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RECOMMENDATIONS OF THE BLUE RIBBON COMMISSION ON AMERICA'S NUCLEAR FUTURE

HEARING

BEFORE THE

SUBCOMMITTEE ON ENVIRONMENT AND THE ECONOMY

OF THE

COMMITTEE ON ENERGY AND COMMERCE
HOUSE OF REPRESENTATIVES

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RECOMMENDATIONS OF THE BLUE RIBBON COMMISSION ON AMERICA'S NUCLEAR FUTURE

WEDNESDAY, FEBRUARY 1, 2012

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON ENVIRONMENT AND THE ECONOMY,
COMMITTEE ON ENERGY AND COMMERCE,
Washington, DC.

The subcommittee met, pursuant to call, at 9:37 a.m., in room 2322, Rayburn House Office Building, Hon. John Shimkus (chairman of the subcommittee) presiding.

Members present: Representatives Shimkus, Whitfield, Bass, Latta, McMorris Rodgers, Harper, Cassidy, Gardner, Barton, Green, Butterfield, Barrow, Matsui, Capps, and Waxman (ex officio).

Also present: Representatives Kinzinger and Inslee.

Staff present: Charlotte Baker, Press Secretary; Dave McCarthy, Chief Counsel, Environment and the Economy; Andrew Powaleny, Assistant Press Secretary; Tina Richards, Counsel, Environment and the Economy; Chris Sarley, Policy Coordinator, Environment and the Economy; Brett Scott, Staff Assistant; Peter Spencer, Professional Staff Member, Oversight; Lyn Walker, Coordinator, Administrator/Human Resources; Alex Yergin, Legislative Clerk; Jeff Baran, Minority Senior Counsel; Alison Cassady, Minority Senior Professional Staff Member; and Caitlin Haberman, Minority Policy Analyst.

Mr. SHIMKUS. We are going to call the hearing to order and welcome our first panel. And I will begin with my 5-minute opening statement.

OPENING STATEMENT OF HON. JOHN SHIMKUS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF ILLINOIS

Good morning, and welcome to our first Environment and the Economy Subcommittee hearing of 2012. Today I am pleased to kick off the subcommittee's agenda on a topic many of you know I am very engaged with and passionate about: the disposal of high-level nuclear waste. As a result of our successful defense programs, and as contractual obligations to taxpayers and consumers who have invested billions of dollars and counting, we, as a Federal Government, have responsibilities to permanently dispose of nuclear waste. This debate has lead us here today to discuss a report from the Blue Ribbon Commission on America's Nuclear Future

and how its recommendations might aid in moving the existing law forward while staying ahead of the curve into the future.

As I read the report over the last few days and—I actually did read the report—I agree with many of the Commission's recommendations. I too think a new organization tasked with nuclear waste management is needed. I agree access to the funds nuclear utility ratepayers and taxpayers have invested should not be squandered by political brinksmanship. And as I have been talking about each week on the House floor, I agree that Yucca Mountain as designated by law remains fixed on the table as a solution to the nuclear waste debate.

In the wake of the administration's interference with the independent technical evaluation of the repository of Yucca Mountain, the resulting Blue Ribbon Commission found what many of us have long have been saying about the failed management of nuclear waste. The Commission's report correctly advises control of the nuclear waste fund be removed from the purse string of political ideologues and entrusted to a new organization dedicated solely to implementing the waste management program set forth under law.

It is clear the dysfunction within and between the Nuclear Regulatory Commission and the Department of Energy has rendered the current waste management structure ineffective. We simply cannot burden our children with 65,000 and growing metric tons of nuclear waste simply because of a bureaucratic failure to carry out the law of the land.

Yucca Mountain remains the most shovel-ready, thoroughly-studied geological repository for spent nuclear fuel, there are possibly no other 230 square miles in the world that have been examined and reexamined more by America's greatest scientific minds than Yucca Mountain.

Three decades of study, $15 billion and quite frankly, common sense support the current requirement to secure high-level nuclear waste on Federal property, under a mountain in a desert. While the extensive research and millions of man-hours by expert scientists and engineers have proven we can safely and securely store nuclear waste at Yucca Mountain, this debate is also about jobs.

The Department of Energy estimates continuing construction at Yucca Mountain would employ 2,600 workers, with about 1,100 of them being additional jobs and new jobs. Additionally, DOE estimates an almost equal number indirect jobs bringing the total to 7,000 jobs in Nevada, a State currently suffering from 13 percent unemployment. In addition to job creation, this would help stimulate the struggling Nevada economy.

In 2000, research done by the University of Nevada, Las Vegas, concluded the Yucca Mountain project contributed nearly 200 million to the Nevada economy that year and similar amounts in 2001. The reality is Yucca Mountain not only fulfills our commitment to the American taxpayers to secure high-level nuclear waste as required by law, but makes a commitment to the people in Nevada to turn around a struggling economy and expanding infrastructure and creating jobs.

I would like to welcome the co-chairs of the Blue Ribbon Commission, a former colleague of ours, Congressman Lee Hamilton, it is great to see you and welcome back. And Lieutenant General

Scowcroft. I would say beat Navy, and also Air Force, but you might have twisted loyalties there. I look forward to their thoughts on implementing some of the recommendations and how they fit into current law.

I also want to thank our second panel of witnesses for being here today to give us their outside perspective on the report, as those who have been a part of the process for many years, their input will be invaluable as we consider how to utilize the Commission's recommendations. With that, I finish my opening statement and I would like to recognize the ranking member, Congressman Green from Texas, for 5 minutes.

[The prepared statement of Mr. Shimkus follows:]

Opening Statement Chairman John Shimkus
Recommendations of the Blue Ribbon Commission on America's Nuclear Future
February 1, 2012

Good morning. Welcome to our first Environment and the Economy Subcommittee hearing of 2012. Today I'm pleased to kick off the subcommittee's agenda on a topic many of you know I am very engaged with and passionate about: The disposal of high level nuclear waste.

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As I read the report over the last few days, I agreed with many of the Commission's recommendations. I too think a new organization tasked with nuclear waste management is needed. I agree access to the funds nuclear utility ratepayers and taxpayers have invested should not be squandered by political brinksmanship.

And as I've been talking about each week on the House floor - I agree that Yucca Mountain - as designated by law - remains fixed on the table as a solution to the nuclear waste debate.

In the wake of the Administration's interference with the independent technical evaluation of the repository at Yucca Mountain, the resulting Blue Ribbon Commission found what many of us have long been saying about the failed management of nuclear waste. The Commission's report correctly advises control of the Nuclear Waste Fund be removed from the purse strings of political ideologues and entrusted to "a new organization dedicated solely to implementing the waste management program" set forth under law.

It is clear the dysfunction within and between the Nuclear Regulatory Commission and the Department of Energy has rendered the current waste management structure ineffective. We simply cannot burden our children with 65 thousand - and growing - metric tons of nuclear waste simply because of a bureaucratic failure to carry out the law of the land.

Yucca Mountain remains the most shovel-ready, thoroughly studied geological repository for spent nuclear fuel. There are possibly no other 230 square miles in the world that have been examined and reexamined more by America's greatest scientific minds than Yucca Mountain.

Three decades of study, 15 billion dollars, and, quite frankly, common sense, support the current requirement to secure high-level nuclear waste on federal property, under a mountain, in a desert.

While the extensive research and millions of man hours by expert scientists and engineers has proven we can safely and securely store nuclear waste at Yucca Mountain - this debate is

also about jobs. The Department of Energy estimates continuing construction at Yucca Mountain would employ between 25 hundred and 26 hundred workers, with about 11 hundred of them being new jobs. Additionally, DOE estimates an almost equal number of indirect jobs, bringing the total to 7 thousand jobs in Nevada - a state currently suffering with 13% unemployment.

I'd like to welcome co-chairs of the Blue Ribbon Commission, a former colleague of ours Congressman Lee Hamilton, and Lt. General Scowcroft. I look forward to their thoughts on implementing some of these recommendations and how they fit into current law.

Additionally, I want to thank our second panel of witnesses for being here today to give us their outside perspective on the report. As those who have been a part of the process for many years, their input will be invaluable as we consider how to utilize the Commission's recommendations.

OPENING STATEMENT OF HON. GENE GREEN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF TEXAS

Mr. GREEN. Thank you, Mr. Chairman, for holding this hearing entitled "Recommendations of the Blue Ribbon Commission on America's Nuclear Future." Many of us on this subcommittee have been anxiously awaiting the completion of the Blue Ribbon Commission's report since they were tasked with the responsibility a couple of years ago. As a long-term supporter of nuclear energy, because this is a cleaner energy alternative, I had the opportunity to visit countries like France and Sweden to learn about their nuclear energy programs. I accompanied our committee colleague, Representative Murphy on a CODEL to France and Sweden last year and were able to see how French and Swedish reprocess and store their nuclear waste.

The issue of long-term and interim nuclear waste storage and disposal is a very important topic in this country and there is no doubt we are well behind our foreign counterparts when it comes to disposing of nuclear waste.

This subcommittee's examining the issue of nuclear waste storage in past hearings. These hearings have primarily been focused on Yucca Mountain and the actions of the Nuclear Regulatory Commission, and we have yet to examine other issues or alternatives for permanent nuclear storage and disposal.

I had the opportunity to visit Yucca Mountain last year also with Chairman Shimkus, and I have supported the use of Yucca Mountain in the past and still believe it is a terrible waste of taxpayer dollars to have this $12 billion facility sitting unused in the desert.

While I am supportive of using Yucca Mountain as a permanent nuclear waste disposal facility, it is clear that certain political realities must be accepted in the here and now, and we have been fighting a battle to use Yucca since it was first proposed in 1987 and have not been able to come to a resolution. The issue of Yucca Mountain may not be resolved in the near future, but perhaps there will come a time we can move past the political logjam, and if we do, we can revisit utilizing Yucca Mountain in the future. Regardless one fact is certain, the U.S. Has a very real and serious impending issue at hand with regard to the storage and disposal of nuclear waste, and it must be dealt with sooner rather than later.

Currently spent fuel and reprocessed waste is stored at nuclear plants in 30 sites scattered across the U.S., local communities are spending millions of dollars to ensure the safety and protection of our nuclear waste. Even with these current sites, we are still producing nuclear waste and that waste will need to be stored for at least 1,000 years. If we begin reprocessing our nuclear waste, it still will not solve or eliminate our problem. I strongly support research and developing of reprocessing because it could, in the future, reduce the amount of the waste and it is not the ultimate solution, but it is not the ultimate solution of our nuclear storage problem.

I would like to note that reprocessing spent fuel could be a job creator in this country. Research and development jobs are needed in the U.S. and we should be doing more in the reprocessing arena to foster job development as well as reducing our nuclear footprint.

That is why I look forward to the testimony of Blue Ribbon Commission. I think it is important we learn how we can begin the process of finding one or more interim and alternative storage and disposal sites to Yucca Mountain. I am also interested in hearing the opinions of the Commission on creating a new organization dedicated to nuclear waste management, reprocessing investments in U.S. research and development for the workforce development, and legislative proposal to help access funds from the nuclear ratepayers for nuclear waste management.

I want to commend the Blue Ribbon Commission for completing a report on time and producing a consensus document. In this Congress, it is impressive that all 15 members of the Commission signed the report. Additionally, I know they reviewed more than 1,000 comments and submitted the draft report and included several changes that are reflected in the final report. I also want to thank the witnesses for appearing today, and I look forward to your testimony. Thank you.

Mr. SHIMKUS. The gentleman yields back his time. The chairman now recognizes the chairman emeritus, Congressman Barton, for 5 minutes.

OPENING STATEMENT OF HON. JOE BARTON, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF TEXAS

Mr. BARTON. Thank you, Mr. Chairman. I don't think I will take that time. It is good to see—I still call him Congressman Hamilton, but Dr. Hamilton and General Scowcroft, I have been around here long enough to remember when both of you were—when the Congressman was actually chairman of the Foreign Relations Committee in the House, and General Scowcroft was National Security Advisor to the first President Bush, so it is good to have you two gentleman still serving the public.

On the Energy and Commerce Committee, I think we have 59 members, only three of them served when the Nuclear Waste Policy Act in 1982 was passed, Mr. Waxman, Mr. Dingell, and I believe Mr. Markey. Mr. Hall, who is on leave from the committee on the Republican side, is the only Republican who was here then. I didn't get here until 1985.

My first job as a White House fellow for President Reagan at the Department of Energy in 1981 was to brief the then Secretary of Energy, James B. Edwards, on the proposed Nuclear Waste Policy Act. They asked me to brief him because they thought if an Aggie could understand it and explain it, then anybody could. And so the technical experts spent a day explaining to me what they were trying to do, and then I had 15 minutes to explain that to the Secretary of Energy.

So I have been involved with this for a few years and it is a shame that we are still where we were basically then, and that is that we don't have a solution. And it is really not fair to you two gentleman or the other commissioners to expect you to pull nuclear waste depository rabbit out of a hat when we haven't been able to do it in the Congress for the last 30 years. We are not here to name names, but if I had to name somebody who really put the fly in the ointment, I would say former Senator Bennett Johnson of Louisiana and Senator Trent Lott of Mississippi. They made a deal in

the Senate to put it in Nevada over the objections of the Nevada delegation and the Nevada delegation pledged eternal opposition, and they meant it and that is kind of why we are here today.

Gentleman, in your final report the Secretary of Energy you do speak of the importance of Federal relations and public confidence. You discuss how a continued delay to store the 65,000 metric tons of inventory, which as Congressman Green pointed out, is growing is damaging America's standing in the world as a source of nuclear expertise, as a leader of global issues on nuclear safety, non proliferation and security. We have spent in the neighborhood of $15 billion building Yucca Mountain and don't have a whole lot to show for it. I think that is inexcusable.

Dr. Peter Swift, who is the chief scientist for Yucca's lead laboratories, Sandia National Laboratory, has discussed how the technical basis for the Yucca Mountain repository has been developed by hundreds of scientists and multiple technical experts. He said, "One of the main conclusions of these analysis is that the estimated releases of radiation doses to hypothetical future humans are well below the EPA and NRC standards." He goes on to say, there is sufficient technical basis for the Nuclear Regulatory Commission to issue a license authorizing construction of the facility. To kind of put that in layman's terms, he is basically saying we can continue to have debates about how many nuclear angels are dancing on the head of the pin, but there is basis to think that the current design is sufficient and safe and we should move forward.

I do think that your report is going to help us in the political arena make a decision on what to do. I also believe that it is probably time to reform the Nuclear Waste Policy Act of 1982 incorporating some of the recommendations that you gentlemen and your other commissioners have made in the report. We do need to develop secondary geological disposal facilities. It is important to provide real access to the funds for the sole purpose of waste management.

And last but not least, I think we do need to work to find opportunities to address recycling and new technologies by instituting legislation to make that possible.

Again, gentlemen, thank you for your time and effort. I hope that your work will actually be used in a legislative fashion in the near future to reform the Nuclear Waste Policy Act and let's finally get going. With that, I yield back, Mr. Chairman.

Mr. SHIMKUS. The gentleman yields back his time. The Chair now recognizes the ranking member of the full committee, Mr. Waxman, for 5 minutes.

OPENING STATEMENT OF HON. HENRY A. WAXMAN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Mr. WAXMAN. Thank you, Mr. Chairman. In 1982, Congress passed the Nuclear Waste Policy Act, the Act sought to establish a fair and science-based process for selecting two nuclear fuel and high-level radioactive waste. Under this approach, no one State or locality would bear the entire burden of the Nation's nuclear waste. In the years that followed, the Department of Energy began evaluating a number of potential repository sites. Then in 1987, Con-

gress made the decision to designate Yucca Mountain in Nevada as the sole site to be considered for a permanent geologic repository. There was no plan B. As the Blue Ribbon Commission explained, this decision was widely viewed as political and provoked strong opposition in Nevada where the legislation was poorly received.

Ever since Congress decided to short-circuit the site selection process it established 5 years earlier, the State of Nevada, the majority of its citizens, have opposed the Yucca Mountain project. In 2002, President Bush recommended the Yucca Mountain site to Congress. Using the State veto procedures set forth in the Nuclear Waste Policy Act, Nevada then filed an official notice of disapproval of the site. Congress proceeded to override Nevada's veto by enacting a resolution that was marked up in this Energy and Commerce Committee.

Twenty-five years after the 1987 amendments to the Nuclear Waste Policy Act, it is clear that this top-down, Federally-mandated approach has not worked.

The Department of Energy has terminated its Yucca Mountain activities. Last year, and again this year, Congress has provided no funding for Yucca Mountain, even the biggest advocates for Yucca Mountain in the Republican House have not acted to provide any funding. In light of the poor track record of the current top-down approach, President Obama directed Secretary Chu to charter a Blue Ribbon Commission to perform a comprehensive review of U.S. policies for managing nuclear waste and to recommend a new strategy. The Blue Ribbon Commission spent nearly 2 years conducting this review and its recommendations are timely.

The Commission recommendations deserve our serious consideration. They raise a number of important policy questions, such as whether a new organization should be established to address the nuclear waste problem, how the nuclear waste funds should be used, and whether one or more centralized storage facilities should be developed in addition to one or more geologic repositories.

Answering these questions requires an open mind and a willingness to move past the narrow obsession with Yucca Mountain. It is time to move forward and today's hearing is a good first step. I thank our witnesses for being here today to share their views and I thank them for their contribution and their work on this Commission, which I hope will be helpful to us. Thank you.

Mr. SHIMKUS. The gentleman yields back his time.

Mr. WAXMAN. I yield back my time.

Mr. SHIMKUS. Then what I would like to do, asking unanimous consent, is I will put 10 minutes on the clock and we will let you all give your opening statements. This is a very important period of time, and so I don't know how you plan to split, maybe 5 minutes each. So we will put 10 minutes on and then go from there, and just don't be worried about the clock too much. I would now like to recognize our former colleague Mr. Hamilton for as much time as he may consume.

STATEMENTS OF LEE HAMILTON AND BRENT SCOWCROFT, CO–CHAIRS, BLUE RIBBON COMMISSION ON AMERICA'S NUCLEAR FUTURE

STATEMENT OF LEE HAMILTON

Mr. HAMILTON. To allow us to come before.

Mr. SHIMKUS. Still having trouble.

Mr. HAMILTON. Is that on now?

Mr. SHIMKUS. Yes.

Mr. HAMILTON. Thank you. I ask unanimous consent of course that the full testimony be submitted.

Mr. SHIMKUS. Without objection, so ordered.

Mr. HAMILTON. We are very grateful to you and appreciate the leadership this subcommittee and the full committee have shown over a period of years on a lot of our biggest challenges in the Nation. Certainly, the topic that we present to you today, managing nuclear spent fuel and high-level nuclear waste.

It is a rare privilege for me to have the opportunity to work with General Scowcroft. By any measure, he is one of the great Americans, and a distinct privilege for me to be with him, but also with the other 13 members of the Commission appointed by Secretary Chu. They really were an outstanding group, talented and dedicated in every way, and their professionalism contributed to the unanimity of the report.

What I will do is take the first part of our testimony, and General Scowcroft will take the second part, and we will take up the full 10 minutes, perhaps a little more.

As has been stated here several times this morning already, the nuclear waste management program is at a real impasse, it has been in deep trouble for decades. One or two of you in this room are old enough to remember when Congressman Mo Udall stepped on the floor of the House of Representatives 30 or 40 years ago, I am not sure when, and said to us shame on us because we haven't solved the problem of what to do with nuclear waste. That was decades ago, and here we are and the process has about completely broken down. It has been decades going along this current path and it has led to controversy, litigation and protracted delay, and, most of all, not a solution.

This is a serious failure of the American government, and it has had real consequences which Chairman Emeritus Barton has already referred to. Our failure to come to grips with this problem has meant that we are slowing down for sure, damaging the prospects of a very important potential energy supply, nuclear energy. It has damaged our State-Federal relationships very sharply, and it has caused the public to lose confidence in the Federal Government's competence to solve the problem, and it has damaged America's standing in the world and its leadership. We cannot really claim to be a leader in nuclear power if we can't solve one of the fundamental problems that exist with nuclear power what do with the nuclear waste, and of course, we haven't solved that.

Likewise, the whole inability to solve the problem has been very costly. It has been costly to the ratepayers who have to continue to pay for nuclear waste management, a solution that has not yet been delivered. It has been costly to communities who have been

unwilling hosts of long-term nuclear waste storage; it has certainly been costly to the American taxpayers, who face billions of dollars now every year in liabilities as a result of our failure to meet our responsibilities here.

And underlying all of this is really an obligation, an ethical obligation, if you will, to avoid burdening future generations with finding a safe, permanent solution for hazardous materials that they did not create, we created them. And we are about ready to hand over to them the problem we created without a solution unless we move forward promptly.

So there is a real urgency here, 65,000 metric ton inventory of spent nuclear fuel spread across the country, growing at the rate of about 2,000 metric tons per year, and I think all of us can agree that the status quo is not acceptable.

Now we have eight key elements of our recommendations, they are integrated, in other words, they are packaged in our point of view, all are necessary to establish a truly nuclear national nuclear waste management system. I will talk about three and General Scowcroft will talk about the others. I will try to be quite brief.

The first one, of course, is a new consent-based approach to siting future nuclear waste management facilities. You, in some of your opening statements, referred to this. We have had, over a period of years, a top-down forced solution to the problem and it has not worked. In a sense, we are faced with a choice in this Nation, and the choice is we can continue along to fight the same battles we have been fighting for decades now, 30 or more years, with no conclusion, or we can step back and try to chart a new course, and that is what we are trying to recommend to you with this consent-based approach.

The top-down forced solution, trying to force a solution over the objections of State and local communities is not efficient, it takes longer, costs more, has lower odds of ultimate success. The approach we recommend is adaptive, it is staged, it is consent-based. It is based on a review of successful siting processes in the United States, the WIPP project in New Mexico, and of course, in several other countries around the world, Spain, Finland and Sweden among them. We believe this type of consent-based approach has the best chance of succeeding and building the confidence that is needed to get these controversial facilities through to completion.

The second recommendation we make is to say that a new organization has to be created here to handle the waste management program, and it has to be empowered with the authority to act, and it has to have the resources to succeed. The DOD has wrestled with this problem for a long time, for more than 50 years. That record has not inspired confidence, created a lot of criticism, we heard an awful lot of criticism during the 2 years in the way in which that program has been handled. The Commission has concluded, thus, that a new institutional leadership is needed and we specifically recommend a congressionally-chartered Federal corporation. There are other organizational structures that the committee may want to consider, we looked at some of those, but we think this is best suited to provide the stability and the focus and the credibility that you need in order to put a waste product—waste management system in place.

The new organization to succeed would have to get the waste program back on track, and it will need a substantial degree of implementing authority and a sure access to funding. Throughout, of course, there will have to be rigorous oversight by the Congress of this new organization and the appropriate government agencies.

The third point I want to make, the third of our recommendations is that access to the funds that the nuclear ratepayers are now paying, are now providing for the purpose of waste management must be available to this new organization so that it has the resources to move forward. The 1982 Nuclear Waste Policy Act, which has already been referred to, had a polluter-pay theme, or funding mechanism, to ensure that the full cost of disposing of commercial spent fuel would be paid by the utilities, or their ratepayers obviously, with no impact on taxpayers or the Federal budget.

