the State

of Louisiana. These are not waters within 3 miles or 6 miles or 10 miles. These are Federal waters.

And as you can see, they are actually closer in some ways to Louisiana than they are to Florida, and the agreement of the original lease sale 181 would not have any drilling within 100 miles of the Florida coast, which I think was a quite reasonable arrangement. As this Senator knows, I was talking with him about 25 or 50 miles; 100 miles, I thought we were giving a lot. But we have given more than that.

We have now cut off a huge section of opportunities for drilling at the time when Florida needs as much as natural gas as they can, in addition to hopefully opening up some nuclear opportunities for Florida, which I hope these Senators will be supportive of if they are not supportive of the gas production.

But I just want you to know I find it not very encouraging to be building a policy based on agreements that I don't think really make a lot of sense, not just for Louisiana but for the nation, and I will look forward to discussing this further with you. But, again, these are not Florida waters, and this is about an industry in Louisiana and the Gulf Coast that is important to our country for the economy and for our national security. Thank you.

Secretary NORTON. Thank you.

The CHAIRMAN. Senator Feinstein.

Senator FEINSTEIN. Thank you very much, Mr. Chairman. Madam Secretary, welcome. It is good to see you again.

I wanted to ask you on the Endangered Species Act subject. You mentioned the consultative process on page 7 of your written remarks. I know that relates to energy, but I have been giving a lot of thought to the need for improvement in our endangered species laws, particularly since the Klamath situation has arisen. I am very grateful to the administration for putting in \$20 million for relief for those 1,500 families. I have found that once the bill—I did this once before for the Fallbrook [phonetic] community, for ag disaster relief. It is very hard to get the money to the families.

I would like to ask you to take a good look at that and how the money can get there, because these people are losing their land and their homes now. There are 1,500 families on both sides of the California-Oregon border, so my first request is: Would you take a look at getting that money to those who need it as fast as possible? It is in the emergency supplemental, and I would appreciate that.

Secretary NORTON. Thank you. That was truly an awful situation for the farm families in the Klamath Valley. We have been working with the Department of Agriculture from the time this first came to our attention, and we will certainly continue to work with them to do everything we can to try to help those families.

Senator FEINSTEIN. See, I think the rules don't enable it to get to where it is needed, and these are not agri-businesses. These are small farm families. That is the first thing.

The second thing is as part of your consultative process, the endangered species, in a sense, has become an unfunded mandate. These people couldn't plant. They got no water. The tribes got no water, because of biological opinion in 1993 that said, in this circumstance, the sucker fish and the salmon need X amount of water, and everybody else, forget it; go away; you're not going to

get it. That is unacceptable to me. I am deeply concerned, because I think as we go through these weather fluctuations, we are going to have increasing number of these situations, and I think we have to deal with it.

The second part of my question is: The Farmers Guild informs us that there is more water in Klamath Lake and that that water can be released, so my second issue: Would you take a look at that; see if it is true. Now, it is too late for these families, but there is no reason to hold the water if it might enable some of them to be able to plant.

Secretary NORTON. I agree with you that the situation is one that we likewise find unacceptable, and for the future, we are trying to see what can be done to better manage the water in that area, to better understand the needs of the endangered species. That is the goal to which we would like to move towards.

I have heard something about the water that you are talking about. We looked into that and found that it was not as available as we had hoped. I will be happy to follow up on that further.

Senator FEINSTEIN. If you would, I would like to know why.

Secretary NORTON. But that was my understanding.

Senator FEINSTEIN. I would like to know why. And the third thing is in these situations where there is access to groundwater but families obviously don't have the money to be able to do the drilling, if the stopping of water is the product of a Federal law, it seems to me built into that, there ought to be some incentives, such as drilling for groundwater, to be able to support the farms in that area. And I would like to just throw that out to you for your consideration.

Secretary NORTON. We do want to look at long-term sorts of solutions and even solutions to try to get into place before next year. And so we have been trying to work with people in the area. We have worked very hard with people from all the different disciplines within my Department, trying to see what we can do to resolve the issue as much as possible for next year and for future years. I look forward to working with you on that.

Senator FEINSTEIN. Thank you. Now, Senator Dorgan talked about the automobile, and a lot has changed. One of the things we do know that if we achieve mileage standards, CAFE standards of 80 miles to the gallon, which many think is possible, we become energy self-sufficient. We don't need to import oil. That is a big deal in my book.

The House subcommittee today, I understand, is marking up a change in the CAFE standards. I have a bill to take the SUV and light truck standards of 20 miles and over the next 6 years, increase them every 2 years by a third, to meet sedans, 27½ miles. That saves 10 percent of oil imports. It saves a million barrels of oil a day, and it prevents 240 million tons of carbon dioxide from entering the atmosphere a year.

My question to you is: What is your position on increasing CAFE standards?

Secretary NORTON. The plan includes a tax credit for consumers who purchase high efficiency vehicles, and I will defer to Energy to fill in the details. But we are looking forward to scientific infor-

mation from a National Academy of Science's study that addresses CAFE standards.

Senator FEINSTEIN. Are you supportive of increasing fuel-efficiency standards?

Secretary BLAKE. I think the issue is that there are trade-offs, and that is why the decision was to wait, see what the report from the NAS says, because with changes in the standard, there is some risk of loss of life as you change the composition of the vehicles. And I think that is exactly why the administration is saying, let's see what the NAS study tells us and then go from there.

Senator FEINSTEIN. So are you saying there is no position at the present time?

Secretary BLAKE. I think the position is—let's wait and see what the study says and then move from there.

Senator FEINSTEIN. Because this is the same thing that took place in 1970; this is the same answer, the safety, and yet we went ahead with sedan standards, and there were not the safety repercussions. But I thank you for that.

Thanks, Mr. Chairman.

The CHAIRMAN. Thank you.

We have two additional panels with a total of eight additional witnesses, and so I would urge—I think I will defer any additional questions to these two witnesses and urge other Senators to do so as well, to the extent they can. But if they need to ask something, they can certainly do that.

Senator Murkowski.

Senator MURKOWSKI. Thank you, Mr. Chairman. I will be very brief, and I know what your objective is, obviously to accommodate everybody here.

You know, I think it is fair to try and set targets and goals, and I would remind my friend from Florida that in our legislation, we have some objectives and goals. One is to reduce the rate of our dependence on foreign imports to 50 percent or less by the year 2010 as a specific objective, which we think is appropriate for national security.

We also have reductions in emissions from coal-fired plants specifically. We have higher efficiency mandates for nuclear plants in this country which still produce about 22 percent of the power. On the other hand, there are so many intangibles like, you know, are we going to allow more exploration from public lands for oil and gas?

As you and I both know—and I respect your opinion relative to what is good for your State, as well as the Senator from California. People who are opposed and States who are opposed to offshore drilling, that is their own business, but by the same token, when we lay a target before the Department of the Interior or the Secretary of Energy, they don't know, you know, necessarily are we going to have to build in this country LNG facilities and import LNG from overseas. You can set all the targets you want, but if you don't have a clear, definitive position from Congress as to what is going to be available, it is pretty hard to be realistic.

A couple of questions relative to my last conversation, and Senator Dorgan isn't here and I wish he were, because he made a statement that, in effect, from his point of view ANWR is dead. You

know, ANWR is certainly one of the lightning rods that is in this bill, because ANWR potentially offers a solution to reducing our dependence on imported oil. The frustration, of course, relative to the issue—I am glad you are with us; we need one more on our side.

You can stay here. We will sign you up. Give him a pen.

[Laughter.]

Senator MURKOWSKI. But, you know, the farmers out in the Midwest are not going to run their tractors or plant their plants on hot air. They are going to have to have petroleum products, and as a consequence, the focus on ANWR is potential relief from a domestic supply. That is why it is targeted. But you indicated that the potential there was significant or words to that effect. Can it be opened safely?

Secretary NORTON. I believe that it can be. I have seen, for example, the Alpine facility that is using the very new technology, and I think there are dramatic steps that can be taken to try to protect the environment at the same time we try to meet our energy needs.

Senator MURKOWSKI. Now, the last thing I am going to leave you, this is, in my opinion, a tremendous injustice, and I would like you to hold it up, Joe, because it highlights a reality that here we have native private land, 95,000 acres that are owned by the residents of Kaktovik, and you and I have been to this village. There is a couple hundred people, and I would like the picture of Kaktovik to be brought up.

But the reality is these people live in a conclave of Federal land associated with the 1002 area. They have no access. They cannot develop their own land. They are precluded. They can't develop within the 1002 area the oil and gas that is there. Bring it up here, please. They cannot even heat their own homes with the gas that is believed to be in this area of their own land, which is part of the 1002 area.

Now, this is a terrible injustice on the American people. This is the village of Kaktovik. It has got a pristine airport, a pristine schoolhouse, you know, pristine radar station. The Secretary has been there. Real people live there with real hopes and aspirations for a future. They go to school every morning. There is a picture of the kids. Nobody shovels the sidewalks, but they are real.

And here they are, and the Federal Government says, Okay—we're not going to open this area, and furthermore, we are not even going to let you have access to your private lands nor develop your private lands. And that is the position these people are in, and I think that is wrong. And I think we need to have a little better understanding of the fact that while this may be a lightning rod for America's environmental community, there is also a couple hundred native people that live in this area that are precluded from developing their own land, and that is simply not right.

So I would encourage those who still have an open mind on the issue to recognize the injustice that is being done to these people and the reality that this is private land, that obviously they should be treated like any other American citizen, allowed the ownership of private land, and be allowed access to their land for the development as they see fit, to whatever opportunity might exist.

And they have oil and gas under that land. The 800-mile pipeline is over here. And this is a terrible injustice, and I intend to work very hard to try and right a wrong. Thank you, Mr. Chairman.

The CHAIRMAN. Thank you.

Senator Wyden, all of us have had a chance to ask the two witnesses questions. If you had questions, this would be the right time.

Senator WYDEN. Secretary Norton, you say in your testimony that the core of a long-term energy policy is increasing supply, and you stress the goal of energy independence, something we would all be in favor of. My question to you is: To further the goals of increasing domestic supply and energy independence, are you prepared now to support restrictions on the export of U.S. oil from Federal public lands to ensure that the oil actually gets to Americans who need that energy?

Secretary NORTON. I would like to study that issue a little further. My initial reaction is that trying to restrict markets for American producers of any commodity is not an approach that usually is economically justified. We will be happy to look into this, though.

Senator WYDEN. Well, I am glad you will take another look at it, because let me tell you what we heard just a couple of weeks ago. BP came to Senate Commerce Committee, and they said that whenever they felt it was in their economic interest, they were going to export Alaskan oil again, as they have in the past, to Asia and to the Americas. And I am of the view that that directly contributes to the problem that West Coast consumers are having, Oregon, Washington, and California.

In fact, on the front page of our newspapers recently there was e-mail from BP saying, Hey, this is a no-brainer. You can export oil to Asia at a discount and make up for it by sticking it to folks in Oregon, Washington, and California. So let me tell you, I am very pleased at your response, that at least you will take another look at it.

Suffice it to say our friends from Alaska have very different views on this than those of us on the west coast, but at least your willingness to say that you will take another look at it is absolutely key, because it seems to me if we are going to work together in a bipartisan fashion for energy independence in this country, we have got to have oil from our lands come to us rather than to go overseas.

So, Mr. Chairman, I am going to quit while I am ahead. The Secretary has said she will take another look at it, and suffice it to say our friend from Alaska and I have had a number of spirited discussions on this issue in the past, and I am sure we will have more.

Senator MURKOWSKI. In response—and I will be very brief—I don't think we have a difference of opinion.

Senator WYDEN. She said she would take another look at a law that is on the books that is hurting consumers in Oregon and Washington and California.

Senator MURKOWSKI. I think the Senator from Oregon is well aware that there has not been any oil exported from Alaska since a year ago last April, and the only oil that is exported from Alaska was what was excess to the west coast, and with the restructuring

of the industry, with the acquisition by BP of Arco, there is very little likelihood that the economics will favor the export of any oil.

I do not favor the export of Alaska oil in the marketplace today, but if there is a surplus on the west coast, why, then obviously the economics of where that goes are going to dictate it. But the facts are there hasn't been any surplus of oil for a year, since last April. I don't see any assurance that there is likely to be.

Senator WYDEN. Reclaiming my time just briefly, Mr. Chairman, I want the record to be clear that BP told the U.S. Senate just several months ago that they were prepared to start exporting oil overseas whenever and at any point they felt it was in their economic interest, and that was the testimony of several months ago before the Senate Commerce Committee.

Senator MURKOWSKI. Well, the record will note that there isn't any going over now.

The CHAIRMAN. Senator Graham, did you have any other question?

Senator GRAHAM. Yes. I have a question, and it probably has a similar conclusion, the one that Senator Wyden just asked. I hope that we will look into it.

It seems to me and a principal provision in the legislation that I have introduced with several others is to reexamine our Outer Continental Shelf law, that we have seen from recent experience a couple of fundamental problems. One is it does not have an adequate balance of considerations that go into the decision as to whether and what Federal Continental Shelf areas to make available for leasing.

One of the reasons that we had this big controversy on 181 was whether we should have the single issue of maximizing energy production or whether there were multiple interests involved, including other economic considerations, and protection of environmental resources. I think the current law does not provide for an adequate opportunity for those range of issues to be considered prior to the leasing decision. And one of the cardinal examples of that is the fact that there is no full environmental impact statement or consideration of the Coastal Zone Management Plan prior to leasing.

The second problem is the issue of the very long and convoluted process after the lease is granted, of which the Destin Dome drilling permit is a good example. Most of the questions that are being debated in that case should have been resolved before the lease was granted, not after the lease was granted.

So with that preface statement, I would like to ask if you would be willing, Secretary Norton, to look at our Outer Continental Shelf laws as they relate to what, when, and under what conditions properties will be made available for leasing, and see if the system would not be better served if more interests were included and included earlier in the process, as opposed to the system under which we are currently working.

Secretary NORTON. As a matter of fact, a reexamination of that process and of the CZMA regulations and perhaps statute is a part of the President's energy plan. That was one of the recommendations that is in there, so I would be very happy to talk with you further about some of the aspects of that.

Senator GRAHAM. And is the Department of the Interior the point agency for that reexamination?

Secretary NORTON. It is—the Department of Commerce is very centrally involved in that, and so it would be our two agencies that would be looking closely at that.

Senator GRAHAM. Good. Thank you.

The CHAIRMAN. Thank you very much. Thank both of the witnesses again for your testimony. We appreciate it very much, and why don't we go ahead with panel two. If the people on panel two could come forward, please.

[Pause.]

The CHAIRMAN. Senator Durbin has prepared some written testimony with regard to his Consumer Energy Commission that he wanted to have included in the record, so we will include that in the record of the committee hearing.

[The prepared statement of Senator Durbin follows:]

PREPARED STATEMENT OF HON. RICHARD J. DURBIN, U.S. SENATOR FROM ILLINOIS

Chairman Bingaman, members of the committee, I thank you for the opportunity to testify today in regard to my legislation to establish a Consumer Energy Commission.

Energy issues have stolen center stage in the minds and pocketbooks of many Americans. In my home state of Illinois, my constituents struggled with record-breaking heating bills last winter because of the rise in natural gas prices. Then this summer, they had to struggle with soaring gasoline prices.

Unfortunately, paying more for gasoline is not new to Illinoisans. The price spikes in the Chicago/Milwaukee area in the summer of 2000 were so severe that the Federal Trade Commission (FTC) agreed to investigate the situation. Although the FTC found no evidence of illegal activity, they did find evidence that some companies were withholding gasoline supplies to maximize their profits.

The FTC report also noted that various factors, including a pipeline breakdown, contributed to the rise in gasoline prices last summer. However, at the beginning of this summer's driving season, gasoline prices in the Chicagoland area were already 32 cents higher than at the same time last year—without the supply disruptions and despite predictions from the U.S. Department of Energy that the Midwest would have adequate supplies of gasoline this summer.

I am all for profitable businesses but not for record profits made on the backs of consumers—many of who have written and called my office. This is why I have introduced S. 900, legislation to create a Consumer Energy Commission (CEC) that will analyze energy price spikes from the consumer's perspective and provide recommendations for how to protect consumers from future energy price spikes.

The commission would focus on a variety of causes including insufficient inventories, supply disruptions, refinery capacity limits, insufficient infrastructure, possible over- and underregulation, flawed deregulation, excessive consumption, overreliance on foreign supplies, insufficient R&D into alternative sources, opportunistic behavior by energy companies, and abuse of market power.

One of the keys to the Consumer Energy Commission is its balanced membership. Bipartisan consensus is critical to moving this issue forward. There would be 11 Commission members on this commission of which the Republican Congressional leadership would nominate four, Democratic Congressional leadership would likewise nominate four, and the Administration will appoint one member from each of the Department of Energy, the Federal Energy Regulatory Commission, and the Federal Trade Commission.

There are many policies being considered to improve our nation's energy system from streamlining fuels to building more refineries or pipelines. In fact, this committee has offered many good options. However, whether you want to call them short-term or long-term solutions, we must look at the factors that are causing energy roller coasters from the perspective of the consumers who are sick of the ride.

Let us be honest, it is hard to find anybody selling at a low price in order to entice consumers. Sadly, despite these high energy prices and the fact that some say it is just a market situation, these energy companies are having the highest profitability that they have had in many years. It is one of the few industries where they can guess wrong about consumer demand and still make higher profits.

Although various reasons have been offered for the sharp increases in gasoline, homeheating oil, propane, natural gas and electricity costs, a comprehensive analysis and response to our energy problems is needed to promote stable energy markets that would also benefit the health of our economy.

For too long, the only voices we have heard in the energy debate have been the federal government and energy giants. Consumers, whether they are small business owners with a fleet of delivery trucks, farmers, or parents shuttling kids to soccer practice, are left out. It is time to include in this debate the families and businesses that pay the heating, electric, and gasoline bills but suffer when energy prices spike.

The CEC is one step towards a balanced national energy policy. I understand that we must also find new sources of energy that are environmentally sound and make certain they are delivered to the people who need them. And we need to promote conservation, a responsibility that we have as individuals and that governments have as well. We must do our part as consumers to buy more fuel-efficient vehicles, and the government has to do its part to encourage U.S. auto manufacturers to produce those vehicles.

I would also like to include for the record a statement of support for the CEC from Citizen Action of Illinois. I am also pleased that some Chicago officials also support this legislation.

Mr. Chairman, there needs to be an honest look into our energy markets and why they are not functioning properly to benefit consumers. On behalf of Illinois' families, businesses and farmers, I again thank you for the opportunity to discuss the value of establishing a Consumer Energy Commission.

The CHAIRMAN. Let me welcome all of the witnesses on our second panel. We have our former chairman, Senator Bennett Johnston. We are very glad to have him here. We have Mr. Bill Burton, who is a partner with Jones Day in Houston, Texas. We are glad to have him here. Chuck Clusen who is a senior policy analyst with the Natural Resources Defense Council; thank you for being here. Mr. Jerry Hood, who is a special assistant to the general president for energy, and the principal officer of Local 959 in Alaska of the Teamsters Association—the Teamsters—excuse me—in Anchorage; and Tom Young, who is the vice president of business development with Mariner Energy.

Thank you all very much for being here, and your complete statements will be included in the record, and if you could summarize your comments, we would appreciate that. Why don't we start with Senator Johnston. Go right ahead.

**STATEMENT OF HON. J. BENNETT JOHNSTON, CHAIRMAN,
JOHNSTON & ASSOCIATES, LLC, WASHINGTON, D.C.**

Senator JOHNSTON. Thank you, Mr. Chairman. I am delighted to be back.

Mr. Chairman, in my written statement, I talk about ANWR, and you have heard me before on that subject. I know it is an uphill fight, because I remember one group of Senators that I took there. I think we took four trips to ANWR, and one Senator looked around and said, in effect, is this all there is? If I told the people in my barrooms back in my State that they were going to have to wait in gas lines because we couldn't drill here, they would throw me out of the Senate. Well, guess what. That Senator voted some weeks later against ANWR, so I know what the politics of it is, and there is probably nothing new I can say about—

Senator MURKOWSKI. Is that person still in the Senate?

Senator JOHNSTON. Yes. And I could talk about caribou and all that, but I think the committee knows about that.

I also mention, Mr. Chairman, one of the most successful programs we passed out of here is royalty relief, and I submit that it

has been proven to be very successful, that it has brought forth more drilling in the Gulf than anybody projected, and they greatly criticized our figures as being too Pollyanna-ish. So you want to know how you can get the companies to drill here in this country instead of West Africa and Kazakhstan and all that? As one who is involved in those decisions as a member of the board of Chevron, I can tell you, that has worked.

Now, if I may, Mr. Chairman, I would like to mention four or five things very briefly that I think the committee ought to do on the short term, that really need doing and that are real problems. First is Price Anderson. Everybody is for it. The problem is it is going to expire in August 2002, and there is a real, real problem of not being able to get that passed, as I see it, by August 2002.

Why is that? Because if you don't have it as a separate bill, it will get mixed up with all the other legislation which will take forever. I understand there is a commitment to go from here to Environment and Public Works. That is going to delay it. If you don't have that bill teed up, in my view, by early next year, I think it is—I mean, if you could pass it this year, great, but I don't think that is possible. If you don't have it teed up, ready to go by February or March, I think you get mixed up in election-year politics, and we know what happens when it expires.

I mean, it is not your utilities. Your utilities are grandfathered. They keep operating. It is all these cleanup sites, all those vendors, all those suppliers, all the contractors at not only the cleanup sites, but the national labs. I mean, it will be chaos, and DOE will be in a very difficult position. So, Mr. Chairman, I would urge that it be set aside as a separate piece of legislation, passed out quickly, and I don't think it ought to go to EPW. We have got jurisdiction over that. I say, we. It is no longer "we" unfortunately.

The CHAIRMAN. We are glad to still consider you part of this group.

Senator JOHNSTON. But I think really that ought to be done. Secondly, I would go with transmission eminent domain. I understand Senator Landrieu is going to put in a bill or others. I am very strong, as you know, for electricity restructuring, PUHCA repeal, PURPA repeal, access, all of those problems, jurisdiction, that need to be resolved, and I would certainly urge the committee to have those hearings this year if possible.

But I would extract from that transmission eminent domain. Mr. Chairman, one of the companies I represent is Bechtel, and we sit around and look, for example, at California, at a table with 12 of their top people, very smart, experts in their field, and talk about, how would you deal with this problem of electricity in California. It is very simple. I mean, you can have coal by wire, but if you do that, you have got to have transmission. You have got to solve that problem of Path 15, and, it is access. And this is something that needs to be done.

And the basic formula is pretty clear. You just—if the RTO has a plan which has been adopted with the due process, then let them have eminent domain, and as I see it, you got the votes that could do that.

We have talked about sale 181, and I won't say anything more about that. I mean, that is so clear. That is so clear, Mr. Chairman.

We have thousands and thousands of rigs out there off Louisiana, where we catch 2 billion pounds of commercial seafood. That is okay, but you can't get within 100 miles of Florida. That is so absurd, and everybody knows that is absurd.

Mr. Chairman, in this committee, you just can't make policy with respect to friendship and personalities, because if you do, you can't have nuclear because of popular people. You can't drill off the coast; you can't do anything. So you have got to make policy—well, I won't preach on that any more.

Third, something not to do, and that is not to deal—not to repeal or change the Alaskan natural gas transmission system, the transportation system. We passed legislation that called for a study, called for a presidential determination, called for then a congressional picking of the best environmental and economic route, which they did way back in the 1970's, and the route comes down through Alaska and along the Alaskan Highway.

There is something like 35 trillion cubic feet of natural gas right now, discovered and ready to go in Alaska. If you want to get that down quickest, in my judgment, use the legislation now in place. If you go up to the northern—if they try to go the northern route, which by the way goes under the ice off ANWR, which is covered by ice like 10 or 11 months of the year, where it scours the bottom, you talk about environmental insult, that is it. So I don't know that there is anything that needs to be done positively, but certainly negatively, you don't need to deal with that.

I think I would throw in as one of the things that needs to be done probably CAFE. I know all the politics of that very well, but I think it is probably time to deal with light trucks and SUVs. I call them urban assault vehicles, but—I mean, I think that is politically doable.

Finally, let me just say, Mr. Chairman. I am strong for renewables and alternative energy up to a point, but the fact of the matter is I think there is a national delusion, national really, that that is some kind of solution, and as one who chaired and was ranking minority member for 20 years on Energy and Water where we funded every one of those—oh, gosh, we had photovoltaics, wind, ocean thermal, fusion; you name it, we funded it. I know all about them.

And, Mr. Chairman, they—well, they work, sure. I mean, you can build a windmill; look, we have had windmills for 50 years in this country, 100 years, longer than that, I guess. But it is not going to work economically unless you just subsidize it massively. Then you can't store it. The same thing for photovoltaic, and, look, fuel cells have a real place, but they are not going to solve this problem. You have got to deal with what you have got and make it work.

Mr. Chairman, I would urge you to do those things and keep up the good work.

[The prepared statement of Senator Johnston follows:]

PREPARED STATEMENT OF HON. J. BENNETT JOHNSTON, CHAIRMAN,
JOHNSTON & ASSOCIATES, LLC

Mr. Chairman and members of the committee, I appreciate the opportunity to offer my assessment on the domestic production component of a comprehensive national energy strategy, and to discuss the opportunities we might have to limit our dependence on foreign sources of energy.

In 1995 we were working on a program to help solve the same problem we face today: the diminishing supply of domestic oil and gas. At that time, the Committee will recall, we were working on the Deepwater Royalty Relief Act which was, of course, successfully passed into law.

At that time foreign imports stood at about 50%. Today foreign imports are 57% and the Energy Information Administration projects that by 2020 imports will reach 70%. We are presently witnessing some of the results of that dependency; OPEC can successfully manipulate the price of oil (and the gasoline at the pump) at will. The American public and members of Congress on both sides of the aisle have declared this to be "outrageous." Add to this OPEC threat even more sinister possibilities. When one considers the difficult neighborhoods in which so much of today's oil is produced: West Africa, the Caspian Sea, Kazakhstan area, Venezuela, the Middle East, Indonesia, etc., areas that have been and continue to be subject to revolution, civil war, religious strife, and other indications of instability, all of which threaten the security of these sources of supply. If gasoline prices are "outrageous" and if our National security is, in fact, threatened then the question before this Committee is, "Can the Congress do anything about increasing domestic supply?"

Mr. Chairman, I would suggest three immediate and practical actions which the Congress could take which would necessarily enhance our domestic petroleum supply. These are: 1) to allow drilling in ANWR, 2) to allow exploration and production from the Eastern Gulf of Mexico and 3) to extend the Deepwater Royalty Relief Act.

ANWR

According to the USGS, the Alaskan Coastal Plain has great potential for helping this country become less reliant on imported oil. The entire area is estimated to contain oil in place of 11.6 to 31.5 billion barrels. Of this, about 6 to 16 billion barrels, or about half, is estimated to be technically recoverable, which would be equivalent to more than 30 years of imports from Saudi Arabia today. This is based on today's technology, of course. With new technology, the share should be higher. And there should be significant amounts of natural gas as well. Simply stated, ANWR production alone would reverse the decline in U.S. production.

Drilling pads, roads, airstrips and other facilities are constructed from ice that will melt when the warmer months arrive, leaving little evidence of man's presence. Special care is taken to prevent leaks in gathering and flow lines through the use of plastic pipe liners and even specially trained dogs to detect leaks early. To carry equipment across the tundra, operators use all-terrain vehicles with large, low-pressure tires that leave no tracks.

New technology reduces the time needed to drill a well, the number of rigs needed to extract oil from a field and the surface area affected by each well, radically decreasing the chances of any harm to the environment. The equipment used is much smaller and lighter, allowing operators to accomplish as much while leaving a smaller footprint.

New technology also allows companies to use fewer wells to achieve the same production capacity as 15 years ago, when the last environmental impact statement on drilling in ANWR was finalized. Companies can thus reduce the number of wells drilled per field and cut back on potential for environmental harm. In addition, new modular drilling technologies allow operators to use rigs that are a quarter of the size and weight of a standard rig and cut the time needed to drill a well, reducing the impact on surface environments.

Directional drilling allows companies to extract oil and gas from environmentally fragile areas. Horizontal drilling also means fewer wells and lower waste volumes. Oil rigs are manufactured from lighter, stronger material. They require less fuel for transporting and operation and have less surface impacts than conventional rigs.

Mr. Chairman, there are no commercial fisheries and virtually no sport fishing in the Alaskan Coastal Plain. For those who compare this area to Serengeti, I would only urge that they make a trip there to see for themselves. For those who are concerned about the Porcupine Caribou herd, I would urge that they look next door to Prudhoe Bay where the Caribou herd has increased many times over, since explorations production commenced.

Over a billion pounds of commercial seafood is produced off Louisiana's Coast where over 50 years of drilling and hundreds of production platforms have produced no harm to the marine environment. I submit that Americans energy supply could be greatly enhanced by the recovery of ANWR oil and without any danger to the environment.

DESTIN DOME AND LEASE SALE 181

According to the Department of Energy, the Destin Dome formation contains at least 2.6 trillion cubic feet of natural gas, one of the largest gas fields in the Gulf of Mexico. This gas is "dry" and is not produced in association with oil. In other words, the threat of an oil spill is virtually zero. In February of 1998, Florida rejected Chevron's drilling plan for this Federal area under the "consistency provisions" of the Coastal Zone Management Act (CZMA). Briefs were filed with the Department of Commerce that year, and in many subsequent rounds of briefing and scientific data collection, yet that appeal languishes at the Department of Commerce with no end in sight, while well over a hundred million dollars of capital remains unproductive.

The Destin Dome dispute also might preview additional drilling disputes. Lease Sale 181 was planned by Secretary Bruce Babbitt in direct consultation with the late Florida Governor Lawton Chiles, and was explicitly mandated in the last four Interior Appropriations bills signed into law by President Clinton. It was also excluded from the Clinton presidential OCS moratorium that extended other Eastern Gulf drilling bans to 2012. Now, the House has inserted an appropriations rider to delay Lease Sale 181.

The Secretary of Commerce has the power to override Florida if he finds Chevron's development is consistent with the Federal Coastal Zone Management Act, or if he finds that Chevron's drilling plans necessarily lessen the Nation's reliance on foreign energy supplies.

However, Secretaries Daley, Mineta, and now Evans have not ruled on the Destin Dome case, and a new round of information was just requested.

The activities that would take place for Destin Dome, and in Lease Sale 181 are in federal waters. Production from these areas would yield significant oil and gas resources, and billions of dollars in royalty revenues for the benefit of all Americans. The natural gas would be piped to Mobile and the support activities would be based in Alabama.

Natural gas is said to be one of the principal solutions to America's air pollution problem. Virtually all of the new electricity generation in this country comes from combined cycle natural gas turbine. The Department of Energy projects that consumption of natural gas in this country will increase from about 22 T.C.F. to 28 T.C.F. by 2010 and 35 T.C.F. by 2020, even considering implementation of aggressive conservation and energy efficiency technologies.

I submit that Florida's fear of this drilling is based upon imaginary dangers. But the need to have access to these supplies of natural gas in order to deal with America's air pollution problem and electric generation needs in the near and long term is not an imaginary challenge.

DEEPWATER ROYALTY RELIEF

Mr. Chairman, the Deep Water Royalty Relief bill passed before this Committee and Congress in 1995, was one of the most successful bills ever passed for developing domestic energy resources. This bill's passage set off a sharp increase in oil and gas production. I well recall the debates before this Committee about whether the Minerals Management Service estimates of increased production attributable to passage of the Act would actually materialize. As the Committee knows, those estimates were far exceeded.

The deepwater royalty relief program was passed in order to stimulate exploration and development of oil and gas in the deeper waters of the Gulf of Mexico. It affected all acreage offered between November 1995 and November 2000 in water depths 200 meters or greater in the Western and Central Planning Areas of the Gulf of Mexico, and a small section of the Eastern Gulf of Mexico.

Deepwater leases were granted certain limited royalty suspensions. Royalties are not payable until a specified number of equivalent barrels of oil are produced. The royalty suspension increases with water depth.

The deepwater royalty relief program has been an unequivocal success. After only two years, the MMS Director stated ". [d]eepwater royalty relief for new leases has contributed to the record-breaking lease sales in the Central and Western Gulf of Mexico over the past two years, a clear signal that the Gulf of Mexico is now one of the world's leading oil and natural gas plays."

The deepwater relief program stimulated additional exploratory activity. It increased and accelerated oil and gas production and royalty payments—while substantially increasing bonus payments. The MMS has collected billions of dollars in deepwater lease bonuses for the U.S. Treasury.

Some argued that Deep Water Royalty Relief Act would be a windfall to industry (by denying the Government of some future royalty payments). The program has,

in fact, resulted in more, and relatively larger bonus payments. The substantial bonus payments made since the adoption of the Program generated an immediate financial benefit to the U.S. Treasury.

The deepwater royalty relief program has also stimulated billions of investment dollars in the search for oil and gas in the U.S. offshore. \$9.5 billion will be spent in drilling alone in the deepwater Gulf of Mexico between 1998 and 2005. With this activity has come the preservation and creation of employment in an industry that is rapidly consolidating, and is increasingly focused on projects outside the U.S.

Moreover, maintaining and attracting the best and the brightest to the petroleum industry needs to become part of the energy policy debate. It is important to maintain oil and gas expertise in the U.S.

The royalty relief program has also contributed to energy security of the U.S. in the face of rising dependence on imported oil. Imports now represent nearly 57% of U.S. oil consumption. The Energy Information Administration has predicted that by 2020 the United States will import 70% of its oil. This is not the time to remove the financial incentive that has contributed to the only significant recent regional increase in oil and gas production within the U.S. Without oil production from the deepwater Gulf of Mexico, the U.S. would be even more dependent on foreign oil. MMS predicts that by the end of 2004, production from the deepwaters may account for as much as 65% of the daily oil production and as much as 32% of the daily gas production offshore.

While the price of oil increased in 1996 and 1997 and then fell in 1998, there appears to be no direct correlation between oil prices and deepwater leasing activity. Activity increased even as the price of crude sagged in 1998. If the Congress fails to renew or replace the deepwater royalty relief program, it may bring a premature end to one of the great U.S. oil and gas plays.

Participation in a play where exploration wells routinely cost \$25 million, and where production facilities can easily exceed \$500 million, requires deep pockets and sufficiently extensive exploration programs to offer companies the statistical chance of finding enough oil and gas to support program economics.

Statistically, one out of every three or four deepwater Gulf of Mexico exploration wells will be a technical success. The oil and gas found must shoulder the costs of extensive seismic and lease bonuses—and expensive wells and production facilities. The discoveries in the deepwater obviously must be quite large to cover such program economics.

The oil and gas industry has historically seen clear benefits to having smaller companies follow the majors. The smaller companies focus on the smaller projects. This dynamic has allowed infrastructures to be built followed by the more complete exploitation of a basin or region. Policy interests associated with the elimination of the royalty relief incentive may well jeopardize this dynamic.

With the exception of the deepwater Gulf of Mexico and areas that have been declared offlimits, the United States is an extremely mature oil and gas province. This situation is exacerbated when one considers the global movement away from exploration and into development of proven oil and gas reserves.

CONCLUSIONS FOR DEEP WATER

The expiration of the deepwater royalty relief program has come at a time when the oil and gas industry is managing its affairs conservatively, and the Nation's need for increased reserves has never been greater.

It appears that without the benefit of renewal of the deepwater royalty relief program, the economics of the deepwater Gulf of Mexico might not warrant substantial industry attention. Should the Congress fail to renew the deepwater royalty relief program, the U.S. risks compromising its most promising oil and gas province.

The CHAIRMAN. Well, we appreciate your good counsel on all those items.

Before we go to Mr. Burton, let me just acknowledge Senator Carper who is our new member and is welcome on this committee. We already assigned you subcommittees while you were absent, and we hope they are the ones you wanted.

Senator CARPER. I am sure they were. Thanks for the big name tag, too. I didn't know whether I should be a member or a witness out there. I feel right at home. Thank you.

The CHAIRMAN. We are very glad you are here, and Senator Murkowski also indicated a statement that he welcomed you.

Did you want to say anything, Senator Murkowski, before we move on to the next witness?

Senator CARPER. I would like to hear this.

Senator MURKOWSKI. No. I heard everything I wanted to hear.

Senator CARPER. All right. Thanks.

The CHAIRMAN. All right. We are very pleased you are here.

Mr. Burton, go ahead.

**STATEMENT OF BILL BURTON, PARTNER, JONES, DAY,
REAVIS & POGUE, HOUSTON, TX**

Mr. BURTON. Thank you, Mr. Chairman. And I want to thank the committee for the opportunity to testify today. It is the first time I have been before the committee since, I think, you confirmed me to a second term on the U.S. Enrichment Corporation board of directors. Fortunately, my first job in Washington, which was policy and staff director to then Chief of Staff Mac McLarty in the White House, where we got to focus on a lot of energy issues, didn't require Senate confirmation.