For a variety of reasons, and for many reasons really, this fund has not worked as intended. A series of executive and congressional actions has made the annual fee revenues, which are approximately $750 million a year, and the unspent $25 billion balance in the fund effectively inaccessible to the waste program. Instead, the waste program must compete today for funding, and is, therefore, subject to exactly the budget constraints and uncertainties that the fund was created to avoid. We think that situation has to be remedied right away to allow the program to succeed. And we make several recommendations as to how that should be done. For the balance of our testimony, I turn to General Scowcroft.

Mr. SHIMKUS. You are recognized, General Scowcroft.

STATEMENT OF BRENT SCOWCROFT

Mr. SCOWCROFT. Thank you very much. Mr. Chairman, may I just say that it is an honor for me to participate on an issue so deeply in the national interest, and it is a delight to work with my co-chairman, former Congressman Lee Hamilton, whom I have knowledge and worked with for decades.

The fourth element of our recommendations are prompt efforts to develop one or more geological disposal facilities. The conclusion that disposal is needed in deep geologic disposal is the scientifically-preferred approach has been reached by every expert panel that has looked at this issue, and by every other country that is pursuing a nuclear waste management program.

Moreover, all fuel processing or recycle options either are already available or under active development at this time still generate waste streams that require a permanent disposal solution. We believe permanent disposal will very likely also be needed to safely manage, at least some portions of the commercial spent fuel inventory.

The Commission recognizes the current law establishes Yucca Mountain in Nevada as the site for the first repository for spent fuel and high-level waste. Provided the licensed application submitted by DOE meets relevant requirements. Our Blue Ribbon Commission was not chartered as a siting commission; accordingly, we have not evaluated Yucca Mountain or any other particular location as a potential site for the storage or disposal of spent nuclear fuel and high-level waste. Nor have we taken a position on

the administration's request to withdraw the license application. We simply note that regardless of what happens with Yucca Mountain, the U.S. inventory of spent nuclear fuel will soon exceed the amount that can be legally in place at this site until a second repository is in operation.

So under current law, the United States will need to find a new disposal site, even if Yucca Mountain goes forward. We believe the approach set forth here provides the best strategy for assuring continuing progress regardless of the fate of Yucca Mountain.

The fifth element of our recommendations are efforts to develop one or more consolidated storage facilities. And here, let me point out the difference between storage and disposal. Storage is a temporary condition, disposal is a permanent condition, although retrievability is a possible issue there.

Developing consolidated interim storage capacity would allow the Federal Government to begin the orderly transfer of spent fuel from reactor sites to safe and secure centralized facilities, independent of the schedule for opening and operating a permanent repository. The arguments in favor of consolidated storage are strongest for the so-called stranded spent fuel, that is, fuel from shutdown plant sites of which there are nine presently across the country.

Stranded fuel should be first in line for transfer to a consolidated facility so these plant sites can be completely decommissioned and put to other beneficial uses.

Looking beyond the issue of today's stranded fuel, the availability of consolidated storage would provide valuable flexibility in the nuclear waste management system that could achieve significant cost savings for both ratepayers and taxpayers when a significant additional number of plants are shut down in the future. It can provide emergency backup storage in the event spent fuel needs to be moved quickly from a reactor site and would provide an excellent platform for ongoing R&D to better understand how storage systems currently in use at commercial and DOE sites perform over time.

The sixth element of our recommendations are prompt efforts to prepare for the eventual large scale transport of spent nuclear fuel and high-level waste to consolidated storage and disposal sites when such facilities become available.

The current system of standards and regulations governing the transport of spent fuel and other nuclear materials has functioned very well, and the safety record for past shipments of these types of materials is excellent. That being said, past experiences in the United States and abroad and extensive comments to this Commission indicate many people fear the transport of nuclear materials. Thus greater transport demands for nuclear materials are likely to raise new public concerns.

In order to deal with these concerns, while ensuring the highest level of transport safety, the Commission believes that State, Tribal and local officials should be extensively involved in transportation planning and should be given the resources necessary to discharge their roles and obligations in this area. Given that transportation represents a crucial link in the overall storage and disposal system, it would be important to allow substantial lead time to assess and

resolve transportation issues well in advance of when materials would be expected to actually begin shipping to a new facility. Historically some programs have treated transportation planning as an afterthought. No successful programs have done so.

The seventh recommendation we have is support for advances in nuclear energy technology and for workforce development. Advances in nuclear energy technology have the potential to deliver an array of benefits across a wide range of energy policy goals. The Commission believes these benefits, in light of the environmental and energy challenges the United States and the world will confront this century, justify public and private sector support for RD&D on advanced reactor and fuel cycle technology.

In the near term, opportunities exist to improve the safety and performance of existing water reactors and spent fuel and high-level waste storage transportation and disposal system. In the longer term, the possibility exists to advance game-changing innovations that offer potentially large advantages over current technologies and systems.

Additionally, the Commission recommends increased support for ongoing work by the NRC to develop a regulatory framework for advanced nuclear energy systems. Such a framework can guide the design of new systems in lower barriers to commercial investment by increasing confidence that new systems can be successfully licensed.

The Commission also recommends expanded Federal joint labor management and university-based support for advanced science technology, engineering and mathematics training to develop the skill workforce needed to support an effective waste management program, as well as viable domestic nuclear energy. The stalemate we have faced over the years has paid enormous cost in the workforce and skills.

At the same time, the Department of Energy and the nuclear energy industry should work to ensure that valuable existing capabilities and assets, including the critical infrastructure on human expertise are maintained.

On our last recommendation, is an observation really, active U.S. leadership is essential in international efforts to address issues of safety nonproliferation and security. As more nations consider pursuing nuclear energy or expanding their nuclear programs, U.S. leadership is urgently needed on issues of safety, particularly in light of events at Fukushima, nonproliferation, security and counterterrorism issues.

Many countries, especially those just embarking on commercial nuclear power development, have relatively small programs and they lack the regulatory and oversight resources available to countries with more established programs. International assistance may be required to ensure they do not create disproportionate safety, physical security and proliferation risks.

In many cases, mitigating these risks will depend less on technological interventions than on the ability to strengthen international institutions and safeguards while promoting multilateral coordination and cooperation.

From the U.S. perspective, two further points are particularly important, first, with so many players in the international and nu-

clear energy and policy arena, the United States will increasingly have to lead by engagement and by example. Second, the United States cannot exercise effective leadership on issues related to the back end of the fuel cycle so long as its own program is in disarray. Effective domestic policies are needed to support America's international agenda.

To conclude, the problem of nuclear waste may be unique in the sense there is wide agreement about the outlines of the solution, put very simply, we know what we have to do, we know we have to do it, and we even know how to do it. Experience in the United States and abroad has shown that suitable sites for deep geologic repository for nuclear waste can be identified and developed. The knowledge and experience we need are in hand, and the necessary funds have been and are being collected.

The core difficulty actually remains what it has always been, finding a way to site these inherently controversial activities—facilities and to conduct the waste management program in a manner that allows all stakeholders, but most especially, host communities, States and tribes to conclude that their interests have been adequately protected and their well-being enhanced, not merely sacrificed and overridden by the larger interest of the country as a whole.

We believe the conditions for progress are arguably more promising than they have been in some time, but we will only know if we start, which is what we urge the administration and the Congress to do without delay.

We thank you for allowing us to meet with you today. And we intend to submit a full version of our testimony for the record, and we look forward to your questions.

Mr. SHIMKUS. Thank you, I thank my colleagues for sitting patiently.

[The prepared statement of Mr. Hamilton and Mr. Scowcroft follows:]

STATEMENT OF
CONGRESSMAN LEE HAMILTON
AND
GENERAL BRENT SCOWCROFT
CO-CHAIRMEN, BLUE RIBBON COMMISSION
ON AMERICA'S NUCLEAR FUTURE
BEFORE THE
HOUSE ENERGY AND COMMERCE COMMITTEE
SUBCOMMITTEE ON ENVIRONMENT AND THE ECONOMY
UNITED STATES HOUSE OF REPRESENTATIVES
SECOND SESSION, 112TH CONGRESS
FEBRUARY 1, 2012

Introduction

Chairman Shimkus, Ranking Member Green, members of the Subcommittee, it is a pleasure to appear before you today to discuss the final recommendations of the Blue Ribbon Commission on America's Nuclear Future. We appreciate the leadership this Subcommittee has shown in confronting some of our nation's biggest challenges, which certainly include the focus of this hearing - managing spent nuclear fuel and high level nuclear waste in the United States. Thank you for allowing us the opportunity to testify before you today.

Before we begin, we would also like to thank the 13 other members of the Commission who worked so hard in creating our final report. As the Co-Chairmen of the Commission, we were delighted to work with such a talented and dedicated group of fellow Commissioners. We are thankful for the expertise and insights they brought to our endeavors. Their professionalism led to our final report having unanimous approval; all of the Commissioners have agreed to our final report, a fact which we believe speaks to the strength of our recommendations.

As you aware, the Blue Ribbon Commission was formed by the Secretary of Energy at the direction of the President. Our charge was to conduct a comprehensive review of policies for managing the back end of the nuclear fuel cycle and to recommend a new strategy. We came away from our review frustrated by decades of unmet commitments to the American people, yet confident that we can turn this record around.

Framing the Issue

Mr. Chairman, as we are all too well aware, America's nuclear waste management program is at an impasse. The Administration's decision to halt work on a repository at Yucca Mountain is

but the latest indicator of a policy that has been troubled for decades and has now all but completely broken down. The approach laid out under the 1987 Amendments to the Nuclear Waste Policy Act has simply not worked to produce a timely solution for dealing with the nation's most hazardous radioactive materials. The United States has traveled nearly 25 years down the current path only to come to a point where continuing to rely on the same approach seems destined to bring further controversy, litigation, and protracted delay.

What we have found is that our nation's failure to come to grips with the nuclear waste issue has already proved damaging and costly. It will be even more damaging and more costly the longer it continues: damaging to prospects for maintaining a potentially important energy supply option for the future, damaging to state – federal relations and public confidence in the federal government's competence, and damaging to America's standing in the world as a source of nuclear expertise and as a leader on global issues of nuclear safety, non-proliferation, and security.

This failure is also costly to utility ratepayers who continue to pay for a nuclear waste management solution that has yet to be delivered, to communities that have become unwilling hosts of long-term waste storage facilities, and to U.S. taxpayers who face billions in liabilities as a result of the failure to meet federal waste management commitments.

This generation has a fundamental ethical obligation to avoid burdening future generations with finding a safe permanent solution for managing hazardous nuclear materials they had no part in creating. At the same time, we owe it to future generations to avoid foreclosing options wherever possible so that they can make choices—about the use of nuclear energy as a low-carbon energy resource and about the management of the nuclear fuel cycle—based on emerging technologies and developments and their own best interests.

The national interest demands that our nuclear waste program be fixed. Complacency with a failed nuclear waste management system is not an option. With a 65,000 metric ton inventory of spent nuclear fuel spread across the country and growing at over 2000 metric tons per year, the status quo is not acceptable. The need for a new strategy is urgent.

Key Elements of the Blue Ribbon Commission's Recommendations

Mr. Chairman, the strategy we recommend in our final report has eight key elements. Although the elements of this strategy will not be new to Members and staff of this Committee who have followed the U.S. nuclear waste program over the years, we are certain they are all necessary to establish a truly integrated national nuclear waste management system, to create the institutional leadership and wherewithal to get the job done, and to ensure that the United States remains at the forefront of technology developments and international responses to

evolving nuclear safety, non-proliferation, and security concerns. We will now discuss those in more detail.

1. **A new, consent-based approach to siting future nuclear waste management facilities.**

   Experience in the United States and in other nations suggests that any attempt to force a top-down, federally mandated solution over the objections of a state or community—far from being more efficient—will take longer, cost more, and have lower odds of ultimate success. By contrast, the approach we recommend is explicitly adaptive, staged, and consent-based. Based on a review of successful siting processes in the United States and abroad—including most notably the siting of a disposal facility for transuranic radioactive waste, the Waste Isolation Pilot Plant (WIPP) in New Mexico, and recent positive outcomes in Spain, Finland and Sweden—we believe this type of approach can provide the flexibility and sustain the public trust and confidence needed to see controversial facilities through to completion.

2. **A new organization dedicated solely to implementing the waste management program and empowered with the authority and resources to succeed.**

   The U.S. Department of Energy (DOE) and its predecessor agencies have had primary responsibility for implementing U.S. nuclear waste policy for more than 50 years. The overall record of DOE and of the federal government as a whole has not inspired confidence or trust in our nation's nuclear waste management program. For this and other reasons, the Commission concludes that new institutional leadership is needed. Specifically, we believe a single-purpose, Congressionally-chartered federal corporation (although there are many other organizational structures that could work) is best suited to provide the stability, focus, and credibility needed to get the waste program back on track. For the new organization to succeed, a substantial degree of implementing authority and assured access to funds must be paired with rigorous financial, technical, and regulatory oversight by Congress and the appropriate government agencies.

3. **Access to the funds nuclear utility ratepayers are providing for the purpose of nuclear waste management.**

   The 1982 Nuclear Waste Policy Act (NWPA) created a "polluter pays" funding mechanism to ensure that the full costs of disposing of commercial spent fuel would be paid by utilities - and their ratepayers - with no impact on taxpayers or the federal budget. Nuclear utilities are assessed a fee on every kilowatt-hour of nuclear-generated

electricity as a *quid pro quo* payment in exchange for the federal government's contractual commitment to begin accepting commercial spent fuel beginning by January 31, 1998. Fee revenues go to the government's Nuclear Waste Fund, which was established for the sole purpose of covering the cost of disposing of civilian nuclear waste and ensuring that the waste program would not have to compete with other funding priorities. The Fund does not work as intended. A series of Executive Branch and Congressional actions has made annual fee revenues - approximately $750 million per year - and the unspent $25 billion balance in the Fund effectively inaccessible to the waste program. Instead, the waste program must compete for federal funding each year and is therefore subject to exactly the budget constraints and uncertainties that the Fund was created to avoid. This situation must be remedied immediately to allow the program to succeed.

In the near term, the Administration should offer to amend DOE's standard contract with nuclear utilities so that utilities remit only the portion of the annual fee that is appropriated for waste management each year and place the rest in a trust account, held by a qualified third-party institution, to be available when needed. At the same time, the Office of Management and Budget should work with the congressional budget committees and the Congressional Budget Office to change the treatment of annual fee receipts so that these receipts can directly offset appropriations for the waste program.

4. Prompt efforts to develop one or more geologic disposal facilities.

The conclusion that disposal is needed and that deep geologic disposal is the scientifically preferred approach has been reached by every expert panel that has looked at the issue and by every other country that is pursuing a nuclear waste management program. Moreover, all spent fuel reprocessing or recycle options either already available or under active development at this time still generate waste streams that require a permanent disposal solution. We believe permanent disposal will very likely also be needed to safely manage at least some portion of the commercial spent fuel inventory.

The Commission recognizes that current law establishes Yucca Mountain in Nevada as the site for the first U.S. repository for spent fuel and high-level waste, provided the license application submitted by DOE meets relevant requirements. The Blue Ribbon Commission was not chartered as a siting commission. Accordingly we have not evaluated Yucca Mountain or any other location as a potential site for the storage or disposal of spent nuclear fuel and high-level waste, nor have we taken a position on the Administration's request to withdraw the license application. We simply note that

regardless what happens with Yucca Mountain, the U.S. inventory of spent nuclear fuel will soon exceed the amount that can be legally emplaced at this site until a second repository is in operation. So under current law, the United States will need to find a new disposal site even if Yucca Mountain goes forward. We believe the approach set forth here provides the best strategy for assuring continued progress, regardless of the fate of Yucca Mountain.

5. **Prompt efforts to develop one or more consolidated storage facilities.**

   Developing consolidated interim storage capacity would allow the federal government to begin the orderly transfer of spent fuel from reactor sites to safe and secure centralized facilities independent of the schedule for operating a permanent repository. The arguments in favor of consolidated storage are strongest for "stranded" spent fuel from shutdown plant sites; of which there are nine across the country. Stranded fuel should be first in line for transfer to a consolidated facility so that these plant sites can be completely decommissioned and put to other beneficial uses. Looking beyond the issue of today's stranded fuel, the availability of consolidated storage will provide valuable flexibility in the nuclear waste management system that could achieve meaningful cost savings for both ratepayers and taxpayers when a significant number of plants are shut down in the future, can provide emergency back-up storage in the event that spent fuel needs to be moved quickly from a reactor site, and would provide an excellent platform for ongoing R&D to better understand how the storage systems currently in use at both commercial and DOE sites perform over time.

6. **Prompt efforts to prepare for the eventual large-scale transport of spent nuclear fuel and high-level waste to consolidated storage and disposal facilities when such facilities become available.**

   The current system of standards and regulations governing the transport of spent fuel and other nuclear materials appears to have functioned well, and the safety record for past shipments of these types of materials is excellent. That being said, past experiences in the United States and abroad, and extensive comments to the Commission indicate that many people fear the transportation of nuclear materials. Thus greater transport demands for nuclear materials are likely to raise new public concerns.

   In order to allay these concerns while ensuring the highest levels of transport safety, the Commission believes that state, tribal and local officials should be extensively involved in transportation planning and should be given the resources necessary to discharge

their roles and obligations in this arena. Given that transportation represents a crucial link in the overall storage and disposal system, it will be important to allow substantial lead-time to assess and resolve transportation issues well in advance of when materials would be expected to actually begin shipping to a new facility. Historically, some programs have treated transportation planning as an afterthought. No successful programs have done so.

7. **Support for advances in nuclear energy technology and for workforce development.**

Advances in nuclear energy technology have the potential to deliver an array of benefits across a wide range of energy policy goals. The Commission believes these benefits—in light of the environmental and energy security challenges the United States and the world will confront this century—justify sustained public- and private-sector support for RD&D on advanced reactor and fuel cycle technologies. In the near term, opportunities exist to improve the safety and performance of existing light-water reactors and spent fuel and high-level waste storage, transport, and disposal systems. Longer term, the possibility exists to advance "game-changing" innovations that offer potentially large advantages over current technologies and systems. Additionally, the Commission recommends increased support for ongoing work by the NRC to develop a regulatory framework for advanced nuclear energy systems. Such a framework can help guide the design of new systems and lower barriers to commercial investment by increasing confidence that new systems can be successfully licensed.

The Commission also recommends expanded federal, joint labor-management and university-based support for advanced science, technology, engineering, and mathematics training to develop the skilled workforce needed to support an effective waste management program as well as a viable domestic nuclear industry. At the same time, DOE and the nuclear energy industry should work to ensure that valuable existing capabilities and assets, including critical infrastructure and human expertise, are maintained.

8. **Active U.S. leadership in international efforts to address safety, non-proliferation, and security concerns.**

As more nations consider pursuing nuclear energy or expanding their nuclear programs, U.S. leadership is urgently needed on issues of safety (particularly in light of the events at Fukushima), non-proliferation, and security and counter-terrorism. Many countries, especially those just embarking on commercial nuclear power development, have

relatively small programs and may lack the regulatory and oversight resources available to countries with more established programs. International assistance may be required to ensure they do not create disproportionate safety, physical security, and proliferation risks. In many cases, mitigating these risks will depend less on technological interventions than on the ability to strengthen international institutions and safeguards while promoting multilateral cooperation and coordination. From the U.S. perspective, two further points are particularly important: First, with so many players in the international nuclear technology and policy arena, the United States will increasingly have to lead by engagement and by example. Second, the United States cannot exercise effective leadership on issues related to the back end of the nuclear fuel cycle so long as its own program is in disarray; effective domestic policies are needed to support America's international agenda.

Tying It Together

In conclusion, the problem of nuclear waste may be unique in the sense that there is wide agreement about the outlines of the solution. Simply put, we know what we have to do, we know we have to do it, and we even know how to do it. Experience in the United States and abroad has shown that suitable sites for deep geologic repositories for nuclear waste can be identified and developed. The knowledge and experience we need are in hand and the necessary funds have been and are being collected. Rather the core difficulty remains what it has always been: finding a way to site these inherently controversial facilities and to conduct the waste management program in a manner that allows all stakeholders, but most especially host communities, states, and tribes, to conclude that their interests have been adequately protected and their well-being enhanced—not merely sacrificed or overridden by the interests of the country as a whole.

We believe the conditions for progress are arguably more promising than they have been in some time. But we will only know if we start, which is what we urge the Administration and Congress to do, without further delay.

Thank you for having us here today. We intend to submit a full version of our testimony for the record, and we look forward to your questions.

FULL STATEMENT OF
CONGRESSMAN LEE HAMILTON
AND
GENERAL BRENT SCOWCROFT
CO-CHAIRMEN, BLUE RIBBON COMMISSION
ON AMERICA'S NUCLEAR FUTURE
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HOUSE ENERGY AND COMMERCE COMMITTEE
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Introduction

Chairman Shimkus, Ranking Member Green, members of the Subcommittee, it is a pleasure to appear before you today to discuss the final recommendations of the Blue Ribbon Commission on America's Nuclear Future. We appreciate the leadership this Subcommittee has shown in confronting some of our nation's biggest challenges, which certainly include the focus of this hearing - managing spent nuclear fuel and high level nuclear waste in the United States. Thank you for allowing us the opportunity to testify before you today.

Before we begin, we would also like to thank the 13 other members of the Commission who worked so hard in creating our final report. As the Co-Chairmen of the Commission, we were delighted to work with such a talented and dedicated group of fellow Commissioners. We are thankful for the expertise and insights they brought to our endeavors. Their professionalism led to our final report having unanimous approval; all of the Commissioners have agreed to our final report, a fact which we believe speaks to the strength of our recommendations.

As you aware, the Blue Ribbon Commission was formed by the Secretary of Energy at the direction of the President. Our charge was to conduct a comprehensive review of policies for managing the back end of the nuclear fuel cycle and to recommend a new strategy. We came away from our review frustrated by decades of unmet commitments to the American people, yet confident that we can turn this record around.

Framing the Issue

Mr. Chairman, as we are all too well aware, America's nuclear waste management program is at an impasse. The Administration's decision to halt work on a repository at Yucca Mountain is but the latest indicator of a policy that has been troubled for decades and has now all but

completely broken down. The approach laid out under the 1987 Amendments to the Nuclear Waste Policy Act has simply not worked to produce a timely solution for dealing with the nation's most hazardous radioactive materials. The United States has traveled nearly 25 years down the current path only to come to a point where continuing to rely on the same approach seems destined to bring further controversy, litigation, and protracted delay.

What we have found is that our nation's failure to come to grips with the nuclear waste issue has already proved damaging and costly. It will be even more damaging and more costly the longer it continues: damaging to prospects for maintaining a potentially important energy supply option for the future, damaging to state – federal relations and public confidence in the federal government's competence, and damaging to America's standing in the world as a source of nuclear expertise and as a leader on global issues of nuclear safety, non-proliferation, and security.

This failure is also costly to utility ratepayers who continue to pay for a nuclear waste management solution that has yet to be delivered, to communities that have become unwilling hosts of long-term waste storage facilities, and to U.S. taxpayers who face billions in liabilities as a result of the failure to meet federal waste management commitments. The national interest demands that our nuclear waste program be fixed.

The need for a new strategy is urgent, not just to address these damages and costs, but also because this generation has a fundamental ethical obligation to avoid burdening future generations with finding a safe permanent solution for managing hazardous nuclear materials they had no part in creating. At the same time, we owe it to future generations to avoid foreclosing options wherever possible so that they can make choices—about the use of nuclear energy as a low-carbon energy resource and about the management of the nuclear fuel cycle—based on emerging technologies and developments and their own best interests.

Put simply, the overall record of the U.S. nuclear waste program has been one of broken promises and unmet commitments. And yet the Commission finds reasons for confidence that we can turn this record around. To be sure, decades of failed efforts to develop a repository for spent fuel and high-level waste have produced frustration and a deep erosion of trust in the federal government. But they have also produced important insights, a clearer understanding of the technical and social issues to be resolved, and at least one significant success story – the WIPP facility in New Mexico. Moreover, many people have looked at aspects of this record and come to similar conclusions.

The Scale of the Problem

Mr. Chairman, before we discuss our recommendations it is useful to briefly review the scale of the nuclear waste problem in the U.S. As this Subcommittee is certainly aware, there are 104 commercial nuclear power reactors operating in the United States today, supplying approximately 20 percent of our nation's electricity needs. The industry as a whole generates more than 2,000 metric tons of spent nuclear fuel on an annual basis. At present, nearly all of the nation's existing inventory of approximately 65,000 metric tons of spent fuel is being stored at the reactor sites where it was generated—about three-quarters of it in shielded concrete pools and the remainder in dry casks above ground. Roughly speaking, this spent fuel would cover one football field to a depth of approximately 20 feet. This inventory also includes approximately 3,000 metric tons of what we've called "stranded" spent fuel, fuel in storage at ten sites where nuclear power reactors have been shut down and are no longer operating.

In addition to the civilian spent nuclear fuel, there is a considerable inventory of DOE-managed nuclear waste – in the form of both spent nuclear fuel and of liquid high level waste. The current inventory of DOE-managed spent fuel represents a relatively small fraction of the nation's total civilian spent-fuel inventory: approximately 2,500 metric tons. Along with spent nuclear fuel, DOE manages an inventory of high level waste totaling more than 3,000 canisters of vitrified wastes and some 90 million gallons of liquids, sludges and solids from past fuel reprocessing operations for weapons production. Most of this waste is being stored at DOE's Hanford, Idaho National Laboratory, and Savannah River sites. In addition, there is a small amount of vitrified high level waste from reprocessing fuel from both commercial power reactors and government reactors at the West Valley site in New York that will also require disposal.

Our Approach

Fulfilling our charter has required the Commission to investigate a wide range of issues and listen to a broad spectrum of concerned stakeholders. It became clear to us early on that many of the problems facing our nuclear waste program have their roots in social distrust and lack of confidence in government, so we strove to make the Commission's work as inclusive, transparent, and accessible as possible. We heard from hundreds of invited witnesses, toured nuclear waste management facilities in the U.S. and abroad, and received thousands of comments at more than two dozen public meetings and through our web site.

The Commission released a draft report for public comment in July of 2011. To facilitate meaningful discussion about our draft report, we arranged for a series of public meetings to be held in cooperation with regional state government groups. These meetings were held in

Atlanta, Boston, Denver, Minneapolis, and Washington, DC, and were quite helpful in gaining useful insights that are reflected in our final report.

In total, we received and reviewed several thousand comments on our draft report. We are indebted to the many people who have given us the benefit of their expertise, advice, and guidance. A full list of the Commission's meetings is included in a longer version of this statement that we intend to submit for the record.

Key Elements of the Blue Ribbon Commission's Final Recommendations

Mr. Chairman, the strategy we recommend in our final report has eight key elements:

1. A new, consent-based approach to siting future nuclear waste management facilities.
2. A new organization dedicated solely to implementing the waste management program and empowered with the authority and resources to succeed.
3. Access to the funds nuclear utility ratepayers are providing for the purpose of nuclear waste management.
4. Prompt efforts to develop one or more geologic disposal facilities.
5. Prompt efforts to develop one or more consolidated storage facilities.
6. Prompt efforts to prepare for the eventual large-scale transport of spent nuclear fuel and high-level waste to consolidated storage and disposal facilities when such facilities become available.
7. Support for continued U.S. innovation in nuclear energy technology and for workforce development.
8. Active U.S. leadership in international efforts to address safety, waste management, non-proliferation, and security concerns.

Although the elements of this strategy will not be new to Members and staff of this Subcommittee who have followed the U.S. nuclear waste program over the years, we are certain they are all necessary to establish a truly integrated national nuclear waste management system, to create the institutional leadership and wherewithal to get the job done, and to ensure that the United States remains at the forefront of technology developments and international responses to evolving nuclear safety, non-proliferation, and security concerns.

A few general points about the Commission's proposed strategy are worth emphasizing before our recommendations are discussed in greater detail here today. First is the issue of cost. In

this time of acute concern about the federal budget deficit and high energy prices, we have been sensitive to the concern that our recommendations—particularly those that involve launching a new approach and a new organization for nuclear waste management—could add to the financial burden on the U.S. Treasury and on American taxpayers and utility ratepayers. Certainly it will cost something to implement a successful U.S. waste management program; however, trying to implement a deeply flawed program is even more costly, for all the reasons already mentioned. In fact, U.S. ratepayers are *already* paying for waste disposal (through a fee collected on each kilowatt-hour of nuclear-generated electricity)—but the program they're paying for isn't working.

Overall, we are confident that our waste management recommendations can be implemented using revenue streams *already dedicated for this purpose* – in particular the Nuclear Waste Fund and fee. Other Commission recommendations—particularly those concerning nuclear technology programs and international policies—are broadly consistent with the program plans of the relevant agencies.

Another overarching point concerns timing and implementation. All of our recommendations are interconnected and will take time to implement fully, particularly since many elements of the strategy we propose require legislative action to amend the Nuclear Waste Policy Act and other relevant laws. Nevertheless, prompt action can and should be taken in several areas, without waiting for legislative action, to get the waste management program back on track.

One of the many actions we recommend the Administration take in the near-term is to ensure that funds already being collected from nuclear utility ratepayers to cover the costs of spent fuel disposal are available to serve their intended purpose. In our report we suggest a series of actions that can be taken promptly to give the waste program the budgetary certainty that will be essential for long-term success. We also recommend steps the Department of Energy should take to enable implementation of our consolidated storage recommendations, including efforts to provide assistance to states and regional state government groups that can be used to begin transportation planning and to support local and tribal officials in areas likely to be traversed by spent fuel shipments.

Finally, there are several questions the Commission was not chartered to address. We have not rendered an opinion on the suitability of the Yucca Mountain site or any other specific site, nor have we commented on the request to withdraw the license application for Yucca Mountain. Instead, we focused on developing a sound strategy for future storage and disposal facilities and operations that we believe *can and should be implemented regardless of what happens with Yucca Mountain*. We have also not offered a judgment about the appropriate role of nuclear power in the nation's future energy supply mix.

These are all important questions that will engage policy makers and the public in the years ahead. However, none of them alters the urgent need to change and improve our strategy for managing the high-level wastes and spent fuel that already exist and will continue to accumulate so long as nuclear reactors operate in this country. That is the focus of the Commission's work and of the specific recommendations that follow.

Further Discussion of the BRC's Recommendations

Mr. Chairman, as we mentioned previously, there are eight key elements to our strategy that are essential to the future success of the nuclear waste management program in the United States. We will now discuss those in more detail.

1. A New Consent-Based Approach to Siting

Siting storage or disposal facilities has been the most consistent and most intractable challenge for the U.S. nuclear waste management program. Of course, the first requirement in siting any facility centers on the ability to demonstrate adequate protection of public health and safety and the environment. Beyond this threshold criterion, finding sites where all affected units of government, including the host state or tribe, regional and local authorities, and the host community, are willing to support or at least accept a facility has proved exceptionally difficult. The erosion of trust in the federal government's nuclear waste management program has only made this challenge more difficult. And whenever one or more units of government are opposed, the odds of success drop greatly. The crux of the challenge derives from a federal/state/tribal/local rights dilemma that is far from unique to the nuclear waste issue—no simple formula exists for resolving it. Experience in the United States and in other nations suggests that any attempt to force a top-down, federally mandated solution over the objections of a state or community—far from being more efficient—will take longer, cost more, and have lower odds of ultimate success.

By contrast, the approach we recommend is explicitly adaptive, staged, and consent-based. Based on a review of successful siting processes in the United States and abroad—including most notably the siting of a disposal facility for transuranic radioactive waste, the Waste Isolation Pilot Plant (WIPP) in New Mexico, and recent positive outcomes in Finland, Sweden, Spain and France—we believe this type of approach can provide the flexibility and sustain the public trust and confidence needed to see controversial facilities through to completion.

In practical terms, this means encouraging communities to volunteer to be considered to host a new nuclear waste management facility while also allowing for the waste management organization to approach communities that it believes can meet the siting requirements. Siting

processes for waste management facilities should include a flexible and substantial incentive program.

The approach we recommend also recognizes that successful siting decisions are most likely to result from a complex and perhaps extended set of negotiations between the implementing organization and potentially affected state, tribal, and local governments, and other entities. It would be desirable for these negotiations to result in a partnership agreement or some other form of legally enforceable agreement with the organization to ensure that commitments to and by host states, tribes, and communities are upheld. All affected levels of government must have, at a minimum, a meaningful consultative role in important decisions; additionally, both host states and tribes should retain—or where appropriate, be delegated—direct authority over aspects of regulation, permitting, and operations where oversight below the federal level can be exercised effectively and in a way that is helpful in protecting the interests and gaining the confidence of affected communities and citizens. At the same time, host state, tribal and local governments have responsibilities to work productively with the federal government to help advance the national interest.

In this context, any process that is prescribed in detail up front is unlikely to work. Transparency, flexibility, patience, responsiveness, and a heavy emphasis on consultation and cooperation will all be necessary—indeed, these are attributes that should apply not just to siting but to every aspect of program implementation.

This discussion raises another issue highlighted in numerous comments to the BRC: the question of how to define "consent." The Commission takes the view that this question ultimately has to be answered by a potential host jurisdiction, using whatever means and timing it sees fit. We believe that a good gauge of consent would be the willingness of the affected units of government – the host states, tribes, and local communities – to enter into legally binding agreements with the facility operator, where these agreements enable states, tribes, or communities to have confidence that they can protect the interests of their citizens.

All siting processes take time; however, an adaptive, staged approach may seem particularly slow and open-ended. This will be frustrating to stakeholders and to members of the public who are understandably anxious to know when they can expect to see results. The Commission shares this frustration—greater certainty and a quicker resolution would have been our preference also. Experience, however, leads us to conclude that there is no short-cut, and that any attempt to short-circuit the process will most likely lead to more delay. That said, we also believe that attention to process must not come at the expense of progress and we are sympathetic to the numerous comments we received asking us to include a more detailed and specific set of milestones in our final report. Obviously there is an inherent tension between

recommending an adaptive, consent-based process and setting out deadlines or progress requirements in advance. But we agree that it will be important—without imposing inflexible deadlines—to set reasonable performance goals and milestones for major phases of program development and implementation so that Congress can hold the waste management organization accountable and so that stakeholders and the public can have confidence the program is moving forward. Other countries have taken this approach, in several cases identifying target timeframes, rather than specific dates for completing stages in their process. For example the implementing organization might consider a range of, say, 15 to 20 years to accomplish site identification and characterization and to conduct the licensing process for a geologic repository. A notional timeframe for siting and developing a consolidated storage facility would presumably be shorter, perhaps on the order of 5 to 10 years.

2. A New Organization to Implement the Waste Management Program

The U.S. Department of Energy (DOE) and its predecessor agencies have had primary responsibility for implementing U.S. nuclear waste policy for more than 50 years. In that time, DOE has achieved some notable successes, as shown by the WIPP experience and recent improvements in waste cleanup performance at several DOE sites. The overall record of DOE and of the federal government as a whole, however, has not inspired widespread confidence or trust in our nation's nuclear waste management program. For this and other reasons, the Commission concludes that a new, single-purpose organization is needed to provide the stability, focus, and credibility needed to get the waste program back on track. We believe a congressionally chartered federal corporation offers the best model, but whatever the specific form of the new organization it must possess the attributes, independence, and resources to effectively carry out its mission.

The central task of the new organization would be to site, license, build, and operate facilities for the safe consolidated storage and final disposal of spent fuel and high-level nuclear waste at a reasonable cost and within a reasonable timeframe. In addition, the new organization would be responsible for arranging for the safe transport of waste and spent fuel to or between storage and disposal facilities, and for undertaking applied research, development, and demonstration (RD&D) activities directly relevant to its waste management mission (e.g., testing the long-term performance of fuel in dry casks and during subsequent transportation).

For the new organization to succeed, a substantial degree of implementing authority and assured access to funds must be paired with rigorous financial, technical, and regulatory oversight by Congress and the appropriate government agencies. We recommend that the organization be directed by a board nominated by the President, confirmed by the Senate, and selected to represent a range of expertise and perspectives. Independent scientific and

technical oversight of the nuclear waste management program is essential and should continue to be provided for out of nuclear waste fee payments. In addition, the presence of clearly independent, competent regulators is essential; we recommend the existing roles of the U.S. Environmental Protection Agency in establishing standards and the Nuclear Regulatory Commission (NRC) in licensing and regulating waste management facilities be preserved but that steps be taken to ensure ongoing cooperation and coordination between these agencies.

Late in our review we heard from several states that host DOE defense waste that they agree with the proposal to establish a new organization to manage civilian wastes, but believe the government can more effectively meet its commitments if responsibility for defense waste disposal remains with DOE. Others argued strongly that the current U.S. policy of comingling defense and civilian wastes should be retained. We are not in a position to comprehensively assess the implications of any actions that might affect DOE's compliance with its cleanup agreements, and we did not have the time or the resources necessary to thoroughly evaluate the many factors that must be considered by the Administration and Congress in making such a determination. The Commission therefore urges the Administration to launch an immediate review of the implications of leaving responsibility for disposal of defense waste and other DOE-owned waste with DOE versus moving it to a new waste management organization. The implementation of other BRC recommendations, however, should not wait for the commingling issue to be resolved. Congressional and Administration efforts to implement our recommendations can and should proceed as expeditiously as possible

3. Access to Utility Waste Disposal Fees for their Intended Purpose

The 1982 NWPA created a "polluter pays" funding mechanism to ensure that the full costs of disposing of commercial spent fuel would be paid by utilities (and their ratepayers), with no impact on taxpayers or the federal budget. Nuclear utilities are assessed a fee on every kilowatt-hour of nuclear-generated electricity as a *quid pro quo* payment in exchange for the federal government's contractual commitment to begin accepting commercial spent fuel beginning by January 31, 1998. Fee revenues go to the government's Nuclear Waste Fund, which was established for the sole purpose of covering the cost of disposing of civilian nuclear waste and ensuring that the waste program would not have to compete with other funding priorities. In contrast, costs for disposing of defense nuclear wastes are paid by taxpayers through appropriations from the Treasury.

The Fund does not work as intended. A series of Executive Branch and Congressional actions has made annual fee revenues (approximately $750 million per year) and the unspent $27 billion balance in the Fund effectively inaccessible to the waste program. Instead, the waste program must compete for federal funding each year and is therefore subject to exactly the

budget constraints and uncertainties that the Fund was created to avoid. This situation must be remedied to allow the program to succeed.

In the near term, the Administration should offer to amend DOE's standard contract with nuclear utilities so that utilities remit only the portion of the annual fee that is appropriated for waste management each year and place the rest in a trust account, held by a qualified third-party institution, to be available when needed. At the same time, the Office of Management and Budget should work with the Congressional budget committees and the Congressional Budget Office to change the budgetary treatment of annual fee receipts so that these receipts can directly offset appropriations for the waste program. These actions are urgent because they enable key subsequent actions the Commission recommends. Therefore, we urge the Administration to act promptly to implement these changes (preferably in Fiscal Year 2013). For the longer term, legislation is needed to transfer the unspent balance in the Fund to the new waste management organization so that it can carry out its civilian nuclear waste obligations independent of annual appropriations (but with Congressional oversight)—similar to the budgeting authority now given to the Tennessee Valley Authority and Bonneville Power Administration.

We recognize that these actions mean no longer counting nuclear waste fee receipts against the federal budget deficit and that the result will be a modest negative impact on annual budget calculations. The point here is that the federal government is contractually bound to use these funds to manage spent fuel. The bill will come due at some point. Meanwhile, failure to correct the funding problem does the federal budget no favors in a context where taxpayers remain liable for mounting damages, compensated through the Judgment Fund, for the federal government's continued inability to deliver on its waste management obligations. These liabilities are already in the billions of dollars and could increase by hundreds of millions of dollars annually for each additional year of delay.

4. Prompt Efforts to Develop a New Geologic Disposal Facility

Deep geologic disposal capacity is an essential component of a comprehensive nuclear waste management system for the simple reason that very long-term isolation from the environment is the *only* responsible way to manage nuclear materials with a low probability of re-use, including defense and commercial reprocessing wastes and many forms of spent fuel currently in government hands. The conclusion that disposal is needed and that deep geologic disposal is the scientifically preferred approach has been reached by every expert panel that has looked at the issue and by every other country that is pursuing a nuclear waste management program.

Some commenters have urged the prompt adoption of recycling of spent fuel as a response to the waste disposal challenge, as well as a means to extend fuel supply. *It is the Commission's*

view that it would be premature for the United States to commit, as a matter of policy, to "closing" the nuclear fuel cycle given the large uncertainties that exist about the merits and commercial viability of different fuel cycles and technology options. Future evaluations of potential alternative fuel cycles must account for linkages among all elements of the fuel cycle (including waste transportation, storage, and disposal) and for broader safety, security, and non-proliferation concerns. Moreover, all spent fuel reprocessing or recycle options generate waste streams that require a permanent disposal solution. In any event, we believe permanent disposal will very likely also be needed to safely manage at least some portion of the commercial spent fuel inventory even if a closed fuel cycle were adopted.

The Commission recognizes that current law establishes Yucca Mountain in Nevada as the site for the first U.S. repository for spent fuel and high-level waste, provided the license application submitted by DOE meets relevant requirements. The Blue Ribbon Commission was not chartered as a siting commission. Accordingly we have not evaluated Yucca Mountain or any other location as a potential site for the storage or disposal of spent nuclear fuel and high-level waste, nor have we taken a position on the Administration's request to withdraw the license application. We simply note that regardless what happens with Yucca Mountain, the U.S. inventory of spent nuclear fuel will soon exceed the amount that can be legally emplaced at this site until a second repository is in operation. So under current law, the United States will need to find a new disposal site even if Yucca Mountain goes forward. We believe the approach set forth here provides the best strategy for assuring continued progress, regardless of the fate of Yucca Mountain.

5. *Prompt Efforts to Develop One or More Consolidated Storage Facilities*

Safe and secure storage is another critical element of an integrated and flexible national waste management system. Fortunately, experience shows that storage—either at or away from the sites where the waste was generated—can be implemented safely and cost-effectively. Indeed, *a longer period of time in storage offers a number of benefits because it allows the spent fuel to cool while keeping options for future actions open.*

Developing consolidated storage capacity would allow the federal government to begin the orderly transfer of spent fuel from reactor sites to safe and secure centralized facilities independent of the schedule for operating a permanent repository. The arguments in favor of consolidated storage are strongest for "stranded" spent fuel from shutdown plant sites. Stranded fuel should be first in line for transfer to a consolidated facility so that these plant sites can be completely decommissioned and put to other beneficial uses. Looking beyond the issue of today's stranded fuel, the availability of consolidated storage will provide valuable flexibility in the nuclear waste management system that could achieve meaningful cost savings for both ratepayers and

taxpayers when a significant number of plants are shut down in the future, can provide emergency back-up storage in the event that spent fuel needs to be moved quickly from a reactor site, and would provide an excellent platform for ongoing R&D to better understand how the storage systems currently in use at both commercial and DOE sites perform over time.

For consolidated storage to be of greatest value to the waste management system, the current rigid legislative restriction that prevents a storage facility developed under the NWPA from operating significantly earlier than a repository should be eliminated. At the same time, efforts to develop consolidated storage must not hamper efforts to move forward with the development of disposal capacity. To allay the concerns of states and communities that a consolidated storage facility might become a *de facto* disposal site, a program to establish consolidated storage must be accompanied by a parallel disposal program that is effective, focused, and making discernible progress in the eyes of key stakeholders and the public. Progress on both fronts is needed and must be sought without further delay.

Even with timely development of consolidated storage facilities, a large quantity of spent fuel will remain at reactor sites for many decades before it can be accepted by the federal waste management program. Current at-reactor storage practices and safeguards are being scrutinized in light of the lessons that are emerging from Fukushima. In addition, the Commission recommends that the National Academy of Sciences (NAS) conduct a thorough assessment of lessons learned from Fukushima and their implications for conclusions reached in earlier NAS studies on the safety and security of current storage arrangements for spent nuclear fuel and high-level waste in the United States. This effort would complement investigations already underway by the NRC and other organizations. More broadly, it will also be vital to continue vigorous public and private research and regulatory oversight efforts in areas such as spent fuel and storage system degradation phenomena, vulnerability to sabotage and terrorism, full-scale cask testing, and others. As part of this process, it is appropriate for the NRC to examine the advantages and disadvantages of options such as "hardened" onsite storage that have been proposed to enhance security at storage sites.

6. *Early Preparation for the Eventual Large-Scale Transport of Spent Nuclear Fuel and High-Level Waste to Consolidated Storage and Disposal Facilities*

The current system of standards and regulations governing the transport of spent fuel and other nuclear materials appears to have functioned well, and the safety record for past shipments of these types of materials is excellent. But the current set of transport-related regulations will need to be updated to accommodate changes in fueling practices. Moreover, past performance does not guarantee that future transport operations will match the record to date, particularly as the logistics involved expand to accommodate a much larger number of

shipments. Past experiences in the United States and abroad, and extensive comments to the Commission, indicate that many people fear the transportation of nuclear materials. Thus greater transport demands are likely to raise new public concerns.

As with siting fixed facilities, planning for associated transportation needs has historically drawn intense interest. Transport operations typically also have the potential to affect a far larger number of communities. The Commission believes that state, tribal and local officials should be extensively involved in transportation planning and should be given the resources necessary to discharge their roles and obligations in this arena. Accordingly, DOE should (1) finalize procedures and regulations for providing technical assistance and funds for training to local governments and tribes pursuant to Section 180(c) of the NWPA and (2) begin to provide such funding, independent from progress on facility siting. While it would be premature to fully fund a technical assistance program before knowing with some certainty where the destination sites for spent fuel are going to be, substantial benefits can be gained from a modest early investment in planning for the early transport of spent fuel from shutdown reactor sites.