I am here on my own behalf today, not on that of my law firm, Jones, Day, or their clients, but I did want to mention that I represent largely international oil and gas companies that are in a variety of administrative litigation and transactionals. Like myself, like everybody on this committee, they are very interested in national energy policy.

And importantly—and I want to commend this committee for having this hearing. Importantly, they are not just interested in energy policy when it is on the front page of the newspapers and on the evening news. Like the chairman and the ranking member particularly, they are interested in energy policy all the time, and are aware that there is a great need in the country for a comprehensive energy bill like the chairman has introduced and, of course, like the ranking member has introduced. I think they are both really good bills. I particularly like the chairman's bill's expanded focus on conservation and renewables. We will talk about a couple of the specifics.

From a general perspective on energy policy, I think you can look at it from both a substance and procedure perspective for people that focus on it. I think from a substance perspective, a good three basis points, if you will, would be, one: increased domestic natural gas production. I think that has been an important part of the energy policy in this country over the last few years.

While I think diversity of supply is important and I know the President in his plan talked a lot about diversity of supply—and I agree, that is important—I will tell you, it should not be at a cost of less emphasis, less interest in clean-burning, domestically abundant natural gas. We are going to have a great natural gas demand increase in this country, as my service on the National Petroleum Council has shown me. We are looking at increase from 22 TCF market currently to perhaps 30 TCF inside a decade. Gas is the environmental fossil fuel of choice. There is just not a close call on that.

I think a second important substantive basis for a national energy policy is increased domestic oil production. One of the things I am particularly interested in the chairman's tax bill, which I real-

ize isn't before us today, but also the ranking member's provision in his bill, is some counter-cyclical provisions that help when prices drop too low. You know, it is pretty easy to pack a hearing room when prices are really high, but let me tell you. From the domestic industry's perspective, there is a serious problem when prices drop too low.

Perhaps most importantly, people leave the industry. You get stripper wells that are shut in prematurely. Companies go out of business. It creates a real problem, and then when supplies shorten, you don't have the domestic industry that can fill in, and I think that has been part of our problem right now, so I think those counter-cyclical provisions in the bills are really strong.

And then a third, I think, substantive component that you cannot forget about is increased funding, increased promotion of renewables and energy efficiency, and I think the chairman's bill particularly has a lot of good provisions on that.

My testimony, I think, looks at and has comment on each of the oil and gas provisions in the two comprehensive bills. I would like to point out just a couple. I think section 1001 of the chairman's bill, which deals with lease sale 181, is of critical importance. We have talked about it, but if you are going to have natural gas growth like we are going to have in this country, you cannot cut out this most promising area in a developed region.

The Gulf of Mexico is where we currently drill for oil and gas, and 181 is in the Gulf of Mexico, and I just don't see how you can cut it out, particularly after 10 years of consultation by the Department of the Interior with all the affected coastal States, including the coastal State closest to the area, as proposed by the—in the chairman's bill which is kind of cutting off the panhandle of lease sale 181, that being Louisiana is the closest area to lease sale 181.

The other provision I would like to point to probably won't get nearly as much attention, but it is section 1002 of the chairman's bill which would provide increased funding for positions in the land management agencies such as BLM and Department of Agriculture. We have a really serious problem there.

Fortunately, Jones, Day just hired Kim Harb who worked on my testimony and is here today, and she came to us from the Department of the Interior. One of the most serious problems we have are these needed environmental studies on lands to be leased in the West, and until we can get the proper staffing in the land management agencies, those environmental studies don't get done, and the leases are delayed, and if they do go forward, they run the risk of being challenged successfully in court, because of the inadequate environmental studies.

I will be happy to answer any questions regarding this or my written testimony.

[The prepared statement of Mr. Burton follows:]

PREPARED STATEMENT OF BILL BURTON, PARTNER, JONES, DAY,
REAVIS & POGUE, HOUSTON, TX

Good morning, Mr. Chairman and Members of the Committee. Thank you for conducting this hearing and allowing me the opportunity to testify today on provisions of various bills you are considering to protect energy supply and security in the United States. My law firm, Jones, Day, Reavis & Pogue, and I represent many energy companies, and we all have a great deal of interest and concern in our national

energy policy. I commend this Committee, particularly the Chairman and the Ranking Member, for your leadership in focusing on energy issues, and not just in these days when energy news is on the front page and on the evening news. My testimony, which is on behalf of myself and neither my law firm nor any of my clients, today will focus on select provisions of the two comprehensive energy bills, Senate Bills 597 and 388.

A national energy policy must promote the concept of supply meeting demand, always mindful of environmental protection, and ideally with a diversity of energy sources in order to assure energy security at reasonable prices without environmental degradation. A cornerstone of any energy policy should be the promotion of domestic supply, for the obvious benefits of American jobs and increased national security. Critical to all government action regarding energy policy is (1) consistency in the application of core principles and (2) appropriate expedition in decision-making. We compete in a world economy; what makes the United States an attractive place to invest is the stability of our democracy now in its third century. Anything we can do to foster consistency and appropriate expedition in government action in the energy area, whether it is through tax policy, rule-making, or adjudication, will help attract investment dollars.

Government involvement, which is essential in the energy business, should reflect that an efficient and competitive market is the best mechanism to generate supply and determine price. The governmental role, while necessary, should be limited; the government should help ensure a truly efficient market, regulating any natural monopoly elements in the system, correcting for market externalities, and generally helping to provide a level playing field. Energy policy must be aligned with general economic policy, environmental policy, tax policy and other policy spheres, so that conflict and contradiction among different branches of the government - or the same branch implementing various policies - is minimized. The regulatory environment must be efficient and predictable, and uncertainty introduced by the use of administrative decision-making minimized.

In order to promote domestic production, energy companies must have reasonable access to energy reserves with consistent rules for exploration and development. Equally important is the need for energy companies to have access to rights of way and permits for pipelines, transmission facilities, and other necessary infrastructure. Exploration and production must be undertaken with a minimum of negative environmental impact.

Increased domestic oil and gas production is essential to the country's economic well-being. As I have learned from serving on the National Petroleum Council over the past several years, the nation's natural gas demand, in particular, should grow substantially as a result of new gas-fired electric power generation. This forecast is good for the nation's economic and environmental health because natural gas, in addition to being primarily a domestically produced fuel, is efficient and clean-burning and will largely replace the burning of fuels that will do greater environmental damage. In order to meet the expected growth in natural gas demand, the country must have a more proactive strategy to enhance the efficiency and scale of the domestic supply chain.

I support the government's continued assistance in the development of renewable energy sources, such as solar, geothermal, wind, and ethanol. While serving as an energy advisor to then presidential candidate Bill Clinton, and later as a White House aide focused on energy issues, I had the opportunity to work on ethanol issues with many members of Congress, including the new Majority Leader, whose passion for the issue was boundless. While renewables are a very small part of the U.S. energy supply, they are an important part of a diverse supply, and very likely the future of energy supply. Finally, as recognized so emphatically in the Chairman's bill, conservation is a critical part of any national energy policy, and I encourage expansion of the government's role in encouraging, researching, and practicing energy conservation.

SENATE BILL 597

I strongly support Senate Bill 597, the Comprehensive and Balanced Energy Policy Act of 2001. The bill would increase supplies of energy in an environmentally sound manner and help check demand growth. It would also provide for a commitment and investment in the country's energy future by providing a diverse portfolio of fuel and technology options. The provisions I address today specifically provide for needed studies and reports so that the Congress and the Administration may base statutory, policy, and program changes on sound science and factual information, and also provide for increased oil and gas production both onshore and offshore in environmentally appropriate places and in an environmentally sound manner.

Section 303 of the bill would require an interagency study evaluating U.S. and state tax and royalty policies and how those policies might be adjusted to promote more stable and efficient development of domestic natural gas and oil. The study would be conducted by the Department of Energy, in close coordination with the Departments of Interior, Commerce, and Treasury, and with the Interstate Oil and Gas Compact Commission. This report is an important first step if we are to revise our tax and royalty policies in this country in a manner that will appropriately encourage oil and gas development. The tax system should encourage efficient spending and cost-control, while providing stability in a fashion that gives confidence to investors. We live and work in a global economy; in order to attract investment to the United States energy sector, the government needs to help ensure the stability of reasonable premises underlying investments.

Section 305 would require the Federal Energy Regulatory Commission to conduct an interagency review of policies, procedures and regulations to improve the process for approving new natural gas pipeline capacity. In addition, the President's Council on Environmental Quality would establish a memorandum of understanding among the various agencies with environmental review responsibilities for new natural gas pipelines. This review would be beneficial to industry, the agencies, and the American people. Currently, companies are required to conduct extensive work and prepare up to a dozen reports for the Commission before the Commission will begin the processing of an application. This can take a great deal of time, and be cost prohibitive. A review of the policies, procedures, and regulations may lead to a better process. The Task Force would include representative from other agencies, such as the Bureau of Land Management, Fish and Wildlife Service and Forest Service. This representation will help ensure that the other statutory mandates and issues that need to be considered, such as habitat and environmental concerns, will be included in the process. In order to assure that the technical and business knowledge of industry is included in the review as well, we recommend that the section be amended to include two industry representatives on the task force, which currently numbers at least nine members.

Section 308 would require the Department of Energy to report on whether the Energy Policy and Conservation Act should be amended to give the Secretary of Energy greater flexibility to draw down and distribute the Strategic Petroleum Reserve to mitigate price volatility or regional supply shortages. In preparing the report, the Department of Energy would assess how extreme market conditions in the past may have been mitigated by more timely use of the reserve, and would make specific recommendations for any statutory changes. The use of the reserve has been the subject of much debate; a study and report on the issue will allow for informed decisions and actions in the future.

Section 1001 would require the Department of the Interior to proceed with Lease Sale 181 in the Eastern Gulf of Mexico planning region no later than December 2001, adjusting the lease acreage by excluding 120 blocks of land, so that the lease acreage would include 913 blocks, all of which would be greater than 100 miles from the coast of Florida. The Secretary of the Interior recently announced that the Department would only lease a small fraction—about a quarter—of the original tract. This action by the Secretary disregards nearly a decade of exhaustive consultation with all affected coastal states, including the then-Governor of Florida. Relying on this extensive work by the federal government in offering the original 5.9 million acres for lease, oil and gas companies have spent millions of dollars in preparation for bidding on the sale acreage.

The National Petroleum Council study estimates that gas demand could increase by nearly a third, to 29 trillion cubic feet, by 2010 and by 41 percent, to 31 trillion cubic feet, by 2015. Current annual demand is about 22 trillion cubic feet. The same study estimates that the original 5.9 million acres in the Lease Sale 181 area held 1.9 billion barrels of oil and 7.8 trillion cubic feet of natural gas. These oil and gas reserves are a vital part of the country's energy supply. The National Ocean Industries Association, to which my law firm belongs, represents the offshore industry. The Association has stated that denying access to the sale region's valuable stores of natural gas—the cleanest viable source of energy available to the American people—will do damage to our environmental goals and fly in the face of a sound energy policy for the nation.

Lease Sale 181, one of the most promising tracts offered by the government in recent years, should go forward, and not in the greatly reduced form suggested by the Administration. Section 1001, while not ensuring as much production as the original lease sale proposed by the Clinton Administration, is nonetheless a dramatic improvement over the draconian cuts in potential production proffered by the current Administration.

Section 1002 authorizes additional funding to ensure adequate resources and personnel at the Departments of the Interior and Agriculture, so that required environmental reviews related to oil and gas production on public lands can be completed expeditiously. This is an extremely important authorization because it is clearly understood by industry and everyone else that if you do not do adequate National Environmental Policy Act review on the front end, it will ultimately delay the process. The federal land managing agencies are in the process of attempting to amend and replace numerous outdated land management plans. At the same time, the agencies need to process applications to explore for and develop energy resources and for other multiple use activities on the lands, while conducting processes under the National Environmental Policy Act and ensuring compliance with planning documents. These processes are also important in the development of stipulations. Stipulations should recognize advances in technology and not be unduly restrictive while protecting sensitive surrounding environments. Providing the agencies with the staffing and funding to carry out these statutory responsibilities is vital to the timely processing of applications.

Section 1003 would require the Department of Energy, in conjunction with the Interstate Oil and Gas Compact Commission, to evaluate opportunities for increasing production of oil and gas on state and private lands. The study would take into account trends in land use and development that may affect oil and gas development, the various leasing practices and rules for development among the States, and differences in contract terms from State to State and among private landowners. Further, it would include an assessment of whether optimal recovery practices, including in-fill drilling, work-overs, and enhanced recovery operations, are being employed consistently to ensure the full development and conservation of the resources. Consistent policies are an important part of a national energy policy. Domestic exploration and production must not be depressed by the application of inconsistent and changeable restrictions, and the government should assist in preventing the premature step down in production in mature areas in order to prolong the life of existing reserves. The study required by section 1003 should provide the data and recommendations to address these issues.

SENATE BILL 388

The National Energy Security Act of 2001 has several of the same provisions that I support in Senate Bill 597. Senate Bill 388 provides a portfolio of energy options for a sound national energy policy, focused on supply-side answers. It provides programs to help find, develop, deliver, and, to a lesser extent, conserve our domestic energy resources. The bill also provides an approach with a goal to reduce our reliance on foreign sources of oil to less than 50 percent by 2010. I support this committee's efforts to deal with these energy issues, and I support many of the provisions of this bill.

Title I would provide provisions to protect energy supply and security. Section 101 would require that any agency proposing or participating in an action that could significantly adversely effect domestic energy resources, or the capability to distribute or transport such resources, consult and report to the Secretary of Energy in writing on the nature and scope of the action, the need for the action, the potential effect of the action on energy resource supplies, price, distribution, and transportation, and any alternatives to the action or options to mitigate the effects. The Secretary of Energy would then have time to review the proposed action and make recommendations, which would be considered by the agency.

These are issues that must be considered before actions are taken by federal agencies. This energy analysis should be included in any analysis conducted under the National Environmental Policy Act. Application of the section, however, raises questions. How will agencies determine if an action could have significant adverse effects on the availability or supply of domestic energy resources or on the domestic capability to distribute or transport such resources? For instance, if an agency is planning to hold a lease sale on 10,000 acres of land, but some people feel that it should be 20,000 acres, this provision could be applied, and the process of writing a report and getting a response and considering the response could hold up the lease sale. Holding up a lease sale would, of course, be the opposite result from what is intended by this requirement. A review of the section to ensure that its implementation would not be adverse to the bill's intent is important.

Section 102 would require an annual report on the nation's energy dependence. The report to be prepared by the Department of Energy would specify what specific legislative or administrative actions must be implemented to meet a goal of not more than 50 percent dependence on foreign oil sources by 2010, and set forth a range of options and alternatives with a cost/benefit analysis for each option. The

report would be comprehensive, including options and alternatives to increase the use of renewable domestic energy sources, conserve energy resources, increase domestic production and use of oil, natural gas, nuclear, and coal, and access and transportation of those resources. It would also report on the condition of the nation's refinery industry. Such a report will allow Congress and the Administration to base statutory, policy, and program changes on sound science and factual information, and eliminate any issue about whether the government supports increased domestic oil production.

Sections 105, 106, and 108 would require reports on the use of all dams, impoundments and other facilities, on the status of the domestic refining industry and product distribution system, and on the state of nuclear power generation and production in the United States. These reports will allow policymakers to make informed decisions.

Sections 103 and 109 would authorize reports on the Strategic Petroleum Reserve and the Federal Energy Regulatory Commission natural gas certification procedures, respectively, and are very similar to the provisions in Senate Bill 597. Section 113 would require an agreement among agencies responsible for the environmental review of interstate natural gas pipeline projects. This is similar to the provisions in Senate Bill 597; I support the intent of both bills regarding these provisions.

Subtitle A of Title III would amend the Outer Continental Shelf Deep Water and Frontier Royalty Relief Act. It would provide royalty incentives for operators in the Gulf of Mexico in order to promote development or increased production on producing or non-producing leases or to encourage production of marginal resources on producing or non-producing leases. It would provide for deep water royalty relief in cases where production would not be economic in the absence of the relief, would set cash bonus bids with royalty at no less than 12.5 percent, and would suspend royalties for volumes of less than 17.5 million barrels of oil equivalent (BOE) equivalent for leases in water depths of 200 to 400 meters, 52.5 million BOE for leases in 400 to 800 meters of water, and 87.5 million BOE for leases in water depths greater than 800 meters. The title requires the Secretary of the Interior to promulgate regulations to implement the title within 180 days after enactment. The title would not affect offshore moratoria. Because of limitations imposed on offshore drilling by moratoria and the just-announced scaled-back Lease Sale 181, and the incredible potential for increased production offshore, these sorts of relief for the Gulf of Mexico may be needed to encourage continued exploration and production, thus benefiting both the government and taxpayers.

Subtitle B of Title III would establish a program for oil and gas royalties in kind, and Subtitle C would provide for the use of royalty-in-kind oil to fill the Strategic Petroleum Reserve. The Department of the Interior has operated two different pilot projects using royalty-in-kind oil, and they have both appear successful. Royalty-in-kind oil provides an innovative opportunity to enhance the revenue stream to the American people while reducing royalty conflicts. I support analyzing the two pilots and expanding their scope.

Provisions to improve federal oil and gas lease management are contained in Subtitle D of Title III. The title would mandate the transfer of the regulation of oil and gas operations to states if the states chose. The policy goal underlying the provision is to ensure efficiencies in managing the regulation. For instance, the Bureau of Land Management needs to streamline the processing of applications to drill and update its planning base so that the planning documents will not inhibit development. The BLM has the ability to do this, and the new Administration should be given the opportunity to do so. Subtitle D would also set very tight time frames on the processing of planning documents and analyses. The time frames will not usually be possible unless the mandatory time frames and processes required by the National Environmental Policy Act were revoked or amended. The Title does not appear to intend to create NEPA sufficiency language, and therefore, the time frames are impractical. The new Administration should be given the opportunity to streamline and update their processes to respond to the energy needs of the country in an environmentally sound manner.

Subtitle E of title III would require the Secretary of the Interior to allow a credit of 20 percent against the payment of royalties on federal oil and gas production whenever the cash price of crude oil is less than \$18 per barrel for 90 consecutive days or when natural gas prices are less than \$2.30 per million British thermal units for 90 consecutive days. Such countercyclical provisions are a positive way to encourage exploration and development, while ensuring efficiency and a return to the taxpayer. If the nation is to truly focus on domestic energy production and work toward goals that promote more energy independence, the concern over energy prices needs to be no less at times of extremely low energy prices than it is at times of high energy prices. When energy prices are low, domestic production falls, drilling

rigs go unused and are dismantled, stripper wells are shut in, companies go out of business, and sadly, people leave the industry. Countercyclical provisions, whether royalty based or tax based, can help check this trend.

Title V of Senate Bill 388 is the Arctic Coastal Plain Domestic Energy Security Act of 2001. It would direct the Secretary of the Interior to establish and implement a competitive leasing program for oil and gas on the Coastal Plain of the Arctic National Wildlife Refuge (ANWR). Exploration and production can be undertaken sensitively and with very little lasting environmental consequence, including in the harsh Arctic climate of northern Alaska. Deciding whether an area previously off limits to drilling ought to be opened to drilling is generally controversial and always must be undertaken carefully. Among the factors which must be examined are:

- Exploration and production should cause no lasting damage to the environment;
- In the event of a spill, clean up must be accomplished without permanent adverse environmental impact;
- Consideration of appropriate wilderness issues or other intangibles impacted by a specific project;
- The concerns of the people who will be directly impacted by the development.

Based on these factors and others, significant opposition to developing ANWR has developed, such that virtually all of the analysts and commentators believe there is little chance for passage of a provision to open ANWR for potential exploration in this Congress. It is important not to let an issue like ANWR derail passage of an otherwise critical comprehensive energy bill.

Fortunately for those who advocate drilling in ANWR in order to increase energy production out of Alaska, there are other alternatives. Alaska contains an enormous untapped source of domestic oil and gas, found within existing production areas and without any material impact on the wildlife refuge. The known oil reserves at Prudhoe Bay and elsewhere in the area between ANWR and the 23-million-acre National Petroleum Reserve-Alaska (NPR) are far greater than were ever imagined at the time oil first began flowing from Prudhoe nearly three decades ago. The Clinton Administration reopened the NPR for exploration and production, and projected reserves there will be vital to fulfilling the nation's energy needs. The gas produced on the Alaska North Slope is effectively stranded, albeit extensive amounts are reinjected and used for enhanced oil recovery operations. Any U.S. energy policy should actively encourage the environmentally sound development of these resources and should support the massive undertaking that will be involved in bringing the gas on the North Slope to market by facilitating the construction of the infrastructure necessary to deliver gas into the Lower 48 states.

This concludes my prepared statement. I again thank you for the opportunity to testify today, and will be happy to answer any questions.

The CHAIRMAN. Thank you very much.

Mr. Chuck Clusen, why don't you go right ahead.

**STATEMENT OF CHARLES M. CLUSEN, SENIOR POLICY
ANALYST, NATURAL RESOURCES DEFENSE COUNCIL**

Mr. CLUSEN. Mr. Chairman, my name is Charles Clusen. I am a senior policy analyst with the Natural Resources Defense Council. I am delighted to be here today and to participate in your dialogue about development of energy legislation. I also wanted to say, I am so delighted to be finally sitting in this room at the same table with Chairman Johnston after many years.

I have a couple of remarks about energy in general, and then I will talk about the Arctic refuge, and then I would be happy to answer questions about any part of my statement which goes into many different things.

NRDC's vision of a balanced energy plan calls for encouraging innovation and new technology to meet our energy needs in an environmentally responsible manner. This vision emphasizes efficient use of energy and places priority on using energy resources that are least damaging. It promotes economic growth and American industrial competitiveness. This energy path would not force consumers to make sacrifices. Instead, it relies on approved technologies

that will eliminate waste while increasing productivity and comfort. This vision is laid out in NRDC's recently published report, "A Responsible Energy Policy for the 21st Century."* I request that it be included in the record.

Oil and gas development is simply incompatible with the purposes of the Arctic refuge. Development of the Coastal Plain of the Arctic refuge will destroy America's premier wilderness. NRDC consequently strongly opposes development of the Coastal Plain.

The biological heart of the refuge is the 1.5 million acre Coastal Plain. It is home for nearly 200 species of wildlife. Each year the tundra wetlands of the plain provide the most important birthing and nursing ground for arctic wildlife. The area provides vital habitat for polar bears, grizzly bears, musk oxen, Dall sheep, wolverines, and millions of water fowl and other migratory birds. The Coastal Plain is best known for 130,000-animal caribou herd that migrates there every spring to calve from the Porcupine River watershed 400 miles to the south where they spend the winter.

The Coastal Plain has been called American Serengeti. The Coastal Plain is so important to the whole refuge that one can say that to develop the Coastal Plain is not only to degrade and disrupt ecological functions of the Coastal Plain but of the entire refuge.

USGS recently determined that the refuge may contain roughly 3.2 billion barrels of oil that could be economically recovered and brought to market, assuming a price of \$20 per barrel, but it would take 50 years to extract all of it, and the oil would satisfy only 1 percent of projected U.S. demand. The oil that could flow from the Coastal Plain over the next 50 years will never meet more than 2 percent of the national demand and will not alleviate America's consumers facing high gasoline prices.

Proponents of drilling have claimed that up to 16 billion barrels of oil could be recovered from the refuge's Coastal Plain, but the USGS says that first this is a calculation of a much larger area, including State lands and private lands and offshore areas, but also that it is only the 1 in 20 chance, and that furthermore, it is technically recoverable and not economically recoverable, which would be much less.

3.2 billion barrels is less than a 6-month supply for the United States. What is more, oil from the refuge would take roughly 10 years to begin reaching the market. Since oil prices are set on the world market and other nations have vastly larger reserves and lower production costs, whatever oil is recovered from the refuge would not lower prices at the pump nor will it contribute to our energy security. Oil development, no matter how carefully it is done, with the best available technology will harm large portions of the refuge and destroy the wilderness character.

And, Mr. Chairman, I would like to submit for the record three articles that have appeared in the *Wall Street Journal* over the last couple of months, the most recent this week, that address the whole questions of how maintenance has deteriorated, how manpower has deteriorated, and how the State of Alaska is doing an

*The report has been retained in committee files.

inadequate job of monitoring the oil development on the North Slope.*

The CHAIRMAN. We will be glad to include those.

Mr. CLUSEN. Exploration and production would not be confined to a limited area. It would range across as many as 35 separate fields, affecting wildlife habitat on hundreds of thousands of acres, interspersed between sprawling oil facilities and pipelines. Habitat would be further disrupted by industrial activity associated with airports, production and support facilities, housing, and gravel roads would be needed to connect the drilling sites. All this industrial activity would fragment the Coastal Plain, harm dozens of rivers, and disrupt critical birthing, denning, and breeding habitats.

And with that, Mr. Chairman, I would like to submit for the record a letter signed by over 130 scientists, outlining all of these problems that development would bring to the wildlife.**

The CHAIRMAN. We will be glad to have that included.

Mr. CLUSEN. Proponents of drilling of the Arctic refuge refuse to acknowledge the reality that the United States can drill its way out of the energy problem. America has 5 percent of the world's population, but consumes nearly 25 percent of the world's supply. It has already extracted most of its available oil. The conclusion is obvious. The United States can better meet its energy needs and do more to help American consumers by cutting its demand.

For example, simply upgrading the quality of replacement tires to match that of tires that come as standard equipment in new cars would save 5.4 billion barrels of oil over the next 50 years, 70 percent more than what is projected for the Arctic refuge. Updating fuel efficiency standards to reflect the capabilities of modern technology would produce even greater savings.

Increasing fuel efficiency standards for new passenger vehicles to an average of 39 miles per gallon, easily done with the hybrid vehicles, over the next decade would save 51 billion barrels of oil over the next 50 years. This, Mr. Chairman, by the way, is 15 times what is projected to be the yield of the Arctic refuge.

In summary, drilling in the Arctic National Wildlife Refuge is a distraction, not a solution to America's energy needs. Thank you.

The CHAIRMAN. Thank you very much.

[The prepared statement of Mr. Clusen follows:]

PREPARED STATEMENT OF CHARLES M. CLUSEN, SENIOR POLICY ANALYST,
NATURAL RESOURCES DEFENSE COUNCIL

My name is Charles M. Clusen, a Senior Policy Analyst and representative for the Natural Resources Defense Council. I appreciate the opportunity to appear before you today to discuss conventional fuels as part of the series of hearings that the Senate Energy and Natural Resources is holding in developing energy legislation.

The Natural Resources Defense Council is a national, non-profit organization of scientists, lawyers, and environmental specialists, dedicated to protecting public health and the environment. Founded in 1970, NRDC serves more than 500,000 members from offices in New York, Washington, Los Angeles, and San Francisco.

First, I would like to explain briefly NRDC's vision of a balanced energy plan and next I will address several of the specific issues raised by the Committee.

*The article has been retained in committee files.

**The letter can be found in the appendix.

NRDC'S ENERGY PLAN

At the dawn of a new century, America finds itself once again wrestling with a problem that has, off and on, been at the forefront of U.S. politics for several decades: energy. The United States has 5 percent of the world's population, but consumes nearly a quarter of the world's energy supply. We use energy to heat our homes and our businesses, power our computers and telephone systems, run our automobiles and aircraft, and drive our manufacturing plants and hospitals. In short, we have constructed an economy and a way of life that depends on the ready availability of energy.

Two distinct visions of an energy policy for the United States have emerged to meet these demands. One vision focuses chiefly on extracting as much energy as possible, mostly in fossil fuel form (oil, coal and natural gas), in hopes that supply can catch up with demand. The alternative vision, however, calls for encouraging innovation and new technology to meet our energy needs in an environmentally responsible manner. This vision emphasizes efficient use of energy, and places priority on using energy resources that are least damaging to our environment. It promotes economic growth and American industrial competitiveness. This energy path would not force consumers to make sacrifices. Instead it relies on improved technologies that will eliminate waste while increasing productivity and comfort.

Therefore, NRDC believes that U.S. energy policy must rely on the application of technological advances already in place and readily available as a way to reduce consumption. Such an approach will decrease America's reliance on foreign sources of energy in the near- and long-term, protect the environment, provide for America's energy needs, and buffer the economy against short-term swings in the market. NRDC's recently published report; *A Responsible Energy Policy for the 21st Century* examines these issues in detail. I ask that the report be included in the record.

SPECIFIC CONCERNS:

I. Oil and Gas Development is Incompatible with the Purpose of the Arctic National Wildlife Refuge

Oil and gas development of the coastal plain of the Arctic refuge will destroy America's premiere wilderness. Occupying the northeastern corner of Alaska, bordered on the north by the Arctic Ocean and on the east by Canada's Yukon Territory, the Arctic National Wildlife Refuge was expanded by the Alaska National Interest Lands Conservation Act (ANILCA) to its present size of 19,351,300 acres making it the second largest wildlife refuge in the United States. It is home for nearly 200 species of wildlife. The "biological heart" of the refuge is the 1.5 million acre coastal plain, a roughly 25 mile-wide strip of land extending for over 125 miles, framed by the ocean and the spectacular Brooks Range. Each year, these tundra wetlands provide the most important birthing and nursing ground for Arctic wildlife. The area provides vital habitat for polar bears, grizzly bears, muskoxen, Dall sheep, wolverines, and millions of waterfowl and other migratory birds. The coastal plain is best known for the 130,000 animal caribou herd that migrates there every spring to calve from the Porcupine River watershed 400 miles to the south where they spend the winter. The coastal plain makes up of the most critical 8% of the refuge and has been called "America's Serengeti", a reference to Africa's wildlife rich plain.

The coastal plain is also precisely where Big Oil has set its sights to drill. Oil and gas development in the refuge will permanently doom this unparalleled global treasure for the benefit of a select few oil and gas companies. The U.S. Geological Survey (USGS) recently determined that the refuge may contain roughly 3.2 billion barrels of oil that could be economically recovered and brought to market, assuming a price of \$ 20 per barrel. But, it would take 50 years to extract it all and the oil would satisfy only 1 percent of projected U.S. demand. The oil that could flow from the coastal plain over the next fifty years will never meet more than 2% of the national demand and will not alleviate American consumers facing high gasoline prices. Proponents of drilling have claimed that 16 billion barrel of oil could be recovered from the refuge's coastal plain. But USGS says there is less than 1 chance in 20 that the coastal plain contains that much oil—and only a portion of it could be recovered economically.

More than 3 billion barrels of oil—the amount that might be extracted from the refuge—sounds like a lot. But the United States uses 7.1 billion barrels of oil per year, so those 3.2 billion barrel are less than a six month's supply. What's more, oil from the refuge would take roughly 10 years to begin reaching the market. Since oil prices are set on the world market and other nations have vastly larger reserves and lower production costs, whatever oil is recovered from the refuge will not lower prices at the pump, nor will it contribute to our energy security.

Oil development—no matter how carefully it is done even with the best available technology—would harm large portions of the refuge. Exploration and production would not be confined to a limited area; it would range across as many as 35 separate fields, affecting wildlife habitat on hundreds of thousands of acres interspersed between sprawling oil facilities and pipelines. Habitat would be further disrupted by industrial activity associated with airports, permanent production and support facilities, housing, and the gravel roads needed to connect the drilling sites. All this industrial activity would fragment the coastal plain, harm dozens of rivers, and disrupt critical birthing, denning and breeding habitats.

Proponents of drilling often claim that new sources of oil will be needed for the Trans-Alaska Pipeline. Yet there are still significant oil reserves in existing developed areas. The state of Alaska projects that from 1999 to 2020, another 5.7 billion barrels of oil could be produced from the Prudhoe Bay production area, seven adjacent fields, and nearly 50 satellite fields near the existing oil fields. In addition, the West Sak oil field, which overlays the existing production area, contains 15 to 20 billion barrels of oil. While yields at the Prudhoe Bay production area are declining, even conservative projections predict another 40 years of production from the North Slope, without even considering the Arctic Refuge.

The United States currently consumes approximately 19.6 million barrels of oil a day. Coastal-plain oil production from the Arctic Refuge would likely peak in 2027 at 150 million barrels per year—not even 2 percent of projected U.S. consumption for that year. Proponents of drilling in the Arctic Refuge refuse to acknowledge the reality that the United States cannot drill its way out of its energy problem. America has 5 percent of the world's population, but consumes nearly a quarter of the world's oil supply. It has already extracted most of its available oil. The conclusion is obvious: the United States can better meet its energy needs—and do more to help American consumers—by cutting its demand. For example, simply upgrading the quality of replacement tires to match that of tires that come as standard equipment on new cars would save 5.4 billion barrels of oil over the next 50 years—70 percent more than the total amount of oil likely to be recovered from the Arctic Refuge over the same period. Updating fuel efficiency standards to reflect the capabilities of modern technology would produce even greater savings. Increasing fuel efficiency standards for new passenger vehicles to a average of 39 miles per gallon over the next decade would save 51 billion barrels of oil over the next 50 years—more than 15 times the likely yield from the Arctic Refuge.

In summary, Drilling in the Arctic National Wildlife Refuge is a distraction, not a solution to America's energy needs.

II. State Regulation of Oil and Gas Operations on Federal Lands Will Undermine Environmental Protections

State regulation of oil and gas will effectively hand over decisions about development on federal lands to the oil and gas industry. In most western states, "regulation" of oil and gas resources is the responsibility of an oil and gas commission, made up predominantly of industry representatives. In Colorado, for example, four of the six commissioners represent industry. Conflict of interest laws governing industry participation in these commissions are weak or non-existent.

It is unlikely that states will guard our federal resources as vigilantly as the federal government. Handing management over to state oil and gas commissions would give them responsibility for deciding issues that are critical for wildlife and other federal land resources. For example, some current federal oil and gas leases limit production activities in certain seasons to accommodate specific wildlife needs, such as pronghorn antelope migration routes and antelope calving areas. In other cases, to protect fragile federal wildlands, leases require energy resources to be accessed via "slant of directional drilling" from already disturbed areas. Federal laws authorize protections such as these stipulations and restrictions. If states control permitting and enforcement on federal lands, they would be free to ignore these laws and the protections they afford to federal resources. Thus, for example, while BLM has standard stipulations to protect wildlife or other resources in a leased area, the Wyoming Oil and Gas Conservation Commission rarely, if ever, imposes stipulations at the lease stage, and does not have any standard ones developed for wildlife, historic or cultural resources.

Allowing states to manage oil and gas development will effectively reduce regulatory controls and make existing environmental problems worse. Current federal law requires that public land resources be protected from unnecessary harm. Despite these protections, oil and gas development on federal public lands has resulted in significant damage to habitats of native wildlife and fish, air quality, water resources, vegetation, and visibility. The industrial activity destroys the area's value as wilderness as well. If the states get to manage the nation's public lands, more

natural treasures will be at risk. Almost all of the lands administered by the Bureau of Land Management (BLM) are already open to oil and gas leasing, exploration, and development. The BLM is required to manage these public lands in the national interest and in a manner that will “prevent unnecessary and undue degradation.”

The federal government could lose millions of dollars in revenue under S. 388. Today oil and gas production on federal lands generates \$835 million for the federal treasury, some of which is returned to the states. Under this bill, the federal government will have to reimburse the states for the cost of managing oil and gas development. As a result, taxpayers will receive less return from the exploitation of their resources.

CONSEQUENCES OF DEVELOPMENT IN SPECIAL PLACES

The states of the Rocky Mountain West—Colorado, Montana, New Mexico, Utah, and Wyoming—contain significant oil and gas resources. It is important to keep in mind that most public lands in the Rocky Mountain region are open for oil and gas drilling. According to a 1999 report on natural gas published by National Petroleum Council, the industry admits that only about 9% of “resource-bearing” federal lands in the Rockies are closed to development. In the same states a BLM study found that 95% of their lands—some 112 million acres are open. The remaining 91% or 95% respectively are open subject to lease conditions imposed by federal managers. These include measures designed to protect other resources, including wildlife, the water supplies of western communities, and air quality.

When widespread oil and gas leasing occurs in the region, however, the resulting industrialization is extremely pervasive. Well fields, which can cover extensive acreage, consist of a dense web of power lines, pipelines, waste pits, and new or upgraded roads, in addition to processing plants and other facilities. These roads, well sites, and related human activities have displaced deer, antelope, and other wildlife species from their native ranges and have eliminated the wilderness value of millions of acres of land. In addition, every year visibility is significantly impaired by emissions from these industrial operations; the same emissions also contribute to acidification of sensitive water bodies.

Special Places at Risk: Only a fraction of the public lands in the Rockies have been put off limits to oil and gas leasing, exploration, and development. Some of the special lands most at risk from oil and gas development include:

- Wyoming’s Red Desert: Hidden away in the southwestern part of the state is one of the most unique and spectacular landscapes in North America. The area has stunning rainbow-colored rock formations, towering buttes, and prehistoric rock art as well as outstanding wild lands. It is home to the largest pronghorn antelope herd in the lower 48 states as well as a rare desert elk herd. For centuries the Red Desert has been a sacred place of worship for the Shoshone and Ute tribes, and it contains remnants of the Oregon and Mormon Pioneer trails. Oil wells, pipelines, excessive roads, and other industrial facilities already mar the landscapes on some of the surrounding desert land. In response to industry applications to lease, the Interior Department recently committed the Bureau of Land Management to develop a proposal focusing on protection of the area’s outstanding natural, cultural, and aesthetic wonders.
- Little Missouri National Grassland: Situated in the western North Dakota badlands, this area contains some of the most important wildlife habitat, wilderness, and recreational areas in the state. It is home to bighorn sheep and serves as a potential reintroduction site for the endangered black-footed ferret, the rarest mammal in North America. The area’s topography ranges from deeply incised, dramatically hued canyons to verdant ridges and two hundred year-old ponderosa pines. An exceptional river, the Little Missouri, runs through the badlands. Extensive oil development has already claimed much of the badlands, and efforts to increase the level of drilling continue.
- Utah’s fabled redrock country: These lands make up some of the last unspoiled wilderness outside of Alaska. Their red-hued massive cliffs, arches, towers, and other rock formations support bighorn sheep, mountain lion, pronghorn antelope, peregrine falcons, golden eagles, and other wildlife species as well as ancient Native American ruins. This past year the Bureau of Land Management attempted to lease more than 30,000 acres of these irreplaceable wildlands, bringing them closer to industrialization and the certain destruction of their value as wilderness.
- Vermillion Basin in Northwest Colorado: This area is one of the state’s most stunningly beautiful and isolated regions. Its wild landscape is dotted with banded cliffs, desert mountains, and rugged badlands along with a host of sig-

nificant historic and scientific resources. Despite the passage of time, these lands look much like they did when the Ute Indians' ancestors first came there. However, oil and gas development currently surrounds the area and threatens to further encroach into the basin. If these developments are permitted to intrude, this amazing landscape could be lost forever.

III. Oil and Gas Development on the Outer Continental Shelf

We do not need to drill in sensitive offshore areas to meet America's energy needs. For example, industry is pressing to drill in OCS moratoria areas, the Eastern Gulf of Mexico, and off the coast of Alaska. But such drilling is unnecessary, because seventy per cent of the nation's undiscovered, economically recoverable OCS oil and gas, and 80% of the nation's undiscovered, economically recoverable OCS gas, is located in the Central and Western Gulf of Mexico.¹ There is simply no need or justification for removing the moratoria areas for offshore submerged federal public lands, off Alaska and the Eastern Gulf of Mexico. The vast majority of the nation's oil and natural gas deposits in offshore continental shelf remains available to industry.

Environmental Consequences of Oil and Gas Development

While the oil industry has made significant progress in reducing the environmental impacts of its operations, oil production remains an inherently damaging and risky activity that is simply incompatible with protecting fragile natural resources, such as remaining coastal wetlands and wildlife refuges. For example, offshore oil and gas development continues to result in oil spills, the release of drilling waste, dumping of contaminated "produced water" and on shore impacts from terminals, pipelines and other facilities:

Oil spills. This is the most obvious impact of offshore development. While platform blowouts resulting in large spills are rare, pipeline spills are not. According to DOI statistics, from 1986 through 1997, some 2 million gallons of oil was spilled from OCS oil and gas operations. In January of this year, an oil pipeline in the Gulf of Mexico ruptured after becoming fouled with an anchor from a drilling rig and spilled some 94,000 gallons of crude oil into the Gulf about 120 miles south of New Orleans.

Drilling waste. Drilling operations generate more than a thousand tons of drilling waste per well. Toxic pollutants in drilling waste include lead, naphthalene, arsenic, copper and selenium. Suspended solids in drilling waste can smother bottom dwelling organisms and alter critical benthic habitats. Disposal of OCS drilling wastes typically involves dumping it over the side untreated.

Produced water. "Produced water" (brine in the formation that is brought up along with oil from a well), is generated in massive quantities by production operations. Produced water contains a variety of toxic pollutants, including benzene, toluene, and the radioactive pollutants Ra 226 and Ra 228 (produced water generated off Louisiana has been found to contain levels of radioactivity higher than that permitted to be discharged by nuclear power plants and higher than the level that distinguishes hazardous from non-hazardous waste under RCRA).

Onshore impacts. Offshore oil and gas extraction typically requires extensive onshore industrial development to process and transship oil or gas. Pipelines, storage facilities, processing facilities and other industrial infrastructure built to support offshore oil and gas has resulted in substantial environmental damage to coastal resources. For example, a study done for NOAA in the 1980's conservatively estimated that offshore pipelines crossing coastal wetlands in the Gulf of Mexico had destroyed more coastal salt marsh than exists in New Jersey through Maine. Particularly in areas where little infrastructure presently exists, onshore impacts can be expected to be substantial.

Renewed calls for opening the Arctic National Wildlife Refuge to oil exploration are generally accompanied by claims that the environmental impact would be minimal, yet a review of the impact of existing oil development in Alaska tells a different story. Once part of the largest intact wilderness area in the United States, Alaska's North Slope now hosts one of the world's largest industrial complexes. More than 1,500 miles of roads and pipelines and thousands of acres of industrial facilities sprawl over hundreds of square miles of once pristine arctic tundra. Impacts include air pollution, spills and waste:

Air pollution. Oil operations on Alaska's North Slope emit tens of thousands of tons of oxides of nitrogen annually, which contribute to smog and acid rain. In addition, North Slope oil facilities release tens of thousands of tons of methane, a potent greenhouse gas that contributes to global warming.

¹U.S. Department of the Interior, Minerals Management Service (MMS), 2000. Outer Continental Shelf Petroleum Assessment, 2000, page 5 and Gulf of Mexico Assessment Update.

Spills. Each year, hundreds of spills involving tens of thousands of gallons of crude oil and other petroleum products and hazardous materials occur on the North Slope. In 1995, approximately 500 spills occurred involving more than 80,000 gallons of oil, diesel fuel, acid, biocide, ethylene glycol, drilling fluid, produced water, and other materials.

Waste. Oilfield activities generate tens of thousands of cubic yards of sewage sludge, scrap metal, garbage, and waste every year.

Protecting Sensitive Coastal Areas

Beginning in 1981 and every year since then, Congress has imposed restrictions on OCS leasing in sensitive areas off the nation's coasts. These moratoria now protect the east and west coasts of the U.S., Bristol Bay, Alaska, and most of the Eastern Gulf of Mexico. The moratoria reflect a clearly established consensus on the appropriateness of OCS activities in most areas of the country, and have been endorsed by an array of elected officials from all levels of government and diverse political persuasions, from former President George H.W. Bush to Governor Jeb Bush of Florida, and from Governor Tony Knowles of Alaska to Governor Gray Davis of California.

NRDC has long supported the OCS moratoria and therefore support the legislation introduced by Sen. Corzine (S. 1086); Sen. Graham (S. 771); and Sen. Boxer (S. 901) to permanently protect moratoria areas from oil and gas development. We strongly oppose any attempt to lift the moratorium, or to promote gas development in other sensitive OCS areas, including the Sale 181 area off the west coast of Florida and areas off Alaska. We have called on the Interior Department to remove these areas from the new Five Year OCS Program currently under development.

Drilling in the moratoria areas, the Sale 181 area and the Alaskan OCS is not necessary to meet our nation's energy needs.

Despite assertions from industry and their supporters on Capitol Hill, we do not need to drill in sensitive areas to meet America's energy needs. For example, industry is pressing to drill in the moratorium areas, the Eastern Gulf of Mexico, and off Alaska. But such drilling is unnecessary because seventy per cent of the nation's undiscovered, economically recoverable OCS oil and gas, and 80% of the nation's undiscovered, economically recoverable OCS gas, is located in the Central and Western Gulf of Mexico.² Thus, removing the moratorium areas, the OCS off Alaska, and the Eastern Gulf of Mexico from the 5 Year Program will leave the vast majority of the nation's OCS oil and gas available to the industry.

In addition, large untapped energy efficiency resources exist that can provide more gas and oil at far less cost. For example, providing tax incentives for the construction of energy efficient buildings, manufacturing energy-efficient heating and water heating equipment could save 300 Tcf of natural gas over 50 years.³ This is more than twelve times the Interior Department's mean estimates of economically recoverable gas located outside the Central and Western Gulf of Mexico.⁴ These strategies will do far more to increase our nation's energy security than a "drain America first" policy of exploiting sensitive offshore and onshore federal lands.

IV. Deepwater Royalty Relief

NRDC opposes any royalty relief for offshore oil and gas wells. President Bush and Interior Secretary Norton have even rejected this unnecessary subsidy for major oil and gas companies seeking new leases on the Outer Continental Shelf in the Gulf of Mexico.

It makes no sense to provide multibillion-dollar subsidies to oil and gas companies when they are making record-breaking profits. This subsidy serves only to encourage drilling in areas that currently are not developed and which may not be economical to develop on their own. Moreover, 60% of the economically recoverable oil and 80% of the economically recoverable gas available in the Gulf of Mexico is in areas that are already leased for energy development; there is no need to open new areas up for more oil and gas production, much less provide additional financial incentives to drill in new areas.

²U.S. Department of the Interior, Minerals Management Service (MMS), 2000. Outer Continental Shelf Petroleum Assessment, 2000, page 5 and Gulf of Mexico Assessment Update.

³NRDC, 2001. A Responsible Energy Policy for the 21st Century, p. 32.

⁴U.S. Department of the Interior, Minerals Management Service (MMS), 2000. OCS Petroleum Assessment, 2000, p. 5 and Gulf of Mexico Assessment Update.

Improvements Needed in Environmental Reviews of Oil and Gas Activities

If Congress is going to legislate reforms to the process by which oil and gas resources on our federal lands are leased and developed, the legislation must address problems with that process and NEPA—the National Environmental Policy Act. In brief, adequate environmental analyses are not being performed at key stages in the process—land use planning, leasing, approval of specific projects and approval of individual wells. As the result, many publicly owned resources are suffering otherwise avoidable harms. Of particular concern to environmentalists is the failure of federal agencies to comply with NEPA before issuing leases to extract oil and/or gas from the public's lands.

An oil and gas lease gives the holder certain rights to develop the affected lands, rights that the agency cannot easily withdraw once the lease has been issued. Some leases provide for “no surface occupancy” (NSO), meaning that the holder cannot expect to occupy or disturb the surface of the affected lands. Others are non-NSO leases, meaning that the holder has some right to occupy the surface. Because non-NSO leases amount to an irreversible commitment of federal resources, it is essential that the environmental impacts of development be fully considered before such leases are issued—and courts have so held. See, e.g., *Conner v. Burford*, 848 F.2d 1441 (9th Cir. 1988).

Too often, however, the agencies do not consider these impacts before issuing non-NSO leases. More specifically, they do not prepare an environmental impact statement (EIS) before issuing leases—or the analyses they do prepare do not fully disclose and/or analyze the potential impacts of development. Failure to prepare adequate NEPA documents at the pre-leasing stage shortchanges the resources of the public lands and the public—the owners of these lands.

Thus, for example, in Wyoming, the Bureau of Land Management offered and issued numerous leases for coalbed methane development without ever performing any NEPA analysis. See, e.g., *Wyoming Outdoor Council*, 153 IBLA 379 (2000); *Darin, Thomas F. and Amy W. Beatie*, “Debunking the Natural Gas ‘Clean Energy’ Myth: Coalbed Methane in Wyoming’s Powder River Basin,” 31 *ELR* 10566, 10586-87.⁵ In other areas, the Bureau has prepared generic reviews of the impacts of hypothetical development scenarios. In neither case has it taken the required ‘hard look’ at pre-leasing issues such as which areas should be closed to development, which areas should be leased with stipulations and what stipulations, including NSO stipulations, should be imposed. See, e.g., *Wyoming Outdoor Council*, 153 IBLA at 389. And, equally importantly, in neither case has it afforded the public the opportunity to participate effectively in pre-leasing decisions as required by both NEPA and the Federal Onshore Oil and Gas Leasing Reform Act, 30 U.S.C. §§ 187, 226(f).

Rather than avoiding compliance with federal environmental laws such as NEPA, Congress should insist that the agencies comply fully with NEPA before leasing as well as at other stages in the development process. In particular, it should insist that pre-leasing NEPA documents analyze the impacts of oil and gas development on the resources of real places—unless only NSO leases are issued. Complying fully with NEPA would not mean an end to oil and gas development on public lands. It would, however, help ensure that the environmental price paid for development is not too high.

Reducing Dependence on Petroleum, Using Resources More Efficiently

Almost thirty years after the first OPEC oil embargo the United States is still dependent on petroleum for 97% of its transportation energy needs. As a result, two-thirds of our petroleum consumption goes to fuel transportation. With average efficiencies declining for new vehicles, and a 21 percent increase in miles driven between 1990 and 1998; the petroleum dependence of transportation is continuing to rise.

Recent analysis shows that CAFE standards could be raised to over 40 miles per gallon for new cars and light trucks by 2010. This would result in oil savings of about 3 million barrels per day below business-as-usual projections, with a net economic gain for consumers of \$69 billion over the life of the vehicles. It would give Americans fifteen times more oil than drilling the Arctic Refuge.

In addition, large untapped energy efficiency resources exist that can provide more gas and oil at far less cost. For example, providing tax incentives for the construction of energy efficient buildings, manufacturing energy-efficient heating and water heating equipment could save 300 Tcf of natural gas over 50 years.⁶ This is more than twelve times the Interior Department’s mean estimates of economically

⁵This article also details problems with NEPA at other stages of the development process.

⁶NRDC, 2001. *A Responsible Energy Policy for the 21st Century*, p. 32.

recoverable gas located outside the Central and Western Gulf of Mexico.⁷ These strategies will do far more to increase our nation's energy security than a "drain America first" policy of exploiting sensitive offshore and onshore federal lands.

Thank you for your attention. I look forward to answering any questions you may have.

The CHAIRMAN. The next witness is Mr. Jerry Hood. We are pleased to have you here.

**STATEMENT OF JERRY HOOD, SPECIAL ASSISTANT TO THE
GENERAL PRESIDENT FOR ENERGY; PRINCIPAL OFFICER
OF LOCAL 959 IN ALASKA, INTERNATIONAL BROTHERHOOD
OF TEAMSTERS, ANCHORAGE, AK**

Mr. HOOD. Thank you, Mr. Chairman. It is a pleasure to be here this morning to talk about the Nation's energy problems and potential solutions to those problems.

I am really tempted to scrap my oral comments and written testimony and respond to the previous witness, but I will not do that, because I think there are some facts that need to be clarified with regard to Alaska's Arctic National Wildlife Refuge, but there are other important points with regard to the nation's energy problem that I think need to be addressed, and I think it is important for this committee to hear what the feeling is of the Teamsters' Union and our 1.4 million members and also our general president, as I am here representing him today as well.

The past Sunday's *Baltimore Sun* reported that 12,000 low income Maryland families are still struggling to pay their winter heating bills and face this summer the real chance of having their utilities cut off. In addition to that, there are 4.3 million American homes facing the same problem. So this Nation really is in a crisis, and we think that Congress should act and act now to enact a comprehensive energy problem that can solve the problems that face our citizens.

Any component of an energy policy has to include in an expanded infrastructure. We do need more powerplants, pipelines, transmission lines, and refineries. You know, California is experiencing blackouts, and President Bush is presently responding to Governor Davis's request for building these new powerplants on an expedited basis.

We also realize in the Teamsters—and I think the administration does, and I think the Senate does—that conservation has got to be a part of the solution to these problems; also the development of alternate sources of fuel. We do need to lower our dependence on foreign sources of energy, primarily oil. We concur with the goal that was set here earlier this morning, and I testified at the House yesterday before, and that we should have no more than a 50 percent dependency on foreign oil, and it should be less than that if we can possibly achieve it.

Well, our best opportunity to achieve a 50 percent dependency on foreign oil and increase our domestic supply is, in fact, the Arctic National Wildlife Refuge. We think—and we think technology is there—that that will be the largest find of domestic oil in the world in the last 30 years. Contrary to the previous witness, the USGS

⁷U.S. Department of the Interior, Minerals Management Service (MMS), 2000. OCS Petroleum Assessment, 2000, p. 5 and Gulf of Mexico Assessment Update.

said that there was a 95 percent chance that we would find 5.7 billion barrels of oil. There is a 5 percent chance that we would find 16 billion barrels of oil, and I believe the Secretary of the Interior testified earlier that their mean average on that would be about 7 billion barrels of oil. That is from a USGS study. In that study nowhere does it say anything about 3.2 billion barrels.

In fact, the technology used when that study was conducted, when we found a field of oil, we were able to extract about 34 percent. With today's technology that we are using in the Alpine field, we can extract 65 percent, so the numbers that I have just quoted you actually legitimately could be increased by a huge amount. So we do think that the Arctic National Wildlife Refuge is an answer to reduce our foreign dependence on oil. We think that we can do it safely, and we think we can do it in an environmentally sound manner.

Regardless of the machinations in the *Wall Street Journal* on Monday, we have a 30-year history of producing oil in the State of Alaska in an environmentally responsible manner. It has not impacted the wildlife. It has not impacted the caribou in the Central Arctic Herd, and in fact, the previous witness talked about Dall sheep on the Coastal Plain. I am an Alaskan. A Dall sheep, for those who don't know, is a mountain goat. There are no mountains on the Coastal Plain of ANWR. It is those kinds of distortions that Alaskans are having to overcome to educate the American public and the members of Congress with regard to the reality of oil production in our State of Alaska.

In conclusion, I just want to talk about one of the reasons that organized labor and the Teamsters in particular are supporting the comprehensive energy policy, primarily as outlined in Senator Murkowski's bill. Since the first of the year, this country has lost about 400,000 jobs, and those are good-paying jobs. Those are not the minimum wage service sector jobs that were created over the last eight years. We are talking about 400,000 high-paying, high-tech, high-skilled jobs.

In the petroleum industry over the last decade, we have lost 500,000 jobs. A lot of those are our members. We represent 200,000 people in the petroleum industry. We represent 600,000 truckers who depend on a reliable and affordable source of fuel, many of whom have had to leave that industry because they are unable to compete due to the high price of fuel, so it is a jobs issue with regard to organized labor, and it is important, I think, when we can create 735,000 jobs in this country to help replace some of those that were lost, that we look at our options with regard to our energy policy in trying to create more jobs for the American economy. Thank you.

[The prepared statement of Mr. Hood follows:]

PREPARED STATEMENT OF JERRY HOOD, SPECIAL ASSISTANT TO THE GENERAL PRESIDENT FOR ENERGY; PRINCIPLE OFFICER OF LOCAL 959 IN ALASKA, INTERNATIONAL BROTHERHOOD OF TEAMSTERS, ANCHORAGE, AK

Mr. Chairman and Members of the Committee, my name is Jerry Hood, and I am Special Assistant to the General President for Energy at the International Brotherhood of Teamsters and Principal Officer of Local 959 in Alaska. I am here on behalf of the 1.4 million members of the Teamsters Union, as well as our General President, James P. Hoffa.

We no longer have the luxury of putting off the hard choices regarding energy supply and security. This summer the rolling blackouts are rolling eastward, most recently hitting Utah and Nevada. In the Midwest, roller-coaster gas prices are putting the pinch on Teamsters and other working Americans, who can only brace themselves for things to get worse.

And just this past Sunday, the Baltimore Sun ran an article reporting that 12,000 low-income Maryland families who are still struggling to pay their winter heating bills now face the very real possibility of having their utilities cut off. According to the article, 4.3 million low-income households face the same fate across the nation. In the words of Pat Harkins, executive director of the Harford County, Maryland, Community Action Agency: "We're in a crisis right now."

Mr. Harkins is right—we are in a crisis, and Congress must act now to pass a comprehensive national energy policy.

A major component of any energy plan must be expanded infrastructure. We need more power plants, pipelines, transmission lines, and refineries. California Governor Gray Davis has recognized that fact; one of his first requests to President Bush was an expedited process for building new power plants. Similar steps need to be taken nationwide.

Everyone knows that conservation, too, must be part of the solution. Vice President Cheney included new energy efficiency measures in his task force's report, and the President has said that he would like to see conservation included in any energy package passed by Congress and signed into law.

However, conservation alone will not save us from the energy crisis. We also must increase our domestic energy supply while decreasing our dependence on foreign resources. In working toward those goals, our best opportunity for increasing production lies in the North Slope of Alaska. By opening up a small part of the Arctic National Wildlife Refuge (ANWR) to exploration, we could access the largest single oil discovery in the world in the last 30 years. According to the U. S. Geological Survey, ANWR could hold between 5.7 and 16 billion barrels of oil—and possibly more.

Thanks to cleaner, more efficient technology developed in existing Alaskan fields, we can get to that oil with minimal impact on the surrounding area. Horizontal drilling, for example, can access oil deposits underground as far as four miles from a single surface location. To put that into perspective, a single well located in the center of Washington, DC, would be able to drill under most of the city, reaching as far as Maryland and Virginia.

At the same time, opening up a small part of ANWR for oil exploration will create an estimated 735,000 jobs all across the nation. At least 25,000 of them will go to Teamsters in direct oil production related jobs alone. Many people have lauded the job growth that has occurred over the last eight years, but that praise ignores one important fact: most of that new employment consisted of low paying service sector jobs with few benefits, no pensions, and scarce job security. On the other hand, the employment created by ANWR will offer something to working Americans that they need—good pay, good benefits, and good pensions.

Unfortunately, the debate over energy policy has been clouded by the hyperbolic rhetoric of the anti-ANWR forces. Their multi-million dollar ad campaign—based primarily on misinformation—has succeeded in focusing many members on politics, rather than progress. For weeks, these groups have been highlighting their opposition to opening up a small part of ANWR.

What they haven't emphasized is their opposition to almost every other key component in solving our energy crisis, including new clean coal technology, natural gas, nuclear power, additional refinery capacity, and modernizing our pipeline infrastructure. In short, they oppose any part of an energy plan that would actually help get us out of this mess.

Teamsters and other working Americans will continue to feel the crunch of the energy crisis through the summer, irrespective of any action by Congress. However, in order for us to keep the situation from getting worse in the long term, we must take action—real action—now.

The CHAIRMAN. Thank you very much.

Mr. Young, you are the final witness on this panel.

STATEMENT OF TOM YOUNG, VICE PRESIDENT OF BUSINESS DEVELOPMENT, MARINER ENERGY, INC., HOUSTON, TX, ON BEHALF OF THE INDEPENDENT PETROLEUM ASSOCIATION OF AMERICA

Mr. YOUNG. Mr. Chairman, members of the committee, I am also honored to testify. I am particularly honored to testify next to Senator Johnston, as we are proud graduates of the same high school.

I am Tom Young, vice president of business development of Mariner Energy, a Houston-based independent oil and gas exploration company with principal operations in the Gulf of Mexico. Today I am representing Mariner Energy and testifying on behalf of the Independent Petroleum Association of America.

Who are America's natural oil and gas producers? We vary in size from family-owned enterprises operating in a single State to large publicly-traded companies with international operations. We provide the energy to build this country into what it is today, and we continue to explore for energy to fuel our Nation's future. Our environmental record is outstanding. What concerns independents is that there seems to be a movement in Congress to lock up the most promising potential sources of natural gas and oil supplies: ANWR, most of the offshore, and many areas in the Rockies.

Even with bold conservation efforts, this Nation will compromise its way of life if we can only drill on lands currently accessible. This country is faced with choices. We must achieve balance while sustaining our economy and protecting our environment.

The first step: Implement the Executive Order requiring energy accountability. The second step: Complete a public land inventory to determine what lands potentially contain energy and are truly accessible. Is it 95 percent? Is it 40 percent? I can report that on the ground, the answer is much less than 95 percent. This inventory will put an end to this debate.

Some have objected to expanding access to Federal lands as a policy of draining America first. I respectfully disagree. Blocking access to Federal lands is a policy of draining American wallets first. A vote against land access is a vote for higher energy prices.

The onshore permanent and planning processes must also be improved and properly funded. IPAA supports the provisions included in S. 388 which expands State involvement and establishes approval time frames for reviewing permits, the S. 597 requirement to fund the accelerated completion of environmental documents and the Executive Order accelerating energy-related approvals in an environmentally sound manner.

We can't discuss offshore without discussing sale 181. What can I tell you about sale 181 that you didn't hear yesterday on the Senate floor? What I can give you is an example of the impact of shrinking the sale 181 area has on a small independent. All changes and delays in sale 181 have been driven by politics. Yes. The much smaller sale area proposed by the administration may eventually increase energy supply. However, due to the extremely deep water depths and distance from infrastructure, the area now remaining is off limits to most independents.

I refer you to a map of the central and eastern Gulf of Mexico planning areas. The reduced sale area, which is outlined in red, sacrifices an estimated 1 to 2 TCF of natural gas in the northern

excluded portions alone. The revised sale area excluded all tracts in less than 6,500 feet of water. At these water depths, this is a playing ground of extremely large companies. The impact of this reduction was particularly harsh on my company which spent millions of dollars acquiring data in areas that cannot be developed.

By taking 2 TCF of natural gas potential out of this sale, the Nation also eliminates an environmentally safe energy supply. When making political decisions, we need to have an energy plan like the administration's energy plan that is agreed to by Congress, a more robust sale 181 and MMS's next 5-year OCS leasing plan for 2002 through 2007, including a broader area containing shallow waters in the eastern Gulf of Mexico or central Gulf.

The Federal Government and governments of affected States must attempt to find a more rational balance. Otherwise, investment dollars will flow overseas. If most independents in the offshore are confined to the western and central Gulf, then we must be given incentives to develop the areas that have already been developed, a renewal of the deep water royalty as advocated by Senator Johnston and expansion of royalty and lease-term incentives for different types of targets in different shallow waters. We agree with the administration's plan to review incentive proposals and ask that this be expanded to the onshore.

While on the topic of royalties, we could not ignore the importance of royalty in kind. It provides certainty to both the producer and the Government, and gives the Government opportunities for helping low-income families.

In conclusion, independents are beginning to wonder whether opponents to drilling will ever say yes to exploration in new areas. It is time for more reasoned decisions. When did it become acceptable to place our Nation's security and future in the control of those who control foreign energy supplies? Instead, shouldn't we be asking, what can we do to reduce our dependence and secure our nation's economy and safety?

American independents have the answer to these questions, but need support of Federal and State governments to allow us to safely and efficiently explore and develop our nation's energy reserves. Thank you again for allowing me to testify today. I will be glad to answer any questions you may have.

[The prepared statement of Mr. Young follows:]

PREPARED STATEMENT OF TOM YOUNG, VICE PRESIDENT OF BUSINESS DEVELOPMENT, MARINER ENERGY, INC., HOUSTON, TX, ON BEHALF OF THE INDEPENDENT PETROLEUM ASSOCIATION OF AMERICA

Mr. Chairman, members of the committee, my name is Tom Young, Vice President of Business Development, Mariner Energy, Inc. Mariner Energy is a Houston-based oil and natural gas exploration and production company with principal operations in the Gulf of Mexico and along the U.S. Gulf Coast. Mariner has been an active explorer in the Gulf Coast area since the mid-1980s and has successfully grown its production and reserve base through the drill bit. Mariner is one of the most experienced independent operators in the Deepwater Gulf of Mexico, having operated nine field developments in the Deepwater Gulf since 1995.

Today, I'm testifying on behalf of the Independent Petroleum Association of America (IPAA). IPAA represents thousands of independent petroleum and natural gas producers that drill 85 percent of the wells drilled in the United States. Independent producers of both oil and natural gas have grown in their importance, and are a key component of our nation's energy supply. Independents produce 40 percent of

our nation's oil output—60 percent of the lower 48 states onshore production—and 65 percent of our natural gas production in the United States.

The presence of independents in the offshore is rapidly increasing. Not only do independents now hold 80 percent of all acreage under lease on the OCS, but as a group, independents have amassed as much acreage in the deepwater as have the majors. And, they participated in half the wells drilled in the deepwater Gulf of Mexico in 2000. In total, it is estimated that independents hold more than 40 percent of the active leases in the deepwater Gulf.

The March 2001 Central Gulf of Mexico Lease Sale 178 further demonstrated the substantial presence of independents in the offshore. With high bids from 90 companies totaling over \$505 million—up from around \$300 million a year ago—industry has clearly stepped up its activity level in response to today's marketplace. At sale 178, of the 90 companies bidding, 77 were independents (86 percent).

Today's hearing focuses on legislative actions the Senate may take to increase the supply of energy resources from federal land (including the OCS). This testimony will focus on recommendations for both onshore and offshore federal lands. Oil and natural gas reserves lying beneath federal onshore and offshore lands will play a critical role in meeting the nation's energy needs. The Administration's National Energy Policy highlights the need to examine the potential for regulated increase in the oil and natural gas development on federal lands as part of increasing energy supplies. We agree with President Bush that we can increase energy supply and protect the environment. We can accomplish both goals to ensure this country has access to its oil and natural gas resources lying beneath government controlled lands.

Today, I will discuss the steps Congress can and should take now to increase production tomorrow. Indeed, if some of these steps had been taken yesterday, our nation's energy situation would be far less uncertain today.

THE CONGRESSIONAL ROLE

The predominant areas where Congress and the Administration play a major role in promoting or inhibiting domestic oil and natural gas production are: providing access to the natural resource base and providing access to essential capital.

I. Access and Permitting Constraints

A national energy policy must recognize the importance of accessing the natural resource base. In 1999, the National Petroleum Council (NPC) in transmitting its natural gas study, "Meeting the Challenges of the Nation's Growing Natural Gas Demand", concluded:

The estimated natural gas resource base is adequate to meet this increasing demand for many decades. . . . However, realizing the full potential for natural gas use in the United States will require focus and action on certain critical factors.

Much of the nation's untapped natural gas underlies government-controlled land both offshore and onshore. These resources can be developed in an environmentally sound and sensitive manner. The Department of Energy recently released a comprehensive report, Environmental Benefits of Advanced Oil and Gas Exploration and Production Technology, demonstrating that environmentally sound technology is available. And, it is being employed, when exploration is allowed.

Without policy changes, many of which can be initiated by Congress, the nation may not be able to meet its needs. The NPC study projects demand increasing by over 30 percent over the next decade. This will require not only finding and developing resources to meet this higher demand, but also replacing the current depleting resources. While many analysts are focusing on how much more natural gas demand will grow, it is equally important to recognize what is happening to existing supply. All natural gas wells begin to deplete as soon as they start producing. However, as our technology has improved, we now are able to identify probable reservoirs more effectively. This allows us to find and more efficiently produce smaller fields. The decline rate is increasing due to the limited extend of many or these new reservoirs.

Unlike petroleum, natural gas supply is dependent on North American resources with 80 to 85 percent coming from the United States. However, much of this domestic supply is most cost effectively accessible from government controlled lands. The current restrictions affecting access to these lands differ depending on the area, but all must be altered to meet future demand.

Offshore—Western and Central Gulf of Mexico

These portions of the Gulf of Mexico have proven to be a world-class area for natural gas as well as petroleum production, accounting for over 25 percent of domestic

natural gas production. Production comes from the continental shelf, the deepwater, and the emerging ultra-deepwater. The NPC study projects that future production increases in these areas are essential to meet projected demand.

A Minerals Management Service (MMS) report on Future Natural Gas Supply from the OCS estimates the future natural gas production from the shelf and slope of the Gulf of Mexico in a high case peaking at 6.7 trillion cubic feet (TCF) in 2010 followed by a decline. However, recently published MMS data indicates much lower expected natural gas from the Gulf of Mexico. Using new data, the high case estimation could peak in 2002 at about 5.22 TCF.

The Subcommittee on Natural Gas on the U.S. Outer Continental Shelf of the OCS Policy Committee recently reported, "Based on this projection, it can be concluded that unless exploration and development scenarios in the Gulf of Mexico changes dramatically, the production from the Gulf of Mexico may not be able to meet its share of expected future natural gas demand of the U.S." Later in this testimony, I will discuss what IPAA believes needs to occur to reach the expected 8.0 TCF of natural gas annual production from the Gulf of Mexico (National Petroleum Council's estimate for 2010) and, as well, to increase oil production.

Offshore—Eastern Gulf of Mexico, Atlantic Ocean, and California

The substantial domestic natural gas reserves in these three areas are unavailable because of Congressional or Administrative moratoria. President Clinton extended this moratorium until 2012 saying, "First, it is clear we must save these shores from oil drilling." This is a flawed argument ignoring the state of current technology; it results in this moratorium preventing natural gas development as well as oil. In fact, both the Eastern Gulf and the Atlantic reserves are viewed primarily as gas reserve areas, not oil. Too often, these policies seem to be predicated on the events that occurred 30 years ago. Federal moratoria policy needs to be reviewed and revised to reflect advances in the industry's technology. Based on the MMS' 2000 resource assessment, the MMS determined that offshore moratoria forgo conventionally recoverable 16 billion barrels of oil and 62 trillion cubic feet of natural gas. Of course these estimates are based on little or no exploration and could be much more significant if exploration is allowed. In the western and central Gulf of Mexico, estimates have proven to be much greater after exploration.

Onshore—Rockies

Onshore, the NPC Natural Gas study estimates that development of over 137 TCF of natural gas under government-controlled land in the Rocky Mountains is restricted or prohibited. A recent study by the Energy Information Administration concludes that about 108 TCF are under restriction. Significantly, these estimates largely based on assumptions that about 40 percent of the resource base were off limits or severely restricted. However, a recent Department of Energy analysis of a key area in the Green River basin puts this number closer to 68 percent. Regardless of the exact number, the amount is significant. A Congressionally mandated inventory of these resources is underway. While an important first step, it is equally important to recognize that access to these resources is limited by constraints other than explicit moratoria. These constraints that often result in 'de facto' moratoria vary widely. Examples include monument designations, Forest Service "roadless" policy, and prohibitions in the Lewis and Clark National Forest.

If these areas contain natural gas or oil, they can be developed in an environmentally and balanced manner. IPAA was disappointed with recent votes in the House of Representatives that will prohibit pre-leasing activities in monuments designated as of January 20, 2001. This type of limitation, not based on science and technology, will negatively impact domestic oil and gas supplies and ignores the need for balanced domestic energy policy.

At the same time the permitting process to explore and develop resources often works to effectively prohibit access. These constraints range from: federal agencies delaying permits while revising environmental impact statements; to habitat management plans overlaying one another thereby prohibiting activity; and, to unreasonable permit requirements that prevent production. There is no single solution to these constraints. What is required is a commitment to assure that government actions are developed with a full recognition of the consequences to natural gas and other energy supplies. IPAA believes that all federal decisions—new regulations, regulatory guidance, Environmental Impact Statements, federal land management plans—should identify, at the outset, the implications of the action on energy supply and these implications should be clear to the decision maker. Such an approach does not alter the mandates of the underlying law that is compelling the federal action, but it would likely result in developing options that would minimize the adverse energy consequences.

IPAA'S PRIORITY NEAR-TERM RECOMMENDATION FOR INCREASING ACCESS TO
PRODUCTION FROM THE OCS AND ONSHORE FEDERAL LANDS

Energy Accountability. If there is one immediate action the Congress and/or the Administration can take that will have a dramatic affect on increasing oil and gas production in the near-term, it is the successful implementation and funding of an energy accountability mandate. If all federal agencies associated with decisions affecting oil and gas development are held accountable for how their decisions impact national energy supply, production will increase.

Such a requirement is contained in the Administration's National Energy Policy:

"Issue an Executive Order directing all federal agencies to include in any regulatory action that could significantly and adversely affect energy supplies a detailed statement on the energy impact of the proposed action."

A similar provision is contained in S. 388, the National Energy Security Act of 2001. Independents all agree that this type of requirement should be implemented immediately to bring balance in the land use decision-making.

IPAA'S NEAR-TERM RECOMMENDATIONS FOR INCREASING ACCESS TO PRODUCTION
FROM THE OCS

1. Sale 181

IPAA and its member companies have long considered Sale 181 to be a high-priority issue. It represents an important component of our future in the offshore. Scheduled for December 2001, it would be the first eastern Gulf of Mexico Lease Sale since 1988, and for some of our members that confine their activities to the Gulf of Mexico, the first opportunity to bid outside the central and western Gulf of Mexico ever.