Planning and providing for adequate transportation capacity while simultaneously addressing related stakeholder concerns will take time and present logistical and technical challenges. Given that transportation represents a crucial link in the overall storage and disposal system, it will be important to allow substantial lead-time to assess and resolve transportation issues well in advance of when materials would be expected to actually begin shipping to a new facility. For many years, states have been working cooperatively with DOE to plan for shipments, often through agreements with regional groupings of states and in ways that involve radiological health, law enforcement, and emergency response personnel. As has been shown with the WIPP program and other significant waste shipping campaigns, planning, training and execution involves many different parties and takes time. In addition, specialized equipment may be required that will need to be designed, fabricated and tested before being placed into service. Historically, some programs have treated transportation planning as an afterthought. No successful programs have done so.

7. Support for Advances in Nuclear Energy Technology and for Workforce Development

Advances in nuclear energy technology have the potential to deliver an array of benefits across a wide range of energy policy goals. The Commission believes these benefits—in light of the environmental and energy security challenges the United States and the world will confront this century—justify sustained public- and private-sector support for RD&D on advanced reactor and fuel cycle technologies. In the near term, opportunities exist to improve the safety and performance of existing light-water reactors and spent fuel and high-level waste storage, transport, and disposal systems. Longer term, the possibility exists to advance "game-

changing" innovations that offer potentially large advantages over current technologies and systems.

The Commission believes the general direction of the current DOE research and development (R&D) program is appropriate, although we also urge DOE to take advantage of the Quadrennial Energy Review process to refine its nuclear R&D "roadmap." We are not making a specific recommendation concerning future DOE funding for nuclear energy RD&D; in light of the extraordinary fiscal pressures the federal government will confront in coming years, we believe that budget decisions must be made in the context of a broader discussion about priorities and funding for energy RD&D more generally.

One area where the Commission recommends increased effort involves ongoing work by the NRC to develop a regulatory framework for advanced nuclear energy systems. Such a framework can help guide the design of new systems and lower barriers to commercial investment by increasing confidence that new systems can be successfully licensed. Specifically, the Commission recommends that adequate federal funding be provided to the NRC to support a robust effort in this area. We also support the NRC's risk-informed, performance-based approach to developing regulations for advanced nuclear energy systems, including NRC's ongoing review of the current waste classification system (changes to the existing system may eventually require a change in law).

Another area where further investment is needed is nuclear workforce development. Specifically, the Commission recommends expanded federal, joint labor-management and university-based support for advanced science, technology, engineering, and mathematics training to develop the skilled workforce needed to support an effective waste management program as well as a viable domestic nuclear industry. At the same time, DOE and the nuclear energy industry should work to ensure that valuable existing capabilities and assets, including critical infrastructure and human expertise, are maintained. Finally, the jurisdictions of safety and health agencies should be clarified and aligned. New site-independent safety standards should be developed by the safety and health agencies responsible for protecting nuclear workers through a coordinated joint process that actively engages and solicits input from all relevant constituencies. Efforts to support uniform levels of safety and health in the nuclear industry should be undertaken with federal, industry, and joint labor–management leadership. Safety and health practices in the nuclear construction industry should provide a model for other activities in the nuclear industry.

8. *Active U.S. Leadership in International Efforts to Address Safety, Non-Proliferation and Security Concerns*

As more nations consider pursuing nuclear energy or expanding their nuclear programs, U.S. leadership is urgently needed on issues of safety, non-proliferation, and security/counter-terrorism. Many countries, especially those just embarking on commercial nuclear power development, have relatively small programs and may lack the regulatory and oversight resources available to countries with more established programs. International assistance may be required to ensure they do not create disproportionate safety, physical security, and proliferation risks. In many cases, mitigating these risks will depend less on technological interventions than on the ability to strengthen international institutions and safeguards while promoting multilateral cooperation and coordination. From the U.S. perspective, two further points are particularly important: First, with so many players in the international nuclear technology and policy arena, the United States will increasingly have to lead by engagement and by example. Second, the United States cannot exercise effective leadership on issues related to the back end of the nuclear fuel cycle so long as its own program is in disarray; effective domestic policies are needed to support America's international agenda.

The Fukushima accident has focused new attention on nuclear safety worldwide. Globally, some 60 new reactors are under construction and more than 60 countries that do not have nuclear power plants have expressed interest in acquiring them. These nations will have to operate their facilities safely and plan for safe storage and disposition of spent nuclear fuel. The United States should help launch a concerted international safety initiative—encompassing organizations like the International Atomic Energy Agency (IAEA) as well as regulators, vendors, operators, and technical support organizations—to assure the safe use of nuclear energy and the safe management of nuclear waste in all countries that pursue nuclear technology.

Nuclear weapons proliferation has been a central concern of U.S. nuclear policy from the earliest days of the nuclear era. These concerns are still prominent, especially where the deployment of uranium enrichment, reprocessing, and recycled fuel fabrication technology is being contemplated. As countries with relatively less nuclear experience acquire nuclear energy systems, the United States should work with the IAEA, nuclear power states, private industry, and others in the international community to ensure that all spent fuel remains under effective and transparent control and does not become "orphaned" anywhere in the world with inadequate safeguards and security.

Longer term, the United States should support the use of multi-national fuel-cycle facilities, under comprehensive IAEA safeguards, as a way to give more countries reliable access to the benefits of nuclear power while simultaneously reducing proliferation risks. U.S. sponsorship of

the recently-created IAEA global nuclear fuel bank is an important step toward establishing such access while reducing a driver for some states to engage in uranium enrichment. But more is needed. The U.S. government should propose that the IAEA lead a new initiative, with active U.S. participation, to explore the creation of one or more multi-national spent fuel storage or disposal facilities.

In addition, the United States should support the evolution of spent fuel "take-away" arrangements as a way to allow some countries, particularly those with relatively small national programs, to avoid the costly and politically difficult step of providing for spent fuel disposal on their soil and to reduce associated safety and security risks. An existing program to accept highly-enriched uranium fuel from research reactors abroad for storage in the United States has provided a demonstration—albeit a limited one—of the national security value of such arrangements. The capability to accept limited quantities of spent fuel from foreign commercial reactors could be similarly valuable from a national security perspective. As the United States moves forward with developing its own consolidated storage and disposal capacity, it should work with the IAEA and with existing and emerging nuclear nations to establish conditions under which one or more nations, including the United States, can offer to take foreign spent fuel for ultimate disposition.

The susceptibility of nuclear materials or facilities to intentional acts of theft or sabotage for terrorist purposes is a relatively newer concern but one that has received considerable attention since 9/11. The United States should continue to work with countries of the former Soviet Union and other nations through initiatives such as the Nunn-Lugar Cooperative Threat Reduction Program and the Global Initiative to Combat Nuclear Terrorism to prevent, detect, and respond to nuclear terrorism threats. Domestically, evolving terrorism threats and security risks must be closely monitored by the NRC, the Department of Homeland Security, and other responsible agencies to ensure that any additional security measures needed to counter those threats are identified and promptly implemented. The recent events at Fukushima have – as they should – prompted the NRC and the industry to re-examine the adequacy of "mitigative strategies" for coping with large-scale events (like an explosion or fire) or catastrophic system failures (like a sudden loss of power or cooling); as noted previously, we also recommend that Congress charter the National Academy of Sciences to assess lessons learned from Fukushima with respect to the storage of spent fuel.

Tying It Together

In conclusion, the problem of nuclear waste may be unique in the sense that there is wide agreement about the outlines of the solution. Simply put, we know what we have to do, we know we have to do it, and we even know how to do it. Experience in the United States and

abroad has shown that suitable sites for deep geologic repositories for nuclear waste can be identified and developed. The knowledge and experience we need are in hand and the necessary funds have been and are being collected. Rather the core difficulty remains what it has always been: finding a way to site these inherently controversial facilities and to conduct the waste management program in a manner that allows all stakeholders, but most especially host communities, states, and tribes, to conclude that their interests have been adequately protected and their well-being enhanced—not merely sacrificed or overridden by the interests of the country as a whole.

This is by no means a small difficulty, but we have witnessed other countries make significant progress with a flexible approach to siting that puts a high degree of emphasis on transparency, accountability, and meaningful consultation. Indeed, our friends in Spain have just succeeded in selecting a site for a consolidated storage facility by using the kind of consent-based process we recommend. Here at home, we have had more than a decade of successful operation of WIPP. And most recently, the Fukushima accident in Japan has reminded Americans that we have little physical capacity at present to do anything with spent nuclear fuel other than to leave it where it is. Against this backdrop, the conditions for progress are arguably more promising than they have been in some time. But we will only know if we start, which is what we urge the Administration and Congress to do, without further delay.

Thank you for having us here today, and we look forward to your questions.

Blue Ribbon Commission on America's Nuclear Future – Commissioners, Commission Staff,

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Blue Ribbon Commission on America's Nuclear Future – Full Commission, Subcommittee, and Regional Meetings

March 25 & 26, 2010 – Washington DC – Full Commission Meeting

May 25 & 26, 2010 – Washington, DC – Full Commission Meeting

July 7, 2010 – Washington, DC – Disposal Subcommittee Meeting

July 12 & 13, 2010 – Idaho Falls, ID – Reactor & Fuel Cycle Technologies Subcommittee Meeting

July 14 & 15, 2010 – Hanford Site/Kennewick, WA – Full Commission Meeting

August 10, 2010 – Maine Yankee Site/Wiscasset, ME – Transportation & Storage Subcommittee Meeting

August 19, 2010 – Washington, DC – Transportation & Storage Subcommittee Meeting

August 30 & 31, 2010 – Washington, DC – Reactor & Fuel Cycle Technologies Subcommittee Meeting

September 1, 2010 – Washington, DC – Disposal Subcommittee Meeting

September 21 & 22, 2010 – Washington, DC – Full Commission Meeting

September 23, 2010 – Washington, DC – Transportation & Storage Subcommittee Meeting

October 12, 2010 – Washington, DC – Reactor & Fuel Cycle Technologies Subcommittee Meeting

October 21 & 22, 2010 – Finland – Disposal Subcommittee Site Visits and Meetings

October 23-26 – Sweden – Disposal Subcommittee Site Visits and Meetings

November 2, 2010 – Chicago, IL – Transportation & Storage Subcommittee Meeting

November 4, 2010 – Washington, DC – Disposal Subcommittee Meeting

November 15 & 16, 2010 – Washington, DC – Full Commission Meeting

January 6 & 7, 2011 – Aiken, SC and Augusta, GA – Savannah River Site Visit and Meeting

January 26, 27 & 28, 2011 – Carlsbad and Albuquerque, NM – Waste Isolation Pilot Plant Site Visit and Meetings

February 1 & 2, 2011 – Washington, DC – Full Commission Meeting

February 3, 2011 – Washington, DC – Classified (Closed) Meeting

February 8-11, 2011 – Japan – Site Visits and Meetings

February 17 & 18, 2011 – Russia – Meetings

February 20, 21 & 22, 2011 – France – Site Visits and Meetings

May 13, 2011 – Washington, DC – Full Commission Meeting

June 21-28, 2011 – United Kingdom and France – Site Visits and Meetings

September 12, 2011 – Denver, CO – Regional Public Meeting

October 12, 2012 – Boston, MA – Regional Public Meeting

October 18, 2011 – Atlanta, GA – Regional Public Meeting

October 20, 2011 – Washington, DC – Regional Public Meeting

October 28, 2011 – Minneapolis, MN – Regional Public Meeting

December 2, 2011 – Washington, DC – Full Commission Meeting

Mr. SHIMKUS. I think it was very important. You both have earned the ability to speak for as long as you want, based upon your service to this country. So thank you. Now I would like to recognize myself for the first 5 minutes.

I did go through the report and the advisory committee charter and all the—who actually told the Commission not to consider Yucca Mountain? Was it a statement by any one individual or—

Mr. HAMILTON. We had a statement from Secretary Chu.

Mr. SHIMKUS. So it was Secretary Chu who said do not consider Yucca Mountain in the Blue Ribbon Commission report?

Mr. HAMILTON. I will quote him precisely. "What I don't want the committee to be doing is just spending time and saying by looking at past history was Yucca Mountain a good decision or a bad decision, and whether it can be used as a future repository." He followed that up by saying to us, "This is not a citing commission." And then he reiterated that in a letter to us.

Mr. SHIMKUS. Great, thank you. I have a lot of questions so I am going to try to be pretty brief. The Commission did not evaluate and take a position on the technical suitability of Yucca Mountain; is that correct?

Mr. HAMILTON. That is correct.

Mr. SHIMKUS. The Commission did not take a position regarding the request to withdraw the license application for Yucca Mountain; is that correct?

Mr. HAMILTON. That is correct.

Mr. SHIMKUS. The Commission did not evaluate the possibility of public acceptance of Yucca Mountain should the NRC complete and provide a positive safety evaluation; is that correct?

Mr. HAMILTON. That is correct.

Mr. SHIMKUS. I want to underscore this, because you address a lot on this consent-based approach, right. It is all through the report.

Mr. HAMILTON. Yes.

Mr. SHIMKUS. It is hard to get to a final consent-based approach when we are stopped from funding the final scientific report. Don't you think a final scientific report might help educate the locals and develop a consent-based approach?

I am not trying to be tricky, but having scientific—the final report on a suitability of a site, wouldn't that be helpful to develop a consent-based approach?

Mr. HAMILTON. Well, our—we have to be very clear here as I think we have been that we are not taking—have not taken a position on Yucca, did not study it, were not asked to study it.

Mr. SHIMKUS. But the question is——

Mr. HAMILTON. Yes, having said that, obviously evaluating that experience can teach us a lot.

Mr. SHIMKUS. Yes, but just generally, if there is a scientific report due on a site, should that be finished in helping develop a consent-based approach of whether that site—don't you think the local community would like to see the final scientific study?

Mr. HAMILTON. Well, I suspect the answer to that question carries a lot of weight with regard to Yucca, and it is impossible really to divorce the question from that context.

Mr. SHIMKUS. Always a politician, you can't get away from—I will just move on, you understand—is it true that the Commission's recommendations could be implemented with Yucca Mountain's development?

Mr. HAMILTON. Yes.

Mr. SCOWCROFT. Yes.

Mr. SHIMKUS. Nothing in this report forecloses Yucca Mountain as a potential suitable site, correct?

Mr. SCOWCROFT. Correct.

Mr. SHIMKUS. Now, let me go—up on the chart there, I want to talk about this debate that you had in this report on locality. When I read the report, it was like kissing your sister, you know, I mean, there is really not meat in some of these specific issues of how to solve some of these problems. So that is the State of Nevada. Hit the next slide. That is the Federal land. Hit the next slide. And that square is approximately the size in Finland of their disposal site. Now, based upon that, which in the local community in that square said, yes. Based upon that, who would be local?

Mr. SCOWCROFT. Well, that is a very good question.

Mr. SHIMKUS. One that I came up with myself. Very good.

Mr. SCOWCROFT. One of the problems is the definition of consent, and it is especially true in our Federal system. And while Secretary—Mr. Hamilton described the Spanish, the Finns and the Swedes as having solved this problem, they don't have exactly the same kind of jurisdictional issues that we have.

Mr. SHIMKUS. Let me go to finish this. My time is running out. So I would argue that the Federal Government is a local entity here, the Federal Government, we are the locals, we own the land.

Mr. SCOWCROFT. We own the land.

Mr. SHIMKUS. Then go to the next. I think that is Nye County. They support Yucca Mountain. We have a commissioner back here, I saw him, you probably know him, Gary Hollis, from Nye County. We have their report saying we support this.

Next slide, next slide, next. OK, and then the counties are popping up, their names Esmerelda, Mineral, keep going, keep going. OK, all these localities have endorsed the siting of Yucca Mountain, and I am sure they testified in front of you. There is a lot more, I will have time to go with the second panel. But I think it is safe to say that because one U.S. Senator doesn't want the site, that is not speaking for the locals, and I yield back the balance of my time.

I would like to recognize Mr. Green for 5 minutes.

Mr. GREEN. Thank you, Mr. Chairman, and we can spend a lot of time, and I think we will with the second panel on consent on the State and local community. I was out there and I met with all those County commissioners, a number of them and they are very supportive. It is a beautiful area but not a lot of people out there. I guess the people are in Las Vegas and Reno and Nevada. I guess from my experience when I was in Sweden and looked at Sweden had built a prototype of a deep facility, much more advanced even their prototype. And we asked the folks there, is this where ultimately—oh, no, this is our experimental facilities because that region and whatever they call them in Sweden stayed or local community would not have agreed to it if they thought it was a permanent site.

Now, maybe 20 years from now or whatever they may change that on the national government can make that, but consent is always tough, because that is why in the 1980s, I assume Congress just made the decision.

But let me get to some recommendations on your panel. And first of all, I want thank you for appearing before the committee and thank all the other commissioners for producing a really good report, I think. A couple issues I want to talk about. The report stated believes there is enough funding in the nuclear waste fund to take care of all the activities related to the siting, possibly two new waste disposal facilities not including Yucca Mountain, as well as one more interim facility.

Right now the nuclear waste fund contains about $27 billion, which seems like enough money, but once you include funding for a new independent organization, which I think might be what we need to move off dead center and all the other logistical details surrounding the siting, could we face a problem at that nuclear waste fund would not have enough funding? And how did you come up with the conclusion that the current stream or waste fund dollars recover all the costs associated with your recommendations?

Mr. HAMILTON. Well, we were very sensitive, of course, to the whole question of the impact on the deficit and the Federal spending issue. And by the very nature of these recommendations, precise cost estimates really are not possible. We think that the costs are something that can be managed within current spending streams, if you would, within the Department of Energy and perhaps other places.

In other words, the waste management recommendations can be implemented with existing revenue streams that are already dedicated for that purpose, as nearly as we can estimate. But we do not have precise estimates. We call, for example, as you know, and several of you have cited for a new organization, that is going to cost some money. We didn't try to make estimates of that. And there are other things here that would require expenditures. So we don't have exact information of it.

It is impossible to estimate the cost of the nuclear waste program without knowing the specific sites that are going to be developed. And of course, we don't that at this point.

Mr. GREEN. Well, now, Lee, I only have a minute and a half left, did the Commission discuss anything what would happen if we didn't have it? My next question, I want to get to the legislative changes, because that is something our committee has jurisdiction on. You recommend some of the legislative changes allowed to proceed to the independent organization, can you explain any of those, or if you have a summary of those, can you provide them to the committee? I know its in the report.

Mr. HAMILTON. Yes, we have a summary on the page, Roman numeral VIII of the executive summary. We have a chart on proposed legislative changes that I think can sum it up. What we say, broadly speaking, is there are six areas that you have to look at: A new facility siting process, consolidated interim storage facilities, broadening support the jurisdictions affected by transportation, establishing a new waste management organization, establishing access to dedicated funding, and promoting international engagements. So

there is a lot for the Congress to do here and the specifics are pretty well spelled out within the report.

Mr. GREEN. My last question is and you heard my opening statement about reprocessing. It doesn't really reduce the footprint very much, but it also creates, and again, I was in France in 1998, and then just last year again and saw their reprocessing site there in Normandy expand substantially. That is almost an interim storage facility for them. Did the Commission talk at all about reprocessing as an option?

Mr. SCOWCROFT. Well, we did look at reprocessing and we are in favor of research and development going forward, but no form of reprocessing eliminates the issue of waste. And so, you know, we use only about 1 percent of the energy value of the nuclear fuel we use now. Certainly we can do better I think, but we just recommend that R&D go forward to see if we cannot improve the whole nuclear fuel cycle to make it more effective, but whatever what happens, we don't see the possibility of eliminating the need for waste facilities.

Mr. GREEN. Thank you for letting me run over time, Mr. Chairman.

Mr. SHIMKUS. The gentleman's time has expired. The Chair recognizes the chairman of the Energy and Power Subcommittee, Mr. Whitfield, for 5 minutes.

Mr. WHITFIELD. Thank you very much. I also want to thank you all for appearing here today, and also thank you for the hard work that you have put forward in coming up with some suggestions for the U.S. Congress. I must say to you, and certainly none of this is your fault, but I was reading the testimony of Mr. Schatz, who is the President Citizens Against Government Waste, and in his testimony, he says the Yucca Mountain project owes its ultimate demise to years of delays, manipulation and obstructionism by Senate majority leader Harry Reid, and the exigencies of election-year politics.

I for one—I am not really going to have much of a question, but I think the American people would be in an uproar of rage if they knew all the facts surrounding what has happened since 1983 when the Nuclear Waste Policy Act was signed by President Reagan. In 1987, DOE conducted studies of nine potential repository sites. Congress selected Yucca Mountain soon after that.

In 2002, following extensive evaluation of the site by DOE in its National Laboratories, the Secretary of Energy determined Yucca Mountain was suitable for repository development and recommended that the President approve the site. The President did approve the site, the Congress approved the site, and June 3rd, 2008, after additional scientific and engineering studies on development and design, DOE submitted a license application to the Nuclear Regulatory Commission seeking construction authority for the repository. The NRC docketed the license application in September 2008 and directed the body to conduct a review within 4 years looking at all of this in preparation to issue a license to construct.

And before that 4 years was up, Secretary Chu filed a motion within NRC's construction authorization board to withdraw the license application, and then the board denied the DOE's motion to

withdraw the application. And then Chairman Jaczko delayed and delayed and so the whole thing has fallen apart.

And Congressman Hamilton, you made the comment, this is a serious failure. I think it is one of the most significant failures of the American policy on an energy issue ever. You also said that it damaged the American standing in the world and I agree with that completely. And then when you look on top of that, that we spent $15 billion on this site, the Department of Justice spent $188 million in legal fees when some of the 104 nuclear power plants filed the lawsuits because the government could not meet its contractual obligation to take possession of the material, and now DOE is saying well, the ultimate liability legally may be 20 billion, but some of the people in the energy field, the nuclear energy field say the ultimate liability may be 50 billion.

So I think the American people have every right to be totally upset and irate about what has happened in this instance which clearly shows pure politics by the President, by the Secretary of Energy by Mr. Jaczko, and by Senator Harry Reid.

And I hope, I agree with Chairman Shimkus, I hope, since you all were not asked to look at Yucca Mountain or render any opinion on Yucca Mountain, I hope that there is some way we can continue at Yucca Mountain myself, because it would be a vast waste of human resources, financial resources if we cannot do it. Having said that, I just want to thank you all for this report to the Secretary of Energy, it is quite comprehensive, but I, for one, feel it is a travesty that we find ourselves in this situation today and I yield back my 5 seconds.

Mr. SHIMKUS. The Chair appreciates the gentleman's question. And now I would like to recognize my friend Congressman Capps from California for 5 minutes.

Mrs. CAPPS. Thank you, Mr. Chairman, and I appreciate very much both of you being here today and your testimony, and also the work of the Commission, the work you have done to investigate these issues which are particularly relevant to my State of California, given the logistical challenges we face in the storage and transport of spent fuel, as well as more pressing seismic concerns, which really have yet to be fully addressed.

As you know, three of California's civilian power reactors are located directly on the Pacific Rim: Humboldt Bay, San Onofre, and in my Congressional district, Diablo Canyon. At present, Diablo Canyon and San Onofre, both of which reside in highly active seismic zones, are scheduled for decommissioning between 2022 and 2025. And both are currently storing high-level radioactive waste on the site, both in pools as well as dry cask. New seismic unknowns are also emerging, such as the discovery in 2008 of the Shoreline fault less than a mile from the Diablo Canyon spent fuel storage casks. I would note that the current seismic analysis is still incomplete on that fault system.

Further, the NRC acknowledges the special seismic circumstances of California's nuclear reactors in its draft generic EIS for license renewal of nuclear plants. I know that you agree that placing radioactive waste in the presence of seismic forces is an issue we must treat with utmost care. So before I get to some questions on reprocessing, which I would like to do, I would want to ask

you to share with us any general comments on the topic of storing spent fuel in dry casks as opposed to pools in seismically-active sites. For example, over the past couple of years the Commission has been active, what did you hear or learn about this issue if you would share, please?

Mr. SCOWCROFT. We have looked at that issue, and we are examining it further in the light of the Fukushima——

Mrs. CAPPS. Yes.

Mr. SCOWCROFT [continuing]. Which could be very valuable in analyzing some—it is not clear for example on the Fukushima how much of the problem came from the earthquake and how much from the tsunami, and you don't have the tsunami problems that Japan has in California.

Mrs. CAPPS. No.

Mr. SCOWCROFT. That is—there has been research under dry cask and it is very positive, but for the first 5 years after the fuel is removed, it needs to be in wet storage, after that it can be put in dry storage, and one of the things we would like to see is the temporary storage places to evaluate what happens under longer conditions of storage and security and earthquakes and so on, to that. But the reports that we got were that dry storage is a very promising way to go.

Mrs. CAPPS. Thank you.

Mr. HAMILTON. Congresswoman Capps, you probably saw the article in The Wall Street Journal this morning about you Nuclear Regulatory Commission's actions with regard to earthquake damage in present nuclear reactors in this country, they are obviously worried about it and they are thinking of further requirements, apparently further studies. Fukushima happened as we were in process, and obviously it turned our thoughts as it did all persons interested in nuclear power to the question of safety. What we ended up recommending, because there is so many complications here was that the National Academy of Sciences conduct a thorough review of the lessons learned from Fukushima, I think they are going to do that, it may already be underway. There are others that can speak to that——

On the safety and security of these current storage arrangements, we simply didn't have the technical expertise or the time, frankly, to get into that in great detail.

Mrs. CAPPS. Thank you. Mr. Chairman, I know this is going to go over a little bit, but I would like to pose my question on reprocessing options, and if there is no time to answer verbally they can get back to me.

And just to the point of your saying there hasn't been time currently and more studies need to be done, one concern that many of my constituents have is over the relicensing process while these needs for further study continue, which poses a challenge because the licensing process is under way, at least in Diablo Canyon. But I am also very concerned about the reprocessing situation in light of all these with the earthquake fault possibilities. And my understanding is that reprocessing options produce radioactive streams, waste streams, that would need to be disposed of, is that correct?

Mr. SCOWCROFT. Yes, that is correct.

Mrs. CAPPS. So——

Mr. SCOWCROFT. No kind of reprocessing at present that we know can eliminate the need for waste disposal.

Mrs. CAPPS. And does that underscore your statement to a previous question that this is not going to eliminate the need for a permanent geologic repository?

Mr. HAMILTON. That is correct. It is simply premature to make a judgment now based on the technical information that is available as to whether or not you proceed with recycling and reprocessing, so-called closing the nuclear fuel cycle.

Mrs. CAPPS. Would you be willing to estimate how much time and money it would take to redevelop and commercialize a processing technology that could fundamentally alter the waste management challenge we face? Do you see what posing those two challenges sort of simultaneously to—this is all within a time frame. What kind of resources and time would it take to do this?

Mr. HAMILTON. I just don't think we are competent to answer that question. Listen, that is the reason we recommend going forward with more research and development here. There are so many open-ended questions that need to be resolved, and that is one of them.

Mr. SHIMKUS. The gentlelady's time is expired.

In part of the report you have spent nuclear fuel, but you also have nuclear waste. And they do talk a lot about the Department of Defense waste in Hanford and all that stuff that was designed to go to Yucca Mountain, too. So there is other waste than just spent nuclear fuel that is to go to these depositories?

Mr. HAMILTON. Yes.

Mr. SHIMKUS. Now I would like to recognize Congressman Barton for 5 minutes.

Mr. BARTON. Thank you, Chairman. We have two hearings going on. We have the FDA Commissioner downstairs in the Health Subcommittee, so that is why some of us are yo-yoing back and forth. I want to pick your two gentlemen's brains on this consent-based approach that you talk about in your recommendations. Is there a technical evaluation of sites before you go through the consent-based process, or could anybody—just take an extreme case, if New York City wanted to apply, could they apply without any technical evaluation of their site at all?

Mr. SCOWCROFT. I think the notion is that there would, first of all, be a technical evaluation of what general areas are suitable so that we didn't go down this consent process with something that technologically was not accurate.

Mr. BARTON. So you would put out some sort of a technical requirement list and if you felt like you met the technical requirements and got approval based on technical merit, whatever that was, then there would kick in this consent-based process?

Mr. SCOWCROFT. Right. That is basically it. Although even that could be iterative. A community could come up and say we want to have a site, and then a quick evaluation could show that the terrain is not suitable.

Mr. HAMILTON. We recommend that the EPA develop generic disposal standards and supporting regulatory requirements. Very early in the siting process that has to be done.

Mr. BARTON. You are recommending the EPA do it——

Mr. HAMILTON. That is right.

Mr. BARTON [continuing]. And not NRC? You just set your program back 10 years.

Mr. HAMILTON. I think under current law EPA would have that responsibility. I stand to be corrected on that. That is my understanding of that. But anyway, the Federal Government should set the standards, whether it is EPA or DOE or somebody else.

Look, this consent-based process, I don't want to give the impression we think it is easy. It is a very complex process. You can't sit down and spell out in detail exactly what has to happen. This is going to be a matter of negotiations between the parties. There has to be flexibility, transparency, patience, consultation, all of these things in order to make it work. In practical terms what I think you are talking about here is encouraging communities to volunteer if they want some of these sites, and clearly some of them do. There are a lot of jobs created when you put these sites in place. And it would also involve the entity that has the responsibility for organizing this system of what you do with nuclear waste. They may want to approach a community and provide incentives for that community to put forward a proposal. You can't spell out how all that is going to go. It is going to be a very elaborate process, just as was followed in the New Mexico case where we have successfully sited a waste facility.

Mr. BARTON. Well, I have a question here that the staff has provided that I want to ask. While your group has been conducting your study, your committee, the Department of Energy has been dismantling the waste disposal office in DOE. How do you go forward given what the Department of Energy has done in their nuclear waste office cutback and their abandonment, at least at the secretarial level, of the Yucca project?

Mr. SCOWCROFT. Well, we recommend creating a new entity, a Federal corporation, if you will, to take over those responsibilities for siting construction.

Mr. BARTON. Do you fund it with the funds that are being collected now? Is that correct?

Mr. SCOWCROFT. Yes.

Mr. HAMILTON. But there is an important point here. I don't know how long it will take to create a new organization. You would know.

Mr. BARTON. Longer than you think.

Mr. HAMILTON. I suspect you are right. You are at least talking a year, maybe 2 years, maybe more. It is going to take some time. Now, we don't want everything to come to a dead stop while we are sitting around waiting for a new organization to be built. And the DOE is going to have to move forward with a number of the recommendations, I think, and begin a lot of the process that we identify in the report with regard to siting and with regard to transportation and all the rest of it so that we can keep this process moving. We don't want a dead stop here for 2 or 3 years while we wait to develop an organization.

Mr. BARTON. My time is expired. Mr. Chairman, I have one more question. Do you gentlemen and the other commissioners of your Blue Ribbon Commission expect the Congress to act legislatively on

your recommendations in this Congress? In other words, put a bill on the President's desk in the next 10 months?

Mr. HAMILTON. We don't anticipate that. We would be delighted if you did it, but we recognize the realities of it. Look, we recommend——

Mr. BARTON. You should say you do expect it.

Mr. HAMILTON. We recommend a new organization, but we recommend it only in very general terms. And the Congress would have to fill in a lot of the details on that. So it is going to take you time, and we would want you to take time to look at that. Do I personally expect that you would have it done in 2012? The answer is no.

Mr. SCOWCROFT. But it is one of our priority recommendations.

Mr. BARTON. It is an honest answer. Thank you, Mr. Chairman.

Mr. SHIMKUS. The gentleman's time is expired. The Chair recognizes the gentlewoman from California, Ms. Matsui, for 5 minutes.

Ms. MATSUI. Thank you, Mr. Chairman. And I want to thank both of you for being here today. Thank you for your service. Both of you have been called upon many times to deal with challenging issues, and this is certainly the latest of them. Commercial nuclear power's future I think depends a lot on what we are talking about today, what we do at the back end, particularly in light of Fukushima, which occurred almost a year ago, and that really brought to fore some of the problems inherent in nuclear power. And I am very concerned because I believe unless we take care of this back end we are going to have difficulties moving forward, and I don't want to wait for another Fukushima again.

But at any rate, what I would like to kind of delve into, I really looked at your consent-based siting and I think that is a good way to go forward with. I think that is probably something we would have to really look at in a positive manner. I want to kind of drill down a little bit more because you mentioned that there are nine commercial shutdown nuclear power plant sites in the U.S. One of them is in my district, the Rancho Seco power plant, which is owned by my local utility, the Seco Municipal Utility District, which is a wonderful utility, one of the top utilities in the country. Now, the spent fuel is still stored at this site, so the question of how we move forward to find a safe place to dispose of this spent nuclear fuel is important to my district and to my constituents.

Now, as you report, sites at all of these places the spent fuel is monitored and well guarded, and they are, and is not thought to present immediate safety or security concerns. But the presence of this spent fuel at these sites is costly and really prevents the use of those sites for more economically productive uses that would benefit the communities.

So my question is, being very parochial about this, but I have to be because I think it is an example of what lies ahead, I would like to know whether the Commission regards a recommendation of taking the stranded fuel from shutdown reactors first as a must-do task regardless of the ultimate decisions that are made on permanent disposal and reprocessing.

Mr. SCOWCROFT. I think the short answer is yes.

Ms. MATSUI. OK. And you also, too, Mr. Hamilton.

Mr. HAMILTON. Yes. We think the strongest case for consolidated storage facilities can be made with regard to the so-called stranded fuel. But we also think that that consolidated storage facility is necessary for a variety of reasons, safety is a big one, but it has advantages of flexibility, it creates a backup storage capability, it is a very excellent platform for research and development. There are a lot of reasons why it is important to move this spent fuel from these sites where it now is to consolidated storage. That is an important one, stranded fuel.

Ms. MATSUI. All right. That is great to know. On this consent-based, on the siting aspect, we are also having to look at the transport related activities, too. I would imagine obviously where the sites are located would obviously sort of be a determinant to a certain degree what kind of transport activities would have to occur.

Do you foresee going through the same process with the transport related activities, and many communities would be along the way on the transport, transportation aspect, would you look at this being more of a consent-based way of looking at this as far as the transportation aspect of it also?

Mr. HAMILTON. Well, in our original draft report we did not address the question fully of transportation. In the final report because of a lot of feedback we had on the draft report we elaborated on transportation. We think it is a very big large issue. The record of transporting spent fuel in this country is very good. I don't think there has ever been a really serious accident. However, if you create consolidated storage facilities, several of them around the country, two or three, you are obviously going to increase the amount of transportation necessary to get to those storage facilities.

Ms. MATSUI. Right.

Mr. HAMILTON. All of us who have represented constituents know that they are uneasy about transportation of nuclear waste to the point that many communities are very—many people are very fearful of it. So I think an enormous amount of work has to be done to educate people about the safety of the process. A lot of planning has to be done, a lot of preparation has to be done, before you get to the point of major transportation of this fuel. We have really got a psychological hurdle to get over, I believe.

Ms. MATSUI. So in essence then, though, the siting and the transportation will have to be considered at the same time. There might be some wonderful sites, but the transportation aspects of it might be negative.

Mr. HAMILTON. Absolutely, yes, indeed. It is a very important part of our recommendations. If you cannot assure people that you can transport this stuff safely you are going to lose the battle.

Ms. MATSUI. Thank you very much.

Mr. SHIMKUS. The gentlelady's time is expired. I would just add, too, I think part of your report talked about the fund money going to developing and build out transportation systems, which is also I think a very valuable part of what you have done.

Now the Chair recognizes the gentleman from Louisiana, Mr. Cassidy, for 5 minutes.

Mr. CASSIDY. Hi, gentlemen. I am privileged to be in front of the two of you. I am struck in your report that you are even pessimistic about the ability of a closed nuclear fuel cycle to make a difference

right now, and you mention that there are concerns about the merits in commercial viability. You know more about this than I, which is why I am asking the questions and you are answering. But don't I know that European countries and perhaps Japan have already implemented closed fuel cycles and that in turn reduces waste by a quarter.

Now, first I will—that said, why would you—but your statement is that you are concerned about the commercial and scientific merits. So knowing that it is being done but knowing that you have this concern, how do you reconcile the two?

Mr. SCOWCROFT. Well, I would say basically the notion is that recycling is done for a variety of reasons. And in talking with the experts on it no one was able to say that reprocessing in order to reduce the amount of waste at the present time was economically practical.

Mr. CASSIDY. Now, I have read something by the CEO of AREVA, the French concern that does nuclear, they claim that now they reduce waste down to a quarter of what the waste would be with their reprocessing. Now, is that hyperbole or is that rooted in fact?

Mr. HAMILTON. Well, what came through to us I think was that, in listening to the experts, and I think neither the General nor I qualify as experts here, is that there are just enormous uncertainties that exist about the merits and the commercial viability of different fuel cycles and the various options you would have, technological options. Given that fact, we didn't try to make a judgment there. We really weren't qualified to do that I think.

Is reprocessing-recycling a possibility in the future? Of course it is. And you are exactly right, several countries are using it and are reducing, not eliminating, nuclear waste. But I don't think our nuclear community, however defined, is quite ready to say this is the future.

Mr. CASSIDY. That is also what I don't understand, Mr. Hamilton. Is it because of previous decisions made by, say, President Carter that we have not committed to reprocessing, or is there actually a technical barrier that our guys cannot embrace? I hate to think the French can do better engineering than we.

Mr. HAMILTON. I do not know the answer as to why we are where we are with regard to recycling. I think I am correct in saying that, and maybe the panel that follows us will be better qualified to answer that question, I think I am correct in saying that the nuclear community at this point is not ready to say that this is the best way to proceed reprocessing. Other options have to be explored.

Mr. SCOWCROFT. I think that is correct. And most countries who recycle, like France, don't do it to save money. And recycling changes the nature of the waste stream. It also isolates certain materials like plutonium which then become a great security problem.

Mr. CASSIDY. Now, let me ask you, if—it does seem though if we are going to commit, as the President has committed, to building some new nuclear power plants, that one, it would be a logical time if we do have that technology to integrate the two. But secondly, if you have the potential to decrease your waste down to a fourth of what it would be, is it possible that we could use this fund set up to manage the waste to partly fund whatever Federal subsidies

would be required, bond guarantees, et cetera, for the development, assuming that we could work out the issues of security for plutonium, et cetera?

Mr. SCOWCROFT. Well, to be honest, we didn't get into that much detail about the allocation of funds. But we do recommend that recycling options as well as research on new reactor design continue, absolutely, without identifying the source.

Mr. HAMILTON. I think the 1982 act makes it clear with this polluter-pays concept behind it, that that is to be the funding mechanism to ensure that all costs of disposing of commercial fuel will be paid.

Mr. CASSIDY. So if there is an alternative mechanism that in the initial steps of disposal would decrease the volume significantly, theoretically at least, that would be within the kind of intent of the law?

Mr. HAMILTON. That would be my understanding of the law. I don't have the language of the law in front of me, but that would be my understanding.

Mr. CASSIDY. Thank you both. I yield back.

Mr. SHIMKUS. The gentleman's time is expired. The Chair now recognizes the gentleman from North Carolina, Mr. Butterfield.

Mr. BUTTERFIELD. Thank you. Let me join Dr. Cassidy and others for their extraordinary service to our country. Thank you very much for coming back and thank you for your willingness to tackle this incredibly important issue. I also want to thank the other members of the Commission. All of you have worked so hard.

As many of you know, I reside and represent a good portion of the great State of North Carolina. My State has a robust nuclear portfolio with nearly 30 percent of our electricity provided at relatively low cost by nuclear energy. However, the issue of waste disposal has been a concern, to put it mildly, for many years. Even before I came to Congress I was concerned about this, if for no other reason than it is expensive. North Carolinians don't like to lose $900 million of their money to what some people would call a worthless fund. Therefore, I want to see this body and the regulators take steps to move beyond the tired, unsuccessful battles of the past to something productive and with real milestones. That said, I have several questions about the report and hope that you can help me clarify some of this.

I am intrigued by the idea of the consent-based approach to siting a facility. However, I am a little doubtful about it. My question is, what case studies, case studies, did the Commission review in consent-based siting that have worked in the past, and what lessons might be gleaned from those experiences?

Either one of you may answer that.

Mr. HAMILTON. Well, the successful example in this country is the New Mexico plant, WIPP. One of the members of our Commission was Senator Domenici, who had a lot to do with that and of course could speak to it in great detail. But we consider that an example of consent-based siting. Several of the other countries, Sweden, Finland, Spain, have basically followed a consent-based process that has been successful.

Mr. BUTTERFIELD. General, anything you could add to that?

Mr. SCOWCROFT. No.

Mr. BUTTERFIELD. Is it unlikely that a community, and one of my colleagues made reference to New York City, that might be an extreme example, but is it unlikely that a community might have 100 percent support for such a site? I think that is probably unlikely. How does the Commission think that we might measure the whole notion of consent?

Mr. SCOWCROFT. That is one of the ambiguities in the term "consent-based," and you all have a lot of experience in how you determine consent. We think it has to be an iterative process. The chairman pointed out the differences between Nevada counties and Nevada State in terms of their attitude toward Yucca. So how do you determine consent? We have a section which discusses it in considerable length, but it is an imprecise process and we say it needs to be iterative.

Mr. HAMILTON. At the end of the day the parties have to reach an agreement; that is, consent. And so if you want a test as to whether or not you can get consent, the test is can the parties reach an agreement voluntarily amongst themselves, the parties being this new organization, local, State, tribal communities. So that is the key. But as I tried to suggest, this process is going to be complex, it is not something you are going to be able to predict ahead of time. The parties are going to have to work it out. But we think it has to have the characteristics we have spelled out in the report. It has to be adaptive, it has to be flexible, transparent, there has to be a lot of consultation involved, and there has to be a lot of give and take back and forth. But the test of consent will be can you reach an agreement.

Mr. BUTTERFIELD. But you certainly mean more than 50 percent?

Mr. HAMILTON. What is that?

Mr. BUTTERFIELD. You simply mean more than 50 percent or a simple majority of the affected?

Mr. HAMILTON. I would think so. You are talking about a lot of different bodies here. You are talking about tribal governments, you are talking about State governments, local governments, county governments, city governments, there are all kinds of people, Federal Government, that can get into the act here and will because there is a lot at stake. And we don't suggest that process is going to come smoothly; it is going to take a lot of work and a lot of skill to negotiate these agreements.

Mr. BUTTERFIELD. Thank you, gentlemen. You have been very kind. I yield back.

Mr. SHIMKUS. The gentleman's time is expired. I now recognize the gentleman from New Hampshire, Mr. Bass, for 5 minutes.

Mr. BASS. Thank you, Mr. Chairman. And I thank you gentlemen for being here today. Thanks to the wonders of modern communication or the Internet, I would like to read you a brief paragraph from the Nashwood Telegraph, Monday, February 17, 1986. I was a sophomore State legislator at the time. It says, not in my backyard you won't. Nobody wants a nuclear waste disposal site next door. Nobody wants a nuclear waste disposal site in their neighborhood. Nobody wants a nuclear waste disposal site in their town. Nobody wants a nuclear waste disposal site in their area. Nobody wants a nuclear waste site in their State. OK, that takes care of the United States. And then it goes on to discuss the fact that

Hillsborough, New Hampshire, which is about 15 miles from my home, is not the right place to locate what is now Yucca Mountain.

Having qualified myself there, I say to you that you have in your testimony, quote, that we need an explicitly adaptive, staged and consent-based process. And I know you have addressed that question to Mr. Butterfield most recently and understand the problems associated with that. It is my view that 27 years—1986—27, is that right, 26, 27 years later we are where we are today, and it would be a shame if we had to go back to 1986 again at the cost—you know, the torture that we would go through as a Nation to get to where we were in 1986, it would hardly be worth the cost, you know the benefit for that.

My question for you gentlemen is do you have recommendations in your report as to what the DOE should do now? I understand that this report process, and so forth, has cost $5 million or $4 million. Do you have any specific recommendations to the Department of Energy for the short term, for short-term action?

Mr. SCOWCROFT. Well, if I could make a comment on your general notion. What we determined in our research is that the approach we use, which is a top-down approach, you do it, hasn't worked. And in New Mexico with the WIPP plant and in Sweden and in Finland and approaching in Canada, the approach of consent, come to an agreement on it, show the advantages, make it worthwhile, is showing promise, and that is why we are recommending that approach to it.

Mr. BASS. But I think you also recognize the fact that these nations have different governmental structures and cultures, and so forth, that make it easier for that.

Mr. SCOWCROFT. No question about that.

Mr. BASS. And I can tell you from personal experience that this is 1986. By 19—let's see, where are we in the presidential cycle? We are the first in the Nation primary. Every single candidate that came to New Hampshire had to vow on a Bible that they would never support a nuclear waste site in New Hampshire, otherwise they wouldn't get a single vote. I am just giving you the historical context here. That is the way our system is and that is how it works.

Mr. HAMILTON. We spell out in the 13th chapter of the report the actions that the DOE needs to take right now and in the future. I can read that to you but I don't think it is necessary to do it. We gave a lot of thought to your question as to what do you do now and what does the DOE have to do, what does the Congress have to do, and we tried to spell that out in one of the chapters of the report. That is not, incidentally, in the executive summary.

Mr. BASS. Thank you. I would conclude by saying that I was taken by Chairman Shimkus' slide showing the level of consent, if you will, that exists today in the region. Knowing what this country has gone through to get where it is today not to consider this site and move forward on it I think is a terrible mistake. And I yield back.

Mr. SHIMKUS. The gentleman yields back his time. Just for clarification to people who are watching us here, the rules of the committee say that if you are a member of a subcommittee then you get to ask questions first. We are joined by Mr. Inslee. He is going

to patiently wait until his time to come. So I would now recognize Mrs. McMorris Rodgers. Are you ready?

Mrs. MCMORRIS RODGERS. No.

Mr. SHIMKUS. Then I will turn to Mr. Harper for 5 minutes.

Mr. HARPER. Thank you, Mr. Chairman. As I have listened to your testimony in going through this process, you know, and I guess your Commission work was what, about a 2-year——

Mr. SCOWCROFT. Two years.

Mr. HARPER. Two years. And aren't you glad it is over?

Mr. SCOWCROFT. Yes.

Mr. HARPER. But we certainly thank you for investing that amount of time in what is a very emotional subject. Of course I have to say the idea of forming anything new up here is anything less than inspiring. And so to think about forming some type of new agency or organization I am not sure that we can endure perhaps another dysfunctional group, but perhaps this is where you have landed.