The Original Sale 181 area was estimated to hold about 7.8 TCF of natural gas and perhaps 1.9 billion barrels of oil. The natural gas resources could be used to meet the nation's growing natural gas demand—estimated to increase by 30 percent from today's level to nearly 30 TCF/yr by the year 2010. It is noteworthy that the NPC natural gas study cited earlier, assumes Sale 181 occurs on time, with all tracts offered, and that development proceeds without delay. The NPC study projects that Sale 181 could result in adding 356 billion cubic feet (BCF) per year in new gas production by the year 2010—production that would be lost if the Sale were not held or restrictions inhibited exploration and production.

Back in the early to mid-1990's the MMS engaged in a comprehensive consultation with Alabama and Florida as well as other coastal states, about leasing in the eastern Gulf of Mexico. Both States expressed concerns about leasing and both requested that leasing not occur within certain distances to their states—15 miles in the case of Alabama and 100 miles in the case of Florida. Sale 181 was crafted to meet both of these criteria and was placed on the current 5-year schedule by the MMS. Congress subsequently ratified this decision through the appropriations process. Based on this buy-in from coastal states, industry began to prepare—accumulating seismic, data, reviewing geologic trends, conducting preliminary engineering studies—in anticipation of Sale 181. Independents have spent millions of dollars and expended thousands of personnel hours with the expectation that the Sale would occur as scheduled.

It now appears the Sale may take place in December as originally scheduled, but as a compromise, the Administration has agreed to reduce the Sale Area by approximately 75 percent of the original area. The decision to significantly reduce the Sale Area comes at a time when the country needs more energy of all kinds, and dramatically reduces the availability of acreage needed to satisfy the nations "near-term" energy needs. The original Sale Area contained acreage near infrastructure and in moderate water depths, both of which made the area a prime candidate for short cycle time (1-2 year) natural gas projects. Because the revised Sale Area is further from existing infrastructure and in ultra-deep water depths, the projects in the revised Sale Area will be much longer cycle time (4-10 years). Also, less data is available in the revised Sale Area, resulting in less certainty concerning the type of hydrocarbons expected. Not revising the Sale Area would have made a tremendous difference in the immediate opportunities available as well as in the bonuses received by the government.

By removing acreage available for leasing in shallow to moderately deep-water depths, (50' to 6,500') most independents have been removed from the Sale Process. The deepest announced development in the Gulf of Mexico is the planned Canyon Express development, in water depths slightly exceeding 7,000', expected on-line in mid 2002. The deepest producing field in the Gulf of Mexico is in approximately

5,500' of water. The revised Sale Area eliminates all acreage available in less than 6,500' water depths, with the majority of the acreage available for leasing in greater than 7,000' water depths. This compromise has made the Sale an ultra-deepwater Sale, and essentially of no interest to Mariner, or other independents. Developments in these water depths exceed the currently available development tools and will be on the cutting edge of technology. This is not an area suited for most independents.

The revised Sale Area was derived to find balance among some very difficult political forces. Most of the Florida delegation opposed the entire Sale 181 area. In fact, the House of Representatives passed by 83 votes a provision that would have delayed leasing in the entire sale 181 area. Unfortunately, the views of many members of the Florida delegation, some 247 members of the House do not embrace the need to have the resources of the original Sale 181 area as part of the balanced and common sense approach to a sound energy policy. Yes, the Administration is proposing that a quarter of the Sale Area proceed which will contribute significant quantities of oil and gas to our supply. However, the new area as a result of this three-quarter reduction, is off limits to most independents and greatly restricts easily Accessible and environmentally safe energy supply. We hope in the future the Administration and the Congress can agree to a more reasoned national energy policy.

IPAA would like to thank members of this Committee for recognizing the importance of a more robust sale 181 as part of sound national energy policy. Senator Bingaman has a provision contained in the Comprehensive Balanced Energy Policy Act of 2001 that mandates a sale 181 that would be reduced by a significantly smaller amount of area. As well, Senator Murkowski and others have been strong proponents of proceeding with sale 181 as proposed for the last five years. We applaud this Committee's recognition that offshore development is the very type of development that can occur in an environmentally safe manner and contribute significant volumes of natural gas to this country.

This sudden change of direction by the government after years of compromise and planning is something that is common in international ventures, but not expected domestically. Many independents choose not to explore internationally, due to the political risks involved. This compromise not only eliminates an area ripe for independents, but also causes us to re-think our decisions to explore solely domestically.

In the oil industry, sophisticated technologies now make it possible to locate and remove oil and natural gas with virtually no risk to the environment. In fact, the industry has been safely producing oil and natural gas from the Gulf of Mexico for decades. Unfortunately, opponents to offshore development ignore this fact. Although we understand the MMS is making plans to issue the Preliminary Notice of Sale 181 with the revised Sale Area, we are confident that our industry could develop all of Lease Sale 181 in a safe and environmentally responsible way and we hope that the decision will be revisited sometime in the near future.

2. The Five-year OCS Lease Sale Schedule

Every five years, the MMS takes on a very thorough process to draft a new five-year OCS Leasing Schedule. That process is now underway to establish a leasing program for the period 2002-2007. Industry, and other interested parties, provided comments to the MMS during the earlier stages of the process. A draft schedule should be ready for review very soon.

IPAA vows to work with the MMS to establish a schedule that helps meet the nation's growing appetite for energy. For many of our members, those that confine their activities to the Gulf of Mexico, it has meant annual sales in the central and western Gulf of Mexico. It is essential that these annual sales continue. IPAA is encouraged by the recommendation contained in the Administration's National Energy Policy that OCS oil and gas leasing and approval of exploration and development plans on predictable schedules should continue.

As this Country drafts a national energy policy, now is no time to be timid. Yet, we know that resistance in some regions to offshore exploration and production remains a major impediment despite the obvious energy needs. We have our work cut out for us if we are to be successful at making enough offshore lands available to meet the nation's energy needs. As noted above, the offshore is a prime contributor of natural gas—an environmentally preferable fuel. The next five-year plan must provide for leasing in unexplored areas, especially those containing natural gas.

Independents play a significant role in the development of offshore shallower water production. The next five-year plan needs to provide new leasing opportunities in shallower waters as well, otherwise investment dollars will flow overseas. IPAA is greatly concerned about the next five-year plan not offering any leasing in water depths in the Eastern Gulf of Mexico less than 1600 meters. This will greatly reduce opportunities for independents to deliver much needed natural gas and oil reserves to meet this country's demand.

One possible approach interested parties should consider during development of the next five year plan, in consultation with industry and affected states, is the identification of a small number of prime natural gas plays in moratoria areas to determine if limited pilots could demonstrate how oil and gas operations could be safely conducted in new areas. Such an approach would require congressional funding for scientific, environmental, and social/human impact studies. Any piloting would require site-specific stakeholder consultations.

3. Coastal Zone Management Issues

Coastal zone management (CZM) matters are increasingly important to independents operating in the Offshore. These matters play a direct role in offshore lease access. CZM issues have not historically been seen as a priority issue for independents operating in the western and central Gulf of Mexico, as states have not attempted to obstruct offshore activities under the Coastal Zone Management Act (CZMA). With an increased interest in the eastern Gulf of Mexico, independents' interest in CZM is heightened. It is one thing to have a lease sale; it is quite another to be allowed to explore, develop and produce from that lease once it is purchased.

A coastal state with a federally-approved coastal zone management plan is empowered to block offshore exploration and production plans, if the state can allege that the federal lessee's activity will have some effect on resources in the coastal zone. If the lessee's activity will have an effect, the activity must be consistent with the state's coastal zone management plan.

The coastal zone itself generally extends only 3 miles offshore, but extends 9 miles in the Gulf of Mexico off Texas and Florida. The effects test, however, can be used to extend the state's reach great distances from shore. The Interior Department itself determines before issuing leases that the projects it expects lessees to undertake will be consistent with the plans of any affected states. But states can change their minds after the leases are issued.

A Federal lessee offshore must certify that both its exploration plan and production plan are fully consistent with the coastal zone plans of affected states. If a state disagrees, the lessee faces considerable delay in an appeal before the Secretary of Commerce.

Chief risks to lessees in current CZMA implementation are:

- Escalating compliance costs caused by unexpected interpretations of vague policies in state CZM plans,
- Delay costs caused by lengthy appeals process before Department of Commerce,
- Risk of losing lease rights without compensation when a state changes its mind on what its plan requires.

Congress should encourage a review of the CZMA and its consistency provisions. The Administration's National Energy Policy recommends that the President direct the Secretaries of Commerce and Interior to re-examine the current federal legal and policy regime (statutes, regulations, and Executive Orders) to determine if changes are needed regarding energy-related activities and the siting of energy facilities in the coastal zone and on the OCS. The review should include:

- A review of the Coastal Zone Management Act, particularly as amended in 1990,
- Implementing regulations, especially those finalized late in 2000 by the National Oceanic and Atmospheric Administration on consistency,
- State implementation programs, and
- Process issues, particularly as the process is used to delay projects.

4. Congressional Funding

IPAA recommends that the Congress adequately fund the MMS to ensure that its mission is not compromised during this critical period in which the Nation aggressively seeks new energy resources to meet growing demand. Specifically, IPAA recommends:

- Support the Administration's FY 2002 budget request increasing the MMS budget by \$14.7 million to meet increased workload brought about by offshore program services and to implement royalty in-kind.
- Fully fund the MMS and other related agencies in future years to ensure they have the resources available to increase gas and oil supplies from the OCS.
- Require that appropriated funds be directed to education and outreach regarding the benefits the OCS program provides the Nation.

Funding is always difficult during budget reductions and tax cuts. However, investing in the offshore program provides taxpayers a great return on their investment. In FY 2000 alone, the MMS collected and distributed about \$7.8 billion in

mineral leasing revenues from federal and American Indian lands. IPAA would like to bring to your attention a proposal of Congresswoman Barbara Cubin (R-WY) whereby part of the onshore oil and gas royalty streams to fund those BLM offices responsible for generating production on which royalty payments are based. The vast majority of royalty payments come from offshore production and, similar to your proposal for the onshore, we recommend that a part of the offshore royalty stream should be directed to offshore programs that will promote increased production, especially natural gas.

For example, IPAA supports a collaborative effort for research, development, and transfer of technologies used in the production of natural gas, so long as there are not additional charges or costs such as increased royalties, taxes or surcharges. Other uses of the onshore and offshore royalty stream, including taking the stream in-kind, could include low-income programs and environmental projects.

IPAA'S NEAR-TERM RECOMMENDATIONS FOR INCREASING ACCESS TO PRODUCTION FROM ONSHORE FEDERAL LANDS:

1. Congressional Funding

Like President Bush's FY 2002 budget request for the offshore program, IPAA supports the President's proposed increases for the onshore federal oil and gas program. Specific items include:

- A \$7.1 million increase to support improvements in the land use planning and accelerate the multi-year process of updating management plans. This is a good first step. The entire planning process needs to be reviewed, including the funding process.
- An \$11.8 million increase for oil and gas programs, including energy resources surveys, Alaska North Slope oil and gas exploration, coal-bed methane permits, and oil and gas inspections.
- A \$3.0 million dollar increase for Bureau of Land Management (BLM) to work with U. S. Geological Service (USGS), the U.S. Forest Service (USFS), and the Department of Energy to conduct an inventory of public lands and describe the impediments and restrictions to access and development. Chairwoman Cubin, along with Chairman Skeen, led the effort in the House for getting this included in the Energy Policy and Conservation Act (EPCA), which was signed into law late last year. We agree with the Administration's National Energy Policy that this inventory required under EPCA should be accelerated.
- A \$2.0 million dollar increase to accelerate leasing by 15 percent and to process an additional 1,000 to 2,000 drilling permits in the most promising areas.

IPAA strongly supports a provision contained in S. 597, the Comprehensive Balanced Energy Policy Act of 2001, entitled Federal onshore leasing programs for oil and gas. This provision requires the appropriation of such sums as may be necessary to ensure expeditious compliance with National Environmental Policy Act requirements applicable to oil and gas. Outdated planning documents not based on science and current technologies are causing significant delays in developing onshore federal lands and increasing costs. However, we need to ensure that all future planning processes are accountable to their impacts on energy supply.

Similar to the proposal of using the royalty stream to fund BLM offices managing the production generating this royalty streams, IPAA also supports a provision contained in the Administration's National Energy Policy to direct royalties from ANWR to conservation efforts and eliminating the maintenance and improvements backlog on federal lands. If proceeds from ANWR do not become available in the foreseeable future, IPAA would advocate that Congress fund other sources of funding to eliminate this backlog.

2. Permitting Process

There are costly delays with every aspect on the onshore federal permitting process. In fact, there are a number of examples of approvals that are never granted resulting in reserves never being developed. The National Energy Security Act of 2001, S. 388 reforms the permitting process in a subsection entitled Improvements to Federal Oil and Gas Lease Management.

This section contains a number of very important reforms. It allows a state, if willing, to conduct a number of non-environmental oil and gas approvals on behalf of the federal government. Our experience has been that states can perform oil and gas activities at a much lower cost and in much more timely fashion than the federal government. For decisions remaining with the federal government, the bill establishes reasonable timeframes for processing different documents related to oil and gas development. Additionally, it provides adequate funding for environmental

documents. Timing is capital and if there are never-ending delays, this capital will be directed overseas or to private lands.

If Congress cannot pass such reform in the short-term, it should encourage the Administration to determine which of these reforms can be implemented administratively. In fact, if approval processes are improved, production will occur sooner resulting in more revenues to the treasury. The following are two examples of this:

- Approve Pending Drilling Permits. It is our understanding that hundreds of drilling permits are pending before the government. If these were approved, production would increase.
- Approve Balanced Planning Documents. If pending planning documents, like the one in Otero County, New Mexico, were approved, production will increase. The Otero County document should allow for development and, if it did, up to 1 trillion cubic feet of gas could be delivered to market from one planning area.

IPAA agrees with two-related recommendations contained in the Administration's National Energy Policy:

- An executive order to rationalize permitting for energy production in an environmentally sound manner by directing federal agencies to expedite permits and other federal actions necessary for energy-related projects.
- Review public land withdrawals and lease stipulations, with full public consultation, especially with the people in the region, to consider modification where appropriate.

3. *Other Administrative Actions*

The government should not implement cost recovery regulations that would place unnecessary costs on every facet of the oil and gas program. These costs will further discourage small independent producers from developing onshore federal lands and are inappropriate given the billions of dollars the oil and gas industry pays each year to the federal government in the form of royalties.

Additionally, all regulation rewrite efforts that were mandated under Vice President Gore's "Plain English" Initiative should be terminated. The proposals issued for onshore oil and gas regulations under this Initiative proposed significant policy changes and would result in more uncertainty. Specifically, smaller independent producers are concerned about the proposed increase of bonding amounts. Bonds are rarely called for the purpose of reclamation. The vast majority of good operators on federal land should not be punished for the bad behavior of the few. Enforcement is the key.

Royalty In-Kind

IPAA has been a long-time supporter of RIK programs. By giving more tools to the federal government to maximize return to the American taxpayer when taking in kind, the program can be expanded. When royalty in-kind is expanded, more certainty is provided to the government and the oil and gas lessees; thereby making offshore and onshore federal lands more attractive for development. IPAA supports the RIK provisions contained in S. 388. As well, we support funding and providing MMS needed RIK authorities in their FY 2002 appropriations.

Congress should promote and fully fund creative approaches for the use of royalty in-kind programs. For example, the House Subcommittee on Energy and Mineral Resources recently held a hearing examining how royalty in-kind could be used to help bolster the Low Income Home Energy Assistance Program during crisis periods. Utilities testified that there were a number of cost benefits that could accrue to the government and energy user under a royalty in-kind program.

II. Providing Access to Essential Capital

Because oil and natural gas exploration and production are capital intensive and high-risk operations that must compete for capital against more lucrative investment choices, much of its capital comes from its cash flow. The federal tax code and royalty policies play a critical role in determining how much capital will be retained. The Administration and Congress need to enact provisions designed to (1) encourage new production, (2) maintain existing production, and (3) put a "safety net" under the most vulnerable domestic production—marginal wells.

However, given that this Committee has jurisdiction over royalty policies, not the tax code, I will not discuss IPAA's tax proposals. Rather, I will address the area of royalty policies.

1. *Deepwater Royalty Relief*

The Deep Water Royalty Relief Act of 1995 (Act) provided for automatic royalty relief for all new oil and gas leases issued from 1995 through 2000 in waters deeper than 200 meters in order to stimulate exploration and production of natural gas and oil in the deeper waters of the central and western Gulf of Mexico. The portion of the Act that provided this automatic relief for new leases expired in November 2000.

The MMS has now put in place regulations that would leave to its discretion the use of any upfront royalty relief for future Gulf of Mexico lease sales. IPAA is concerned that, although the new MMS royalty incentives put into place for water depths greater than 800 meters, subsalt, and deep gas drilling are a good first step, they fall short of truly accelerating the rate of development and production of natural gas and oil in the Gulf of Mexico. Additionally, the MMS is not offering My relief for water depths between 200 and 800 meters.

To this end, IPAA supports the reauthorization of the original automatic royalty suspension volumes as contained in the expired provision of the 1995 Act. Such a provision is contained in S. 388, the National Security Act of 2001. These terms led to a boom in natural gas and oil activities in the deep waters of the Gulf of Mexico in the five short years they were in place. At the most recent central Gulf of Mexico Lease Sale 178, where no royalty relief was offered for water depths of 200 to 800 meters, bidding activity fell sharply compared to that previously experienced with royalty relief incentives. We believe if the Act would have been reauthorized, there would have been substantially more interest in these water depths and in ultra-deepwaters.

Would such a reauthorization of the Act cost the American taxpayer revenues? Simply put—no. Third party modeling demonstrates that a reauthorization of the act would have provided additional, not less, revenues to the American taxpayer. Increased production would occur, far outweighing the temporary loss of royalty. We should remember that prices will not always be this high and we need to encourage aggressive leasing now, to meet our production needs for the future.

We agree with Senator Murkowski's recommendation that under the auspices of a National Energy Policy Taskforce that the Secretaries of the Interior and Energy form a Gulf of Mexico Leasing Incentives Review Team to determine what level of incentives for all water depths are appropriate in order to ensure that we optimize the domestic supply of natural gas and oil from offshore areas that are not subject to current leasing moratoria. In particular, the team should further examine the field size distribution of the Gulf of Mexico resource base and the international competitiveness of the Gulf. Recommendations, as a result of this review, should be made in the context of the importance of the development of the natural gas and oil resources of the Gulf of Mexico to the Nation's future energy and economic needs. These recommendations should be implemented prior to the August 2001 western Gulf of Mexico lease sale.

2. *Deepwater Leases Issued prior to November 2000*

During Sale 178, the MMS adopted an important approach to stimulate activity in the 800 meter plus water depths—royalty incentives were offered on a lease-basis. For deepwater leases issued prior to sale 178, the MMS only offered royalty incentives on a field-basis. If the MMS would retroactively offer such relief on a lease-basis, this would greatly stimulate production from the deepwaters. Too many leases issued during the term of the Deepwater Royalty Relief act were found to be ineligible for royalty relief because of the existing policy of relief to be offered on a field-basis (vs. lease-basis) or the MMS' interpretation of the rules implementing this policy.

3. *High Risk Exploration on the Shelf*

In addition to the deepwaters, independents are quite interested in the significant natural gas and oil reserves that could be developed by deep drilling, drilling into subsalt structures, and drilling highly deviated wells. IPAA recommends royalty incentives be offered for (1) wells below 15,000 where there is no current production AND (2) extend royalty relief as embodied in Central GOM Sale 178 for new and existing leases for drilling of sub-salt prospects or prospect located in abnormal pressure conditions AND (3) for drilling highly deviated wells off existing platforms which might not otherwise have been attempted. In other words, these incentives would apply to expensive, high risk plays on new and existing leases. Such relief would, of course, be phased out at higher prices.

During Sale 178, the MMS took some important first steps. It offered a royalty incentive for new leases whereby natural gas is discovered for drilling in excess of

15,000 feet for water depths of 0 to 199 meters. Similar relief is needed for existing leases where production has not yet been established.

With regard to subsalt, the MMS recognized the high risk nature of exploring such a play in the OCS by offering for new leases a 2 year extension of the 5 year term should a well be drilled. But often more time is needed for geophysical imaging to refine subsalt drilling targets. What are truly needed are more incentives to encourage drilling.

4. Marginal Production on the Shelf

Independent producers report that there are significant resources still remaining on the Shelf that would be developed if royalty incentives were available. Marginal properties and/or fields are being left behind. IPAA understands that DOE had initiated modeling of different royalty incentives to stimulate production from marginal fields. This modeling effort should be completed and, if appropriate, royalty incentives implemented.

IPAA'S RECOMMENDATIONS FOR INCREASING ACCESS TO CAPITAL FOR THE ONSHORE

1. High Risk Exploration Onshore

Like in the offshore, independents are interested in the significant natural gas and oil reserves that could be developed by onshore deep drilling. Royalty incentives should apply to expensive, high risk plays on new and existing onshore federal leases. Such relief would, of course, be phased out at higher prices.

2. Marginal Production Onshore

It has always been understood that much of the production lying beneath onshore federal lands is marginal. This is why the Bureau of Land Management continues to offer royalty relief for stripper oil wells (e.g., wells that produce less than 15 barrels per day) under certain prices. A similar program should be implemented for marginal natural gas wells.

3. The National Energy Security Act of 2001, S. 388

The National Energy Security Act of 2001, S. 388 contains a provision entitled Royalty Investment in America. This provision allows lessees to forgo federal royalty payments during periods of low energy prices and instead make capital investments in energy production. During low prices this type of provision will reduce the likelihood of dramatic decreases in exploration, such as those during the 1998-99 downturn. This applies to both onshore and offshore production.

4. The Administration's National Energy Policy

The National Energy Policy acknowledges the contribution the Deepwater Royalty Relief Act made to increasing supply. It recommends that the President

. . . direct the Secretary of Interior to consider economic incentives for environmentally sound offshore oil and gas development where warranted by specific circumstances: explore opportunities for royalty reductions, consistent with ensuring a fair return to the public where warranted for enhanced oil and gas recovery; for reduction of risk associated with production in frontier areas or deep gas formations; and for development for small fields that would otherwise be uneconomic.

IPAA supports this review and encourages the Administration to have this review include the above incentive proposals for both offshore and onshore federal production.

5. The Comprehensive Balanced Energy Policy Act of 2001, S. 597

This bill provides for a study to determine how production can be increased from State and privately controlled lands. We believe that many of the recommendations of such a study will fall in the capital side of the equation. How can we reduce costs for onshore production? We believe such a study should be expanded to include onshore and offshore federal lands and consider many of the recommendations contained above.

Royalty incentives, in conjunction with new tax policies, must be developed to encourage renewed exploration and production needed to meet future demand, particularly for natural gas. The NPC gas study projects future demand growth for natural gas and identifies the challenges facing the development of adequate supply. For example, the study concludes that the wells drilled in the United States must effectively double in the next fifteen years to meet the demand increase. Capital expenditures for domestic exploration and production must increase by approximately \$10

billion/year—roughly a third more than today. Generating this additional capital will be a compelling task for the industry. As the NPC study states:

While much of the required capital will come from reinvested cash flow, capital from outside the industry is essential to continued growth. To achieve this level of capital investment, industry must be able to compete with other investment opportunities. This poses a challenge to all sectors of the industry, many of which have historically delivered returns lower than the average reported for Standard and Poors 500 companies.

In fact, as the past year has shown, capital markets have not shifted to supporting the energy sector. For the industry to meet future capital demands—and meet the challenges of supplying the nation's energy—it will need to increase both its reinvestment of cash flow and the use of outside capital. The role of royalty incentives and the tax code will be significant in determining whether additional capital will be available to invest in new exploration and production in order to meet the \$10 billion annual target.

THERE'S NO SHORT TERM FIX—RECOVERY WILL TAKE TIME

It will take time for any realistic future energy policy to achieve results. There is no simple solution. The popular call for OPEC to “open the spigots” failed to recognize that the low oil prices of 1998-99 reduced capital investment from the upstream industry all over the world. Only Saudi Arabia had any significant excess production capacity and no one knew just how much or whether the oil was of a quality that it could be refined in most refineries. The collateral damage of low oil prices on the natural gas industry is affecting gas supply today and will until the industry recovers. The producing industry lost 65,000 jobs in 1998-99. While about 65 percent of those losses have been recovered, they are not the same skilled workers. If measured by experience level, the employment recovery is far below the numbers. Less obvious, but equally significant, during the low price crisis equipment was cannibalized by operating and support industries who were decimated. It will take time to develop the infrastructure again to deploy new drilling rigs and provide the skilled services that are necessary to rejuvenate the industry.

CONCLUSION

Providing access to the resource base will be critical and requires making some new policy choices with regard to the onshore and offshore federal lands. Access has and can occur while we accelerate the protection and improvement of the environment, and increase our nation's energy security. A critical first step is to require agencies to measure and document the impact of their decisions on the development of energy resources.

Overall, attracting capital to fund domestic production under these circumstances will be a continuing challenge. This industry will be competing against other industries offering higher returns for lower risks or even against lower cost foreign energy investment options. The slower the flow of capital, the longer it will take to rebuild and expand the domestic industry.

These two issues are the ones that are particularly dependent on federal actions, and should be the immediate focus of this Congress and the Administration.

Energy production—particularly petroleum and natural gas—is an essential component that must be included and addressed at once. Independent producers will be a key factor, and the industry stands ready to accomplish our national goals, if policies reflect that reality.

The CHAIRMAN. Thank you all very much for your testimony. Mr. Young, let me just ask you. You have indicated your support and your organization's support for the energy accountability provision that is called for in the President's energy plan, where it calls for an Executive Order directing all Federal agencies to include in any regulatory action that could significantly or adversely affect energy supplies a detailed statement on the energy impact of the proposed action.

In your view, if that Executive Order is issued—it has not been issued yet, as I understand it. Is that right?

Mr. YOUNG. That is my understanding.

The CHAIRMAN. Yes. If it is issued—if it had been issued by the President, would it apply to the decision that Secretary Norton made earlier this week to limit drilling in the 181 area? Would she have had to be in compliance with it?

Mr. YOUNG. It is my understanding, yes, that is true.

The CHAIRMAN. But she did not issue any statement that would have complied with that type of Executive Order. Am I correct in that?

Mr. YOUNG. Yes, you are.

The CHAIRMAN. Okay. Any other witness have any view on that, the appropriateness of this energy accountability requirement that is being talked about in the administration's plan? Senator Johnston, did you have a thought about it?

Senator JOHNSTON. I think it is a very good idea. I think it is like a risk analysis that we ought to have, I think, for all Federal regulations, but particularly on energy. I mean, we need to know anytime they do something like reducing the sale area of 181. What is the real result? And I think in the process, they wouldn't do some of the silly things they do.

The CHAIRMAN. So you don't really think that homework was done prior to the decision that was done this week.

Senator JOHNSTON. I think it was, and I think they know full well how much they sacrificed, but they didn't want to make it public.

The CHAIRMAN. Well, let me just ask on one other issue here that Senator Johnston raised, whether any of the rest of you have thoughts on it. It is not really in the area of a lot of the subject that others dealt with, but this transmission eminent domain issue which Senator Johnston raised as an important item for us to try to legislate on. Any of the rest of you have any thoughts on that? Is that something that you have looked into?

[No response.]

The CHAIRMAN. Nobody seems to have a point of view they particularly want to express.

Mr. CLUSEN. Well, we find it very ironic that this administration wants to pursue eminent domain for transmission lines, pipelines, and so on, when they appear to be so hostile to any kind of acquisition of park lands and things of that sort, so we just find that ironic.

The CHAIRMAN. Okay.

Senator JOHNSTON. I don't think the administration has yet taken a position, have they, Frank, on that? And I hope they will.

Senator MURKOWSKI. They support it.

The CHAIRMAN. Yes. I think there is a statement in the President's energy report, indicating support for eminent domain authority at FERC.

Mr. Burton.

Mr. BURTON. Mr. Chairman, certainly under the Natural Gas Act, the FERC has had authority of eminent domain on natural gas pipelines, and thank goodness for that or we wouldn't have the network of natural gas pipelines around the country that we do. As the FERC moves to a—as we move the country to a national grid—and I am sure staff and the committee noticed the FERC yesterday moved to consolidate some of the RTOs in the East, which is indic-

ative that we are moving to a national grid, they issued an order to begin the process to consolidate some of the regional transmission organizations in the East. I think eminent domain is going to be critical if you are going to have a Federal grid that works.

The CHAIRMAN. Okay. Let me stop with that and defer to Senator Murkowski.

Senator MURKOWSKI. I think one of the differences between Senator Bingaman's bill and our bill is we discussed the merits of including eminent domain and thought it really was an obligation of the States to address their responsibility, and our position continues to be we are open to including it if, indeed, it is necessary. And we are going to, I guess, get a pretty idea of what the States' attitudes are towards that as we progress. If the States obviously want to be disruptive, clearly we are going to have eminent domain. We have got it for the pipelines. We don't have it for the electric transmission lines, but it may very well be necessary, so I am certainly open on that.

But let me ask Mr. Jerry Hood the question basically with regard to oil exploration and if it can be done in a—well, in an environmentally sensitive manner. I would like your opinion, and then why are some of the environmental groups so adamant in opposing it. You know, we have pretty science; we have pretty good record; we have 30 years of history in the Arctic, but clearly it is being actively opposed by some of the extreme environmental community.

Mr. HOOD. Mr. Chairman, Senator Murkowski, I think as I said earlier, we have a 30-year history of producing oil in a safe and sound and environmentally responsible manner in the State of Alaska. In fact, I would make a wager that if you take the Prudhoe Bay fields and the ancillary fields there, and take their safety and their environmental record, and put them up against any other producing oil field in the world, that you will find that they will rank one, two, or three.

Yes. We have had some accidents. The *Wall Street Journal*, I think, reported that we had that spill recently in the State, and they were appalled that it took 12 minutes to shut that pipeline down. I defy anyone to try to find another oil field in the world that can act that rapidly when they have a problem. I represent workers who perform maintenance on the Trans-Alaska Pipeline and on the North Slope. One of the companies where I have employees that I represent just went over 2 million man hours without a lost-time accident. So the emphasis in the North Slope oil fields is one of safety and environmental responsibility.

And the answer to the second part of your question, I think, really is quite simple. It was pointed out in a series of articles in the *Sacramento Bee* here recently. ANWR is a cash cow for the environmental industry, and I call it the environmental industry, because that is what the head of the Audubon Society has said, and I think I can almost quote him verbatim, that this is a growth industry, one of the largest growth industries in the country.

They have, through people like Robert Redford, sent out solicitations for donations to their causes, saying: Don't ruin this last pristine wilderness in Alaska, and they raise—and this may astound you—\$9.6 million a day. They raised \$3.5 billion in 1999, and that, sir, astounds me. Of the top ten environmental groups, the CEOs

of nine of those make over \$200,000 a year. One of them was just recently fired and got a severance package of three-quarters of a millions dollars, and I would like to say that the Teamsters Union negotiated that contract, but we didn't.

[Laughter.]

Mr. HOOD. But I will say this about their salaries and those severance packages. You know, you read a lot about union bosses in the paper. They make us look like pikers, and I think that is what it is all about is money.

Senator MURKOWSKI. Your implication is it is big business. All right.

Mr. HOOD. It is.

Senator MURKOWSKI. Senator Johnston, you recall when you were concluding your chairmanship of this committee, we took a run—I was working with you at that time—on the reality that we were developing an energy crisis and we had to do something about it. Our demand was increasing; our supply was not. And we put together a little chart here, and this is what passed in your committee.

We had increased domestic production provisions. We had reduction of dependence on imports, expedited infrastructure, develop alternative fuels, encourage renewables, promote conservation energy, increase LIHEAP. Of course, the significant thing was the deep-water royalty relief, and you recall our discussion, because I wanted to add frontier relief to that, and you and your members were sensitive that this might kill deep-water royalty relief by adding to it, and I acquiesced at that time.

The interesting thing, though, is what came out of the floor action, and we got encourage renewables, promote conservation, increase LIHEAP, deep-water royalty relief, and I think we got left turns on red lights, and we got low flush toilets that you could flush twice. My point is we acted in this committee. The floor did not act. And the thing I want to emphasize is why it is different this time, and I think you would agree with me, Senator Johnston.

Our increased dependence on imported oil is up 56 percent. We have seen natural gas prices triple. We have seen no nuclear plants licensed in 10 years, no gasoline refineries in a couple of decades, no new coal-fired plants since 1995, and now we have the transmission problem associated with both gas and electric transmission, all coming together now. That is why it is different now. That is why we have the crisis. That is why we are going to have to have the relief. And I commend those of you who recognized that and recognized the realities associated with the technology advancement that we have in this country.

When you were talking, Senator Johnston, about deep-water royalty, we were talking 1,500 feet. You are selling leases in 6,000 feet and developing in 3,000 feet, and that is the advanced technology. But again we seem to have a mentality around here that it is not going to take place in my background, and that is what lease sale 181 is really all about, with the exception of the States of Louisiana, Texas, Alabama, Mississippi. We have excluded the entire east coast, the entire west coast, very difficult to open up Alaska as you know.

And how do we communicate to the American people the reality that, you know, you are going to have a footprint but it is manageable? That you have advanced the technology and that it can be done safely. This is a little map that shows reality of what has been withdrawn. Everything in gray has been withdrawn: the west coast, the east coast, now lease sale 181, and then the previous administration through its roadless policy basically took out the over-thrust belt of Wyoming, Colorado, and eliminated about 22 trillion cubic feet of recoverable gas.

How do we communicate? You are out there in the private sector there, and, you know, you have been a part of this process, and we try and communicate realities, and some people say we can simply get there through conservation. We spent \$6 billion in the last decade on renewables and alternatives which we continue to support. As a matter of fact, one of the interesting things that is often overlooked is the proceeds from an ANWR lease sale, a billion and a half or whatever they are, are likely to go to R&D on renewables. We want to decrease our dependence on imports, develop alternatives, and we need money to do it, but we don't seem to get this idea across. And you have seen the strength of the lobbying group that says: no, not on public lands.

Senator JOHNSTON. Mr. Chairman—I will still call you Mr. Chairman; both of you I will call Mr. Chairman. We say that that problem of educating the American public has bedeviled me and the country for almost 30 years. I first got on this committee in 1973, and there is an enormous amount of self-deception by the American public, by the press, by even policy-makers.

Look, if you think that the age of fossil fuels is anywhere close to being over with, I mean, that is a self-deception. I have spent so many years, I mean, following these things. Oh, it was going to be the age of fusion. Remember Armand Hammer used to come here and talk about shale oil, and we were going to do all these great things. All of those things—you know, there will be little boutiques here and there; there will be some important uses which—

But Jimmy Carter said we were going to have 20 percent solar by the year 2000. I mean, that was a national obsession. Do you know that the percentage of solar has basically not moved in 25 years? Do you know that—you said we have spent \$6 billion on research. That doesn't count PURPA, which was many, many billions of dollars; 70 percent of SoCal Edison's stranded costs was PURPA projects. It doesn't count the tax credits; I mean, not only the Federal tax credits, the State tax credits.

Now, I am not trying to say that just to tell you that you shouldn't add some money here or there for research, because there is some very good research that ought to be done. I have got a lot of ideas on that, and we ought to have photovoltaics and windmills, which by the way, last time I looked at EIA were 12/100ths of 1 percent of the electricity. It may be up to 15/100ths of 1 percent now. That is after all those billions of dollars spent.

So what you have got to do is look at what is real, and, you know, one of the things that the country needs to do, which we haven't done, is to figure out this choice of fuels. I think Senator Dorgan had one of the right questions, which is: where do you want to be. It should not be the question of where do you want to be in

terms of how much oil or gas you use, but where do you want to be in air quality; where do you want to be in global warming. You need to make those decisions, because that is going to make to dictate what fuels you use.

Look, we have got plenty of coal in this country. If you want to burn coal without the expensive air quality things, we have got plenty of coal. Let her rip. I don't think that is what the country wants to do. At the same time, you have got to have coal as a very big part of this thing. What do you want to do on nuclear? That is one of the reasons why Price Anderson right now is so important.

I mean, I—look, I have studied this thing a long time, as you all have. You can't get there without nuclear. Particularly you can't there on global warming, and I don't think you can meet the haze rules. By the way, I would—if I were still in the Senate, I would be a lot stronger on the haze rules than I used to be. Maybe that is because I have a place out by Shenandoah National Park where you have all this haze. But that is what needs to be done is to figure out where you want to be on these environmental issues, and then the rest of it kind of falls in place. Then the free market can make the decision.

You say you can burn coal without a scrubber. Free market can make you a nice simple-cycle coal plant that will be cheap. If you say that you have got to pay some price to pollute the air, then nuclear then becomes feasible. I think it is becoming feasible now just with the price of natural gas. But those are the kind of decisions that need to be made is to look at what are the real choices.