I would like to just read to you something that was put out by, that was said by the Nuclear Energy Institute, Edison Electric Institute, American Public Power Association, National Rural Electric Cooperative Association, the National Association of Regulatory Utility Commissioners, and the Nuclear Waste Strategy Coalition, what they said last week about Yucca Mountain. We continue to believe that the Nuclear Regulatory Commission's review of the DOE's license application for the proposed Yucca Mountain in Nevada repository should be completed to determine whether it is a suitable site. You know, your report says that we need a geologic repository.

Do you agree or disagree with those groups that we ought to take advantage of these billions of dollars that have been spent so far on Yucca Mountain and find out if it is indeed a suitable or unsuitable repository.

Mr. HAMILTON. We——

Mr. HARPER. Do you want me to just move to the next question?

Mr. HAMILTON. Look, a commission was formed. We operated under a mandate and under rules, we followed those rules, and the rules were we were not going to get into Yucca.

Mr. HARPER. And certainly—but your duties are over, so I am asking the question. We have the beautiful report right here. So the question is should we with all the money, the billions of dollars that have been spent, should we not at least—does it not make sense to find out if it is indeed suitable or not?

Mr. HAMILTON. Let me respond this way, and this is not really a direct answer to your question, but I think it is a fair response. There has been a feeling here for 30 years or more that once the next election comes the results of that election will be so decisive that Yucca Mountain will be resolved one way or the other. It hasn't happened. It has not happened. Now, it may happen the next election. I don't think it is likely, but it could happen. And that is a possibility.

Our view, however, is that we have now had 30, 40 years experience, and as a country we have not been able to reach a solution to the problem. You can blame whomever you want to. I suspect there is plenty of blame to go along, and we have heard some spe-

cific names just today. But the fact is that the process we are now following has not worked for whatever reason, and it continues to roll up huge costs for the American taxpayer. Liabilities explode into the future, and there are all kinds of damages to the American national interest.

OK. We have to find a way forward. We have got to find a way forward to solve this problem. It could be the next election will solve it. I don't think it will, but it could be. It hasn't in the past. So we are operating on the assumption and the Commission that we had to try a new way forward and that is what we did.

Mr. HARPER. You put a lot of emphasis on the consent-based process——

Mr. HAMILTON. Yes.

Mr. HARPER [continuing]. On how to do, how someone should move forward on this. But it appears, certainly looking at the map that the chairman pulled up of local consent that is there, it met what appears to be that criteria, but yet someone else was able to intervene, whether that is the Senate majority leader or someone else. How do we get to the point of where we can actually make a decision on this? And I have to say Yucca Mountain has met that criteria yet it has been rejected. So my confidence level is not real strong, and my time is up, but it appears to me that we should complete this licensing process, get back on track and let's find out if indeed it is a suitable process.

I thank you both for your time. I yield back, Mr. Chairman.

Mr. SHIMKUS. The gentleman yields back his time. The Chair now recognizes the gentleman from Colorado, Mr. Gardner, for 5 minutes.

Mr. GARDNER. I thank the chairman for the time. And thank you to the panel for being here and sharing with us your work, and certainly appreciate the work that you did. A couple of questions, and it has been touched on here a couple of times today already, and so I just want to maybe go into them a little bit further. So when you are looking for the most cost effective approach for new strategies that you discussed in the report, did you compare that to the time and cost to continue work to gain regulatory and public acceptance of Yucca Mountain?

Mr. SCOWCROFT. No, we did not because we did not consider Yucca Mountain or any other site. We discussed a process. And going forward theoretically if our approach is accepted Yucca Mountain, Nevada can come forward and be evaluated on a consent basis like everybody else.

Mr. GARDNER. But obviously the money we have already put into Yucca Mountain is significant?

Mr. SCOWCROFT. Oh, no question about that, no question about that.

Mr. GARDNER. Your testimony states that finding sites where all affected units of government, including the host State or tribe, regional and local authorities and host community, are willing to support or at least accept a facility has proved exceptionally difficult. That is a quote from the report. So how do we ensure that a unit of government remains supportive of or committed to accepting a repository?

Mr. HAMILTON. I don't think there are any guarantees here. Look, this process of siting, forget Yucca Mountain for a while, this process of siting is going to be a very difficult process. What we believe is that the Federal Government or any entity cannot force the decision down the throats of a local community, and that is exactly what the Congress has done.

Mr. GARDNER. I mean, I have——

Mr. HAMILTON. That won't work in our view.

Mr. GARDNER. I have 15 metric tons of nuclear waste in my district.

Mr. HAMILTON. How much?

Mr. GARDNER. Fifteen metric tons, which is stored for Fort St. Vrain, which is being managed by the Department of Energy in Colorado. If we were to go forward with Yucca Mountain, if we were to go forward with the repository, it would be a safer place for that than stuck at St. Vrain.

Mr. HAMILTON. Well, I don't know the conditions there obviously.

Mr. GARDNER. But in general isn't it better to have a repository than leaving it scattered across the country?

Mr. HAMILTON. We believe it is better to have consolidated storage facilities and a repository in place.

Mr. GARDNER. So we are more safe with a Yucca Mountain type facility than we are without it?

Mr. HAMILTON. We are more safe with consolidated storage and a sound repository.

Mr. GARDNER. And so how do we keep a party from later then refusing or somebody who is unable to perform under the agreement? Is there anything we can do under this analysis?

Mr. HAMILTON. Sure. First of all, you can ask communities to volunteer.

Mr. GARDNER. And if the community volunteers——

Mr. HAMILTON. And if you don't get it then you may have to offer some incentives to get the communities to accept the waste. There are a lot of advantages to accepting waste. You create a lot of jobs in a community. That is the New Mexico experience. So there are techniques that can be used to persuade, if you would, among them the ones that I mentioned.

Mr. GARDNER. And that leads I guess to another question. I have got ICBM sites in my district. And we are happy to have them part of our national defense. Jobs are created because of them. But what if we decided in Colorado that we no longer wanted those ICBMs there, would we have a choice, should we have a choice?

Mr. SCOWCROFT. You know, I don't think that is really a question for the Commission as it is a question for you all. I mean, you are the custodians of the Federal system under which we live. I would point out that next door in New Mexico the WIPP plant has been extremely successful and the local communities are leasing land because they hope to expand their role. So it is not impossible to do because they have found it very worthwhile to have a disposal site in their district.

Mr. GARDNER. And I guess I would follow up with the findings of your report. What assurance or commitments do you have, conversations you have had with the administration that they will act on your recommendation?

Mr. SCOWCROFT. We have had none.

Mr. GARDNER. OK. So this is a report that may just go into the Ethernet?

Mr. SCOWCROFT. We were asked to produce a report and we have done the best that we are able to do.

Mr. GARDNER. So have you consulted with Secretary Chu about the potential next steps by the agency?

Mr. SCOWCROFT. Oh, yes.

Mr. HAMILTON. We have reported to the Secretary our findings. We have discussed them at some length with him and his advisors. We have reported to the White House staff.

Mr. GARDNER. And what should we expect as a result of those reports?

Mr. HAMILTON. Well, they can speak for themselves. I believe they recognize, first of all, that we have a very difficult problem that needs to be solved, that we haven't found a way to solve it. And they take seriously our recommendations. I can't cite a single person within the administration who says I endorse all of your recommendations. Are they receptive to it? Yes. Have they asked a lot of questions about it? You bet they have. And that is the appropriate role for them and for you.

Mr. GARDNER. Have they given you a timeline?

Mr. SHIMKUS. The gentleman's time is expired.

Mr. HAMILTON. Yes, we spell out a timeline in the report. We say for a consolidated storage facility 10 to 15 years, I believe, and for a repository 15 to 20. Those are guesses. But the point is that it is long term. This is not a problem that is going to be resolved in the next year or two.

Mr. SHIMKUS. The gentleman's time is expired. The Chair now recognizes the gentleman from Washington State, Mr. Inslee, for 5 minutes.

Mr. INSLEE. Thank you, gentlemen, for your long public service. This is another step in that. We really do appreciate it. But coming from the State of Washington I have to say that I really am alarmed by the failure of public process and something that I just think is a disregard of the law in this instance that led to this Commission. And that is a serious issue. And that is serious language to use, but I think it fits this circumstance. We have seen NRC Chairman Jaczko order his Commission to shut down review of the Yucca application leading to further delays. And it is very, very troubling to me to see this very talented and dedicated Commission really directed from the start not to consider Yucca, which I believe to be the law of the United States of America. And you are not responsible for that, I want to make that very clear, as to where responsibility lies for this. But we have spent over $12 billion and 30 years moving forward in Yucca, and now we are at this point where we have a commission that I liken to sort of the group that is scouting the best NBA—since Representative Hamilton is one of our great all-star basketball teams I will just use that metaphor. It is kind of like asking you to scout for the NBA and told whatever you do don't consider that Michael Jordan young guy. And I think that is the situation that we were in. And you can't just do a good scouting job and not take a look at that young number 23. And this really hits home in my State. We are home to the

Hanford site, nine former nuclear reactors, we were a stalwart in the Cold War, and now we still have that residue in my home State and close to the Columbia River—53 million gallons of radioactive and chemical waste and 177 underground tanks at one time. We have been preparing and planning for Yucca for disposal since 2002. I have got thousands of my State people getting this ready to ship to Yucca and it is going to be all dressed up and no place to go. And I have been working on this since the mid-1980s to not see my State become a de facto interim storage in substandard conditions. So this is of great concern to me. And I am really concerned that if we do require, quote, a consensus it basically is going to require my State to become a de facto repository for these wastes through my grandchildren's, and I get a new one this week I hope, her lifetime. And I think that is the route we are on if we don't follow the law.

So I guess the first question I have, and I just want to make clear, does anything in this report suggest in any way that Yucca would not be suitable to consider for scientific reasons?

Mr. HAMILTON. No.

Mr. SCOWCROFT. No.

Mr. INSLEE. I appreciate that. And by the way, I appreciate your personal service. I think you have articulated the position of the Commission well and the limitations of your decision. This is kind of a difficult situation for you, and you have been in difficult situations before. But I guess looking to the future if we are unable to reach the consensus that you have suggested perhaps we should look for, does it effectively make the current situation in the places that now house the waste the de facto permanent storage sites, permanent in the foreseeable future? Isn't that a fair statement? If you share the view that I have that that consensus is going to be harder to find, then an obligation to follow the law which we have in place, doesn't it make these places de facto permanent sites?

Mr. HAMILTON. We visited Hanford. Those people were very gracious to us. And we had a hearing there. And I think all of the frustrations which you have expressed came out to us very strongly. And I don't criticize them in the least for thinking that they could become a permanent site because they have had it so long and the risks, as you have said, to the Columbia River and elsewhere are real. The frustrations in our inability to resolve this problem are huge. There isn't any doubt about that. And there are a lot of people who have very, very legitimate complaints. We listened to miles and miles of testimony expressing the frustrations people have with the way the Federal Government has handled the waste problem. And that is one reason we recommend a new organization, because we think the DOE can't do it, it has lost credibility on it. So the frustrations are there.

The question is, however, what do you do, how do you get out of the box? It is the law, you are correct, that Yucca Mountain is the repository. The only problem is we can't enforce the law. That has not been a solution. It may be the law but we can't enforce it. OK. Is that a good thing? No, it is not a good thing. It is always good if you follow the law. But you can't. And you haven't been able to for 40 years. Now, you can sit around and hope that it is all going

to be resolved if the next election breaks right. And that has been exactly the hope for 40 years and it hasn't worked.

Now, we got a problem, we got a problem in this country that is very, very difficult to solve. We don't know if we got the answers here. We think we have got a good approach. And we think it is the only path on the table, if you would, to get us out of the box. And if you stand around and insist on Yucca, Yucca, Yucca, which people have been insisting on for a long, long time, but have not been able to pull it off, we think the result of that is an impasse, a failure to solve the problem. Where do you go? You can go for another 40 years and not solve the problem. We are trying to indicate a path forward. That is what we are trying to do.

Mr. SHIMKUS. The gentleman's time is expired. The Chair now recognizes the other Member from the great State of Washington. Cathy McMorris Rodgers is recognized for 5 minutes.

Mrs. MCMORRIS RODGERS. Thank you very much, Mr. Chairman. And I too just want to say thanks for your work and thanks for being here. Like so many, I have been in and out. And I kind of want to— you know, coming from Washington State, we pay close attention to Hanford. And the part of the report that really suggests that a site like Hanford could become a de facto repository I think is what raises the greatest concern. And I would just—I would like to start by just asking what would you, what do you see is the future of Hanford then and what role do you see Hanford playing moving forward?

Mr. HAMILTON. Look, I think you have got to give those people in Hanford some hope. It is exactly as Mr. Inslee said, they are so frustrated now because no progress has been made on this. The problem is getting worse and they have every right to be discouraged, frustrated and mad. What hope do we give them? The hope is that if you adopt our resolutions they will have the hope, a real one, of establishing a consolidated storage disposal—consolidated storage entity within 10 or 15 years, say. That is a rough guess. Now, that is something they haven't had. And it gets them out of the feeling that they are going to be permanently dealing with this stuff. We think the process we have set forward gives them real hope, a genuine hope, which they don't have today under present law.

Mrs. MCMORRIS RODGERS. I guess what that approach ignores is the consent decree that has already been agreed upon with the Federal Government and a lot of concerns that have been raised about the location of Hanford next to the Columbia River and an agreement that was put in place that said we were going to move that waste off site and the importance of moving that waste off site. And so that is what we would concede to be the concern. And I am not sure that the fears and the anger will go away by simply just saying, OK, in 15 years——

Mr. HAMILTON. Well, you are exactly right about that. Those fears—you can't wave a magic wand here, you can't undo the sins of the past, they are done, they are in place. All you can try to do is correct the problem. And that is what we are trying to do. Now, if you got a solution, and I am not pointing this to you directly, a better way to solve this problem, we are certainly open to it.

Mr. SHIMKUS. If the gentlelady would yield, I would suggest a solution would be for the administration to follow the law as written. With due respect to my colleagues, we understand that there is a 1982 Waste Policy Act, we have 1987 amendments to that, we have votes. You want to talk about consent, Mr. Hamilton. Consent was decided here in Congress by numerous votes, whether that is the vote to fund the science study, which we had 297 Members of the House. We throw out the word Congress as—you know, Congress consists of two Chambers. The House has historically consistently spoken in support of Yucca Mountain.

Mr. HAMILTON. That is right.

Mr. SHIMKUS. And what is interesting on the legislation to address the Nevada veto, that was a 306 to 117 vote. And do you know what the United States Senate did? They voice voted it, they voice voted it. So my question—and we are going to hear in the next panel some comments about it. This isn't a failure of the science or the studies. And I would reject the premise that we have failed. My stated position is this President and this majority leader have failed to comply with the law, and that is why unfortunately they have asked you to spend a lot of good time, effort and energy covering their rear ends on this, and that is unfortunate.

I yield back to my friend.

Mrs. MCMORRIS RODGERS. Thank you very much, Mr. Chairman. And I would just say I am hopeful that the courts are actually going to rule in favor of enforcing the law and that the administration's efforts to terminate Yucca will actually be stopped and that they will require that the Yucca application proceed. So we will wait for that day. Thank you very much.

Mr. SHIMKUS. The gentlelady yields back her time. And the Chair now recognizes the gentleman from Illinois, Mr. Kinzinger, for 5 minutes.

Mr. KINZINGER. Thank you, Mr. Chairman. And thank you all very much for your work on these issues and for coming in front of us today. I am glad we are talking about this. This is very important. It may not be on the national radar and the front page of the newspaper every day, but it is extremely important I think to the future of energy in this country.

Actually, Illinois' 11th district that I represent is the largest nuclear district in the country. We have three plants, six reactors, and we have a home of where there was originally going to be nuclear recycling in Morris, Illinois, which is now a spent fuel storage pool. So we have four areas where fuel is stored in my district. Given as how we have paid $15 billion into this fund, including many of the rate payers in my district, it has been now over a quarter of a century. So when I go back home to tell the people in my district that the Federal Government is responsible for the waste, how long should I tell them that it is going to take to create a corporation to build community consensus—I don't have—there you go. Can you hear me now? It is red. Maybe I will move.

Mr. GREEN. You are welcome to come to one of these mics on our side.

Mr. SHIMKUS. That is the bipartisan nature of this subcommittee.

Mr. KINZINGER. I am back. OK. Great. So as I was saying, when we talk about building the corporation, building community con-

sensus, constructing interim sites, what kind of a time scale are we talking about? I mean, the fear is we are talking another quarter century. And so as you continue to have waste buildup on-site it is a serious issue. So what are your all's inputs in what you think this is going to take from a time perspective?

Mr. HAMILTON. Well, creating a new organization will take legislative action. And we talked about that a little earlier today here I think with Chairman Barton. Neither he nor I think it can be done in 2012, and it is likely to be at least a 2-year and maybe 3- or 4-year project to create a new organization. Now, that doesn't mean you don't do anything between now and the time the organization is created. I think there are a lot of things that the DOE, and these are spelled out in detail in the report, can do now to begin to prepare for establishing a repository and a storage facility. Specifically in the report we take a guess and we say that in order to establish a storage facility you are talking 10 to 15 years and 15 to 20 years on a repository, so you are talking about a long length of time. There isn't any doubt about it.

Mr. KINZINGER. The next question I had, in reading through the report I was disappointed with the Commission's timeline for developing advanced reactors to recycle used fuel. I understand the report is based on a consensus and members had differing opinions on whether to recycle nuclear waste, but I would like to know would a demonstration project if we were able to get one off the ground and online, would that shorter the time estimate? Is that something you could see as being positive in bringing that technology closer?

Mr. SCOWCROFT. Well, we had a panel, a subcommittee, look at this and they consulted the nuclear experts, if you will. And what we are doing is reflecting the best thought that our own nuclear scientists have presented. So what we say is we support a vigorous R&D program both in reactor development and in recycling, reprocessing spent fuel. But farther than that we wouldn't go because that is not fundamentally what we were asked to do.

Mr. HAMILTON. We want to keep options open in the future. And we believe a lot of advances in nuclear energy technology have the potential to deliver a lot of benefits. We don't rule out R&D on recycling and reprocessing. This could be the answer. We think it is premature now to say that it is the answer, but it could be. And we certainly want to proceed with research and development on it.

Mr. KINZINGER. Thank you. And I thank you gentlemen and would echo the chairman's comments of earlier. I would love to see the law of the land become the enforced law of the land and would love to see Yucca Mountain opened up. But with that said, I appreciate your time and I yield back to the chairman.

Mr. SHIMKUS. The gentleman yields back his time. We would like to thank you for coming for 2 hours. If you had known you had to do this when you accepted the Blue Ribbon Commission mission, you may have said no. But again, with all sincerity it does for me personally to say if I am able to live long, to stay active, to stay vibrant, you guys are a credit to our country, and we do appreciate your time. We will dismiss this panel so you can get out of here before anyone else shows. And ask the second panel to come join us.

Thank you very much.

We would like to thank our second panel for joining us and sitting through the first panel. I think we found that very informative and educational and I think that will add to the second one.

What I would like to do is you all have 5 minutes for your opening statements. We know your formal testimony is submitted for the record, and I am going to do a basic introduction, and then we will move right through once I formally introduce you all here. First, we have Mr. Lake Barrett, President of L. Barrett Consulting; he is the former deputy director of the Civil Radioactive Waste Management of the U.S. Department of Energy, formally.

Dr. D. Warner North is the president of NorthWorks, Incorporated, catchy name. A consulting professor in Stanford's department of management and science engineering. Dr. North is a former member of the U.S. Nuclear Waste Technical Review Board and a member of the board of radioactive waste management at the National Research Council. Welcome.

Mr. Martin G. Malsch is a partner of Egan, Fitzpatrick, Malsch and Lawrence. Previously Mr. Malsch served as the Nuclear Regulatory Commission's acting general counsel, deputy general counsel and inspector general. He represents the State of Nevada in litigation relating to Yucca Mountain testifying on his on behalf, welcome.

Dr. Edwin Lyman, is that pronounced right?

Mr. LYMAN. Yes.

Mr. SHIMKUS. Is a senior staff scientist for the Union of Concerned Scientists, Dr. Lyman's research focuses on the prevention of nuclear proliferation and nuclear terrorism. We have Mr. Thomas A. Schatz is the president of Citizens Against Government Waste. And Mr. David A. Wright is the chairman of the board and the president of National Association of Regulatory Utility Commissioners, he is also the vice chairman of the South Carolina Public Service Commission. Gentlemen, welcome and with that, we would like to start with Mr. Barrett, you have the time for 5 minutes for your opening statement.

STATEMENTS OF LAKE H. BARRETT, PRESIDENT, L. BARRETT CONSULTING; D. WARNER NORTH, PRESIDENT AND PRINCIPAL SCIENTIST, NORTHWORKS, INC.; MARTIN G. MALSCH, PARTNER, EGAN, FITZPATRICK, MALSCH & LAWRENCE; EDWIN LYMAN, SENIOR SCIENTIST, GLOBAL SECURITY PROGRAM, UNION OF CONCERNED SCIENTISTS; THOMAS A. SCHATZ, PRESIDENT, CITIZENS AGAINST GOVERNMENT WASTE; AND DAVID A. WRIGHT, PRESIDENT, NATIONAL ASSOCIATION OF REGULATORY UTILITY COMMISSIONERS

STATEMENT OF LAKE H. BARRETT

Mr. BARRETT. Thank you, Chairman Shimkus, Ranking Member Green, and other members of the committee. Thanks for the opportunity to provide my personal views regarding the Blue Ribbon Commission's recommendations. The Nuclear Waste Policy Act established a scientific regulatory and political administrative process for safely disposing of our Nation's spent nuclear fuel and high-level radioactive waste. And this process lawfully selected Yucca

Mountain as the Nation's first repository site as the BRC properly states on page 12 of their report.

Unfortunately, this administration has succumbed to politics and have reversed much of the process that has been made over last 25 years. Although this Commission was created partially as a cover for the administration's actions, it has produced a very thoughtful report with excellent useful recommendations that should be implemented regardless of the future of Yucca Mountain.

It is not the fault of the BRC that they were not allowed to examine the obvious and lawful Yucca Mountain geologic repository disposal solution. Despite such a politically imposed shortcoming, they produced a well-reasoned report with excellent conclusions. I strongly urge the administration and Congress to act promptly to incorporate the BRC recommendations into our existing national program and get our Nation's nuclear waste disposal program moving forward again.

I strongly agree with the BRC's finding that a solution to the Nation's spent fuel management needs is urgently needed and the substantial cost of inaction is mounting every day. The BRC properly concludes that a national geologic repository is the foundation of any national spent fuel program. Although they were not allowed to say it, that site exists today at Yucca Mountain. They clearly confirm there is no new technological silver bullet that can replace the need for a geologic repository like a Yucca Mountain. Although they were prevented from considering Yucca Mountain, I believe most of their recommendations are applicable to Yucca Mountain.

Clearly, everyone wishes that a consensus agreement could have been established between the Department of Energy and the State of Nevada. Clearly that was my personal goal when I directed the program. Unfortunately, political positions in those times prevented any meaningful negotiations to resolve Nevada's issues. One step in the right direction today would be to finish the Yucca Mountain NRC licensing process in an open and transparent manner to independently resolve all of Nevada's safety and environmental concerns. I am personally very confident that the site will be safe for well over a million years.

Completing the nearly finished NRC licensing process would hopefully make safety evident to all Nevadans such a politically-driven, fear-mongering sound bites would be seen for what they are, and a meaningful negotiation could be begin. Such a negotiation would lead to the necessary changes, assurances, and substantial benefits that Nevada deserves from the Federal Government for acting in the national interest. Such a binding agreement would be of great value and be of mutual benefit to all Nevadans and the rest of Nation as well.

The BRC report properly highlights the need for Federal action to remove spent fuel which is stranded at shut-down nuclear reactors. To achieve this important goal in a timely, effective manner the BRC correctly recommends a partnership, consensus-based, consolidated interim storage facility. In my view, that process should start immediately. It is not a technical problem, it is a problem of our collective failure to act in our mutual national interest with respect to the host State.

DOE has the authority, under existing law and capability with its commercial contractors to act now on many of the BRC recommendations, such as working to develop consensus hosting partnerships. It is also a factor DOE's commercial contractors made significant progress in developing over 10 State and local hosting expressions of interest for the past global nuclear energy partnership facilities. Although that program no longer exists, the volunteer hosting partnership concept fits perfectly with the BRC recommendations and our national needs today.

DOE should now task their existing commercial nuclear contract support teams to engage with potentially interested communities and States to explore mutually beneficial hosting partnerships arrangements. This simple but important first step will begin the process of developing what I envision as a volunteer, integrated used nuclear fuel management R&D center, and possibly a volunteer host for the needed second geological repository.

I believe this Nation stands at a critical ethical crossroad on nuclear waste management. We owe our grandchildren a protected disposal solution for used nuclear fuel in high-level radioactive waste that our generation has made. In my view, it is irresponsible to just continue kicking the problem down the road to the next generation just because someone has localized political pressure during a primary campaign. Solutions are at hand, and the Blue Ribbon Commission, despite its politically imposed restrictions, has provided useful actionable recommendations, that can greatly enhance and preserve what has already been achieved. Let us not waste this opportunity. Thank you.

Mr. SHIMKUS. Thank you, Mr. Barrett.

[The prepared statement of Mr. Barrett follows:]

House Energy & Commerce Subcommittee on Environment and Economy
Recommendations of the Blue Ribbon Commission on America's Nuclear Future
February 1, 2012
Lake H. Barrett Testimony Summary

The Blue Ribbon Commission (BRC) produced a thoughtful report with excellent recommendations even though the BRC was created partially as a cover for the Administration's termination of the Nuclear Waste Policy Act specified Yucca Mountain licensing process. The BRC recommendations are applicable regardless of the future of Yucca Mountain.

I strongly urge the Administration and Congress to act promptly to incorporate the BRC recommendations into the existing NWPA national program to get our nation's high level nuclear waste program moving forward again.

I completely agree with the BRC's findings that a solution to the nation's spent fuel management needs is urgent; a geologic repository is essential; there is no technological "silver bullet" that can eliminate the need for a geologic repository, such as Yucca Mountain; and that a volunteer integrated interim storage facility is urgently needed to start removing spent nuclear fuel from isolated shutdown reactors.

The nearly completed Yucca Mountain licensing should be completed in an open and transparent manner and once safety is evident to all Nevadans, negotiations should begin with Nevada to provide needed changes, assurances, and the very substantial benefits that Nevada deserves from the federal government for acting in the national interest.

The BRC recommended partnership consensus approach for the NWPA mandated second repository should be started immediately, independent of whatever happens with Yucca Mountain.

The DOE should immediately start the process to utilize its existing commercial contractors to explore developing state and local consensus partnership agreements for an integrated phased used nuclear fuel management R&D center which would initially serve as a consolidated interim storage facility for shutdown spent fuels and eventually other DOE Nuclear Energy, Environmental Management, NNSA and Science missions as negotiated by all parties.

The BRC recommendations are a very good start, but much difficult policy work lies ahead to create a revised sustainable policy infrastructure which will realistically resolve long standing issues of organizational independence, authorities, financing, contract obligations, and isolation from future federal or state political interference. I believe political policy solutions can be created, but beware of over simplification and wishful thinking solutions.

Our nation now stands at a critical ethical crossroad on nuclear waste management. It is irresponsible to just continue kicking the problem down the road to the next generation whenever there is political pressure from a few during a primary campaign. We must reestablish the will to act in the national interest. The BRC, despite its politically imposed restrictions, has given the federal government useful actionable recommendations to greatly enhance and revise what has already been achieved. We cannot afford to waste this opportunity.

House Energy & Commerce
Subcommittee on Environment and Economy Hearing:
Recommendations of the Blue Ribbon Commission on America's Nuclear Future
February 1, 2012

Testimony of
Lake H. Barrett

Thank you, Chairman Shimkus and Ranking Member Green, for the opportunity to provide my personal views on the Blue Ribbon Commission (BRC) Report on America's Nuclear Future recommendations. I have spent several decades of my professional life working to implement the Nuclear Waste Policy Act that established, by law; a scientific, regulatory, and administrative process to safely dispose of our Nation's spent nuclear fuel and high level radioactive wastes in an environmentally protective manner. Unfortunately this Administration has succumbed to politics and has reversed much of the progress that has been made over the past 25 years. Although, this Commission was created partially as a cover for the Administration's actions, it has produced a very thoughtful report with excellent useful recommendations that should be incorporated into our statutes and programs.

It is not the fault of the BRC that it was not allowed to examine the obvious and lawful Yucca Mountain high level radioactive waste deep geologic repository disposal solution concluded under the Nuclear Waste Policy Act process. Despite such a politically imposed shortcoming, this highly qualified and dedicated group produced a thoughtful and well-reasoned report with excellent recommendations. I strongly urge the Administration and Congress to act promptly to incorporate the BRC recommendations into our remaining national program to get our nation's high level nuclear waste program moving forward again.

I strongly agree with the BRC's finding that a solution to the nation's spent fuel management needs is urgently needed and that the cost of inaction is many billions of dollars and mounting every day. The BRC corroborates what every objective study has found since the National Academies of Sciences looked at spent fuel management in 1957 – namely, that a national geologic repository is the foundation of any national spent fuel management program. Under existing U.S. law, a repository site complying with regulatory standards could be available immediately for construction of a disposal facility at Yucca Mountain - if the political opposition from Nevada's elected officials were overcome.

The BRC report also basically affirms the key components of the Nuclear Waste Policy Act. It confirms that there is no technological "silver bullet" that can replace the need for a geologic repository, such as Yucca Mountain.

However, there is a timing issue in the BRC report that I would like to point out. The BRC report properly explains the urgency of developing a repository; however, the only repository development process they recommend will take well over 20 years to achieve. As you may know, the NWPA statute contemplates two geologic repositories, thus this issue could be addressed by utilizing a fresh start BRC consensus process for the NWPA second repository and modifying the existing Yucca Mountain program based on many of the BRC recommendations. The BRC partnership consensus approach for the second repository should be started immediately, independent of whatever happens with Yucca Mountain.

Although they did not address Yucca Mountain, I believe most of their recommendations are applicable to Yucca Mountain as well. Clearly everyone wishes that a consensus agreement could have been established between the DOE and State of Nevada along the lines of the BRC report consensus recommendation and as somewhat originally contemplated in the NWPA Section 117, "Consultation and Cooperation". Clearly that was my personal goal when I was in the Program. Unfortunately, the political situation, in those times, prevented any meaningful negotiations to find a common ground that could resolve Nevada's issues. One major step in the right direction now would be to complete the Yucca Mountain licensing process in an open and transparent manner to independently resolve all of the Nevada safety and environmental concerns.

After spending well over 8 billion dollars on scientific study and engineering evaluations, I am personally very confident that the scientific evidence supports the conclusion that the site will be safe and protective of the environment indefinitely. However, that is not the message that one hears in the Nevada public media. Completing the nearly finished NRC licensing process would hopefully make safety evident to all Nevadans, such that politically driven fear mongering sound bites would be seen for what they are and meaningful negotiations begin so that the Nevada fairness, equity, and benefits concerns can be equitably addressed by the federal government. Such a negotiation could lead to the changes, assurances and the substantial benefits that Nevada deserves from the federal government for acting in the national interest. Such a binding agreement would be of great value and be of mutual benefit to all Nevadans and the rest of the nation.

As the BRC correctly points out, the Carlsbad community and State of New Mexico have made cooperation in the national, state and local interest work well together for the WIPP facility. Nye County, Nevada also has been an effective model with its strong science program and focus on citizen protection as well as understanding benefits.

The BRC report properly highlights the need for federal action to remove the spent nuclear fuel stranded at isolated shutdown reactors. This action would eliminate all nuclear risks at those sites, reduce costs of all (including the federal taxpayers), keep promises, and the sites could be returned to useful societal purposes. To achieve this important goal in a timely, effective manner the BRC correctly recommends a partnership; consensus based consolidated interim storage facility. In my view, this process should begin immediately. This is not a technical problem: it is a problem of our collective failure to act in our mutual national interest with respect to the host state.

DOE has the authority under existing law and the capability with its commercial contractors to act now on many of the BRC recommendations, such as working to develop consensus hosting partnerships. Indeed, the recently passed FY 2012 budget provides $3M for "development of models for potential partnerships." It is also a fact that the DOE's commercial contractors made significant progress in developing over 10 state and local hosting expressions of interest for the past Global Nuclear Energy Partnership (GNEP) facilities. Although the GNEP program no longer exists, the volunteer hosting partnership concept used in that program should be employed to put into practice the BRC recommendation and FY 2012 budget guidance. Hopefully the DOE will integrate these into a prompt effective voluntary host exploration program. The DOE should finance their commercial nuclear contractor support teams, which are already in place under existing support contracts, to engage interested communities and states. They can start this process now to explore potential willing state and local community hosting partnership arrangements.

This simple first step would begin the process of developing what I envision as an integrated phased used nuclear fuel management R&D center(s). Such a facility would initially serve as a consolidated interim storage facility and could eventually expand into other high technology missions if the host community and host state so desire. There are multiple other synergistic Nuclear Energy, Environmental Management, NNSA and Science missions that could complement used nuclear fuel management. These could be negotiated as a package voluntary agreement that could be beneficial to all local, state, federal, and commercial interests. The exact nature of such missions would of course depend upon the actual site and host community and state interests, but there are many opportunities for mutually supportive creative planning to meet everyone's needs. It is possible that such a negotiation could even result in a volunteer host for a second geologic repository.

Working in the DOE Office of Civilian Radioactive Waste Management for over a decade, I would like to take this opportunity to commend the thousands of scientists, engineers, and trades people that completed the most complex scientific study of an underground complex that has ever been accomplished. This achievement was very difficult as the program was politically attacked and interfered with constantly. All of

the people who worked on this project tried to fulfill their duties to implement the Nuclear Waste Policy Act law within the constraints externally imposed by the political structure. Very regrettably this political interference has now led to its current unlawful termination and has severely impacted the lives of many dedicated people.

The report is also crystal clear that the DOE statutory and contractual commitments to utility and electricity consumer stakeholders have not been met, that spent fuel policy should be augmented by a new organization dedicated solely to carry-out implementation, and that funds collected for waste management should be made available for their intended purpose by taking the nuclear waste fund off-budget. Hopefully progress can be made on all of these superb recommendations.

I would like to point out that many of the complex policy challenges, such as state veto authority, organizational independence, financing, and contract obligations were studied and debated extensively during the past decades. As the complex NWPA was implemented over these decades, there were many more lessons learned about Yucca and the former second repository program than were included in the BRC report.

The BRC recommendations are an excellent start, but they are only a beginning. Please beware of over simplification, wishful thinking, and be prepared for hard work ahead to create a new durable sustainable policy infrastructure. A realistic and objective evaluation of the factors that worked and did not work with the NWPA must be compared with a realistic evaluation of alternative paths forward. Improvements and enhancements can and should be made. Many are exactly what the BRC recommends, but there are also many old devils hiding within the details of the BRC recommendations that will have to be practically resolved.

Our nation now stands at a critical ethical crossroad on nuclear waste management. We owe our children and grandchildren a protective disposal solution for used nuclear fuel and high level radioactive waste that our generation has made. It is irresponsible to just continue kicking the problem down the road to the next generation whenever there is political pressure from a few during a primary campaign. We must reestablish a will to act in the national interest. The issue has been exploited long enough for the local political gains for a few at great cost to many. Solutions are at hand, and the Blue Ribbon Commission, despite its politically imposed restrictions, has given the federal government useful actionable recommendations to greatly enhance what has already been achieved. Let us not waste this opportunity. Thank you.

Mr. SHIMKUS. Now I would like to recognize Dr. North for 5 minutes.

STATEMENT OF D. WARNER NORTH

Mr. NORTH. Thank you for this opportunity.

Mr. SHIMKUS. Dr. North, I think you need to press the little button there.

Mr. NORTH. Thank you, Mr. Chairman, now it is on. Ranking Member Green and other members of the subcommittee, I strongly endorse the BRC final report and its recommendations, the Commission and its staff have produced an excellent document within its scope. BRC states that national policy has, "been troubled for decades and has now all but broken down."

I would have preferred more clarity at the outset in this report as to where responsibility for this impasse lies. DOE, NRC and the Nuclear Waste Technical Review Boards worked diligently and commendably to implement the Nuclear Waste Policy Act. The impasse comes from the law established by Congress, inconsistency and national leadership, and opposition by State political leaders, especially Nevada. The impasse did not come from people like Lake Barrett and many others who have devoted many years of their professional careers to implementing the existing law in the work on Yucca Mountain.

Much of BRC's guidance is consistent with findings and recommendations of earlier reports. There are no major breakthroughs in understanding or from new technology. The Nation needs geological disposal, it is the only long-term solution. There is international consensus on how to do it. Many other nations are making progress. Our progress has stopped, our country has a liability of $50 billion, 30 billion from ratepayers in the nuclear waste fund. And my figure is from the 2011 financial report to the United States Government, plus 20 billion in legal penalties for failure to fulfill contracts. This number should not continue to grow.

The new consent-based approach BRC recommends is not a new idea but one that has been around for decades. It would be new for the U.S. Federal Government, a change from existing law.

Siting success is defined by BRC as a legally binding agreement among the parties. This is formalizing what was described in the Republican presidential candidates' debate in Las Vegas as a pretty good deal. New Mexico negotiated a pretty good deal with the Federal Government on WIPP, more pretty good deals could restore U.S. progress. Deal-making is a societal or political matter, not overcoming technical challenges. Perhaps there will be some benefit to looking at flexible and significant incentives. The technical community should be assuring safety and minimizing cost, but this is not something where we can help a lot.

Many State governments have opposed the siting of a nuclear waste facility in their State. Nevada established an organization to oppose such a facility, the Nevada Nuclear Waste Project Office in 1985. According to the Web site, the mission remains the same, not improved scientific understanding and support for wise decision-making but opposition. In contrast, local government entities near Yucca Mountain such as Nye County have expressed support for

the facility. The presentation of the map I thought was most appropriate.

Can the Federal Government go from opposition to pretty good deal with one or several States? During my service on a nuclear waste technical review board 20 years ago, DOE had a program in place that developed the system planning for packaging and transporting spent fuel which TRB reviewed and encouraged, but Congress cut the appropriations forcing this work to be deferred. A lead time on the order of a decade is needed before waste transport begins. For WIPP timely and effective advance planning for the transport of waste was done by DOE in cooperation with State and local agencies.

DOE and the administration should carry out the steps in chapter 13, Congress should take steps needed to implement the recommendations, but more discussion and debate will be needed. DOE should designate a senior official as BRC has recommended. This senior official should be supported by staff and consultants at the same level of excellence as the staff and consultants who participated in the preparation of the BRC final report. Thank you.

Mr. SHIMKUS. Thank you, sir.

[The prepared statement of Mr. North follows:]

House Energy & Commerce Committee
Subcommittee on Energy and Environment
Blue Ribbon Commission Hearing on February 1, 2012

D. Warner North

I welcome the opportunity to provide my views in this Hearing regarding the Final Report to the Secretary of Energy by the Blue Ribbon Commission on America's Nuclear Future (BRC). Thank you, Chairman Shimkus and Ranking Member Green.

I provide these comments as a private citizen concerned about America's nuclear future, based on my experience. I served from 1989 to 1994 on the Nuclear Waste Technical Review Board (NWTRB), and then for the NAS as a member of the Board on Radioactive Waste Management and as chair of the NAS committee that produced the 2001 report referenced in Endnotes 48 and 125 in the BRC Report, and as a member of the NAS committee that produced the 2008 report referenced in Endnote 136. I have a background in physics, but my career has been in decision analysis and risk analysis. I have served as president of the Society for Risk Analysis, and I am a national associate of the National Research Council. (This honor enables me to use the Members' Library in the National Academy of Sciences Building.)[1]

I strongly endorse the BRC Final Report and its recommendations. The Commission and its staff have produced an excellent document, well researched and well-written, at a level appropriate for a broad audience.

The scope of the BRC report does not include discussion of any facilities at Yucca Mountain in America's nuclear future. Characterizing the Yucca Mountain site as the sole candidate for our nation's first geological repository has been the principal focus of the federal program over the past several decades. While I can accept language such as in the first paragraph of the Executive Summary, that national policy has "been troubled for decades and has now all but broken down." I would have preferred more clarity at the outset in this report as to where responsibility for this shortfall lies. I believe that the staff of the federal agencies (DOE, NRC, NWTRB), their contractors, and consultants have worked diligently to implement the Nuclear Waste Policy Act passed by Congress in 1982 and amended in 1987, and that their accomplishments have been commendable. I would have liked to see more explicit recognition of these technical achievements. The achievements are reflected in the many Endnotes in the BRC Report citing the work of these organizations. My reading of the full text of the Report is that the BRC recognizes that the shortfall in the nation's program lies with the law established by Congress, the deficiency and inconsistency in national leadership in implementing this law (for

[1] The complex structure of the National Academies is explained in Endnote 26 of the BRC Final Report. As in the BRC Report I shall use "NAS" instead of the names of the various organizations that constitute the National Academies.

example, the cancellation of the second repository), and the strong and ongoing opposition by state political leaders, especially those from Nevada.

A major finding in the 2001 NAS report, from a distinguished committee of international experts that I had had the honor to chair, was that "the biggest challenges ... are societal" (meaning policy or political) and not technical. Our first principal recommendation was that national governments should provide the leadership and support for solving the problems. In the United States there has not been consistent Congressional and senior Administration leadership adequate to meet the challenges. As a result, there is now a situation badly in need of corrective action. The BRC has, within its scope, provided excellent guidance on this corrective action.

Much of this guidance is consistent with findings and recommendations of earlier reports. There are not any major breakthroughs in understanding or from the emergence of new technologies. The nation needs a program to move spent nuclear fuel and defense waste from where these materials are now located into geological disposal, where these dangerous materials will be safe over a "long-term" determined by the time for radioactivity to diminish, ten thousand to one million years. As the BRC report describes, there is general international consensus on how to accomplish this goal, and many nations are making good progress. In this country, we gone taken 25 years since the law was last revised, spent over ten billion dollars, and we have a policy that BRC judges, "has all but broken down." Our country has a liability of nearly $50 billion dollars: $30 billion in the Nuclear Waste Fund[2], money (including interest) the federal government has received from electricity ratepayers but not yet spent in providing disposal services, plus at least $20 billion[3] in legal penalties for failure to take possession of spent fuel beginning in 1998, as mandated under law and existing contracts. BRC states, in large type at the outset of Chapter 4, "The central flaw of the U.S. nuclear waste program to date has been its failure to develop permanent disposal capability."

BRC's first recommendation is a "new consent-based approach" to siting nuclear waste management facilities. This is not a new idea, but one that has been around for decades. It would be new as an approach for the U.S. federal government, replacing law that at first required a technical evaluation of candidate sites, and then designated only a single site to be characterized. The 2001 NAS report states on page 132, "When an agency seeks permission to investigate the technical feasibility of a proposed site, it is usually necessary first to obtain the assent of the local community and its various councils and representatives that the site has been selected fairly and the project is provisionally acceptable." The context for this statement is a report dealing with this problem internationally. Many other countries have the need for disposal of nuclear waste. The word "usually" in the quote above indicates an exception. When our report was written the U.S. was proceeding with a program established by U.S. law, in which such "assent" from the state of Nevada had not been obtained in advance. There was a provision in the law for state disapproval, but such disapproval could be, and was, overridden by Congress.

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[2]Source: 2011 Financial Report of the United States Government, page 116.
[3] BRC Report, Table 2, page 80.

Many U.S. state governments opposed a nuclear waste disposal facility in their state. Nevada established under state law an organization to oppose such a facility, the Nevada Nuclear Waste Project Office (NWPO) in 1985, when the Yucca Mountain site was under active consideration. This date preceded by two years the 1987 Amendments Act designating Yucca Mountain as the sole site to be characterized. As noted on page 22 of the BRC report, this 1987 legislation has been characterized as the "Screw Nevada" bill. The Nevada NWPO and the state's elected leaders have for 27 years carried out a strong campaign opposing development of the Yucca Mountain site. I met with the NWPO Board, including former Nevada Governor Grant Sawyer, early in my service on the NWTRB. The Board expressed to me quite clearly that their mission was to oppose. I was equally clear that the NWTRB mission established in the 1987 Amendments Act was oversight to improve the technical aspects of the federal nuclear waste management program. Accessing the NWPO website as I write this testimony on January 29, I find the NWPO mission remains the same. It is not improved scientific understanding and support for wise decision making, but opposition. I note that the allegations of dangers posed by a Yucca Mountain disposal facility are on a web page first posted in 1998 and unchanged since. (Attachment A).

In contrast, local government entities near Yucca Mountain, such as Nye County, have cooperated with DOE and have carried out research in support of understanding better the safety of the site. Nye County's Q&A webpage (Attachment B) provides a strong contrast to the NWPO page in attachment A. As noted in the BRC report, page 23, Nye and other local counties have expressed support for the facility, or at least, for allowing the license approval process to go forward.

Recommendations 3 and 6 in the BRC report describe other urgently needed remedial action to prepare for the time when waste management facilities become available, at Yucca Mountain or at another location. During my initial time on NWTRB more that 20 years ago, DOE had a program in place to develop the system planning for packaging and transporting spent fuel from its location at many reactor sites to either interim storage or a final disposal site. NWTRB reviewed and encouraged this planning. But Congress cut the appropriations, and DOE had to reduce its activities in this area. The limited funds made available to DOE were spent almost entirely on site characterization activities supporting the license application for Yucca Mountain, called for under the law. The other aspects were forced to be deferred. The BRC added recommendation 6, on preparing for transport, to the seven recommendations in its draft report, because the Commission heard from many parties on the need to do this planning and preparation. A lead time on the order of a decade is needed before waste transport begins. Shorting the needed appropriation of funds for this purpose, funds already being paid by ratepayers, was the result of decisions by Congress, and not a failure by DOE, by the technical community, or by state and local government. In contrast, for WIPP, timely and effective advance planning and preparation for the transport of waste was done by DOE and its contractors in cooperation with state and local agencies, as described in the BRC report.