The CHAIRMAN. Well, thank you very much. Let me thank the whole panel for your testimony. We have a third panel, in fact, on the nuclear issue, and I would ask them to please come forward.

[Pause.]

The CHAIRMAN. We have three statements for the record that I want to include. Senator Thurmond sent a statement related to the nuclear provisions. We have a statement from Westinghouse, Savannah River Company, and also from Kerr-McGee Chemical, and we will include all of those in the record.

Let me welcome these three witnesses, and please ask you to summarize your testimony, and we will be glad to include your full testimony in the record and any attachments you would like to have included. Mr. Fertel, let's start with you.

**STATEMENT OF MARVIN S. FERTEL, SENIOR VICE PRESIDENT,
BUSINESS OPERATIONS, NUCLEAR ENERGY INSTITUTE**

Mr. FERTEL. Thank you, Mr. Chairman, and thank you, Senator Murkowski. I appreciate the opportunity to testify today on behalf of the nuclear energy industry.

I would also like to thank you, Mr. Chairman, and the other members of the committee for your leadership in supporting the renewal of Price-Anderson Act, and I would second Senator Johnston's urging to move forward and renew Price-Anderson sooner rather than later.

We also appreciate the proposal for legislation addressing the important human resources needs facing our Nation and for the intro-

duction of legislation like we are discussing today which will help us address our nation's critical energy needs.

Let me start by addressing the specific provisions you requested comments on at this hearing. The nuclear industry supports sections 106 and 107 of S. 388, the National Energy Security Act of 2001. We also support the study of the feasibility of building new nuclear plants at government-owned sites required by S. 919.

With regard to the provisions of S. 472, the Nuclear Energy Electricity Supply Assurance Act of 2001, we support sections 128, 129, and 130. And we also support section 126 which relates to the disposition of U.S. inventories of surplus nuclear fuel, but we believe that the effectiveness of this provision could be enhanced by broadening the scope of materials covered and establishing a date of 2009 for beginning of disposition of the material. We would be pleased to provide the committee with proposed language and a rationale for it after this hearing.

The proposed partnerships between industry and government on early site permits, and focused requirements for planning R&D at both DOE and NRC called for in title II of the Nuclear Energy Electricity Supply Assurance Act will benefit the Nation and are supported by the industry. The nuclear industry views early site permitting as one of the most important steps along the path to building new nuclear powerplants. We support the provision because it helps provide certainty to a process to bank approved sites, making our Nation better prepared to build new nuclear plants in response to growing electricity demand.

Finally, recognizing the significant role that nuclear energy plays in avoiding the emissions of Clean Air Act criteria pollutants and all forms of greenhouse gases, we strongly endorse the provisions in title III of S. 427 which would ensure that nuclear energy is not discriminated against in either Federal electricity procurements or by international funding institutions supported by the United States.

Title III of S. 427 would also make emission-free power sources like nuclear energy eligible for economic incentives available under State implementation plans, a provision that makes great sense for all nonemitting sources.

Mr. Chairman, your leadership and that of others on the committee, particularly Senators Murkowski and Domenici, in moving forward on legislation as we are discussing today is important to our Nation. Demand for electricity in the United States is growing. The Nuclear Energy Institute believes that to meet future electricity demand requires an energy policy that combines conservation and efficiency measures with major investments in powerplants, transmission lines, and other infrastructure components. We also believe that diversity of fuel type and technology is necessary to ensure reliability, hedge against fuel cost volatility, and to meet our environmental goals.

Nuclear energy is our second largest source of electricity and our largest source of electricity that doesn't emit greenhouse gases or other air pollutants. Increasing nuclear energy's contribution to U.S. electricity supply is essential to sustain economic growth, meet the electricity needs of the growing population, improve our quality of life, and satisfy our nation's clean air goals.

To satisfy future electricity demand and ensure that nuclear energy is available when needed, the U.S. industry is implementing a three-part program. First, we are maintaining the contribution from our existing plants through license renewal. We fully expect all of our plants will pursue license renewal.

Second, expanding output from existing nuclear plants by continuing to improve efficiency and reliability and by investing the capital necessary to increase the rated capacity of the plants, this program has been so successful to date that over the last ten years, improved efficiency and upgrades at our 103 plants have added the equivalent of 22,000 megawatts of new capacity.

And, finally, we are moving forward towards construction of new plants. In May, our industry announced the Vision 2020 goal of adding 50,000 megawatts of new capacity by the year 2020. The industry is pursuing two parallel approaches to employ new plants. In both paths, we will be looking at building families of standardized plants. On one path, we are looking at employing the new reactor designs already certified by the NRC or derivatives of those designs.

Also, several companies are developing advanced gas-cooled reactors. These designs would also be standardized and modular in nature. We expect license applications for new plants will be filed over the next few years. Leadership and support from this committee in the past has been instrumental in establishing a more effective licensing process for new plants, and continued support from the committee will be instrumental to the success that will be achieved in the future.

In this regard, again, we appreciate your leadership in addressing the legislative provisions we are talking about today, as well as the commitment to renew Price-Anderson and to pursue hearings on other legislation addressing infrastructure needs and focused R&D. We also appreciate your continued oversight of the Government's portion of the program for used nuclear fuel management.

The used nuclear fuel repository program is the foundation of our national policy for managing used fuel, and while the industry recognizes the value in research and future use fuel management technologies for as called for in S. 388, the residue from these technologies will still require an engineered repository for disposal.

Again, thank you for the opportunity to testify today, and I would be glad to answer any questions you may have.

[The prepared statement of Mr. Fertel follows:]

PREPARED STATEMENT OF MARVIN S. FERTEL, SENIOR VICE PRESIDENT,
BUSINESS OPERATIONS, NUCLEAR ENERGY INSTITUTE

Chairman Bingaman, Ranking Member Murkowski, and distinguished members of the Senate Energy and Natural Resources Committee, I am Marvin Fertel, Senior Vice President of the Nuclear Energy Institute. I am pleased to have this opportunity to testify regarding the provisions in the Nuclear Energy Electricity Supply Assurance Act of 2001 (S. 472), legislation to require the Department of Energy to study the feasibility of developing nuclear power plants at existing DOE sites (S. 919), and legislation to amend titles X and XI of the Energy Policy Act of 1992 (S. 1147). Together, these provisions promote a robust future for nuclear energy in the United States.

The Nuclear Energy Institute (NEI) is the Washington, D.C.-based policy organization for the nuclear industry. NEI coordinates public policy on issues affecting the nuclear energy industry, including federal regulations that help ensure a safe and

robust future for our industry. NEI represents nearly 275 companies, including every U.S. utility licensed to operate a commercial nuclear reactor, their suppliers, fuel fabrication facilities, architectural and engineering firms, labor and law firms, radiopharmaceutical companies, research laboratories, universities and international nuclear organizations.

The nuclear energy industry commends you, Mr. Chairman, Ranking Member Murkowski, and the members of this committee, for the strong bipartisan support you have demonstrated toward ensuring the American people continue to have the energy security and environmental benefits associated with the use of nuclear energy in the United States. The provisions in this comprehensive energy legislation related to nuclear energy that we are discussing today are a critical component of that support.

ELECTRICITY: WILL WE HAVE ENOUGH?

Today, America's 103 nuclear power plants are the safest, most efficient and most reliable in the world. Nuclear energy is the second largest source of electricity in the United States, and our largest source of emission-free electricity generation. The industry last year achieved record levels of safety, reliability, efficiency and electricity production. In our view, increasing nuclear energy's contribution to U.S. electricity supply is not an option. It is essential to sustain economic growth, meet the electricity needs of our growing population, improve our quality of life, and satisfy our nation's clean air and environmental goals.

U.S. electricity demand grew by 2.2 percent a year on average during the 1990s, and increased by 2.6 percent in 2000. Even if demand grows by a modest 1.8 percent annually over the next two decades—as forecasted by the U.S. Energy Information Administration—the nation will need nearly 400,000 megawatts of new electric generating capacity, including replacement of power plants that will close during that time. This capacity is the equivalent of building about 800 new mid-size (500-megawatt) power plants—or 40 new plants every year for the next 20 years. New nuclear energy plants should account for a portion of this new capacity.

In California, shortages of electric generating capacity and rising natural gas prices have contributed to skyrocketing consumer electricity rates, the bankruptcy of one major electric company, and blackouts affecting millions of people and thousands of businesses—all at a cost of billions of dollars. Electricity shortages are also forecast for other regions of the country during the next few years.

To satisfy growing electricity demand, and ensure that nuclear energy is available as needed, the U.S. nuclear industry is implementing a three-part program:

- maintaining the contribution from its existing plants through license renewal;
- expanding the output from the existing nuclear units by continuing to improve efficiency and reliability, and by investing the capital required to increase the rated capacity of the units; and
- laying the groundwork for construction of new nuclear plants.

Many of the nation's largest nuclear generating companies and suppliers, working with NEI, are implementing a broad-based plan to create the business conditions necessary for construction of new nuclear power plants. The plan includes: (1) a number of initiatives to reduce the initial capital cost of new nuclear power plants; (2) programs to create a stable licensing regime and reduce regulatory uncertainties, and (3) a series of initiatives to build support for new nuclear power plants among policymakers, the media and local communities around prospective sites for new nuclear power plants.

The companies intent on starting construction of new nuclear power plants in the United States within the next five years are doing so because new nuclear capacity represents a solid business opportunity. For an electricity generating company, new nuclear power capacity represents:

- a reliable source of electricity with low “going-forward” or “dispatch” costs;
- a high level of forward price stability and protection against the fuel price volatility that impacts gas-fired power plants; and
- protection against possible escalation in environmental requirements imposed on fossil-fueled power plants. For companies already operating coal-fired or gas-fired power plants, new nuclear capacity reduces the cost of clean air compliance that might otherwise be imposed on that coal- and gas-fired capacity.

Rising energy prices topped the list of economic concerns voiced by Americans in a February Wall Street Journal/NBC survey.¹ Eighty-six percent of Americans agree that the country faces an energy problem, and they ranked energy prices as a more pressing concern than federal taxes and the budget. One-third said the United States faces an energy crisis, and more than one-half see rising energy costs as a problem.

Today, nuclear energy supplies electricity to one of every five homes in the country, at production costs that are cheaper than coal, natural gas and oil-fired power plants. Increased efficiency, and therefore greater production, at the nation's 103 nuclear power reactors during the past decade, has met 22 percent of all new electricity demand during that time. Importantly, this electricity is generated without producing any air pollution or greenhouse gases.

If we are to responsibly meet our nation's soaring demand for electricity while maintaining clean and safe supplies of air, nuclear energy must continue to be an important part of our nation's energy mix. The industry is taking steps to ensure that nuclear energy remains a vital part of our country's electricity portfolio. We commend this committee for its foresight that nuclear energy must be a significant component of a comprehensive energy plan for our future.

I will address the nuclear energy issues in the Committee's draft energy policy by topic.

NEW NUCLEAR POWER PLANTS

The industry is committed to building new nuclear power plants to meet growing electricity demand during the next 20 years. In that context, the industry supports provisions in S. 919 that would study the feasibility of building new nuclear power plants at existing Department of Energy sites.

The industry supports Section 106 of S. 388, which is mirrored in Section 130 of S. 472, and would require the Nuclear Regulatory Commission to report to Congress on the state of nuclear power generation in the United States. The industry believes that its outstanding record of safety and performance would garner greater support in Congress—as it has in this Committee—for building advanced reactor designs as part of a balanced energy portfolio to serve Americans in the decades to come. This section also would require the NRC to assess its ability to extend the operating licenses of existing nuclear power plants and to license new nuclear plants. This information will be helpful to the NRC, Congress and other interested stakeholders in assessing the certainty of the new NRC licensing process.

Like the industry, the Department of Energy has been looking at issues related to new nuclear power plant construction in the United States. The legislation directs the Energy Department to undertake a number of initiatives, including examining the near-term prospects for completing reactors that are partially built and the long-term possibilities for building emerging reactor technology.

The Secretary of Energy would, under Section 202 of S. 472, be directed to study the feasibility of completing and operating unfinished commercial nuclear power plants. The industry believes that completion and eventual operation of unfinished commercial reactors can be done safely and economically. We also believe it will provide a much-needed bridge of electricity between today's nuclear power plants and the facilities we will build in the near future to meet the nation's growing energy needs.

In addition to the Energy Department's role in studying the feasibility of completing unfinished nuclear power plants, the department would initiate a government/private partnership to demonstrate the NRC's early site permitting process, which has part of the nuclear plant licensing reforms passed in the Energy Policy Act of 1992. The nuclear energy industry views early site permitting as one of the most important steps along the path to building new nuclear power plants. We support this provision because it helps electric companies test a process to "bank" approved sites, making the companies much more nimble in responding to the emergence of business conditions that are favorable to building new nuclear power plants.

S. 919 would require the Energy Secretary to conduct a study to determine the feasibility of building commercial nuclear power plants at existing DOE facilities. This study would provide valuable input to those private sector and/or government entities that might be considering building new nuclear power plants in the future.

To its credit, DOE has launched a project to prepare a technology roadmap for developing the next generation nuclear plants, called Generation IV. The industry is working cooperatively with the Energy Department in this project and supports Section 204 of S. 472 that directs the Secretary of Energy to study Generation IV

¹Wall Street Journal, March 8, 2001.

nuclear power systems. Similarly, the industry supports Section 205 of the bill, which requires the NRC to develop a research program to support resolution of potential licensing issues associated with new nuclear reactor technology and concepts that could be incorporated into current reactor designs. However, the NRC should avoid duplication among other federal agencies and the industry in its research efforts, and funding for the agency's research should be separate from industry user fees where appropriate.

USED FUEL MANAGEMENT ISSUES

The nuclear energy industry also supports Section 107 of S. 388, which establishes the Office of Spent Nuclear Fuel Research within the Department of Energy's Office of Nuclear Energy Science and Technology.

The used nuclear fuel repository program—including the Department of Energy's commitment to forward a formal decision on the site suitability of Yucca Mountain to the president this year—is the foundation of our national policy for managing used nuclear fuel. In addition, the nuclear industry recognizes the value in researching future used fuel management technologies. The farsighted research and development programs that the new Office of Spent Nuclear Fuel Research will conduct will allow our nation to remain the world leader in nuclear technologies. However, it is important to note that even technologies like transmutation—the conversion of used nuclear fuel into less toxic materials—require a repository for disposal of the radioactive byproducts generated from the process.

NUCLEAR ENERGY IS AN ENVIRONMENTALLY PREFERABLE PRODUCT

In his recent address on climate change, President Bush made a critical observation regarding the path forward on climate change, stating: "There are only two ways to stabilize concentration of greenhouse gases. One is to avoid emitting them in the first place; the other is to try to capture them after they're created." This framework builds on our historical success with combining pollution avoidance and end-of-the-pipe controls in addressing other potentially harmful air emissions from power generation.

As early as 1969, the Department of the Interior listed increased use of nuclear energy as one of 11 methods to control sulfur dioxide emissions. Since then, the advent of nuclear energy has been a major component of achieving domestic air quality goals.

For example, from 1975 to 1990, generating electricity at nuclear plants instead of fossil-fueled alternatives avoided more tons of nitrogen oxide than were eliminated through controls under the Clean Air Act. In 2000 alone, nuclear plants avoided more than 4 million tons of sulfur dioxide, nearly 2 million tons of nitrogen oxides, and 174 million metric tons of carbon equivalent.

Without today's nuclear energy production—which generates 20 percent of our electricity and two-thirds of all emission-free electricity—the difference between U.S. greenhouse gas emission levels and our 1990 baseline established in the Framework Convention on Climate Change would double.

Sections 301, 302 and 304 of S. 472 appropriately recognize the environmental contributions of nuclear energy. First, Section 301 provides that electricity generated by a nuclear power plant "shall be considered to be an environmentally preferable product" for the purposes of Executive Order 13101, which encourages federal agencies to use environmentally preferable products. The industry believes this is an important first step in a broad affirmation of nuclear energy's role in environmental protection.

Section 302 of S. 472 mirrors language in Senator Frank Murkowski's recent legislation that recognizes nuclear energy's demonstrated role in improving our nation's air quality. This section modifies the current definition of "emission-free electricity source" to include "a facility that generates electricity using nuclear fuel that meets all applicable standards for radiological emissions under Section 112 of the Clean Air Act." The industry supports this provision because it recognizes that continued operation of an emission-free electricity source or improved availability of the facility is considered a pollution control measure, and therefore is eligible for incentive programs for control measures, such as emission trading, loan funds, and tax benefits.

The industry also supports Section 304, which would prohibit the use of federal funds to support domestic or international organizations, such as the World Bank, International Monetary Fund and the Export-Import Bank, engaged in financing or developing power plants if the activities do not include nuclear power projects.

URANIUM SUPPLY

A strength of our nation's nuclear energy program is the low cost of producing electricity at nuclear power plants and the stable forward pricing of electricity produced by nuclear power plants. The importance of this price stability was evident last year as sharp increases in natural gas prices resulted in significant increases in the price of electricity across the United States. The availability of a long-term, reliable and competitive fuel supply is a critical factor in achieving the excellent economic performance at nuclear power plants.

In that regard, the industry supports sections 128 and 129 of S. 472. Both of these provisions act to provide contingencies in the event of undesirable supply problems affecting the domestic conversion and enrichment sections of the nuclear fuel supply chain. The industry also supports section 126 of S. 472, but suggests that a more comprehensive approach establishing a broad framework for disposition of uranium by the Department of Energy be considered. The industry will forward specific changes regarding this provision to the Committee.

The industry also supports the federal government's commitment to appropriately reimburse Kerr-McGee Chemical LLC for the federal share of cleaning the West Chicago thorium site as stated in Section 1 (a) of S. 1147. However, any increase in funding for this effort should not come at the expense of taking funds from the portion of the Uranium Enrichment Decontamination and Decommissioning Fund that is allocated for cleanup of the gaseous diffusion plants.

CONCLUSION

One need only look at the current energy situation in the United States, marked by thinning capacity margins and volatile prices for fossil fuels, to understand why nuclear energy is so important to our nation's energy mix.

In the future, as electricity demand continues to rise, nuclear energy will be even more important to American consumers, and to our nation's economy as a whole. Our nation's nuclear energy industry has proven over the past two decades that nuclear energy is a safe, reliable, and efficient source of electricity for our nation's economic growth. It plays a significant role in many of the states represented on this Committee, providing both electricity to power economic growth and clean air benefits that protect both our environment and our health.

Federal Reserve Chairman Alan Greenspan, in a speech before the Economic Club of Chicago in June, said that nuclear energy is "an obvious major alternative" for electricity to production in the United States. "Given the steps that have been taken over the years to make nuclear energy safer and the obvious environmental advantages it has in terms of reducing emissions, the time may have come to consider whether we can overcome the impediments to tapping the potential more fully."

I commend the members of this Committee for having the foresight for taking this important step to tap the incredible potential that nuclear energy offers the nation and its citizens. I urge you to continue to support nuclear energy as a critical part of the United States' diverse energy policy as you move forward with this important legislation

The CHAIRMAN. Thank you very much.

Mr. Thadani and Ms. Aurilio, let me ask you both to give us a short version of your testimony. We are about halfway through a vote, and there are going to be several in a row, so we are going to have to conclude, but go right ahead, Mr. Thadani.

STATEMENT OF ASHOK C. THADANI, DIRECTOR, OFFICE OF NUCLEAR REGULATORY RESEARCH, NUCLEAR REGULATORY COMMISSION, ROCKVILLE, MD

Mr. THADANI. Certainly, then I will be very brief. Mr. Chairman, thank you very much. I am pleased to submit this testimony on behalf of the U.S. Nuclear Regulatory Commission concerning three sections of S. 472.

One section, section 130, requires a report to the Congress on the state of nuclear generation in the United States. The other two sections, sections 201 and 205, discuss the establishment and implementation of a research program to support resolution of various technical issues.

As per section 130 requirement, the NRC would be pleased to provide the report on the status of the activities related to nuclear power generation and on NRC's work to prepare for future applications and the issues related to licensing and regulation facilities.

While such a report could provide information and insight related to nuclear power generation, we would caution that the NRC would prepare such a report from the perspective of a safety regulator.

As for sections 201 and 205 relating to new reactor concepts and new technologies for current reactors, the Commission approves of the direction in S. 472 to develop a research program to support resolution of issues for new reactor designs and technologies and appreciates the recognition of the importance of NRC's research program to any successful licensing of new nuclear powerplants.

The Commission believes that a strong nuclear research program needs to be maintained to support our regulatory activities, including activities relating to new concepts and designs. The NRC's research program has historically provided valuable information to support a wide spectrum of regulatory activities. Research has provided the technical basis for license renewal and for the certification of advanced plant designs such as the Westinghouse AP-600, General Electric's Advanced Boiling Water Reactor and Combustion Engineering System 80+ design.

Perhaps most fundamentally, research has developed the analytical tool, probabilistic risk assessment, that underlie the NRC's efforts to implement a more risk-informed regulatory paradigm. In addition to the three certified advanced reactor designs, there are new nuclear plant technologies which some believe can provide enhanced safety, improved efficiency, lower costs, as well as other benefits. The Commission has already begun to undertake the groundwork for the efforts sought in S. 472.

To ensure that the Commission staff is prepared to evaluate applications to introduce these advanced nuclear reactors, the Commission recently directed the staff to assess the technical, licensing, and inspection capabilities that would be necessary to review an application for an early site permit, license application, or construction permit for a new unit.

The CHAIRMAN. Mr. Thadani, let me ask—I note that you are going through your testimony, and we have the full statement here. Could we just ask that it be submitted for the record, so we can take a few minutes and hear from Ms. Aurilio?

Mr. THADANI. Yes, indeed, Mr. Chairman.

The CHAIRMAN. Thank you very much.

[The prepared statement of Mr. Thadani follows:]

PREPARED STATEMENT OF ASHOK C. THADANI, DIRECTOR, OFFICE OF NUCLEAR REGULATORY RESEARCH, NUCLEAR REGULATORY COMMISSION, ROCKVILLE, MD

INTRODUCTION

Mr. Chairman and members of the Committee, I am pleased to submit this testimony on behalf of the U.S. Nuclear Regulatory Commission (NRC) concerning three sections of S. 472. One section (Section 130) requires a report to the Congress on the state of nuclear power generation in the United States. The other two sections (Sections 201 and 205) discuss the establishment and implementation of a research program to support resolution of potential licensing issues associated with new reactor concepts and new technologies for nuclear power plants.

As the Committee knows, the Commission's mission is to ensure the adequate protection of the public health and safety, the common defense and security, and the environment in the application of nuclear technology for civilian use. The Commission does not have a promotional role; rather, the agency's role is to ensure the safe application of nuclear technology. The agency's perceptions of the three sections of S. 472 are presented from this perspective.

1. Section 130 requires the Nuclear Regulatory Commission to report to Congress on the state of nuclear power generation in the United States.

The NRC would be pleased to provide a report on the status of its activities related to nuclear power generation, and on NRC's work to prepare for future applications and the complex issues related to licensing and regulating nuclear power facilities.

While such a report could provide information and insights related to nuclear power generation and electricity supply for the country, we would caution that the NRC would prepare such a report from the perspective of a safety regulator. Economic issues will be of central importance in defining the future course of nuclear power in this country and the NRC, which does not engage in economic regulation, does not have any particular insights on such matters. In particular, with respect to advanced reactor designs and future applications, the report would address NRC's readiness for such future applications rather than the relative merits from an energy policy perspective of the designs being considered. Congress will have to decide whether a report from the perspective of the NRC will serve the policy needs of Congress.

2. Sections 201 and 205, requires the NRC to develop a comprehensive research program to support resolution of potential licensing issues associated with nuclear reactor concepts and new technologies that may be incorporated into new or current designs of nuclear power plants.

The Commission approves of the direction in S. 472 to develop a research program to support resolution of licensing issues for new reactor designs and technologies and appreciates the recognition of the importance of NRC's research program to any successful licensing of new nuclear power plants. The Commission believes that a strong nuclear research program needs to be maintained to support our regulatory activities, including activities relating to new concepts and designs. The NRC's research program has historically provided valuable information to support a wide spectrum of regulatory activities. Research has provided the technical basis for license renewal and for the certification of advanced plant designs, such as the Westinghouse AP-600, General Electric's Advanced Boiling Water Reactor, and Combustion Engineering's System 80+. Research programs have allowed the NRC to address reactor pressure vessel issues, steam generator issues, and issues associated with longer fuel burnup and power uprates. Perhaps most fundamentally, research has developed the analytical tool, probabilistic risk assessment, that underlies the NRC's efforts to implement a more risk-informed regulatory paradigm.

In addition to the three certified advanced reactor designs, there are new nuclear power plant technologies, which some believe can provide enhanced safety, improved efficiency, lower costs, as well as other benefits. The Commission has already begun to undertake the groundwork for the effort sought by S. 472. To ensure that the Commission staff is prepared to evaluate applications to introduce these advanced nuclear reactors, the Commission recently directed the staff to assess the technical, licensing, and inspection capabilities that would be necessary to review an application for an early site permit, license application, or construction permit for a new reactor unit. This will include evaluating the capability needed to review the designs for generation III+ or generation IV light water reactors, such as the Westinghouse AP-1000, the Pebble Bed Modular Reactor, General Atomics' Gas Turbine Modular Helium Reactor, and the International Reactor Innovative and Secure (IRIS) designs. The Commission will also examine its regulations relating to reactor licensing, such as 10 CFR Parts 50 and 52, in order to identify whether any enhancements are necessary. NRC's research program will provide important information and contributions to these efforts.

Decisions concerning research programs that address new designs, as well as other possible new technologies and concepts, must consider the potential for applications for the new designs and technologies. The first priority must be on those designs or concepts that appear most likely to be pursued by licensees. In addition, such decisions must include consideration of the timing of potential requests for NRC approval to use new technologies and designs. The NRC seeks to assure the availability of research results to support timely decision making. Such decisions must also include consideration of resources for and the method of funding of new research programs. Operating reactor licensees have expressed concern about the fees imposed on them and, as a result, about the size of the NRC's budget. One ap-

proach that would address licensee concerns is to fund additional research from the general fund, as opposed to funding additional activities from the fee-based portion of NRC's budget. Such support could be justified on the basis of the broad public benefit from such research.

The funding proposed in S. 472 would be used to augment and accelerate research programs in support of the future application of new technologies in operating reactors (e.g., behavior of advanced fuel designs, advanced instrumentation controls and sensors), and to establish new programs to address the technical needs identified in the Commission's assessment of future licensing capabilities.

The Commission believes that its past research programs have made important contributions to support the NRC's regulatory activities in many areas. We welcome the opportunity to work with the Congress to develop and implement research programs to address new reactor designs, as well as new technologies and concepts which could be incorporated into new or current nuclear plants.

Thank you Mr. Chairman. I welcome your comments and questions.

The CHAIRMAN. Ms. Aurilio.

**STATEMENT OF ANNA AURILIO, LEGISLATIVE DIRECTOR,
U.S. PUBLIC INTEREST RESEARCH GROUP**

Ms. AURILIO. Thank you. My name is Anna Aurilio. I am the legislative director for U.S. PIRG with the national office for the State public interest research groups including New Mexico PIRG.

We have a long history of working for a clean, affordable energy future, and we believe nuclear energy plays no part in that. We have a web site that describes our vision of increasing energy efficiency, saving consumers money, reducing pollution and shifting to clean renewable energy, and I believe that is something that you have supported in the past as well, and our web site is newenergyfuture.com.

I will comment on some of the sections of S. 472, just to highlight those, but we basically say that the nuclear industry wouldn't exist today if it weren't for massive Federal subsidies. It is still unsafe, uneconomic, unreliable, and we feel that it is time for taxpayers to stop having to pay to hand out yet more money to an industry that generates radioactive waste for which there is no sound solution.

First of all, in terms of the existing reactors, we are very, very concerned with the sections in Senator Domenici's bill that provide incentives for the reactors to run more than they otherwise would have, and this is because there are aging-related problems at reactors. In fact, in the last year, there have been nine aging-related shutdowns at nuclear reactors, according to the Union of Concerned Scientists, and I just got word that yesterday three reactors in Minnesota were found to have some significant problems.

The Prairie Island nuclear powerplant which is on the flood plain of the Mississippi River, a place where you probably shouldn't have sited a nuclear powerplant to begin with, had 16 out of 17 flood panels not working. These were supposed to protect parts of the nuclear powerplant from flooding, so that seems very dangerous and not appropriate.

The second thing is the other nuclear powerplant there hadn't removed its shipping casement from some safety bellows that also would have prevented the release of radioactive steam in case of an accident. This was shipping material that was installed when the reactor was first put in 30 years ago. So, again, it seems to us that you shouldn't be asking existing reactors and rewarding existing reactor operators to run their plants closer to the safety margins. That is not appropriate at all.

The second thing is Price-Anderson. We do not support the extension of Price-Anderson. We believe that if the nuclear industry is so clean and so safe as it says it is, there is no justification for a limit on liability, and there is certainly no justification to have taxpayers bail out potentially victims if there were to be an accident so big that it would exceed the liability limit.

Finally, there are several provisions that talk about so-called Generation IV reactors, new reactor designs. Again, you will hear the nuclear industry talking about how clean and inherently safe these reactors are, and yet they continue to ask for special insurance coverage that no other industry have, and a limit on liability that guarantees that the industry is protected in case of an accident, but the public is not. That is simply not acceptable, and even several utility commissioners in several States have now said, if new reactors are to be built, they should be forced to buy insurance on their own, including, I believe, a gentleman from the Public Utility Commission of New Mexico.

Finally, I had to chuckle when I saw the environmentally preferable purchasing provisions in the Domenici bill, section 301. It attempts to legislate away the polluting reality of nuclear power. We have being barraged by misleading nuclear energy ads, touting how clean and safe they are, and yet even the Federal Trade Commission has said that any advertising campaign touting nuclear power as environmentally clean is without substantiation.

Now, the one comment I have to make on that is if it is so environmentally clean, why did Mr. Fertel's group on June 6 sue in D.C. District Court to try to weaken radiation standards for a nuclear waste dump. Basically Mr. Fertel's group does not want to afford people who have the misfortune of living around a proposed nuclear waste dump in Nevada safe drinking water standards for radiation that apply to the rest of the country.

In closing, S. 919, to look at DOE sites for the potential of developing commercial reactors there, DOE weapons production sites are some of the most heavily contaminated sites around the world. A 1997 DOE report concluded that nuclear fuel reprocessing generated 94 percent of the waste at these sites, and by the way, title III of the Domenici bill contains the authorization for accelerator transmutation of waste which is reprocessing, and according to a DOE report would cost \$281 billion over 100 years and not solve the nuclear waste problem, so that should be rejected.

But in terms of Senator Thurmond's bill, we believe that the DOE should focus on cleaning up extremely contaminated sites and not risk more contamination by promoting commercial reactors at these sites.

Thank you.

[The prepared statement of Ms. Aurilio follows:]

PREPARED STATEMENT OF ANNA AURILIO, LEGISLATIVE DIRECTOR, U.S. PUBLIC INTEREST RESEARCH GROUP

Good morning, my name is Anna Aurilio and I'm the Legislative Director of the U.S. Public Interest Research Group, or U.S. PIRG. U.S. PIRG is the national office for the State PIRGs, which are environmental, good government and consumer advocacy groups active around the country. Thank you for the opportunity to speak today.

The state PIRGs have a long history of working for a clean affordable energy future. Our goal is to shift from polluting and dangerous sources of energy such as

nuclear and fossil energy to increased energy efficiency and clean renewable energy sources. Our website on energy is www.newenergyfuture.com.

Today I will be addressing nuclear energy issues. In particular, I will be focusing my testimony on the nuclear energy subsidy provisions contained in S. 472, "The Nuclear Energy Supply Assurance Act of 2000." I also will comment briefly on S. 919.

Nuclear power is unsafe, unreliable, uneconomic and generates long-lived radioactive wastes for which there is no safe solution. It would not exist without massive federal and state subsidies. It should be phased out as soon as possible and should not be encouraged as a future energy source.

Therefore, PIRG opposes further subsidies to the nuclear industry including those included in S. 472. We are especially dismayed at the plethora of new subsidies proposed by S. 472 as well as its support for the expansion of existing subsidies such as the Price Anderson Act and nuclear waste "transmutation." In fact, the only assurance the public gets in S. 472 is the production of more lethal radioactive waste and the waste of billions of taxpayer dollars.

This legislation takes us in the wrong direction. Taxpayers should not be asked yet again, to prop up a failed industry, which has garnered the lion's share of federal research and development funding, yet continues to be among the most expensive and dangerous energy sources. According to the Congressional Research Service, nuclear research and development has gotten more than 60%, or \$66 billion in energy research and development funding from 1948-1998.

Even an industry spokesman seems a little embarrassed at some of the unjustified handouts in S. 472. At a previous hearing this spring before this committee, Mr. Marvin Fertel of the Nuclear Energy Institute said of additional subsidies for operation of existing nuclear power plants:

I think what you will see is that the industry will move down that road on its own to produce as much safe, reliable electricity as we can in this country, so I think that while we appreciate the incentives, I think that they may expedite things, but they are probably not going to cause a radical change in the behavior on what the industry will do . . .

PIRG supports the elimination of nuclear subsidies and wishes that the nuclear industry would move down the road "on its own." PIRG has been working to shift funding towards energy efficiency and clean renewable energy programs such as solar and wind. From 1993 through 1995, PIRG helped shift more than \$500 million in nuclear and fossil R&D spending to efficiency and renewable programs. During that time, we helped convince Congress to eliminate funding for two extremely expensive advanced reactor programs, the gas-cooled reactor and the breeder reactor known as the Advanced Liquid Metal Reactor, saving taxpayers at least \$5.6 billion. By 1998, the Department of Energy spent no money on commercial nuclear research and development.

Unfortunately, since that time, the nuclear industry and its supporters have succeeded in reviving funding for commercial nuclear research and development. Some in the industry are even trying to revive the breeder reactor and gas-cooled reactor programs killed by Congress under the guise of "Generation IV" reactor research. Hard-earned tax dollars would be better spent on developing and promoting energy efficiency and clean renewable energy technologies.

NUCLEAR POWER IS A FAILED ENERGY SOURCE OF THE PAST

Despite industry's claims that nuclear power is "safe", nine existing reactors have experiencing aging-related shutdowns since January, 2000.¹ Despite industry claims that nuclear power is clean, no country in the world has solved the nuclear waste problem, and the industry is suing to allow more radiation leakage from a proposed waste dump in Nevada.² Despite industry's promises of power that would be "too cheap to meter" it remains wildly expensive for taxpayers and ratepayers. For example, ratepayer bailouts of utilities' so-called "stranded" investments in nuclear power plants total an estimated \$112 billion in the deregulation legislation in just 11 states.³ The nuclear industry currently receives more subsidies and favorable government treatment than any other industry. Consider that:

¹ Union of Concerned Scientists, "Aging Nuclear Plants and License Renewal," Issue Brief, May 22, 2001.

² Nuclear Energy Institute, Inc. vs. U.S. and U.S. EPA, filed in U.S. District Court of Appeals, DC Circuit, June 6, 2001.

³ Safe Energy Communication Council, "The Great Ratepayer Robbery: How Electric Utilities are Making Out Like Bandits at the Dawn of Deregulation," Fall 1998.

- Federal taxpayers paid to develop commercial nuclear technology;
- In case of an accident, federal taxpayers will pay public damages for accidents caused by DOE contractors, and may be ultimately liable for commercial nuclear accident damages above \$9.4 billion;
- Federal taxpayers will ultimately pay for nuclear waste disposal; and
- Federal taxpayers were cheated out of billions of dollars during the privatization of the Uranium Enrichment Corporation.

While it is difficult to imagine how the public could possibly do more to prop up this failed industry, the nuclear industry has devised a whole new menu of additional unjustified and expensive subsidies.

CONGRESS SHOULD OPPOSE FUNDING FOR NEW NUCLEAR RESEARCH
AND DEVELOPMENT PROGRAMS

This country is at a crossroads on energy policy. We should reject the failed, polluting energy sources of the past and work for a smarter cleaner energy future, that focuses on energy efficiency and shifting to clean renewable energy sources such as wind and solar.

The Bush energy plan and S. 472 would increase costs to taxpayers and increase the amount of radioactive waste that will ultimately need disposal. Further, both plans undermine the democratic process by cutting citizens even further out of decisions affecting their health and safety. For example, Section 610 in S. 472 would allow the NRC to deny citizens and others their right to a formal hearing even for very significant decisions such as the licensing of a national nuclear waste dump.

S. 472 WILL COST TAXPAYERS AT LEAST \$237.2 MILLION IN FY02 FOR ADDITIONAL
UNJUSTIFIED AND DANGEROUS NUCLEAR SUBSIDIES

The following describes these programs with proposed FY2002 funding in ().

Title I—Support for Continued Use of Nuclear Energy

Price Anderson Amendments—My colleague from Friends of the Earth has already testified on our behalf on this issue. Briefly, the Price Anderson Act was supposed to be a temporary measure for a fledgling industry. Today that industry has grown enormously and has reaped substantial benefit from this and other taxpayer subsidies. Under Price Anderson, nuclear reactor operators get a guarantee of limited liability for public damages in the event of a nuclear accident. The designers, builders and suppliers of the reactors are exempt from all liability for damage to the public. DOE contractors are fully indemnified by the government. In contrast, the public gets no guarantee of full compensation. There is no justification for limiting the liability of an industry that spends millions in advertising its “safety.” The Price Anderson Act should not be renewed and should be either radically reformed or replaced by legislation that truly protects the public.

Sec. 122. Nuclear Energy Research Initiative (\$60m)—As Representative Mark Foley (R-FL) so eloquently put it on the House floor last June, “The money goes to such corporate giants as Westinghouse and General Electric. Why does this mature industry need the help of the American taxpayer to develop and design the next generation of nuclear reactors?” This program may fund duplicative research on advanced instrumentation and controls already undertaken by the Nuclear Regulatory Commission. Nuclear power is inherently unsafe and generates highly radioactive waste. All of the advanced reactors under consideration will still generate radioactive waste.

Sec. 123. Nuclear Energy Plant Optimization (\$15m)—This program is pure corporate welfare, as it funds research into optimizing the performance of existing nuclear power plants.

Sec. 124. Upgrading of Nuclear Plant Operations (\$15m)—This section is blatant corporate welfare; it provides an incentive payment of up to \$1 million per nuclear plant for increased operations. This means nuclear plant operators could get a taxpayer bonus for running their plants closer to safety margins.

Sec. 125 University Programs (\$34.2m)—We oppose funding university programs to the extent that they support the commercial nuclear power industry.

Sec. 127 Cooperative Research and Development and Special Demonstration Projects for the Uranium Mining Industry (\$10m)—This section would subsidize the extremely dangerous practice of in situ leach mining. This mining method guarantees pollution of scarce groundwater resources.

Title II—Construction of Nuclear Plants

Sec 202—Nuclear Plant Completion Initiative (\$3 m)—This is another attempt to prop up the industry by subsidizing the restart or completion of plants that have been shut down. This is a ridiculous waste of money, since many plants were shut down or halted for economic reasons and through democratic decisions such as ballot initiatives.

Sec. 203—Early Site Permit Demonstration Program (\$15 m)—This is again more corporate welfare to the industry to help pay for permit applications.

Sec. 204—Nuclear Energy Technology Study for Generation IV Reactors (\$50m)—This seems duplicative with the Nuclear Energy Research Initiative since that program also supports research and development of “Generation IV” reactors. Some of the proponents of Generation IV reactors promote, once again, breeder reactor technology. Congress has killed this program twice and breeder reactors have been a dismal failure in France and Japan.

Sec. 205—Research Supporting Regulatory Processes for New Reactor Technologies and Designs (\$25m)—These programs should be funded by industry user fees at the Nuclear Regulatory Commission.

Title III—Evaluations of Nuclear Energy

Sec. 301—Environmentally Preferable Purchasing—This section attempts to legislate away the polluting reality of nuclear power. The American public is being baraged by misleading NEI ads touting the safety and positive economics of nuclear power. The Federal Trade Commission has said that NEI’s “advertising campaign touting nuclear power as environmentally clean was without substantiation.”⁴ If it is so clean and environmentally-preferable, why is the industry suing to allow even more radioactive leakage at the proposed nuclear waste dump?

Sec. 302—Emission—Free Control Measures Under a State Implementation Plan—This section tramples over state’s rights and again attempts to legislate away the ugly reality that nuclear power plants have emitted at least 42,000 metric tons of highly radioactive waste so far.

Sec. 304—Prohibition of Discrimination Against Emission—Free Electricity Projects in International Development Programs—The U.S. cannot safely manage its reactors and radioactive waste, why should we foist this failed technology on developing countries?

Title IV—Development of National Spent Nuclear Fuel Strategy

Sec. 402—Office Of Spent Nuclear Fuel Research and Section 403 Advanced Fuel Recycling Technology Program (\$10m)—These sections attempt to promote several dangerous and expensive nuclear technologies. First, these sections support pyroprocessing, a vestige of the breeder reactor program killed by Congress in 1994, which saved taxpayers at least \$3 billion. Pyroprocessing is a nuclear fuel reprocessing technology, which could be used to separate weapons-usable material. Pyroprocessing will not reduce the quantity of nuclear waste, and will likely increase the amount of waste generated because of contamination of the machinery and chemicals used in the separations process. Most of the waste stream is uranium, which will not be pure enough to recycle again into new fuel and hence must be dealt with along with the other radioactive wastes. A three-year demonstration of this technology failed to accomplish the original goals of processing 125 fuel elements, but unfortunately proved its danger when several serious incidents, including contamination of 11 personnel occurred.

Second, these sections promote Accelerator Transmutation of Waste—a nuclear alchemy program that will not get rid of nuclear waste. According to a DOE report to Congress in 1998, ATW will cost at least \$280 billion over 118 years and will not obviate the need to open a waste repository. Both of these technologies pose proliferation risks.⁵

S. 919—PIRG opposes this legislation that would “study the feasibility of developing commercial nuclear energy production facilities at Department of Energy sites . . .” DOE weapons production sites are some of the most heavily contaminated sites in the world. A 1997 DOE report concluded that nuclear fuel reprocessing generated 94 percent of the waste at these sites (by radioactivity). We believe that the DOE should focus on cleaning up these extremely contaminated and hazardous

⁴Federal Trade Commission, letter to Public Citizen, 12/13/99.

⁵Lyman, Edwin S., “Research on Accelerator Transmutation of Waste and Pyroprocessing is a Colossal Waste of Taxpayer Money,” May 24, 2001.

areas, not risk more contamination by promoting the generation of still more lethal radioactive waste.

CONCLUSION

Nuclear power is unsafe, uneconomic, unreliable and generates waste for which there is no sound solution. It is a failed technology of the past and would not exist were it not for enormous and unjustified government subsidies and policies. The U.S. should do everything it can to protect the health and safety of the public as well as our pocketbooks. Nuclear power should be phased out as quickly as possible and replaced by energy efficiency and clean renewable energy.

The CHAIRMAN. Let me thank all three of you. This has been useful testimony. We will take it under advisement, and we appreciate you being here. Thank you very much.

That will conclude the hearing.

[Whereupon, at 12:16 p.m., the hearing was recessed, to be reconvened on July 13, 2001.]

APPENDIXES

APPENDIX I

Responses to Additional Questions

U.S. NUCLEAR REGULATORY COMMISSION,
Washington, DC, July 26, 2001.

Hon. FRANK MURKOWSKI,
Ranking Minority Member, Committee on Energy and Natural Resources, U.S. Senate, Washington, DC.

DEAR SENATOR MURKOWSKI: Enclosed are the Nuclear Regulatory Commission (NRC) responses to the two post hearing questions from the May 24, 2001, hearing on the Price-Anderson Act. We will be releasing the response to the public on July 27, 2001.

Sincerely,

DENNIS K. RATHBUN,
Director, Office of Congressional Affairs.

[Enclosure]

RESPONSES TO QUESTIONS FROM SENATOR MURKOWSKI

Question 1. Under the current Price-Anderson Act, does the Commission believe it is authorized to treat multiple modular units at a single site as a single facility, for purposes of the retrospective assessment? If so, are there any modifications to the Commission's regulations that would be required to achieve this result? Please identify any such changes that would need to be made in your regulations.

Answer. The Commission believes there are substantial doubts whether it has the authority to treat multiple modular reactor units as only one facility for purposes of the retrospective assessment because the specific financial protection and retrospective assessment provisions in section 170b. are specified for a "facility", elsewhere defined as a single reactor or even an important component part of a reactor. In our view, Congress should amend the Atomic Energy Act if it seeks to assure that multiple modular units at a single site are treated as a single facility.

Question 2. If the Commission is unable under the current Price-Anderson Act to treat multiple modular units at a single site as a single facility for purposes of retrospective assessment, what changes would you recommend in the Act (either the Price-Anderson Act or, more generally, the Atomic Energy Act) to permit this result? Please provide legislative language that you would propose to accomplish this, together with your views from a policy perspective on such legislative language.

Answer. As indicated in our response to Question 1, the Commission believes that Congress should amend the Act if Congress concludes that multiple modular reactor units at a single site should be treated as a single facility for Price-Anderson purposes. The Commission is also of the view that any statutory changes proposed to address this matter should be made within the Price-Anderson provision itself (section 170 of the Atomic Energy Act) so as to limit the potential for unintended impacts of changes on the overall regulatory framework. Redefining the term "facility" exclusively within section 170 in a way different from the way it is used throughout the Atomic Energy Act and legislative histories will have the advantage of not disturbing existing law and implementing rules with respect to non-Price-Anderson issues.

Consistent with this view and in response to the request that we provide legislative language, we have drafted an amendment to section 170 of the Atomic Energy Act that would treat multiple modular units at a single site as a single facility for

purposes of the Price-Anderson retrospective assessment. In evaluating whether to pursue such a provision, the Congress might consider the need to trigger the maximum insurance and retrospective assessment provisions against the impact and equity of such requirements on multiple modular units and on existing plants. If Congress determines that multiple modular units at a single site should be treated as a single facility for purposes of the retrospective assessment, Congress might consider an insert to Section 170b(1), following immediately after the first proviso and before: "Such primary financial protection . . .":

And provided further, That for multiple modular reactors located at a single site, a combination of such reactors (irrespective of whether they are licensed jointly or singly) having a total rated capacity between 100,000 and 950,000 electrical kilowatts shall, exclusively and only for the purposes of this section, be denominated a single facility having a rated capacity of 100,000 electrical kilowatts or more.

This provision would define a range of power levels—the current threshold of 100 Mwe to an upper limit of 950 Mwe—for which a combination of multiple modular reactors would be treated as a single facility for the retrospective assessment. We use 100 Mwe as the lower limit because it is the longstanding threshold power level that Congress established as the level at which Price-Anderson coverage must be provided.

We suggest 950 Mwe as a possible upper limit because it roughly approximates the median power level of the large currently licensed power reactors (55 licensed reactors have rated power levels between 800 and 1105 Mwe). If chosen, 950 Mwe would avoid conflict with the existing retrospective premium assessments in the secondary insurance pool. However, there are many different fairness and equity arguments on this issue and the Commission does not have a view or preference as to the specific limits—that is a policy decision for Congress.

If Congress were to choose to amend Section 170 to treat multiple modular units at a single site as a single facility for purposes of retrospective assessment, there is no doubt that there are other formulations that would achieve the same result.

U.S. NUCLEAR REGULATORY COMMISSION,
Washington, DC, August 3, 2001.

Hon. JEFF BINGAMAN,
Chairman, Committee on Energy and Natural Resources, U.S. Senate, Washington, DC.

DEAR MR. CHAIRMAN: Enclosed is the NRC's response to a question submitted by Senator Domenici following the July 12, 2001, hearing on S. 472, the Nuclear Energy Supply Assurance Act. We ask that this response be included in the record of the hearing.

Sincerely,

DENNIS K. RATHBUN,
Director, Office of Congressional Affairs.

[Enclosure]

RESPONSE TO QUESTION FROM SENATOR DOMENICI

SAFETY OF GENERATION IV REACTORS

Question. I've been concerned that the NRC is not adequately funded or staffed to explore the full range of safety questions that arise with introduction of more modern technologies into our present reactors or even into entirely new reactor designs.

Do you concur that NRC needs to rebuild its research infrastructure to respond to new demands on your staff?

Answer. Yes. NRC needs to rebuild or strengthen aspects of its research infrastructure to respond to new demands. These demands are increasing with the deregulation of the electricity market and the renewed interest in new reactor designs. In order to confirm the safety of new reactor designs and technology, a strong nuclear research program should be maintained.

In response to industry deregulation, reactor licensees can expect to operate plants longer, increase power output, extend fuel burn-up, and make use of advanced technologies to optimize power production capability. Research plays an essential role in enabling the NRC to assess the safety of such actions. NRC must also be fully prepared to address safety matters regarding new reactor designs and new technologies. In addition, NRC must be prepared to revise our regulatory framework

and infrastructure for dealing efficiently and effectively with new technology applications. To support such a state of readiness, we must conduct the necessary research activities that cover not only the present issues facing the nuclear industry, but also those that enhance the staff's knowledge base and tools for the future.

Over the last two decades, the NRC research program support funding declined from more than \$200M in the early 80s to \$46M in FY 2001. This long term decline in resources is one factor that has contributed to a declining infrastructure (people, facilities, and analytical tools) and resulted in a limited ability to provide NRC with an independent capability to focus on longer term and forward-looking research on emerging safety issues or new designs. We, like other nations with major nuclear power programs, have become more and more dependent on international research efforts conducted outside of the U.S. and have consequently lost significant control over access to facilities. This dependency is due primarily to limited availability of NRC as well as the DOE funds, which have impacted the availability of U.S. research and test facilities. For example, in preparing for readiness for new reactor licensing, the Commission recently directed the staff to consider an integrated international research program with respect to gas reactors that would reduce costs, leverage facilities in various countries, and obtain information in a more timely fashion.

The NRC's FY 2002 budget request includes some funds to evaluate new technologies as they apply to existing operating reactors. However, this research is generally focused on near term applications. In addition, our FY 2002 budget also provides a very low level of effort to support the Department of Energy's Generation IV initiative by identifying potential regulatory issues related to advanced reactor designs. The House and Senate Energy and Water Development Appropriation bills increased the budget request by \$10 million for future NRC licensing activities. Some of these funds will be used for research in new reactor technologies.

The Commission is mindful of the important role of research in fulfilling the agency's mission and is continuing to look at ways to rebuild or strengthen aspects of its research infrastructure to respond to new demands. Your interest and support in this matter are greatly appreciated.

DEPARTMENT OF ENERGY,
Washington, DC, September 25, 2001.

Hon. JEFF BINGAMAN,
Chairman, Committee on Energy and Natural Resources, U.S. Senate, Washington, DC.

DEAR MR. CHAIRMAN: On May 24, 2001, Spencer Abraham, Secretary of Energy, testified, regarding the Administration's National Energy Policy Report.

Enclosed are the answers to seven questions requested by Senator Murkowski. The three remaining answers are being prepared and will be forwarded to you as soon as possible.

If we can be of further assistance, please have your staff contact our Congressional Hearing Coordinator, Barbara Barnes at (202) 586-6341.

Sincerely,

DAN R. BROUILLETTE,
*Assistant Secretary,
Congressional and Intergovernmental
Affairs.*

[Enclosures]

RESPONSES TO QUESTIONS FROM SENATOR MURKOWSKI

ALASKA OIL AND GAS

Question 1a. I am pleased to see that the National Energy Policy encourages the development of the 1002 Area of ANWR. I am also pleased to see the Administration encouraging the development of a natural gas pipeline to bring Alaska natural gas to market in the lower 48. To what extent do these provisions constitute a key portion of your National Energy Policy?

Answer. These provisions are a key portion of the National Energy Policy in meeting our Nation's needs for oil and natural gas. The U.S. Geological Survey 1998 assessment of the greater 1002 area indicates technically recoverable resources ranging from 5.7 to 16 billion barrels of oil, and from 0 to 10 trillion cubic feet of natural gas. Additionally, the U.S. Geological Survey estimated that Northern Alaska has 35 trillion cubic feet of commercially recoverable natural gas. These significant resources are keys to meeting the Nation's energy needs.

Question 1b. In your opinion, are financial incentives necessary to develop these resources, or is it simply a matter of access to land for development and pipeline siting?

Answer. The U.S. Geological Survey's 1999 economic analysis of its 1998 assessment of the 1002 Area alone indicates that about half of the technically recoverable oil resources (2.03 to 9.38 billion barrels of oil, and from 1.04 to 3.72 trillion cubic feet of associated natural gas) are economically recoverable at today's prices using today's technology. This indicates that market forces provide adequate financial incentive to develop these resources. However, in addition to this economic assessment, the Department of Energy, in partnership with the industry, is developing advanced technologies that will reduce the costs of recovery and environmental compliance, and increase recovery and environmental protection.

ALASKA OIL AND GAS

Question 2. The Alaskan Natural Gas Transportation Act (ANGTA) directed the President to appoint a Federal Inspector to ensure expedited construction of an Alaskan gas pipeline.

The Energy Policy Act of 1992 abolished that position but transferred the Federal Inspector's functions and authorities to the Secretary of Energy. These functions and authorities are the keys to expediting construction of the pipeline.

Do you currently have the staff and resources to carry out the function and authorities of the Federal Inspector?

Answer. Subsequent to the abolition of the Federal Inspector's Office by the Energy Policy Act of 1992, there has been little activity related to the proposed natural gas pipeline from Alaska's North Slope. In the absence of any activity there are no Department staff or resources assigned to perform the functions of the Federal Inspector's office.

The infrequent requirements for analysis or comment on the Alaskan Natural Gas Transportation System (ANGTS) has been handled by the Office of Fossil Energy and the Office of General Counsel. This same staff has been conducting the initial coordination between our Department and other Federal agencies, as well as consultations between our Department and Canadian government agencies and the State of Alaska in preparation for a possible filing concerning the ANGTS or other North Slope gas project.

Should a filing be made for the ANGTS and it becomes necessary for the Department to exercise the authorities of the Federal Inspector, we would assign qualified staff from other program areas to meet the requirements of carrying out the responsibilities of the Federal Inspector's authority.

ENERGY EFFICIENCY

The National Energy Policy indicated that energy efficiency and improved energy conservation should be made a "national priority."

Question 1. How do you as Secretary of Energy plan to translate this "priority" into concrete action?

Answer. The National Energy Policy will build upon our nation's successful track record and will promote further improvements in the productive and efficient use of energy. Of the 105 recommendations in the Policy, over twenty of these recommendations address energy efficiency, either directly or indirectly. These actions promote conservation in residences, commercial establishments, industrial sites, electrical power plants, and transportation. Implementing these actions will enable us to continue our trend of decreasing energy use per dollar of GDP, while improving our standard of living.

Question 2. Other than tax incentives for consumers purchase of new energy efficient technology, what policy options exist?

Answer. This Policy report uses almost every tool available in order to promote energy conservation. Allow me to provide a few examples from the Policy:

Education: One recommendation directs the EPA Administrator to develop and implement a strategy to increase public awareness of the sizeable savings that energy efficiency offers to homeowners across the country.

Information: Another recommendation directs the Secretary of Energy to promote greater efficiency by expanding and extending the application of the Energy Star labeling program.

Executive Directive: This recommendation directs the heads of executive departments to take appropriate actions to conserve energy at their facilities.

Financial Incentives for Industry/Utilities: One recommendation directs the Secretary of Treasury to work with Congress to encourage energy efficiency through Combined Heat and Power projects by shortening their depreciation life.

Standards: This recommendation directs the Secretary of Transportation to review and provide recommendations on establishing Corporate Average Fuel Economy Standards for the U.S. automotive industry.

Federal R&D: This recommendation directs the Secretary of Energy to review and provide recommendations on the appropriate level of energy efficiency program funding.

FUEL ECONOMY/CAFE

The National Energy Policy deferred on the question of increased CAFE standards for auto fuel economy until the National Academy can finish its review as directed by Congress last year.

Question 1. Are there options to improve auto fuel economy—other than CAFE standards—that you will consider?

Answer. Yes. The National Energy Policy report indicates that the Department of Transportation should consider, in addition to modified CAFE standards, other market-based approaches to increasing the national average fuel economy of new motor vehicles. The Department of Energy is analyzing possible forms of voluntary fuel economy improvement agreements to support the DOT's consideration of a broad range of approaches. In addition, the report calls for the Secretary of Treasury to work with Congress on legislation to increase energy efficiency with a tax credit for fuel-efficient vehicles. The NEPD Group recommended that a temporary, efficiency-based income tax credit be available for purchase of new hybrid or fuel cell vehicles between 2002 and 2007. The Department of Energy will be working closely with both the Treasury and Transportation Departments to implement these recommendations.

RENEWABLE ENERGY

As part of the National Energy Policy, you have been directed to carry out a review of all energy efficiency and renewable energy R&D programs—and focus on those that are “performance based.”

Question 1. Does this imply a greater focus on “proof of concept” demonstration projects over basic research?

Answer. No. We will be reviewing all programs to determine their performance and potential in terms of delivering benefits to the public. We will reevaluate those programs that have not made progress toward national energy goals. Likewise, we will be redoubling our efforts in those programs that have shown, and continue to show, good performance and potential in contributing to national energy goals. I expect that when the review is complete we will have a range of activities that are performance-based, including both proof of concept projects and basic research programs. This would be consistent with developing a balanced energy technology R&D portfolio that delivers short-term, intermediate, and long-term energy benefits.

Question 2. Are plans underway for such a review and when do you expect such a review might conclude?

Answer. On May 23, 2001, I announced the schedule for the review of both the energy efficiency programs and the renewable energy and alternative energy programs. The Department has completed its public comment period and is continuing with its Strategic program review of EERE programs. Our review will be completed by September 1.

APPENDIX II

Additional Material Submitted for the Record

PREPARED STATEMENT OF WILLIAM F. KANE, DEPUTY EXECUTIVE DIRECTOR,
REACTOR PROGRAMS, U.S. NUCLEAR REGULATORY COMMISSION, ROCKVILLE, MD

Mr. Chairman, Members of the Committee, I am pleased to appear before you today to present the views of the Nuclear Regulatory Commission (NRC) on extending and amending the Price-Anderson Act. We hope that these views will assist the Committee in its consideration of the Price-Anderson Act renewal provisions in the energy policy bills pending before you (S. 388, S. 472, and S. 597). Our testimony, of course, addresses the application of the Price-Anderson Act to nuclear power plants regulated by the NRC.

I am here, to deliver the strong and unanimous recommendation of the Commission that the Price-Anderson Act be renewed with only minor modifications. But I would like to preface my statement of that position with the reminder that the Commission's primary concern is public health and safety. Our mission is to ensure the safe use of nuclear power. We can look back on a successful history of safe operation and intend to exercise vigilance to maintain or improve on this record of safety. Nonetheless, it remains important to assure that if an improbable accident should occur, the means are provided to care for the affected members of the public. It is also important, if the Congress intends that nuclear power remain a part of the nation's energy mix, that this option is not precluded by the inability of nuclear plant licensees to purchase adequate sums of insurance commercially.

As you know, Congress first enacted the Price-Anderson Act in 1957, nearly a half century ago. Its twin goals were then, as now:

- (1) to ensure that adequate funds would be available to the public to satisfy liability claims in a catastrophic nuclear accident; and
- (2) to permit private sector participation in nuclear energy by removing the threat of potentially enormous liability in the event of such an accident.

On original passage the Congress provided a term during which the Commission could extend Price-Anderson coverage to new licensees and facilities. When that term expired, the Congress then, and repeatedly since, has decided that the nation would be served by extending the Price-Anderson Act so that new coverage would be available for newly licensed reactors. This action preserved the option of private sector nuclear power and assured protection of the public. At this point, in order to avoid confusion, I should note that Price-Anderson coverage for NRC licensees is granted for the lifetime activities of the covered facility and does not "expire" in 2002. Thus, in any event, Price-Anderson coverage with respect to already licensed nuclear power reactors will continue and will afford prompt and reasonable compensation for any liability claims resulting from an accident at those facilities.

While Congress has amended the Price-Anderson Act from time to time, it has done so cautiously so as to avoid upsetting the delicate balance of obligations between operators of nuclear facilities and the United States government as representative of the people.

Perhaps the most significant amendments to date were those that effectively removed the United States government from its obligation to indemnify any reactor up to a half billion dollars and that placed the burden on the nuclear power industry. Congress achieved this by mandating in 1975 that each reactor greater than 100 MWe, essentially each reactor providing power commercially, contribute \$5 million to a retrospective premium pool if and only if there were damages from a nuclear incident that exceeded the maximum commercial insurance available. The limit of liability was then \$560 million. Government indemnification was phased out in 1982 when the potential pool and available insurance reached that sum.

In 1988, Congress increased the potential obligation of each reactor in the event of a single accident at any reactor to \$63 million (to be adjusted for inflation). The

maximum liability insurance available is now \$200 million. When that insurance is exhausted each reactor must pay into the pool up to \$83.9 million, as currently adjusted for inflation, if needed to cover damages in excess of the sum covered by insurance. The \$83.9 million is payable in annual installments not to exceed \$10 million. Today, the commercial insurance and the reactor pool together would make available over \$9 billion to cover any personal or property harm to the public caused by an accident.

In 1982, when the federal government ceased to be the backup insurer in the event of a power plant accident, the retrospective premium pool was still counted in hundreds of millions of dollars. Today the funds available to assist the public, counted in billions of dollars, are more than 15-times as great as they were in 1982. No other country in the world today can come close to matching that level of protection available for people injured and property damaged by a nuclear power plant accident.

In 1998, as mandated by Congress, the Nuclear Regulatory Commission submitted to the Congress its report on the Price-Anderson system. That report was entitled "The Price-Anderson Act—Crossing the Bridge to the Next Century: A Report to Congress." The report included a concise history and overview of the Price-Anderson Act and its amendments as well as an update on legal developments and events pertaining to nuclear insurance and indemnity in the last decade. Congress had also required the NRC to address various topics that relate to and reflect on the need for continuation or modification of the Act: the condition of the nuclear industry, the state of knowledge of nuclear safety and the availability of private insurance.

After considering pertinent information, the Commission considered what its recommendations should be. It concluded then that it should recommend that Congress renew the Price-Anderson Act because it provides a valuable public benefit by establishing a system for the prompt and equitable settlement of public liability claims resulting from a nuclear accident. That, as I said at the outset, remains today the strongly held position of the Commission.

Having noted that substantial changes in the nuclear power industry had begun and could continue, the Commission believed it would be prudent to recommend renewal for only ten years rather than the 15-year period that had been adopted in the last reauthorization so that any significant evolution of the industry could be considered when the effects of ongoing changes would be clearer. Notwithstanding that view, the Commission, recommended that the Congress consider amending the Act to increase the maximum annual retrospective premium installment that could be assessed each holder of a commercial power reactor license in the event of a nuclear accident.

The NRC suggested that consideration be given to doubling the ceiling on the annual installment from the current sum of \$10 million to \$20 million per year per accident. The total allowable retrospective premium per reactor per accident was to remain unchanged at the statutory "\$63 million" adjusted for inflation. (It is now \$83.9 million as so adjusted). The Commission recommended consideration of an increase to \$20 million because it then appeared likely that in the coming decade a number of reactors would permanently shut down. The effect of these shutdowns would have been to reduce the number of contributors to the reactor retrospective pool. Fewer contributors would, in turn, reduce the funds that, in the event of a nuclear accident, would become available each year to compensate members of the public for personal or property damage caused by an accident. Increasing the maximum annual contribution available from each reactor licensee would provide continuing assurance of "up front" money to assist the public with prompt compensation until Congress could consider whether to enact additional legislation providing further relief, should it be needed.

Recent events have led the Commission to review its 1998 recommendations and to reevaluate its recommendation that Congress consider increasing the annual installment to \$20 million. There is now a heightened interest in extending the operating life for most, if not all, of the currently operating power reactors, and some power companies are now examining whether they wish to submit applications for new reactors or complete construction of reactors that had been deferred. As a result, the Commission does not believe that there is now justification for raising the maximum annual retroactive premium above the current \$10 million level.

The NRC appreciates the opportunity to present its views, and will elaborate further on any of them at your request. In addition, the NRC is preparing its views on the various bill affecting nuclear regulation pending before this Committee and would be pleased to provide these views for the record. Mr. Chairman, I welcome your comments and questions.

STATEMENT OF THE ENVIRONMENTAL BUSINESS ACTION COUNCIL

In 1957, Congress enacted the Price-Anderson Act as an amendment to the Atomic Energy Act of 1954. For almost fifty years, this legislation has provided public protection in the unlikely event of a nuclear incident. Price-Anderson ensures the availability of \$9.5 billion to cover any personal injury or property damage resulting from a nuclear accident. Much of the focus to date has been on Price-Anderson and the commercial nuclear utility industry. However, Price-Anderson also plays a vital role in the environmental remediation of our nation's nuclear legacy from World War II and the Cold War. Price-Anderson provides indemnification to the contractors who undertake the important task of cleaning up nuclear waste and nuclear facilities at Department of Energy (DOE) sites around the country.

On August 1, 2002, the Price-Anderson Act will expire. The Environmental Business Action Coalition (EBAC) supports a simple and expeditious renewal of Price-Anderson by the 107th Congress. EBAC represents a broad spectrum of the contractors that assist in the nuclear cleanup, associated with numerous sites in communities throughout the country including:

Oak Ridge, Tennessee	Brookhaven, New York
Idaho Falls, Idaho	Portsmouth, Ohio
Hanford, Washington	Fernald, Ohio
Savannah River, South Carolina	Mound, Ohio
Rocky Flats, Colorado	Las Vegas, Nevada
Paducah, Kentucky	Amarillo, Texas
Livermore, California	Los Alamos, New Mexico
West Valley, New York	Carlsbad, New Mexico

This renewal is needed in order to provide adequate levels of protection to the public and ensures that reputable, experienced and qualified contractors continue to be able to work for DOE. Price-Anderson's unique omnibus coverage also ensures that subcontractors and suppliers, often small businesses, are indemnified.

Price-Anderson has been renewed three times since 1957. Under the last renewal in 1988, Congress made three significant improvements to Price Anderson: (1) the amount of money available to cover damages was greatly increased; (2) the indemnification of DOE contractors was made mandatory, not optional; and (3) DOE was given authority to impose civil and criminal penalties against contractors that knowingly violate nuclear safety rules and/or orders.

Both the DOE and the Nuclear Regulatory Commission (NRC) strongly support the reauthorization of Price-Anderson with only a few modest changes. In a 1999 report to Congress DOE stated "Elimination of the DOE indemnification (Price-Anderson) would have a serious effect on the ability of DOE to perform its missions. Without indemnification, DOE believes that it would be difficult to obtain responsible, competent contractors, subcontractors, suppliers and other entities to carry out work involving nuclear materials."

EBAC is made up of exactly these responsible, competent contractors and we are concerned about Price-Anderson's looming expiration date. An extension of the Price-Anderson legislation is not assured. As some of you may remember, five congressional committees spent a total of five years on the previous renewal with protracted review. The legislation actually lapsed for a total of 12 months until it was renewed creating less protection for the public and substantial uncertainties for DOE contractors.

EBAC thanks the Senate Energy & Natural Resources Committee for its leadership in addressing this important issue at today's hearing and encourages its members to endorse a simple extension of the Price-Anderson Act with all current provisions for indemnification and penalties retained. Remember, Price-Anderson is not just about nuclear power. Price-Anderson is vital if we are to continue to remediate and restore the nation's nuclear waste sites.

STEWART AND STEWART,
LAW OFFICES,
Washington, DC, June 7, 2001.

Hon. JEFF BINGAMAN,
Chairman, Committee on Energy and Natural Resources, U.S. Senate, Dirksen Building, Washington, DC.

DEAR SENATOR BINGAMAN: I am writing on behalf of PPG Industries, Inc., and the Primary Glass Manufacturers Council, to respectfully request that the enclosed statement be included in and published with the official record of the Full Hearing of the Committee on Energy and Natural Resources held on May 24, 2001, wherein

the Committee received testimony on the Administration's National Energy Policy report.

If you have any questions, you may call me at (202) 785-4185.

Respectfully submitted,

ALAN M. DUNN,
Counsel, PPG Industries, Inc.

STATEMENT OF THE PRIMARY GLASS MANUFACTURERS COUNCIL (PGMC)*

All U.S. flat glass manufacturers strongly encourage the adoption and advancement of the following programs, initiatives, and actions. The reasons supporting each action are discussed in more detail below:

ENERGY STAR

- Promote widespread awareness and use of the Energy Star® program, especially the Energy Star® Home and Energy Star® Window programs, administered by the Environmental Protection Agency (EPA), in partnership with Department of Energy (DOE).
- Ensure that the value of high-performance windows is emphasized in DOE and EPA consumer awareness campaigns to promote Energy Star® and energy conservation.
- Require the federal government to purchase, install, and utilize only energy-efficient fenestration products that carry the EPA's Energy Star® label.

STATE BUILDING CODES

- The DOE should require the States to review their residential building codes regarding energy efficiency against the standards contained in the International Energy Conservation Code (IECC) (formerly the Model Energy Code (MEC)), promulgated by Building Officials and Code Administrators International, Inc. (BOCA).
- The DOE should encourage the States to: 1) align their codes with the IECC; and 2) promote the use of *MECcheck*, a free software package developed by the DOE that explains requirements and simplifies calculations for builders.

WEATHERIZATION ASSISTANCE PROGRAM

- Include language in the appropriation for the DOE Weatherization Assistance Program, which provides grant funding to states and localities to encourage cost-effective, energy-saving home improvements, making it clear that high-performance windows are eligible for grants under the program.
- Encourage the Secretary of Energy and his staff to allocate program funds specifically for high-performance windows.

MORTGAGE ASSISTANCE

- Encourage energy efficiency through reduced home mortgage rates or other preferences to help offset the higher initial costs of energy-efficient building products.

TAX DEDUCTION AND/OR CREDIT

- Encourage energy efficiency by providing tax credits or deductions to individuals and businesses to offset the cost of purchasing energy-efficient glass products.

Why Promoting Energy-Efficient Windows Is in the National Interest

1. High-Performance Glass Products Have Tremendous Potential to Significantly Reduce Overall Energy Consumption by Individual Homeowners, Businesses, and the Nation.

Buildings and homes in the United States consume more than 40% of the national energy budget, *i.e.*, 3.5 quadrillion Btu's of energy (quads)—principally for heating, cooling, lighting, and operation of appliances. Residential structures consume more than half of this total—approximately 22% (19 quads). Lawrence Berkeley National Laboratory (LBNL) estimates that the 1994 stock of 19 billion square feet of resi-

*Statement submitted by the Primary Glass Manufacturers Council (PGMC) and its member companies, Guardian Industries Corp., PPG Industries Inc., and Pilkington North America, in conjunction with non-PGMC members AFG Industries Corp., Visteon and Cardinal. This diverse group of corporations accounts for 100% of the flat glass manufacturing capacity in the United States.

dential windows accounts for approximately 2%, or 1.7 quads per year (1.3 quads for heating and .4 quads for cooling) of total U.S. energy consumption.

Glass products are an essential part of a home's exterior and, if chosen wisely, can have a significant effect on the amount of energy consumed. A wide array of energy-saving glass products are currently available. These products can reduce heat loss in northern climates by up to 70% compared to traditional products. Similarly, in southern, cooling-dominated areas, coated glass products can reduce solar gain, and therefore air-conditioning loads, by up to 60% compared to traditional non-coated products. Moreover, use of energy-saving glass products allows the use of larger window areas, which, in turn, permits better use of natural lighting, lowering energy use still further.

According to the LBNL analysis, if all new residential windows sold throughout the United States were energy efficient, the energy savings in the year 2010 would be approximately 0.5% of the total national energy budget, or .43 quads (.19 cooling and .24 heating). For illustrative purposes, .43 quads is equivalent to:

- Over 20 million short tons of coal, or enough coal to fill a coal train of railroad cars almost 2,000 miles long
- 418 billion cubic feet of natural gas
- Almost 3.5 billion gallons of gasoline, or more than 10 days of U.S. gasoline consumption
- Almost 10 hours of the entire world's energy use (based on consumption levels in 1996)
- Nearly half of the approximate annual primary consumption of any one of the following states: Arizona, Arkansas, Colorado, Iowa, Kansas, Mississippi, or Oregon (based on consumption levels in 1996)

This .43 quads represents a 39% total annual savings in cooling and a 19% savings in heating, or a total heat and cooling savings of approximately \$2.5 billion per year by 2010 (given an adoption baseline of 1996).

This potential energy savings is comparable to eliminating the future need for approximately 20 (300 MW) power plants over the next decade and up to 60 power plants over the next 20 years.

This significant reduction in energy consumption offers an opportunity to likewise substantially reduce carbon dioxide (CO₂) emissions. More than one-third of CO₂ emissions—about 187 million metric tons—are directly related to the performance of the building envelope.¹

2. While Use of Energy-Saving High Performance Glass Products Is Becoming More Prevalent, Their Use Is Far Below Potential.

Insulating glass, with its superior insulating performance, has been available for decades, but as of the early 1970's represented only about 20% of the windows used in the United States. It took the oil embargoes of 1974 and 1979 to propel more widespread use.

The introduction of even higher energy-conserving low emissivity ("low-e") glass is a more recent development.

Low-e glass usage has grown slowly during the past decade, averaging about 2% change per year, and is now used for almost 40% of the nation's window surface area. The total surface area put in place over the decade was 2.24 billion square feet. Low-e glass that is already in place greatly contributes to the reduction of heating and cooling-related energy consumption, and saves, on an annual basis, .58 quads.

Based on the trend indicated in the chart above, low-e glass usage will continue to grow but will only reach the 50% level in approximately five years. The recommendations in this statement are specifically aimed at accelerating the growth of low-e glass usage so that the significant energy-savings that are possible with increased use of high-performance glass will be realized.

3. The Bush Administration's Energy Plan Recognizes the Under-utilization of Advanced Window Products and Recommends Addressing the Problem Through Consumer Education Campaigns and Increased Funding.

In the *Report of the National Energy Policy Development Group* (the National Energy Report), the Bush Administration proposes that the Secretary of Energy be charged with strengthening the Energy Star® program and promoting greater awareness of the benefits of energy efficiency. The Administrator of the Environ-

¹The building envelope is the roof, walls, and foundation of a building. The envelope provides the thermal barrier between the indoor and outdoor environment and is the key determinant of a building's energy requirements. See Oak Ridge National Laboratory web site, "Questions and Answers about Building Envelope Research at ORNL" at <http://www.ornl.gov/roofs+walls/q-and-a.html>.

mental Protection Agency is charged with developing and implementing “a strategy to increase public awareness of the sizeable savings that energy efficiency offers to homeowners across the country.”²

The Energy Star® program was introduced by the U.S. Environmental Protection Agency (EPA) in 1992 as a voluntary labeling program designed to identify and promote energy-efficient products in order to reduce CO₂ emissions. The EPA partnered with the U.S. Department of Energy in 1996 to promote the Energy Star® labeling program, which has expanded to cover a variety of products including windows, homes, residential heating and cooling equipment, major appliances, and other products. On its web site, the EPA notes that:

If all consumers, businesses, and organizations in the United States [including governmental organizations] made their product choices and building improvement decisions with Energy Star® over the next decade, the national annual energy bill would be reduced by about \$200 billion. With that would come a sizable contribution to reducing air pollution and protecting the earth’s climate for future generations.³

The National Energy Report also recommends significantly increased funding for the Department of Energy’s Weatherization Assistance Program, which provides grants for energy-saving improvements in homes around the country. The Report notes that:

The energy burden on low-income households, as a proportion of income, is four times greater than for other American households. The Weatherization Program provides grant funding for a network of all states and some 970 local weatherization agencies to provide insulation, duct system improvements, furnace upgrades, and other cost-effective, energy-saving improvements based on the energy needs of each home weatherized. Currently, each dollar spent on home weatherization generates \$2.10 worth of energy savings over the life of the home, along with additional economic, environmental, health, and safety benefits associated with the installations and resulting home improvements. Typical savings in heating bills, for a natural gas heated home, grew from about 18 percent in 1989 to 33 percent today.

The Primary Glass Manufacturers Council strongly supports both of the initiatives proposed by the Administration. The use of high-performance low-e glass is one of the most important “cost-effective, energy saving improvements” that can be made to make homes more energy efficient.

4. But More Needs to be Done. In Particular, the Federal Government Needs to Encourage the States to Strengthen Their Building Codes to Require More Energy-Efficient Construction.

Section 101 of the Energy Policy Act of 1992 authorizes the Secretary of Energy to require states to review their residential building code(s) regarding energy efficiency and to determine whether the code(s) should be revised to meet or exceed the Council of American Building Officials (CABO) Model Energy Code (MEC), 1992, or successor codes. A successor code was adopted last year—the International Energy Conservation Code (IECC), 2000. The IECC sets standards for the entire building envelope. It requires high-performing windows, with both well-insulated frames and coated glass. It is under review in several states. A push from the DOE, by exercising its Section 101 authority, would help States understand and accept this significant step forward in energy-conserving building codes. The DOE has greatly facilitated the adoption of the IECC by developing *MECcheck*, a software package that explains requirements and simplifies calculations.

5. Federal Support for Mortgages Is Necessary to Help Offset the Higher Initial Costs of Energy-Efficient Glass Products.

A new home that meets Energy Star® can typically cost 5% more than a conventional home. Energy Star® mortgages, which effectively deduct this incremental cost from the qualifying amount, are available but are not widely understood or utilized.

In addition, the flat glass industry recommends that Fannie Mae provide preferential mortgage rates for buyers of Energy Star® homes and homes that exceed the IECC standard.

6. Finally, a Tax Credit or Deduction Is Necessary to Help Offset the Higher Initial Costs of Energy-Efficient Glass Products.

Energy-efficient low-e glass products are readily available and a broad industry infrastructure is in place to provide them, but still market acceptance has been slow and a huge potential for energy conservation remains unrealized. A credit against

²See *Report of the National Energy Policy Development Group*, Chapter 4, “Using Energy Wisely: Increasing Energy Conservation and Efficiency,” May 2001.

³See EPA web site at <http://www.epa.gov/nrgystar/about.html>.

the tax of an individual homeowner or businesses for energy conservation expenditures or a deduction from the taxable income of homeowners is necessary to help offset higher initial costs and to encourage consumers to take full advantage of these energy-saving products.

STATEMENT OF JOSEPH J. BUGGY, PRESIDENT, WESTINGHOUSE SAVANNAH RIVER COMPANY

Mr. Chairman, and Members of the Committee, my name is Joe Buggy and I am President of the Westinghouse Savannah River Company, the operating contractor at the Department of Energy's Savannah River Site (SRS).

I appreciate this opportunity to present my testimony on the concept of Nuclear Energy Parks or Campuses to be located at Department of Energy (DOE) owned sites, such as the Savannah River Site—also called SRS. The Bush National Energy Policy, which was released on May 16, 2001, envisions a comprehensive long-term strategy that uses leading edge technologies to produce an integrated energy, environmental and economic policy.

And, I am pleased to note that it includes a renewed emphasis on nuclear power production.

Certain strategically located DOE sites across the country could be designated as Nuclear Energy Parks or Campuses. The Parks could be designated as sites for new base load nuclear generating capacity and to demonstrate the viability of new nuclear reactor technologies. They could also be used as the sites for an educational initiative that is needed to sustain the nuclear power option, namely they could be used to promote and maintain the nuclear science and engineering infrastructure of regional universities.

Sites, such as SRS where substantial taxpayer investment has already occurred; where significant cost-saving infrastructure is already in place; and where community acceptance is well established; could be made available through cooperative public-private arrangements. These arrangements would help nurture the reemergence of safe and efficient nuclear generated electricity in the U.S.

The remainder of my testimony today will focus on describing the attributes of SRS as a potential Nuclear Energy Park or Campus.

For those of you that are not familiar with SRS, it is a 310 sq. mile federal reservation owned and operated by the Department of Energy. SRS's historical mission has been the production of materials for the nuclear weapons program.

SRS is located in the approximate center of large and rapidly growing southeastern cities (Atlanta, Jacksonville, and Charlotte) allowing markets for a utility to sell any newly installed capacity. SRS's location could also provide a convenient centralized location for a research/test reactor campus that would serve universities in the Southeast. The SRS is in immediate proximity to a high-capacity transmission system that would permit distribution of any new electrical generation.

There are other extremely important practical factors. SRS is located on the South Carolina-Georgia border, near Augusta, GA. The Central Savannah River Area (CSRA) has a long history of supporting SRS nuclear activities support that is based upon informed and in-depth understanding of nuclear issues. Nuclear activities are accepted and championed by state and local business civic and political leadership and the populace at large. I would also add that there are 7 commercial reactors in South Carolina and they generate 60% of the state energy requirements.

The unique combination of a large land mass, a complete nuclear infrastructure and supportive community base provides an opportunity for the development of a Nuclear Energy Park to meet the nation's current and future energy needs.

Additionally, costs commonly associated with the construction and operation of a nuclear site, e.g. geo-technical characterization; emergency response, environmental monitoring, etc., could be reduced for a potential utility customer. It is anticipated that these factors could reduce the time required and the resultant financial risks to construct and license demonstration, as well as commercial power reactors.

The SRS is an "enduring" site in the DOE complex—meaning that it has continuing missions to perform. It also has the advantage of being one of the most geo-technically and environmentally characterized sites in the U.S.

Now let me share with you my notion of how we would support the implementation of the proposed Nuclear Energy Park concept. As described in Senator Thurmond's legislation, Senate Bill S. 919, we would propose to participate in a study to determine the feasibility of developing commercial nuclear energy production facilities at Department of Energy sites.

First, we would study options for how and where nuclear power plants can be developed on existing DOE sites. Second, we would develop an estimate on cost sav-

ings that may be realized by locating new power plants on DOE sites. We would also investigate the potential improvements to be gained in the licensing and safety oversight procedures of nuclear power plants located on DOE Sites. Additionally, SRS would work with industry to identify utilities interested in a new nuclear plant by leveraging the unique attributes of the site to reduce costs and some licensing obstacles and we would quantify the advantages to a utility in siting a plant at SRS. Finally, we would assess the effects of nuclear waste management policies and projects as a result of locating nuclear power plants on DOE sites.

And as I previously noted, we would work with Southeast Universities to bring about increased emphasis on nuclear engineering curriculums, which would be required to support a nuclear energy renaissance.

In conclusion, it is obvious to me that the potential use of DOE sites as a tool to implement nuclear energy policy in the U.S. makes a great deal of sense. There is a clear fit with DOE's interest in protecting the nation's energy future.

Moreover, the substitution of nuclear energy for fossil fuels over the past several decades has paid enormous environmental dividends. We must not fail to consider ways to increase those benefits.

The use of existing DOE sites would not only provide a readily available resource to demonstrate the next generation of nuclear generation facilities, but also supports the Department of Energy's statutory role for energy policy development.

STATEMENT OF GREGORY F. PILCHER, SENIOR VICE PRESIDENT AND
GENERAL COUNSEL, KERR-MCGEE CHEMICAL LLC

Kerr-McGee Chemical, LLC ("Kerr-McGee") is the licensee at the West Chicago Rare Earths Facility in West Chicago, Illinois (the "Facility"). The Facility is one of the mills covered by Title X of the Energy Policy Act of 1992 ("the Act"). Most of the Facility's production was dedicated by contract to the federal government in support of the Nation's nuclear defense programs. In a rulemaking proceeding, DOE determined that the federal government is responsible for 55.2% of West Chicago cleanup costs.

Under the Act, Congress required off-site disposal of contaminated material in order to obtain reimbursement of the government's share of cleanup costs. That requirement has dramatically impacted the cost of decommissioning the Facility and remediating vicinity properties. At year-end 2000, Kerr-McGee had shipped almost 1 million tons of material to Utah.

In 1997, Kerr-McGee and the City of West Chicago signed an agreement providing zoning and local permitting approvals for the final phase of decommissioning and remediation work. Much progress has been made since, and the final phase of remediation work at the Facility should be completed in 2004, though groundwater remediation will take longer. As to vicinity properties, Kerr-McGee already has completed work at the Reed Keppler Park vicinity property and, in addition, has completed remediation of 600 of the 661 residential properties requiring cleanup. Remediation has not yet begun on the only remaining vicinity property, Kress Creek, as that site is still being investigated and cleanup requirements have not been determined.

Through the end of last year, Kerr-McGee had spent more than \$375 million to decommission the Facility and remediate the vicinity properties. Kerr-McGee expects to spend a total of \$488 million through project completion (not including costs for groundwater remediation or for remediation of Kress Creek, as not enough is known to accurately estimate those costs). The increase over the \$360 million that was estimated in 1998 is due to an increase in the scope of work resulting from the identification of almost 200 additional residential properties requiring remediation; the completion of remediation at Reed-Keppler Park, where the quantity of material excavated and disposed of exceeded estimates; and the required removal of significantly more material (about 150,000 tons) from the Facility than was estimated in 1998.

The government's share of the \$488 million is \$269 million. The current thorium authorization (\$140 million plus \$6 million in inflation adjustments) underfunds the federal share by \$123 million. A corresponding increase in the authorization is necessary to raise that cap to a level that is consistent with demonstrated needs. It is anticipated that one final increase will be necessary in the future, once cleanup standards for Kress Creek are determined and groundwater requirements are known.

WEST CHICAGO, ILLINOIS

My name is Gregory F. Pilcher. I am Senior Vice President and General Counsel of Kerr-McGee Chemical LLC ("Kerr-McGee"). I am pleased to join you today to discuss the progress at the West Chicago thorium mill tailings remediation site and the need for certain adjustments in the reimbursement limitations established by Title X of the Energy Policy Act of 1992.

Title X of the Energy Policy Act recognizes the contribution to national defense made by companies that had produced uranium and thorium for the United States Government during the years our country was developing its nuclear defense program. The Act followed a 1979 GAO report that concluded: "the most significant factor in favor of providing federal assistance in cleaning up tailings pertains to the federal government's role in creating the mill tailings situation. These are tailings for which the government has a strong moral responsibility." That moral responsibility became a commitment in 1992 when Congress passed Title X of the Energy Policy Act. Under the Act, the federal government agreed to pay its portion of the costs associated with stabilizing and decommissioning the mills that were used to produce uranium and thorium.

Kerr-McGee is the licensee at the West Chicago Rare Earths Facility ("the Facility") in West Chicago, Illinois, which is among the mills covered by Title X. More than 55% of the Facility's thorium production was dedicated by contract to the federal government in support of the Nation's nuclear defense programs. Through 2000, Kerr-McGee had spent more than \$375 million in West Chicago to decommission and remediate the Facility and surrounding areas. To date, DOE has reimbursed Kerr-McGee approximately \$146 million under Title X, completely exhausting the current thorium authorization. Nonetheless, Kerr-McGee has proceeded with its cleanup work on schedule and has continued to pay all decommissioning and remediation costs. I point this out to make you aware that at this level of financial exposure, you can be assured that our company is doing all it can to contain the cost of this project.

My testimony today will focus on the progress we have made since July of 1998, the last time Congress considered an increase in the Title X reimbursement ceiling. I will also address the need for an increase in the current thorium authorization.

First, however, I will provide some background.

I. Background

Operations. The Facility began operations in 1932 and was shut down in 1973. Various owners operated the Facility until it was acquired by Kerr-McGee in 1967. Kerr-McGee operated the Facility, on a limited basis, for only the final six of the 41 years the Facility was open. The Facility produced a variety of chemical compounds containing rare earth elements and thorium, a naturally occurring radioactive element derived from ores and ore concentrates.

The milling process produced a substantial volume of sand-like materials and sludges, called "tailings", which are mildly radioactive. The government contracts included specifications addressing physical characteristics, grade and impurities. However, the contracts did not include provisions for mill decommissioning, long-term management of the tailings, or stabilization of tailings piles. The reason for this omission is that the potential hazards of tailings were not appreciated at the time the contracts were executed.

After several decades of operations, the Facility was contaminated with tailings generated by the milling activities. Also, as happened at similar sites across the country, local residents and others apparently used the sand-like tailings as fill which resulted in low-level contamination of surrounding areas.

After closing the Facility in 1973, Kerr-McGee began working with the U.S. Nuclear Regulatory Commission ("NRC") to decommission the Facility and remediate the surrounding areas. In 1989, the NRC staff issued an environmental impact study in which the NRC staff preliminarily endorsed a plan by Kerr-McGee to bury the tailings at the Facility in an appropriately secured disposal cell.

In 1990, at the request of the State of Illinois, the NRC transferred jurisdiction to the State, which is requiring off-site disposal. At that time (and until as recently as late summer 1994), there was no disposal facility anywhere in the United States licensed to accept the tailings for disposal. Kerr-McGee ultimately contracted with a disposal facility located in the state of Utah and, in late 1994 began shipping contaminated soils from the West Chicago site to the Utah facility.

Energy Policy Act. Title X of the Energy Policy Act of 1992 recognized the obligation of the United States to reimburse those who produced uranium and thorium for the Government for a portion of the costs of stabilizing and decommissioning the

mills. The Act specifically authorized the Department of Energy to reimburse licensees for the federal government's share of decommissioning and reclamation costs.

Under the Act, Congress required off-site disposal in order to obtain reimbursement for the government's share of cleanup costs. The requirement that the tailings be disposed of off-site has dramatically impacted decommissioning costs. The Act initially set a limit on reimbursement at the West Chicago thorium site of \$40 million, plus inflation adjustments. At that time, however, Congress did not know the actual dollar amount of the federal government's share of West Chicago cleanup costs. Further, the Department of Energy had not yet determined the federal government's percentage share (i.e. 55%) of cleanup costs. Additionally, the scope of the contamination at the Facility and at the vicinity properties and the full financial impact of shipping contaminated soils across the country to the Utah disposal facility was not known.

As more information became available, Congress increased the federal government's authorized thorium reimbursement at West Chicago to \$65 million in 1996, and to \$140 million in 1998, plus adjustments for inflation. Even then, however, the full financial impact of the remediation effort was uncertain, as cleanup standards and other closure requirements imposed by the regulatory agencies were not fully in place and the cleanup of surrounding areas was still far from complete.

H. Remediation Activities—Progress Through Year-End 2000

Kerr-McGee began shipping material to Utah in 1994. Significant progress has been made since. As of December 31, 2000, we had shipped more than 927,000 tons of material to Utah, including 250,000 tons from the vicinity properties, and had treated more than 98 million gallons of water.

At the Facility, we are continuing with deep excavations and remain on schedule to complete the cleanup, with the exception of groundwater remediation, in 2004. Significantly, about 70% of the contaminated material has already been shipped to Utah from the Facility.

With respect to the vicinity properties, we completed excavation and removal of contaminated material at the Reed-Keppler Park vicinity property during 1999. Approximately 115,000 cubic yards of material was shipped from that site. Restoration was completed during 2000.

We are nearing completion of work on the residential properties in the vicinity of the Facility that have been identified as being contaminated with materials that originated at the Facility. At year-end 2000, work was finished on nearly 600 of the 661 identified residential properties to be cleaned up. We anticipate completing remediation of the remaining sites this year, though it remains possible that EPA may identify additional properties. The cleanup orders issued by EPA for the vicinity properties are based upon EPA regulations promulgated to implement the Uranium Mill Tailings Radiation Control Act ("UMTRCA") and the agreement state's source material milling facility regulations. License authorizations issued by the state regulatory agency provide for contaminated materials excavated from the vicinity properties to be returned to the Facility for processing and shipment to the Utah disposal facility.

Remediation has not yet begun at the only other vicinity property, known as Kress Creek and the Sewage Treatment Plant ("Kress Creek"). The site investigation is still underway and cleanup requirements have not been determined for this vicinity property.

We constantly seek ways to reduce costs. At West Chicago, we successfully pioneered the successful use of a physical separation facility (PSF) for use in separating thorium tailings from native soils, thereby reducing the volume (and cost) of material that must be shipped to the Utah disposal facility. Today, the PSF is in full operation. Through 2000, more than 293,000 tons of material had been processed through the PSF, producing 147,000 tons of material that was backfilled at the site instead of being shipped to Utah. We are now projecting that we will save \$10-\$15 million through use of PSF, up from our 1998 estimate of \$5-\$10 million.

III. Project Costs

The progress made over the past three years allows us to better estimate the cost of completing the decommissioning and cleanup work. Our estimate of total project costs eligible for reimbursement under Title X from inception of the project through project completion now totals \$488 million, which reflects an increase of \$128 million over the \$360 million estimated in July 1998. This estimate does not include cleanup of the Kress Creek vicinity property since it is still being studied and cleanup requirements have not been determined. Similarly, groundwater remediation costs over and above the source removal that is now taking place are not included in this estimate. Groundwater costs cannot be accurately predicted until excavation

at the Facility is complete and actual groundwater conditions are known. The increase over the estimate provided in 1998 is primarily attributable to an increase in the scope of the remediation project due to the identification of almost 200 additional residential properties requiring remediation; the completion of the remediation at Reed-Keppler Park, where the quantity of material excavated and disposed of exceeded the prior estimates; and, the required removal of significantly more material from the Facility than was estimated in 1998 (150,000 tons of additional material). The increased excavation work at Reed-Keppler Park and the Facility and the cleanup of the 200 additional residential properties resulted in corresponding increases in transportation, disposal, engineering, infrastructure, and regulatory oversight costs.

IV. Funding Issues

In a rulemaking proceeding, DOE determined that the Federal government is responsible for 55.2% of the West Chicago cleanup costs. This means that the government's share of total projected costs, excluding costs for Kress Creek and for groundwater remediation, is approximately \$269 million. Therefore, the current thorium authorization (\$140 million plus inflation adjustments of approximately \$6 million) underfunds the federal government's share by about \$123 million. A corresponding increase in the authorization is necessary to raise the cap to a level that is consistent with demonstrated needs and allow reimbursement of the government's share of the actual cleanup costs. A summary of cleanup costs for the Facility (excluding groundwater) and the vicinity properties (excluding Kress Creek) is attached.

It is anticipated that one final increase will be necessary in the future, once cleanup standards for Kress Creek are determined and groundwater remediation requirements are known.

WEST CHICAGO COST SUMMARY

Federal Share

Total costs (excluding Kress Creek and ground water remediation) = \$488 million

Federal government's percentage share = x55.2%

Federal share = \$269 million

Current Shortfall in Authorized Funding

Federal share = \$269 million

Less: Title X authorization = <\$146 million>

Current shortfall in authorized funding = \$123 million

STATEMENT OF THE AMERICAN PETROLEUM INSTITUTE

The American Petroleum Institute (API) welcomes this opportunity to present the views of its member companies on the production components of a national energy policy. API is a national trade association representing nearly 500 companies engaged in all sectors of the U.S. oil and natural gas industry, including exploration, production, refining, distribution, and marketing.

API appreciated the opportunity to address government lands issues at the Committee's April 3 hearing and we provide additional views here on more recent developments.

We applaud the President and Vice President for their leadership and the comprehensive nature of their national energy proposals. Americans will benefit from the important national discussions about our energy future now underway as a result of these and other proposals from Democrats and Republicans in Congress.

We believe that new technologies enable us to move beyond the old rhetoric of energy-versus-environment to produce more oil and natural gas in ways that protect the environment. With the proper changes in the policy arena, we can keep the nation supplied with fuel while at the same time continuing to improve our technology for the future—technology that will ensure additional environmental gains.

The Department of Energy has recently forecast U.S. energy consumption between 1999 and 2020. While natural gas rises from 23 percent of consumption in 1999 to 28 percent in 2020, oil maintains its current 40 percent share. Most recent energy studies agree that this share is likely to continue well into this century—even with strong increases in energy efficiency and a rapid infusion of new technology.

Thus, we need to focus on our future needs for reasonably priced oil and natural gas. The United States is becoming more and more oil import dependent. This dependency now amounts to about 57 percent of U.S. oil demand. The U.S. Department of Energy projects that 64 percent of oil demand will be met by imports in

2020. In order to ensure reliable and secure sources of oil, we must diversify the sources of our supplies, both domestic and foreign, and increase the volumes of both. To do this, we must remove the barriers that currently impede the U.S. oil and natural gas industry's ability to find and produce the energy for our nation's needs.

We are encouraged that the national energy proposals put forth by the Administration and the Democrats and Republicans in Congress agree on the need to expand access to government lands through onshore and offshore leasing programs. Increased access to domestic oil and natural gas resources is vital to a comprehensive national energy strategy, and failure to provide such access will only further complicate and delay solutions to the energy problems facing our nation.

OCS LEASE SALE 181 SHOULD PROCEED

The U.S. House of Representatives has taken the extremely harmful and short-sighted step of blocking environmentally compatible development of urgently needed oil and natural gas resources in the Eastern Gulf of Mexico. By voting to delay Lease Sale 181, the House took a giant step backwards in meeting future U.S. energy and economic needs. We are appreciative of the Senate's rejection of an amendment by Senator Nelson of Florida to delay Sale 181.

The nation needs the oil and natural gas this promising area could provide and the U.S. petroleum industry has the advanced technology to produce these resources in an environmentally responsible manner.

According to a 1999 National Petroleum Council study, the nation's demand for natural gas is expected to increase by 32 percent by 2010 and by 41 percent by 2015. We saw only this past winter the consequences of demand outstripping supply. While particular regions were harder hit than others, no region was immune to the problem of sharply higher natural gas prices. Thus, a delay in new supplies from the Gulf of Mexico is not merely a regional issue. The reserves in the sale area would provide oil and natural gas throughout the United States. In fact, the impact of delay could be especially severe in the Midwest, where natural gas is used in more than three-fourths of the households and is a major energy source for agriculture and heavy industry.

Opponents of Lease Sale 181 allege that offshore development in the Eastern Gulf would be environmentally harmful. They ignore the heavily documented fact that the offshore oil and natural gas industry has an outstanding record for operating safely on the more than 3,900 offshore platforms now in operation. With some production platforms now costing more than a billion dollars, they are constructed with enormous environmental and safety care.

Moreover, U.S. oil and natural gas companies are subject to careful scrutiny in their offshore endeavors. Before a drop of oil is removed from beneath the seabed, a platform will have met some of the most rigorous environmental standards ever devised. The success of these efforts has been proven by the industry's exemplary safety record, even in the face of devastating hurricanes in the Gulf. Between 1980 and 1999, 7.4 billion barrels of oil were produced off the nation's coasts with less than 0.001 percent spilled—a 99.999 percent safety record.

The Gulf of Mexico has been a major, stable source of U.S. gas supply, comprising 28-30 percent of Lower-48 gas supplies over the past decade. The Gulf is expected to maintain that share over the next decade. Over the same period, the Gulf has been the major factor in stabilizing Lower 48 crude oil supply. As onshore oil supply fell by 30 percent during the decade, offshore supply rose by nearly two thirds, increasing from only 18 percent of Lower-48 oil supply in 1990 to about a third in the year 2000. Over the next decade, its share is expected to rise, to about 46 percent.

By far the most significant contribution to sustaining the role of the Gulf of Mexico has been the revolution in new technology that has enabled development of the deep waters of the Gulf. Annual natural gas production from the shallow waters of the Gulf, which was the focus of exploration efforts for almost five decades, has declined 1.4 trillion cubic feet, but a full 90 percent of this decline was offset by rising deepwater production. Even more significantly, total Gulf oil production rose 65 percent over the decade, as rapidly rising deepwater production offset a 9 percent decline in supply from the shallow waters of the Gulf.

The continued growth of deepwater operations, which have played the essential role in sustaining the supply contribution of the Gulf for the past decade, is by no means assured. The Department of Energy forecasts that, even with access to all lands currently scheduled, the oil supply growth from the deepwater areas of the Gulf will not continue for more than five years, and that gas production growth from the deepwater areas may peak as early as 2002.

The modified Sale 181 area is entirely in deepwater, and directly on trend with a number of major deepwater discoveries made just to the west of the area, in the easternmost portion of the Central Gulf. The Minerals Management Service estimates that the sale area holds 1.25 trillion cubic feet of natural gas and 185 million barrels of oil, enough gas to serve one million U.S. families for 15 years and enough oil to fuel the automobiles of one million U.S. families for nearly 6 years. It is the natural extension of the success in the deepwater of the Central Gulf, which has been widely heralded for both its development success and its environmental responsibility.

Lease Sale 181 is not a new energy initiative. The sale has been scheduled for five years and has undergone comprehensive environmental reviews, and consultations between former Secretary of the Interior Bruce Babbitt and then-Governors Lawton Chiles of Florida and Fob James of Alabama. Congress in the past several appropriations bills understood the importance of Sale 181 going forward and did not include it in the areas placed off-limits by moratoria.

It would be truly ironic if the first response of this Congress to the current energy situation were to aggravate the problem by jeopardizing the development of deepwater Gulf of Mexico resources.

OFFSHORE OIL AND NATURAL GAS RESOURCES SHOULD BE DEVELOPED

The focus on Lease Sale 181 highlights how the Outer Continental Shelf (OCS) has assumed increasing importance to U.S. energy supply over the past half century.

Technological revolutions, such as 3-D seismic profiling of promising structures, coupled with astounding computer power and directional drilling techniques which allow numerous reservoirs to be accessed from one drill site, have driven down the costs of finding offshore oil and gas. At the same time, these technologies allow development with much less disturbance to the environment. Tremendous advances in our ability to drill and produce in the deepwater areas of the Gulf have also resulted in vast new reserves being added to our resource base. The Deepwater Royalty Relief Act, passed by Congress in 1995, has significantly aided that endeavor.

Advanced technology used in offshore operations includes the following:

- **Advanced Offshore Platforms.** Traditionally, offshore resources were developed from a fixed structure attached to the sea floor. At 1,500 feet of water, fixed platforms become unwieldy and too expensive. The answer for tapping resources in deeper water was found in floating platform technology. New platform designs offer the advantages of fixed platforms with faster construction time, lower investment costs, less impact to marine habitats, and the capability to operate in deeper waters.
- **Deepwater/Subsea Completions.** Subsea completions involve placing the Christmas tree, the assembly of valves mounted on the casinghead through which a well is produced, on the seabed. By connecting subsea wells to host facilities, such as a less expensive platform in shallower waters or an existing platform, operators are able to develop discoveries that otherwise would not be economic.
- **Dynamic Positioning Systems.** Dynamic positioning systems compensate for the effects of wind, waves, and current, enabling mobile offshore drilling units to hold position over the borehole. Greater environmental protection and worker safety are among the most significant advantages of dynamic positioning systems.
- **Subsalt Imaging.** Much of the Gulf of Mexico is underlain by salt formations. Technology developed by the U.S. Navy during the Cold War for stealth submarines has been applied successfully to enhance seismic images, giving a much clearer picture of possible oil and gas traps within and below the salt.
- **Synthetic-Based Drilling Fluids.** Drilling fluids—or muds—are essential to carry rock cuttings to the surface, maintain pressure balance and stability in the borehole, lubricate and clear the drillstring and bit, and prevent the influx of other fluids. Synthetic-based muds not only effectively minimize drilling problems, they are reuseable and therefore generate less waste than other drilling muds.

Those in the federal government who are most familiar with our industry have lauded our technological advances. A 1999 DOE report, *Environmental Benefits of Advanced Oil and Gas Exploration and Production Technology*, stated that, “. . . innovative E&P approaches are making a difference to the environment. With advanced technologies, the oil and gas industry can pinpoint resources more accurately, extract them more efficiently and with less surface disturbance, minimize associated wastes, and, ultimately, restore sites to original or better condition. . . . [The industry] has integrated an environmental ethic into its business and culture

and operations . . . [and] has come to recognize that high environmental standards and responsible development are good business. . . .”

The U.S. must increase deepwater development, and provide access to areas presently restricted. Currently, presidential moratoria, and annual Interior appropriations bill riders preclude leasing in most of the Eastern Gulf of Mexico, the entire Atlantic and Pacific federal OCS, and portions of offshore Alaska. As a result, only 200 million acres out of 1.5 billion federal OCS acres are available for environmentally compatible exploration and production.

Moreover, the “consistency” provisions of the Coastal Zone Management Act (CZMA), under the guise of due process and consultation, have caused serious duplicative and incredibly costly delays to federal OCS leasing and production activities that would have no adverse environmental impacts on states’ coastal zones. And regulations issued by the National Oceanic and Atmospheric Administration (NOAA) in the last days of the Clinton Administration appear to add impediments to environmentally compatible energy development in the OCS, contrary to the balancing of competing interests directed by Congress when it enacted the CZMA. Both the summary withdrawal of multiple use government lands without stakeholder consultation under the Antiquities Act, and the endless due process used by opponents to block federal offshore production that does not affect a state’s coastal zone are extreme, and must be modernized.

We urge the Senate to reject efforts to continue or expand barriers to offshore development. We are opposed to S. 771, S. 901 and S. 1086, which would further prohibit drilling on the federal Outer Continental Shelf off the Atlantic and Pacific coasts or seaward of any state that has a moratorium.

THE NEED FOR ACCESS TO WESTERN LANDS

The U.S. oil and natural gas industry does not ask to drill on parklands or in wilderness areas set aside by acts of Congress. Rather, we seek access to areas offshore, in Alaska and in the American West that have been designated as “multiple use” so that oil and natural gas operations as well as other activities can take place there.

Most of these “multiple use” areas are simply vast expanses of nondescript government lands. However, because they lack the beauty and grandeur of the Grand Canyon or the Grand Tetons does not mean that we treat them with less respect than we do any other lands entrusted to us by the government, or by private landowners. Most people driving near or hiking in one of these areas would be hard-pressed to locate one of our facilities once the drilling rig is removed. Safety and environmental protection are critical concerns, regardless of the location of drilling, and where our contractual obligations with the government require us to return the land to its original condition once drilling and production cease.

Many of the technological innovations of the industry have spawned substantial environmental benefits. The recovery of coalbed methane, for example, not only adds a very clean-burning fuel to our nation’s energy supply, but also greatly enhances the safety of coal miners. The use of directional drilling and new techniques such as slimhole or coiled tubing have reduced the footprint, or surface area required to tap into oil and gas resources. Greater drilling efficiency reduces fuel use and emissions and time spent at the location.

Some technologies have been developed specifically to enhance environmental performance. A good example of this is downhole oil-water separation technology. Producing oil often means producing substantial volumes of water that must be treated or disposed. By separating the oil from the water in the wellbore and reinjecting the water to another subsurface formation, this technology eliminates the production of water and its attendant environmental concerns. New leak detection and emission control technologies have also been developed to minimize the environmental impacts of supplying our country’s oil and gas needs.

Additional examples of industry use of advanced technology in oil and gas development include:

- 3-D and 4-D Seismic Technology. Three-dimensional seismic technology creates a 3-D image of underground geological structures by gathering information not just from the grid area of interest, but also from all of the areas around the specific grid area. The newest development is 4-D visualization, through the application of time-lapse monitoring of 3-D data. This technique is proving highly successful in identifying bypassed reserves in existing formations.
- Remote Sensing. Satellite imaging already contributes to our efforts to locate oil and gas deposits, but newer radar satellites hold even greater potential. Radar imaging satellites are able to work in nearly any atmospheric condi-

tion. Combining the images with sophisticated digital imaging processing can produce maps that can help identify oil and gas deposits.

- **Unconventional Gas Recovery.** According to the National Petroleum Council, 25 percent of our nation's remaining gas resources are in unconventional formations. The key to producing unconventional gas resources is a technology called hydraulic fracturing which involves the injection of water or other fluids at high pressure to create cracks in the producing formation.
- **More Efficient Drilling Techniques.** Advances in materials technology and bit hydraulics have allowed new drill bits to be developed that can reduce drilling time by up to 50 percent. New corrosion-resistant alloys and composites have improved drill bits and equipment designed to operate in deep, hot, and sour (high hydrogen sulfide content) wells.

However, despite the industry's record of sound stewardship, the U.S. Forest Service recently banned our companies from exploring for oil and natural gas on promising government lands when it published rules to bar road building on 58.5 million acres in the Forest System that could hold 11 trillion cubic feet of natural gas.

In the lower-48 states, a study by the Cooperating Associations Forum found that federal lease acreage available for oil and gas exploration and production in eight Western states (California, Colorado, Montana, Nevada, New Mexico, North Dakota, Utah and Wyoming) decreased by more than 60 percent between 1983 and 1997—and that does not count the major land withdrawals since 1997.

Approximately 205 million acres of federal lands in these states are under the control of two federal agencies with broad discretionary powers. The Bureau of Land Management (BLM), whose land management planning authority is derived from the FLPMA of 1976, and the U.S. Forest Service (USFS), whose jurisdiction is derived from the National Forest Management Act, administer these federal, non-park lands.

Both agencies are required to manage lands they administer under the congressionally mandated concept of multiple use. Yet, BLM and USFS discretionary actions have withdrawn federal lands from leasing, and long delayed other leasing decisions and project permitting.

API believes that the following steps should be taken in the short-term by the Executive Branch, with assistance from Congress as needed, to stimulate environmentally sound oil and natural gas development on non-park federal lands:

- Fully fund the congressionally-mandated inventory of reserves on federal lands, including the identification of the impediments to development.
- Update outdated and inadequate resource management plans for BLM-administered management areas in the natural gas-prone areas in the Rocky Mountain region and revise USFS road-building moratoria to allow for development of oil and natural gas resources.
- Eliminate unnecessary impediments to wise development of those reserves by: committing the resources necessary to eliminate the huge backlog of exploration and production permit applications; adequately staffing BLM field offices to ensure timely processing of permit applications; reducing significantly the time required to process federal exploration and production permits; and streamlining interagency review of plans and development applications under the National Environmental Policy Act and the Endangered Species Act.

EXTENT OF WESTERN LANDS OFF-LIMITS TO LEASING

Unfortunately, we find that the facts are often ignored and often distorted by those who do not believe greater access to government lands is needed by our industry. In testimony earlier this year before the House Commerce Committee's Subcommittee on Energy and Mineral Resources, we heard material distortions by witnesses for the Natural Resources Defense Council (NRDC) and the Wilderness Society.

The NRDC witness' testimony and a Wilderness Society study submitted for the record concluded that only a small percentage of BLM lands in five western states is off limits to leasing and development. That conclusion glosses over the most significant point: the percentage of government lands available for leasing is a meaningless figure without knowing whether the leases can be developed.

In many instances, lease holders cannot obtain the permits needed to develop leases. In others, development is rendered uneconomic by unnecessarily restrictive operation stipulations. An appropriate analogy would be leasing a car without a starter motor or keys. Or renting a house and being allowed to use only the roof. Would a person really have a car if he or she cannot drive it? And what good would

it do anyone to rent a house if it can't be lived in? Similarly, a lease that cannot be developed is a lease in name only.

The NRDC and the Wilderness Society witnesses surgically selected certain data, and omitted other significant data to attempt to prove their inaccurate assertions. For example, while the numbers presented by the Wilderness Society do show that only about 3.5 percent of BLM lands are off-limits, the recent National Petroleum Council (NPQ) natural gas study identifies another 3.2 percent that are subject to "no surface occupancy." The NPC study indicates that this 6.7 percent of BLM lands represents 15 percent of the BLM natural gas resources, which are either off-limits or significantly impinged.

More important, however, is the role of non-standard lease stipulations. The Wilderness Society's data show that seasonal and other non-standard stipulations restrict access to an additional 32 percent of BLM lands. However, this impacts access to 47 percent of the natural gas resources estimated to exist on BLM lands in the Rockies. When all of these restricted and off-limit BLM lands are combined, they total 38.7 percent, affecting 62 percent of the natural gas resources.

Further, BLM is not the only federal land management agency making such restrictions. The NRDC and Wilderness Society witnesses omitted the U.S. Forest Service, the Bureau of Indian Affairs and the Departments of Defense and Energy in their computation of federal multiple-use lands that are restricted to oil and gas development. In total, the National Petroleum Council estimates that some 137 trillion cubic feet of natural gas resources lie beneath federal lands in the Rockies that are either off limits to exploration or heavily restricted. This is 48 percent of the natural gas on federal land in the region.

Moreover, a recently released U.S. Department of Energy analysis has concluded that access to natural gas-rich areas in the Rocky Mountains may be much more restricted than previously thought. Analysts studied federal lands on virtually a tract-by-tract basis in the Greater Green River Basin of Wyoming and Colorado and found that nearly 68 percent of the area's technically recoverable natural gas resources—as much as 79 trillion cubic feet of natural gas—is either closed to development or under significant access restrictions. The study found that about 30 percent of the natural gas resources is completely off limits, with about one percent underlying lands such as national parks and wilderness areas that are closed by statute; the rest have been closed by administrative action. An additional 38 percent of the gas resources have some type of leasing stipulation that would restrict access without preventing it completely. The remaining 32 percent is subject to standard lease terms, which include stringent environmental requirements.

Difficulties in acquiring permits to drill wells and overly restrictive lease stipulations are responsible for significantly limiting natural gas production. Restrictions, such as "no surface occupancy" or seasonal stipulations that go above and beyond the normal environmental stipulations, often prevent economic development of the lease without commensurate environmental benefit.

Given this situation, API and its member companies strongly support the provisions in Chairman Bingaman's legislation to streamline and speed up the permitting process. These provisions are urgently needed and we urge the Congress to enact them as part of a comprehensive national energy strategy package.

THE NEED TO OPEN THE ANWR COASTAL PLAIN TO OIL EXPLORATION

Congress has refused to authorize exploration in the small section of the Arctic National Wildlife Refuge (ANWR) that was specifically set aside by law for exploration in 1980. DOE's Energy Information Administration estimates that the ANWR coastal plain contains between 5.7 billion and 16 billion barrels of recoverable oil. The coastal plain provides the best prospect in North America for a new giant, Prudhoe Bay-sized oil field. Moreover, the citizens of Alaska overwhelmingly favor opening the coastal plain to oil operations.

API strongly supports inclusion of a provision opening the ANWR coastal plain to oil operations in national energy strategy legislation. To exclude ANWR operations from consideration would be a major step backward in meeting U.S. energy needs and would only repeat the major mistakes of our recent energy history.

Moreover, the industry's North Slope record provides overwhelming evidence that ANWR coastal plain development would not be harmful to the Arctic ecology and wildlife. Prudhoe Bay oil operations, located 60 miles to the west of ANWR, have been underway for nearly a quarter century and have produced more than 10 billion barrels of oil during that time. Prudhoe Bay is among the most environmentally sensitive oil operations in the world. For example, the Central Arctic caribou herd at Prudhoe Bay has grown from 5,000 to 27,000 over the last 25 years. Furthermore, as a result of the enormous technological advances of recent years, only 2,000

acres would be needed for ANWR development—out of the 1.5 million acre coastal plain and the total ANWR area of 19.8 million acres.

Advanced technology has enabled the industry to fully safeguard the sensitive Arctic ecology and wildlife. Examples include:

- **Reduced Footprint.** Advanced technology has greatly reduced the “footprint” of Arctic oil development. If Prudhoe Bay were built today, the footprint would be 1,526 acres or 64 percent smaller. Less than 1 percent of the coastal plain would be subject to exploration and production activities. That is an area about the size of Washington, D.C.’s Dulles Airport.
- **Ice Roads.** Temporary ice roads allow the construction of oil field pipelines during the winter months, largely eliminating the need for permanent gravel roads adjacent to pipelines. Ice-road building techniques are also used to create ice runways and ice pads to support exploratory drilling. Ice roads and pads melt in the spring and leave no significant damage to the tundra.
- **Directional Drilling.** As was dramatically shown in a recent “60 Minutes” show, directional drilling on the North Slope allows for several locations to be reached from a considerable distance from a single well, by angling the well directly to where the oil or gas can be found.

CONCLUSION

We are encouraged by the serious efforts by the Administration and by Democrats and Republicans in Congress to address U.S. energy needs and shape a comprehensive national energy strategy. The level of agreement on major components of that strategy bodes well for enacting meaningful legislation in the months ahead.

However, we should recognize that energy supply cannot be matched to demand without massive capital investment, construction, and turnover in equipment and this requires long lead times. In order to ensure that these adjustments are made as soon as possible with the least amount of disruption, we must start making the necessary energy strategy decisions now—and that is particularly true of the critically important issues affecting access to government lands.

After more than two decades of inaction, the American public can no longer afford the luxury of not coming to grips with U.S. energy needs while maintaining a clean environment. We can no longer declare off-limits vast oil and natural gas resources on our government lands and ignore the advances in technology which ensure their safe and environmentally sound development. Meeting U.S. energy needs and protecting the environment are both critical to our nation’s continued economic growth—and critical to achieving the future prosperity and well-being we all seek.

STATEMENT OF CITIZEN ACTION/ILLINOIS

Citizen Action/Illinois strongly supports S. 900, the Consumer Energy Commission, sponsored by Senator Richard Durbin. As the state’s largest public interest organization, Citizen Action/Illinois is committed to ensuring consumers clean and affordable energy.

As there has been increased consolidation in the gasoline industry, there is less competition. For the second year in a row, gasoline consumers in Illinois paid the highest prices in the nation. Meanwhile, oil industry profits have continued to skyrocket. In the fourth quarter of 2000, profits for fuel and utility companies jumped \$7.8 billion, or 87 percent, above their earlier level. The reason given for these huge price spikes varies daily. We are told that the problem is the lack of oil supply, while two local gas suppliers in Illinois get caught hoarding gas. We are told that there is a need to build more refineries, while the president of a major oil company says that we have more than enough. We are told that the cost of reformulated gasoline is the problem, but that doesn’t explain why some states with the same reformulated gasoline offer their fuel at much lower prices.

There needs to be a serious investigation that would focus on the real cause of these energy price spikes. Gasoline, heat, and electricity are not luxuries, but consumer necessities. When prices go up, consumers have no choice but to pay them. According to the Department of Energy, this past winter heating bills rose nationally by 70% between October 2000 through March 2001. In Illinois, prices were much higher. These energy spikes hurt American families, especially those who struggle to pay other bills. Consumers need protection from these sharp increases.

The Consumer Energy Commission should conduct a serious investigation that would focus on the real cause of these energy price spikes. The commission should also be charged with investigating any opportunistic behavior by energy companies or possible abuses of market power. This commission should also issue a report with

recommendations on how to protect consumers from future spike jolts. Such a report should prove helpful as we craft a national long-term energy policy.

We realize that we cannot drill and guzzle our way out of our energy problems. A comprehensive, forward looking energy plan must include consumer tax incentives for energy efficient cars and appliances, renewable energy and a major expansion of public transportation. Investing in these long-term solution would not only save consumers money, but will also protect our nation's environment and yield better health outcomes for our citizens.

In conclusion, consumers should not be subjected to the unpredictable price swings of oil, gas and utility companies. A Consumer Energy Commission would ensure consumers energy that is clean, affordable and steady. We applaud Senator Dick Durbin for this proposal and we stand ready to offer any assistance that we can to create this important commission.

Sincerely,

WILLIAM McNARY,
Co-Director,
Citizen Action / Illinois.

LYNDA DELAFORGUE,
Co-Director,
Citizen Action / Illinois.

ASHLEY COLLINS,
Environmental Program Associate,
Citizen Action / Illinois.

March 20, 2001.

Hon. GEORGE W. BUSH,
President of the United States, The White House, Washington, DC.

DEAR MR. PRESIDENT: As scientists and natural resource managers from the United States and Canada with many years of experience in ecology, wildlife and conservation biology, resource management and cultural anthropology, we encourage you to reconsider plans for exploring and developing the potential oil and gas reserves of the Arctic National Wildlife Refuge's coastal plain. Instead, we urge you to support permanent protection of the coastal plain's significant wildlife and wilderness values.

The wildlands of the Arctic Refuge include the barrier islands and estuaries of the Beaufort Sea, the Arctic coastal plain, the Brooks Range, and the boreal forest within the upper Yukon River watershed. First set aside by President Dwight D. Eisenhower as the Arctic National Wildlife Range in 1960, this is the United State's only conservation unit that encompasses an intact arctic ecosystem. Combined with the adjacent Ivvavik and Vuntut national parks in Canada, the Arctic Refuge represents one of the largest protected landscapes in the world. Moreover, the Arctic Refuge's coastal plain is a rare example of an ecosystem where ecological and cultural processes continue to interact much as they have for thousands of years. Unlike the adjoining refuge lands, that are designated Wilderness, the coastal plain is not permanently protected from development.

When President Eisenhower established the Arctic National Wildlife Range, he had the foresight and wisdom to include the entire ecosystem both south and north of the Brooks Range, encompassing the biologically rich coastal plain considered essential to the integrity of this ecosystem. In 1980, Congress enlarged the range to encompass additional wildlife habitat and designated this unique area the Arctic National Wildlife Refuge. The refuge mission was broadened to include international research and management, as well as support for subsistence uses that form the basis of Native cultural values. Most of the original wildlife range was designated as a Wilderness. Only the 1.5 million-acre coastal plain was omitted. And today, this oversight remains a significant concern.

Five decades of biological study and scientific research have confirmed that the coastal plain of the Arctic National Wildlife Refuge forms a vital component of the biological diversity of the refuge and merits the same kind of permanent safeguards and precautionary management as the rest of this original conservation unit. In contrast to the broad (greater than 150 mi.) coastal plain to the west of the Arctic Refuge, the coastal plain within the refuge is much narrower (15-40 mi.). This unique compression of habitats concentrates the occurrence of a wide variety of wildlife and fish species, including polar bears, grizzly bears, wolves, wolverines, caribou, muskoxen, Dolly Varden, Arctic grayling, snow geese, and more than 130 other species of migratory birds. In fact, according to the U.S. Fish & Wildlife Service, the

Arctic Refuge coastal plain contains the greatest wildlife diversity of any protected area above the Arctic Circle.

The coastal plain provides essential calving and post-calving habitat for the Porcupine Caribou Herd, the largest (at about 130,000 animals) international migratory caribou herd in the world. The United States and Canada share the immense responsibility of managing this herd and protecting the key habitats on which the herd depends. In 1987, the two nations signed an international agreement to protect the Porcupine Caribou Herd. Since then, the calving grounds on the Canadian side of the border have received full protection, while the United States has not yet taken similar steps to adequately protect this essential habitat within the coastal plain of the Arctic Refuge, where most calving occurs. The Gwich'in Nation of Alaska and Canada depends upon the sustained productivity of the Porcupine Caribou Herd, for their subsistence economy and cultural identity, and are justifiably concerned about its security. Extensive research on the Central Arctic Caribou Herd at Prudhoe Bay indicates appreciable losses of preferred calving and summer habitats in response to petroleum development. Although the Central Arctic Herd has recently increased associated with mild weather conditions, we cannot be certain that even current state-of-the-art mitigation measures will guarantee access to critical habitats for the much larger, more densely aggregated Porcupine Herd. Displacement to new calving areas from developed oil fields, as has occurred with a portion of the Central Arctic Herd, does not appear to be an option for the Porcupine Herd because of the lack of suitable adjacent terrain.

Biologists also have identified conservation concerns with other wildlife populations in the Arctic Refuge, including polar bears, muskoxen, and snow geese. Although many polar bears den on the pack ice, the refuge's coastal plain is the most important land denning area for Beaufort Sea bears in Alaska. Muskoxen are year-round residents of the coastal plain, and disturbance from industrial development, particularly in winter, holds the potential to increase energetic costs and result in decreased calf production. Also, snow geese might be displaced from important feeding and staging habitats prior to autumn migration, increasing energy expenditure and reducing their ability to accumulate the fat needed for migration. The coastal plain serves many biological functions, including nesting habitat for shorebirds, waterfowl, songbirds, raptors, and other migratory birds.

The Interior Department has predicted that oil and gas exploration and development would have a major effect on water resources. Fresh water already is limited on the refuge's coastal plain, and direct damage to wetlands will adversely affect fish, waterfowl, and other migratory birds. These potentially disruptive effects to fish and wildlife should not be viewed in isolation, however. Arctic ecosystems are characterized by many complex interactions, and changes to one component may have secondary but significant effects on other parts of this fragile ecosystem. Based on our collective experience and understanding of the cumulative effects of oil and gas exploration and development on Alaska's North Slope, we do not believe these impacts have been adequately considered for the Arctic Refuge, and mitigation without adequate data on this complex ecosystem is unlikely. Oil exploration and development have substantially changed environments where they have occurred in Alaska's central Arctic. Since the discovery of oil at Prudhoe Bay in 1968, the U.S. Fish & Wildlife Service estimated about 800 square miles of Arctic habitats have been transformed into one of the world's largest industrial complexes. Oil spills, contaminated waste, and other sources of pollution have had measurable environmental impacts, in spite of strict environmental regulations. Roads, pipelines, well pads, processing facilities, and other support infrastructure have incrementally altered the character of this ecosystem.

Please understand that we are not philosophically opposed to oil and gas development in Alaska. Indeed, we all clearly recognize the need for balanced resource management. But we also recognize the importance of maintaining the biological diversity and ecosystem integrity of our nation's Arctic. Nearly the entire Arctic Coast of Alaska north of the Brooks Range is available for oil and gas exploration or development. The 110-mile-long coastal plain of the Arctic National Wildlife Refuge encompasses 1.5 million acres of key wildlife habitat vital to the integrity of the Arctic National Wildlife Refuge. We urge you, Mr. President, to permanently protect the biological diversity and wilderness character of the coastal plain of the Arctic National Wildlife Refuge from future oil and gas development.

Thank you for considering our concerns and recommendations.

Sincerely,

ARCTIC REFUGE SCIENCE LETTER SIGNATORIES.

FEDERAL ENERGY REGULATORY COMMISSION,
Washington, DC, July 13, 2001.

Hon. JEFF BINGAMAN,
*Chairman, Committee on Energy and Natural Resources, U.S. Senate, Washington,
 DC.*

DEAR MR. CHAIRMAN: Thank you for your staff's invitation to submit written comments pursuant to your Committee's July 12, 2001 hearing on certain provisions of interest to the Federal Energy Regulatory Commission included in Title I of S. 388, the "National Energy Security Act of 2001," Title III of S. 597, the "Comprehensive and Balanced Energy Policy Act of 2001," and S. 900, the "Consumer Energy Commission Act of 2001."

I asked the Commission's staff to review the appropriate provisions under consideration by your Committee at its July 12 hearing. The staff comments are enclosed.

I hope that this information is helpful to you. Please let me know if I can be of further assistance in this or any other matter.

Sincerely,

CURT L. HÉBERT, JR.,
Chairman.

[Enclosure]

COMMENTS OF THE FEDERAL ENERGY REGULATORY COMMISSION STAFF FOR HEARING
 OF JULY 12, 2001

The staff of the Federal Energy Regulatory Commission (hereinafter "Commission staff") was asked to provide written comments on certain provisions of interest to the Commission included in Title I of S. 388, the "National Energy Security Act of 2001, Title III of S. 597, the "Comprehensive and Balanced Energy Policy Act of 2001," and S. 900, the "Consumer Energy Commission Act of 2001."

COMMENTS ON S. 388

As to the relevant provisions of S. 388 and S. 597, the Commission staff has only the following comments to section 101 of S. 388. Section 101 states:

Sec. 101. Consultation and Report on Federal Agency Actions Affecting Domestic Energy Supply.

Prior to taking or initiating any action that could have a significant adverse effect on the availability or supply of domestic energy resources or on the domestic capability to distribute or transport such resources, the head of a Federal agency proposing or participating in such action shall notify the Secretary of Energy in writing of the nature and scope of the action, the need for such action, the potential effect of such action on energy resource supplies, price, distribution, and transportation, and any alternatives to such action or options to mitigate the effects and shall provide the Secretary of Energy with adequate time to review the proposed action and make recommendations to avoid or minimize the adverse effect of the proposed action. The proposing agency shall consider any such recommendations made by the Secretary of Energy. The Secretary of Energy shall provide an annual report to the Committee on Energy and Natural Resources of the United States Senate and to the appropriate committees of the House of Representatives on all actions brought to his attention, what mitigation or alternatives, if any, were implemented, and what the short-term, mid-term, and long-term effect of the final action will likely be on domestic energy resource supplies and their development, distribution, or transmission.

Commission Staff is concerned that section 101 of S. 388 could have unintended consequences if enacted into law, and could significantly delay the addition of needed natural gas infrastructure in the United States, thus exacerbating delivery problems and contributing to higher natural gas prices. Among other things, section 101 requires the head of a Federal agency to notify the Secretary of Energy before "taking any action that could have a significant adverse effect on the availability or supply of domestic energy resources or on the domestic capability to distribute or transport such resources. . . ." The agency must provide the Secretary adequate time to review the proposed action and must consider any recommendations made by the Secretary. Because section 101 does not define or clarify "significant adverse effect" Commission staff is concerned that parties who oppose an application before the Commission may be able to delay final action on almost any project by arguing that it is potentially adverse to the distribution or transportation of natural gas. It is common, for instance, for local distribution companies ("LDC's") to object to interstate pipelines seeking to serve an industrial user in the LDC's service territory (the

so-called “by-pass” issue). In those cases, the distributors often claim that approval of the project, by potentially removing large consumers from their customer base, will harm their ability to provide quality service at reasonable rates to their other customers. While the Commission at present considers such concerns in making its public interest finding, the Commission staff can foresee LDCs, and others, claiming that such proposals qualify as an “adverse effect” triggering section 101’s requirement to notify the Secretary of energy and await a response. It is possible to imagine similar arguments of “adverse effect” being raised in almost any certificate proceeding before the Commission. The delays and expense resulting from such a requirement may offset any gains achieved through on-going efforts to streamline the processing of certificate applications before the FERC. In effect, this proposed legislation, by requiring a narrative of impacts and options to mitigate and alternatives, duplicates the National Environmental Policy Act.

In addition, the Commission staff believes that this section conflicts with the goals of section 305 of S. 597, “Comprehensive and Balanced Energy Policy Act of 2001”, which requires the Commission to review its policies for certification of natural gas pipelines to determine how to reduce the cost and timing of obtaining a certificate.

COMMENTS ON S. 900

As a general matter, the Consumer Energy Commission Act of 2001 is focused on assessing and providing recommendations to Congress on recent energy price spikes from the perspective of consumers. The FERC is not the appropriate body to undertake such a task, as its statutory scheme gives it jurisdiction over sales for resale of natural gas in interstate commerce, and not sales to residential or small business customers. FERC’s statutory authority involves wholesale natural gas markets, not retail natural gas markets. The FERC has jurisdiction over the transmission of natural gas in interstate commerce and sales for resale that are made in interstate commerce. The FERC has no expertise in natural gas retail markets, on which this legislation is intended to provide information.

For example, section 2 of the act refers to entities over which the Commission has no jurisdiction and on which it gathers no information:

Sec. 2. FINDINGS (3) price spikes undermine the ability of low-income families, the elderly, and small businesses (including agricultural producers) to afford essential energy users.

The Commission staff believes that a representative from a state utility regulatory commission, which has jurisdiction over, and expertise on, retail markets, or perhaps from the NARUC, which is the overarching organization for the state utility commissions, might be a more appropriate body to supply a representative to the Consumer Energy Commission. Furthermore, the Commission does not regulate, nor collect information on, nor have expertise in, home heating oil, gasoline or propane markets.

S. 900 stipulates that the proposed Consumer Energy Commission shall be comprised of 11 members, one of whom shall be appointed by the President from the Federal Energy Regulatory Commission. To the extent that the FERC member of the new Commission makes recommendations to Congress, under the provisions of the Administrative Procedures Act, such member may be barred from participating as a decisional employee on any matter involving the same or a common set of issues that may later come before the FERC in the context of a contested on-the-record proceeding.

Federal agencies with members serving on the Consumer Energy Commission are directed to provide the Commission such information and such administrative expenses as the Commission requires to carry out this section. The FERC’s budget does not include any general funds that would be appropriately used for this purpose. Should the FERC be required to fund such a program, it would have to request an appropriate amount from Congress for these amounts.

S. 900 further provides that the Consumer Energy Commission “shall conduct a nationwide study of significant price spikes in major United States consumer energy products during the 10 years preceding the date of enactment of this Act.”

The legislation does not define what would constitute a “significant” price spike. The FERC has no jurisdiction or expertise in consumer energy products, and collects no information about home heating oil, gasoline or propane markets, as none of these commodities are jurisdictional to this agency. The FERC’s expertise in natural gas markets is limited to interstate wholesale markets. The FERC has no jurisdiction over retail sales of natural gas [see the Natural Gas Act, Section 1(b)].

Under the provisions of S. 900, the study to be undertaken by the Consumer Energy Commission shall:

(i) focus on the causes of the price spikes, including insufficient inventories, supply disruptions, refinery capacity limits, insufficient infrastructure, possible over-regulation or under-regulation, flawed deregulation, excessive consumption, over-reliance on foreign supplies, insufficient research and development of alternative energy sources, opportunistic behavior by energy companies, and abuse of market power; and

(ii) investigate market concentration, potential misuse of market power, and any other relevant market failures.

Furthermore, not later than 180 days after the date of enactment of this Act, the Commission is directed to submit to Congress a report that contains—

(A) A detailed statement of the findings and conclusions of the Commission; and

(B) recommendations for legislation and administrative actions to protect consumers from future price spikes in consumer energy products.

In the FERC staff's opinion, it would be extremely difficult for an 11-member Commission to reach agreement on what constitutes "significant" price spikes, to decide on the proper protocols and methodologies by which to put together an investigation, collect and analyze data going back ten years for home heating oil, gasoline, natural gas and propane markets, and then reach agreement on recommended legislative and administrative actions—all within 130 days (the Congress has 30 days from the date of enactment of this Act to name Commission members, and the Commission must meet within 20 days after the date on which all members have been appointed).

USEC INC.,
Bethesda, MD, July 16, 2001.

Hon. JEFF BINGAMAN,
Chairman, Senate Energy and Natural Resources Committee, Senate Dirksen Office Building, Washington, DC.

DEAR MR. CHAIRMAN: Thank you for the opportunity to provide written testimony for the record in relation to your hearing held on Thursday, July 12, 2001 with respect to certain nuclear energy provisions: S. 472 (Domenici), S. 919 (Thurmond), and S. 1147 (Nickles).

In general, USEC Inc. supports the provisions of the enumerated bills that are intended to ensure a continued supply of nuclear energy as part of the electricity needs of the United States. Taken together, these bills provide a comprehensive approach to policy on the nuclear fuel cycle from Section 126 of S. 472 on uranium sales, to S. 919 provisions on facilitated siting of nuclear plants, to the S. 1147 authorization for the federal government to pay for its share of thorium cleanup. We encourage this comprehensive approach.

As you know USEC is the sole domestic enricher of uranium, therefore, we are particularly pleased by provisions of S. 472, which are intended to support the front end of the nuclear fuel cycle. Specifically, we have no objections to Section 126 delaying sales of uranium hexafluoride by the Secretary of Energy until 2006. We see no need, at this time, for government sales of uranium into the marketplace and appreciate this section's intent with respect to the domestic mining industry.

We also strongly support Section 128 which would provide assistance to Converdyn, the sole domestic converter of uranium. It is critical, in our view, to maintain this domestic conversion capability from both the energy supply and strategic needs perspectives of the United States. We cannot afford to lose a domestic option for any necessary step in the nuclear fuel cycle.

We also support Section 129, which authorizes the cold standby status of the Portsmouth gaseous diffusion enrichment plant. For the record, it should be noted that USEC is the contract operator of this government function. Nevertheless, we feel that it is an important backup function for current private market capabilities. In that vein, we would emphasize that USEC intends to maintain its private sector ability to produce needed enriched uranium for the future.

Thank you again for this opportunity to provide our views on issues important to the nuclear industry. We also stand ready to provide the committee with our views on other nuclear related issues, which were not the subject of this hearing, such as our strong support of renewal of the Price-Anderson Act. If we can provide

any assistance to the Committee, please contact me at (301) 564-3300 or Gary Ellsworth, Vice President, Government Relations at (301) 564-3336.

Sincerely,

WILLIAM H. TIMBERS, JR.,
President and Chief Executive Officer.

ANADARKO PETROLEUM CORPORATION,
Houston, TX, July 20, 2001.

Hon. JEFF BINGAMAN,
Chairman, Senate Energy and Natural Resources Committee, U.S. Senate, Washington, DC.

DEAR SENATOR BINGAMAN: I am writing to elaborate on a statement contained in the written testimony submitted by Tom Young on behalf the Independent Petroleum Association of America for the record of the hearing the committee held July 12, 2001, on production components of a national energy policy. I ask that this letter be included in the record of the hearing.

In his written statement, Mr. Young referred to the action taken by the Minerals Management Service to provide for a two-year lease extension for subsalt plays in the Gulf of Mexico. He pointed out that the MMS action was taken in recognition of the high-risk nature of subsalt exploration and suggested that more time may be needed for geophysical imaging to refine subsalt drilling targets. We concur with this statement and urge the committee to address this issue in its consideration of national energy policy.

The current five-year term for OCS leases handicaps companies pursuing deep, subsalt targets. Because subsalt geology is much more complex, the imaging process is much lengthier, and the cost of drilling a dry hole is much greater than for conventional prospects.

Partly offsetting the greater risk is the potential to find much larger reserves. The average subsalt discovery made on the OCS during the 1990s contained roughly 60 million barrels equivalent of reserves each, versus less than 14 million barrels equivalent of reserves each for conventional fields.

Because of this, it's in the best interest of U.S. consumers for the government to encourage more subsalt exploration by providing greater lease term flexibility. With energy demand outpacing supply—particularly demand for natural gas—it is vital that the U.S. aggressively explore for new reserves in the places where the biggest accumulations are likely to be found, such as the subsalt.

Longer lease terms would draw more oil and gas operators to explore in the subsalt, many of whom are now on the sidelines because they view the tight time schedule as creating an unacceptable risk.

It is also in the best interest of the U.S. government as a royalty owner to make the lease terms more conducive to subsalt exploration, because bigger fields yield bigger royalties.

Why do subsalt operators need more than five years to prepare their prospects for drilling? By definition, subsalt exploration is an imaging challenge, because the thick sheets of salt that geophysicists must peer through to find oil- and gas-bearing geologic structures distort views produced by conventional technology.

The easiest-to-image subsalt structures take a minimum of four years to complete; "fuzzier" structures may take five to six years or longer to adequately image. A comparison of the steps taken to prepare a conventional prospect for drilling versus a subsalt prospect should illustrate this point:

Before drilling a conventional well, producers would shoot and interpret a 2-D seismic survey and probably a smaller 3-D survey to get an adequate "picture" of the prospect before drilling. This process takes one year to mature a prospect for drilling. These surveys combined would cost about \$3 million.

Before drilling a subsalt well, producers start with the same 3-D dataset, but the 3-D coverage is typically 10 times the area required to drill a shallow well. The data is used to conduct extensive "depth" processing studies to create a clearer three-dimensional image of both the salt structure and the rock structure beneath it. If the first set of images produced is inconclusive, producers may have to purchase or acquire a second 3-D seismic study, and the whole process must be repeated. Each iteration takes two to three years to complete. Some prospects can be adequately imaged from just one or two depth studies. Others may require four or five, or may not be imaged with the currently available technology.

Since Anadarko began subsalt exploration in 1993, it has spent \$43 million on data acquisition, processing and interpretation that was used to identify the 13 prospects drilled to date.

The reason we do all this expensive upfront work is because these deep subsalt wells are much more difficult to drill. Whereas a conventional well drilled in 350 feet of water to a depth of 10,000 feet would cost \$6-8 million, a subsalt well drilled to 20,000 feet in the same water depth would cost \$18-20 million.

Under existing lease terms, companies are sometimes forced to drill prospects that aren't "ready" in order to maintain the lease. Anadarko found itself in that situation in 1999 on two subsalt prospects. Moonstone and Garnet were drilled prematurely at a combined cost of \$30 million because the leases were about to expire. Both were dry holes.

As you know, there's a lot more to exploring than just drilling a well. Three-dimensional seismic is a perfect example. The refinement of 3-D in the late 1980s revolutionized the exploration process and reduced the number of dry holes.

Seismic acquisition and interpretation became a key part of the exploration process during this period. Companies began spending months and in many cases years mapping and imaging prospects before they drilled. With the more sophisticated imaging tools that have been developed and enhanced just in the last three years, the pre-drilling phase of exploration has become even more critical, particularly in the sub-salt.

The Minerals Management Service has recognized that developing good subsalt prospects is much more difficult and time consuming, and it attempted to address this problem in a Notice to Lessees dated December 2000. Unfortunately, it did not go far enough in its remedy, and still required companies to drill a well—albeit to a shallower target—to maintain the lease.

The MMS has the existing authority under current regulations to extend leases and allow companies to continue exploratory studies without drilling a well; to date it has not exercised that authority, however.

Lessees who are spending millions of dollars in earnest subsalt exploratory studies should not be required to drill prematurely and risk a dry hole in order to maintain a lease—particularly in today's tight market environment, where offshore rigs are demanding premium day rates.

I urge your committee to carefully consider this issue as you work to develop a national energy policy for the United States.

Best regards,

MICHAEL D. COCHRAN,
Vice President—Worldwide Exploration.

June 26, 2001.

COMMITTEE ON ENERGY AND NATURAL RESOURCES,
U.S. Senate, Washington, DC.

TO WHOM IT MAY CONCERN: Listed below are written statements on proposed amendments to the Price-Anderson Act. We are requesting that these statements be included in the transcripts from the June 26, 2001 hearing.

As representatives of not-for-profit contractors who operate Department of Energy (DOE) national laboratories that engage in nuclear activities within the meaning of the Price-Anderson Amendments Act of 1988, we urge you to preserve the exemption from civil penalties for the not-for-profit contractors named in that statute, and those subsequently exempted contractually or under 10 CFR 820.20(d) of the DOE nuclear safety requirements. We appreciate having this opportunity to express our views.

INTRODUCTION

We believe that the current approach to this issue is working well for all parties, including the public. Not-for-profit contractors already have sufficient incentives to comply with applicable DOE nuclear safety requirements and relevant statistical evidence demonstrates that their level of compliance equals that of for-profit contractors. Furthermore, DOE already has sufficient authority to take action against a poorly performing not-for-profit contractor, including the reduction of fee and termination of the contract, without having to resort to the imposition of civil penalties.

Eliminating the not-for-profit exemption would further increase the risks, and attendant costs, not-for-profit contractors face in contracting with the DOE. Increasing these risks and costs would diminish the resources available for DOE's vital mission

to operate its national laboratory system. It also would serve to discourage not-for-profits from undertaking, or continuing, their public service in support of the DOE mission.

CURRENT NOT-FOR-PROFIT INCENTIVES AND DOE AUTHORITY ARE SUFFICIENT
TO PROMOTE COMPLIANCE

Our institutions undertake to operate DOE facilities because of the commitment we share to the national laboratory system, and to the continued development of science and technology in the public interest that flourishes there. Our participation in these efforts comes with risks, many well beyond those ordinarily assumed by not-for-profits. While our contracts protect us against certain risks, most importantly the indemnification afforded by the Price-Anderson Act in the event of a nuclear incident, many significant risks must be borne by the not-for-profit contractor.

For example, apart from cases involving DOE enforcement of its nuclear safety requirements, we are subject to potential liability for the full costs of defending ourselves, and for any fines and penalties, in government proceedings charging violations of federal and state statutory and regulatory requirements. Even as to DOE proceedings to enforce its nuclear safety requirements, although we are exempt from civil penalties, nonetheless we are potentially liable for our defense costs, and we remain subject to possible criminal penalties.

As another significant risk, contractors may suffer a reduction or loss of earned fee or even a termination of the contract, if the DOE makes a finding of poor performance in meeting contract requirements. Above all, we face the ongoing risk that our good names and reputations could be tarnished by some negative event arising out of our contractual performance. To remove the not-for-profits' exemption from civil penalties cannot provide us with any greater motivation to strive for compliance with DOE nuclear safety requirements than the potential risks that already exist, nor can it afford DOE any greater measure of accountability for our performance.

ADDING NOT-FOR-PROFIT CIVIL PENALTIES WOULD NOT IMPROVE PERFORMANCE

The statistics with regard to recent enforcement actions taken by the DOE Office of Price-Anderson Enforcement (EH-10), based on information available from EH-10 annual reports, show that the not-for-profit contractors take compliance just as seriously as the for-profit contractors. DOE pursues enforcement actions against all contractors on an equal basis, whether they are for profit or not-for-profit, even to the point of assessing virtual civil penalties against the not-for-profits. Cumulative results for the three year period 1998 through 2000 show that not-for-profit contractors, which represent approximately 20% of DOE contractors, have been the subject of approximately that same percentage of the EH-10 enforcement actions, and their virtual civil penalties average about the same level as the for-profits' civil penalties. This confirms that the exemption from civil penalties has not made the not-for-profits less zealous in complying with the DOE nuclear safety requirements, when compared with DOE for-profit contractors.

CHANGE WOULD INCREASE NOT-FOR-PROFIT RISKS

The contracts under which we operate the facilities provide for a fee for our efforts. But the fee structure available to a not-for-profit contractor is not commensurate with the fee paid to a for-profit contractor to operate a similar facility.

In enacting the exemption from civil penalties, Congress recognized that attracting and retaining quality not-for-profit institutions to serve as contractors for its laboratories is fundamental to DOE's ability to fulfill its mission. When it authored the exemption from civil penalties, Congress was acknowledging the distinction between DOE's not-for-profit contractors and for-profit contractors, both as to the risk-reward balance each can tolerate, and the factors that motivate their respective performance. Removing the exemption from civil penalties certainly would continue to increase the risk, and the related costs, faced by not-for-profit contractors. One expected impact would be to move not-for-profit contractors to seek higher fees to compensate for the additional risk. This in turn would result in additional costs to DOE in carrying out its mission and diminish the resources available for research and development. Another expected impact would be to discourage not-for-profits to serve in the public interest to support DOE's mission of operating the national laboratory system.

CONCLUSION

For these reasons, we strongly urge you to continue the exemption from civil penalties for the not-for-profit operators of DOE facilities identified in the Price-Anderson Amendments Act of 1988, and other eligible not-for-profit contractors.

Thank you for your consideration of these comments.

Princeton University
William Happer
Chair, University Research Board

Southeastern Universities
Research Association
John G. Mullin
Sr. VP for Operations and
General Counsel

University of Chicago
Robert J. Zimmer
Vice President for Research and
Argonne National Laboratory

Universities Research Association
William A. Schmidt
General Counsel

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