Recommendations 4 and 5 have an important interaction with recommendation 1. The time scale to achieve success, which BRC defines as a legally binding agreement (Box, page 57) is essentially the time to reach what was described in the Republican Presidential candidates' debate in Las Vegas last October 18, as "a pretty good deal." (See Attachment C, my letter to the BRC of October 31, 2011). Other states - such as New Mexico, which negotiated a "pretty good deal" with the federal government on WIPP - might agree to a new facility or expansion of existing facilities (i.e., WIPP) to take additional nuclear waste. The "new approach" for the U.S. nuclear waste management program is negotiation to achieve consent, not overcoming the opposition based on a federate mandate in existing law.

Steve Frishman's statement to BRC is cited in Endnote 260. Steve has for more than two decades worked for the Nevada NWPO. He and I came to know each other well when I served on the NWTRB. I agree with his point that "the interested public has often been confused about the roles of the respective agencies, and the motivation, scope, and meaning of the regulation proposed ..." and I will add, the existing regulation. Performance assessment for these facilities can become mind-numbingly complex, even for those of us who are specialists. The goals and compliance process need to be explained in simple language to the interested and affected members of the public.

Let me illustrate such risk communication by putting the summary of U.S. disposal facility regulations, a box on Page 91 of the BRC report, into terms more readily understood. Members of the Subcommittee who represent States far from Washington, D.C. travel often by plane, as I have done from my home in California to this Hearing. Modern commercial jet aircraft fly above much of the atmosphere, so radiation we receive from cosmic rays is not attenuated as it is when we are at ground level. Figure 7 on page 15 of the BRC report lists 40 microSieverts of radiation exposure for a one-way flight from New York to Los Angeles, roughly the same distance as my flight from San Francisco to Washington-Dulles. Two round trips is 4 x 40 = 160 microSieverts, slightly above 150 microSieverts, listed on page 91 in the Box as the limit for the first 10,000 years. The goal set forth in the regulation is that there should be a reasonable expectation that no members of the public will receive more than this dose of radiation annually: two cross-country round trip flights worth. The standard for ten thousand to one million years is less stringent. It corresponds to about one round tip flight across our country per month. (For many years I flew this much, one round trip across the country per month. I expect many Members of the Subcommittee fly even more.) Most members of the public do not understand what microSieverts and rems signify. But if they come to understand that the requirement for nuclear waste disposal facilities is for limiting radiation exposure to all members of the public to such low levels, comparable to exposures most of us accept without concern, they might come to understand that the regulations should assure acceptable safety, now and far into the distant future.

Implementation of these regulations to assure a reasonable expectation of compliance, across an extremely long time period with all its attendant uncertainties, is, indeed, complex. But if we focus on sharing our understanding in good-faith negotiation, I am

confident success on public acceptance can be achieved, as has been done at WIPP and in the nuclear waste management programs of many other countries.

I hope the BRC Report and this Hearing will motivate Members of this Subcommittee and more generally, both the House and the Senate, to proceed quickly toward bipartisan consensus to implement the recommendations in the BRC Report. Enhanced national leadership was recommendation #1 in the 2001 NAS report. It did not happen then; I hope it can happen now. Our country has a liability of $50 billion. We need to take the steps to deliver on our commitments and work this number down, not let it grow as we have done over the past decade.

Yucca Mountain remains in my judgment a viable siting option. The BRC Report stresses not precluding options, but engaging in adaptive management. The 2001 NAS report and its successor, the "One Step at a Time" NAS report of 2003, are cited as references on adaptive management. As urged in a letter (Attachment D) to BRC of September 29, signed by me and five other distinguished scientists, two of whom played key leadership roles in the success for WIPP, the NRC evaluation of the license application for a disposal facility at Yucca Mountain should be completed. The public should have full access to the expert evaluation by NRC professional staff, of allegations by the Nevada opposition and the plans and analysis submitted by the DOE staff and its contractors.

Release of a positive evaluation by NRC of the license application for a Yucca Mountain waste repository does not commit the nation to go forward with construction of this facility at Yucca Mountain. Congress must first appropriate the money, and that will require a positive vote by the Senate. Five years might pass before that could happen. But it will take 15-20 years, perhaps longer, before a disposal facility for commercial spent nuclear fuel at another site can be brought to the point of approval on a construction license application, even when consent has been achieved. The type of site characterization and technical analysis carried out at Yucca Mountain takes time and resources; no other nation has been able to do it more quickly than on the order of 20 years. Our nation needs two sites for disposal facilities, as were called for 30 years ago in the 1982 Nuclear Waste Policy Act. If there may be a 15-20 year wait before the first disposal site is ready for facility construction, the nation will need an interim consolidated storage facility, strong motivation for BRC recommendation 5. It will take the order of ten years to do the negotiating, planning, design, licensing, training and other preparation for transport and storage of the waste materials. This transportation planning and preparation should be funded and restarted, via BRC recommendations 3 and 6. In about 20 years, even more serious penalties may occur if the federal government remains unable to accept spent fuel. For example, the U.S. Navy may be unable, under existing agreements, to continue to ship the spent fuel from its nuclear-powered ships to Idaho (BRC Report, page 28).

The steps listed in chapter 13, *Near-Term Actions*, should be undertaken by DOE and the current Administration. Congress should move quickly to enact new legislation to enable the BRC recommendations. To support discussion and debate on these changes, the DOE should designate a senior official, as BRC has recommended at the beginning of its

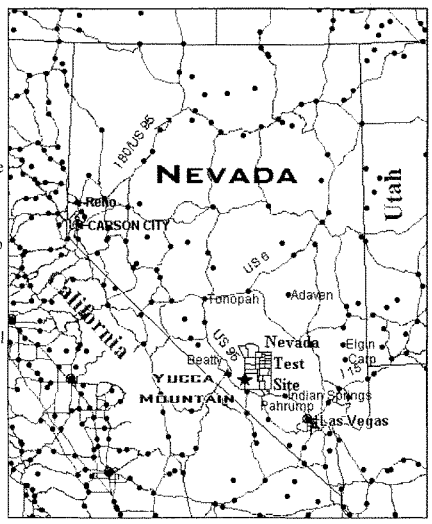
chapter 13. The BRC has ended its work and has no further budget. This senior official should be supported by staff and consultants at the same level of excellence as the staff and consultants who participated in the preparation of the BRC Final Report.

Thank you for this opportunity to present my views.

Attachments:
A: http://www.state.nv.us/nucwaste/yucca/state01.htm
B: http://www.nyecounty.com/YMIC/YMIC_QandA.pdf
C: http://brc.gov/sites/default/files/comments/attachments/comments_to_brc_by_dwn_10-31-2011.pdf
D: http://www.sustainablefuelcycle.com/resources/SFCTF_Science_Panel_Ltr_to_BRC_9-29-11.pdf

posted: February 4, 1998

Why Does the State Oppose Yucca Mountain?



Yucca Mountain is a six-mile long, 1,200-foot high, flat-topped volcanic ridge about 80 miles northwest of Las Vegas.

The U.S. Department of Energy plans to turn Yucca Mountain into the nation's first high-level nuclear waste repository, if a study finds the site safe.

If the plan proceeds, 77,000 tons of hazardous radioactive materials from the 110 U.S. commercial nuclear power plants — 90 percent of which are east of the Mississippi River — and the government's nuclear weapons complex will be entombed at Yucca Mountain. The wastes need to be contained for at least 10,000 years because of the extreme hazards to public health and the environment associated with these radioactive materials.

The Yucca Mountain controversy involves fundamental issues of a state's right to determine its economic and environmental future and to consent or object to federal projects within its borders.

Why You Should Be Involved:

Scientific uncertainties.

Many studies by federal government scientists and independent contractors suggest that Yucca Mountain is unsafe for holding nuclear waste and keeping it out of the environment. In fact, State of Nevada scientists believe that the site, under the DOE's own guidelines, should already have been disqualified.

Nuclear waste.

Radiation from nuclear waste proposed for Yucca Mountain burial is so intense that anyone with direct contact would receive a fatal dose instantly. Spent nuclear fuel contains tons of plutonium, an extremely toxic byproduct with a half-life of 24,000 years. One-billionth of an ounce, if ingested, can cause cancer or genetic defects.

Politics and economics. Many feel these influences are too great to allow for an objective evaluation of the site. Dump proponents and the nuclear power industry are eager to get the site approved despite significant environmental and health and safety problems. Should the site not work out, the nuclear industry believes it would be set back decades in its goal to build new nuclear power plants.

10,000 years.

Since a dump like this that must last for 10,000 years — almost twice as long as mankind's recorded history — has never been built anywhere in the world, proponents believe that Nevadans should rely on DOE safety evaluations and predictions that it will leak no more than permitted by regulations. The DOE's track record in handling nuclear materials, however, is extremely poor.

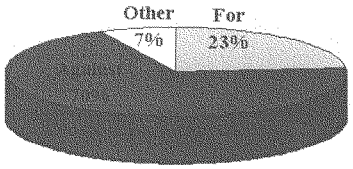
The State's Position:

State leaders believe the current high-level nuclear waste dump program is fatally flawed, and because of this have found it necessary to oppose the use of Yucca Mountain as a nuclear waste repository for a variety of reasons:

- Much evidence shows that Yucca Mountain is not safe for nuclear waste disposal in that it is geologically and hydrologically active and complex.
- Radioactive substances could leak from the dump and create serious long-term health risks to the citizens of Nevada.
- Large-scale radioactive releases could occur through a variety of possible scenarios caused by volcanos, earthquakes or hydrothermal activity at Yucca Mountain.
- Accidents happen. Nuclear waste transportation could result in accidents harmful to Nevada's and the nation's citizens and seriously hurt Nevada's image as an attractive place to visit, live, or locate a business.
- There are no back-up or alternative sites being evaluated along with Yucca Mountain; thus, there are no other sites for comparison.
- It is unrealistic to expect DOE to spend $6.5 to $8 billion "characterizing" Yucca Mountain and then simply walk away after serious flaws are found. Besides, State leaders are convinced that the DOE is attempting to build a dump rather than merely "studying" the site, as it claims.

Who Opposes Yucca Mountain:

Independent public opinion polls during the past decade have consistently indicated that more than two-thirds of all Nevadans do not want a nuclear waste dump in their state, and believe that the State of Nevada should do everything in its power to stop it.



Nevada's governor and its entire congressional delegation as well as numerous governments and organizations have expressed opposition to the proposed nuclear waste dump through resolutions and other explicit statements of policy:

- Nevada Legislature
- Nevada State Medical Association
- Nevada Resort Association
- Nevada State Firemen's Association
- Nevada Parent Teachers Association Board of Directors
- Clark County
- Cities of Las Vegas, Henderson, Boulder City, Lovelock, Reno, and Sparks
- Nevada League of Cities
- Nevada Commission on Tourism

- Nevada Parent Teachers Association Convention of Delegates
- Nevada Commission on Nuclear Projects

AGENCY FOR NUCLEAR PROJECTS/ NUCLEAR WASTE PROJECT OFFICE

Who we are:

In response to growing public and legislative concern about the proposed high-level nuclear waste repository at Yucca Mountain, the 1985 Nevada Legislature transformed the Nuclear Waste Project Office, which was established in 1983 as part of the Governor's Office, into an independent Agency for Nuclear Projects. It is funded by a direct appropriation from the U.S. Congress.

What we do:

The office acts as the state's "watchdog" to oversee the DOE's proposed repository activities at Yucca Mountain. The office's technical and planning research divisions have published 117 reports in more than 125 volumes covering some 30,000 pages.

The office evaluates, monitors, and investigates DOE's Yucca Mountain work, employing researchers and scientists from the University of Nevada System and research and scientific institutions from across the nation.

Research covers such areas as the environment, the physical, chemical, volcanic, seismological, mineral and groundwater properties of Yucca Mountain (and includes a team of scientists at the site itself), the DOE's track record in nuclear materials handling and trustworthiness, transportation risk assessment, and socioeconomic research details the effects of the proposed dump on the economy and society of southern Nevada and the state.

...

Return to the
Nuclear Waste Project Office
Home Page

YUCCA MOUNTAIN INFORMATION CENTER
QUESTIONS AND ANSWERS

Why is Nye County spending money on a dead program?

The program is not dead, yet. During his presidential campaign, President Obama made a commitment that he would not go forward with Yucca Mountain (YM). However, until the Nuclear Waste Policy Act is rescinded or changed the Yucca Mountain Project lives on.

Why was the Information Center closed and why is it reopened?

Budget limitations forced DOE to close the center. DOE transferred the facility to Nye County at no cost to the County. The future of YM is more complex than it appears at first glance. As long as the program is alive, it is appropriate that we provide information to the citizens of the county while YM's future unfolds.

Who is paying for operation of the Info Center?

Nye County is paying for day to day operation of the Info Center. However, the funds to do so are provided by DOE in accordance with specific provisions of the Nuclear Waste Policy Act.

What happens if the YM program is terminated?

At the national level, there are several concerns and potential consequences associated with "killing Yucca":

- **Conflict with the Nuclear Waste Policy Act**, as amended, as well as the law approving Yucca Mountain as the site for the national repository -- a measure that was passed in 2002 by decisive, bipartisan majorities of the U.S. House and Senate.
- **Potentially strand a minimum of over 130,000 metric tons of spent commercial fuel** and defense waste at 121 sites in 39 states for over 100 years creating a logistical backlog that would take an additional 50 years to relocate or recycle.
- **Precipitate a full-breach-of-contract with utilities** with respect to the Government's longstanding failure to meet its legal obligation to begin collecting spent nuclear fuel -- resulting in damages estimated by some to be in excess of $50 billion.
- **Unravel the Nuclear Waste Fund** now reflecting an aggregate electricity consumer investment of nearly $31 billion in receipts to date, including collections and interest.
- **Erode public confidence in the Department and the Federal Government** by undermining agreements with states and local governments to remove defense-related high-level waste as well as the U.S. Navy's used nuclear fuel.
- **Re-open site investigations for a national geologic repository in up to 28 states**, as identified by the DOE in its 2008 report to Congress.
- **Unnecessarily abandon more than 40 years of scientific investigation and $10 billion of ratepayer and taxpayer funding** toward development of a national repository.
- **Remove funding of cooperative agreements with regional transportation organizations** which have worked effectively with DOE on transportation planning and other organizations representing stakeholders involved with nuclear waste disposal issues.

- **Seemingly contradicts the President's Memorandum on Scientific Integrity** as issued on March 9, 2009, stating that "political officials should not suppress or alter scientific or technological findings and conclusions."
- **Needlessly undercut the trust and confidence in the integrity and independence of the proposed Blue Ribbon panel** and any ensuing recommendations.
- **Create an unnecessary hurdle and uncertainty for new U.S. nuclear generation**, which is of paramount importance given the Administration's emphasis on reducing carbon emissions and stimulating jobs.

At the local level the immediate direct impacts will be:

- **Loss of settlement agreement funds** (Payments Equal to Taxes (PETT)). These are funds that are paid to the County General fund for use as the County sees fit. The payments are generally tied to the Yucca Mountain budget. The highest annual payment was $11,500,000.
- **Termination of oversight funding and the associated loss of jobs.** Oversight funding can only be spent in accordance with provisions of the Nuclear Waste Policy Act. Oversight funding has been relatively stable at about $4,000,000 per year. The Nye County Nuclear Waste Repository Project Office currently employs 13 full time county employees who supervise 26 oversight contracts.

"Facts do not cease to exist because they are ignored." - *Aldous Huxley*

"We can not make informed decisions if we are not told the truth." - *Sheila Weinberg, Institute for Truth in Accounting*

D. WARNER NORTH COMMENTS SUBMITTED TO THE BLUE RIBBON COMMISSION ON ITS DRAFT REPORT

[This note contains my personal opinion, not related in any way to positions of other organizations for which, or with which, I have worked]

D. Warner North

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October 31, 2011

Summary

In these comments I commend the Blue Ribbon Commission (BRC) for the insights in its Draft Report, which recommend revision in the process leading to geologic disposition of high-level radioactive waste from defense activities and spent nuclear fuel. (I follow BRC's usage of this term, although I have come to prefer "used nuclear fuel" as less negative on the possibility of eventual reprocessing.) A major insight in the BRC Draft Report is that there is no new alternative that offers a rapid path to acceptable emplacement or destruction of these dangerous materials, especially the spent nuclear fuel. Progress should be sought in incremental steps, and geological disposal of defense waste might be accomplished more quickly. Even if the BRC does not include discussion of the Yucca Mountain site in its Final Report, the BRC should not deter others from consideration of this alternative. The proposed repository at Yucca, Mountain can accommodate both types of waste materials. Research, site characterization, and development of applicable regulations have been taken to the point of a nearly completed evaluation by the Nuclear Regulatory Commission (NRC) of the Department of Energy's (DOE's) License Application. If the United States Government is to move quickly to accept and emplace spent nuclear fuel as it has agreed to do under law, alternatives to the Yucca Mountain site will add several decades to the time needed.

Acknowledging the Difficulties and Building on Success

Over several years leading to a report in 2001, I had the honor to chair the international committee for the National Research Council of the National Academies that authored the report, *Disposition of High-Level Waste and Spent Nuclear Fuel: The Continuing Societal and Technical Challenges* [1]. Our lead conclusions were that "Geological disposal remains the only long-term solution available" and "Today the biggest challenges to waste disposition are societal." The past decade has not changed these conclusions, but rather has provided additional support for them. There is no technology available now, or foreseeable in the near future at acceptable cost, that can eliminate the need for geological disposal as the long-term solution. Monitored storage on or near the earth's surface is not a long-term solution.

A variety of repository concepts in different geological settings have been developed by nations with the need for acceptably safe disposal of spent nuclear fuel and high-level waste resulting

from reprocessing and defense activities. In the United States and in other countries, such as Canada, Germany, and the United Kingdom, progress toward geological disposal has been stopped, not by technical difficulties but by failure to overcome a societal challenge: public opposition to a facility widely perceived as dangerous and undesirable.

As the BRC's Draft Report has noted, one success has been achieved in the United States: The Waste Isolation Pilot Plant (WIPP) was certified by the US Environmental Protection Agency in 1998, and it has successfully emplaced a substantial quantity of this nation's inventory of transuranic (TRU) waste, with minimal apparent technical problems or difficulty in societal acceptance since transportation of TRU waste to the WIPP facility and waste emplacement operations began. A recent paper in *Risk Analysis* by Hank C. Jenkins-Smith and colleagues [2] discusses the factors leading to this quiet success on societal acceptance during the past decade.

Having visited many of the nuclear waste disposition programs in other nations, it is my impression that the pattern of support and opposition observed by Dr. Jenkins-Smith and his colleagues is similar to what has occurred elsewhere, both in Nevada and in countries such as Canada, Germany, and the United Kingdom, and in Sweden and Finland, where much progress has been made in achieving societal acceptance of a geological waste repository by the potential host communities. The opposition comes, not from the people in the immediate neighborhood of the facility, but rather from those further away, who oppose having it in their political jurisdiction. WIPP provides the example in the United States that such opposition can be overcome.

It should be straightforward for WIPP to accept additional plutonium not usable as MOX fuel, which becomes TRU waste if the plutonium is sufficiently diluted by mixing it with other materials. Emplacing other high-level defense wastes in WIPP might be a further step to develop, as an additional demonstration that at least one state is willing to make a deal, to accept disposal in that state of high-level waste, which other states regard as a noxious burden that the federal government has promised to remove from their political jurisdiction.

But expanding this process to include spent nuclear fuel faces a much greater challenge because of the time scale.

The Time Scale to Develop an Alternative Geological Repository for Spent Nuclear Fuel.

I appeared before the Disposal Subcommittee of the Blue Ribbon Commission on September 1, 2010, in a day-long session devoted to regulation. Much useful material was presented at this session, particularly Thomas Cotton's excellent review of regulatory history. Good material has been submitted by other experts (for example, Lake Barrett's statement and presentation to the BRC of November 4, 2010). I conclude from this information that the needed research, the site characterization, and the revision of current regulations (which were in large measure designed for the tuff rock/unsaturated zone proposed repository site at Yucca Mountain) will require on the order of several decades to bring a new site to the stage that Yucca Mountain has already achieved. The Yucca Mountain site has been thoroughly characterized, so as to enable DOE to submit a License Application. It is my understanding that the Nuclear Regulatory Commission staff had essentially completed its evaluation of this License Application when the staff was

directed by the Chairman to stop work. It is my impression from my reading of the NRC TER Volume III that, with the exception of one issue that appears to be minor, NRC staff found that the License Application provided the data and analysis needed to show that the proposed repository met the regulatory conditions for long-term safety.

In another letter (of September 29 to the BRC), in which I was joined by five colleagues, two of whom have very extensive experience in the scientific evaluations for WIPP, we asked that BRC recommend completion of the NRC evaluation of the DOE License Application. In this letter I reiterate that I fully support this request, but I recognize from the language in the Draft Report that the BRC may view that our request falls outside of the charter given to the BRC by the Secretary of Energy and the President.

I note the language in the Advisory Committee Charter on page A-2, point 3, of the BRC's Draft Report, Objectives and Scope of Activities, directs the BRC "to conduct a comprehensive **review** of policies for managing the back end of the nuclear fuel cycle, including **all alternatives** [emphasis added] for the storage, processing, and disposal of civilian and defense used nuclear fuel, high-level waste, and materials derived from nuclear activities." I believe most readers would infer that this Advisory Committee Charter language would require the BRC to consider the Yucca Mountain site, the DOE License Application for it, and the evaluation of the License Application that has been carried out by the NRC. There are many lessons to be learned from the national experience of the past 25 years on the Yucca Mountain site.

If the BRC Final Report is not to consider Yucca Mountain, and it is to include language such as on page vi of the Executive Summary, the BRC should convey explicitly these limitations in its interpretation of its Advisory Committee Charter, by placing a discussion **at the beginning** of the Executive Summary and main text, instead of further back and introduced by, "Finally, ..." on page vi. Readers should understand as they **first encounter** the "seven points" in the Draft Report (page iv), and the comparable section in the upcoming BRC Final Report, that Yucca Mountain as a potential site for a geological repository has **not** been included in BRC's review of policies and its consideration of America's Nuclear Future.

Because of the importance of the timing in establishing a repository that can emplace spent nuclear fuel, BRC in its Final Report should explore more fully the difficulties for accomplishing "prompt efforts" (the term used in #4, and also #5, of the "seven points" in the BRC Draft Report) on an alternative site for such a repository. Salt sites and deep borehole emplacement should be discussed in detail.

Path Forward: A "Pretty Good Deal"

At the Republican Presidential Candidates debate in Las Vegas on October 18, at least three of the candidates viewed the decision on Yucca Mountain as a states' rights issue: that the host state for the repository should be enabled to negotiate an acceptable deal, rather than be subject to an override by a vote of Congress, as is enacted in the provisions of existing law, the Nuclear Waste Policy Act of 1982 as amended in 1987.

Might the federal government offer Nevada, or some other state, in the words of Candidate Governor Romney on October 18, "a pretty good deal?" This is not a technical matter, but a political approach to resolving a societal issue. I endorse what I interpret as language in the BRC report that a deal should be sought. And I can see no reason why a deal with Nevada to go forward with Yucca Mountain should be excluded from consideration. The time needed to propose and agree to a "deal" could be quite short, as compared to the time that would be needed to do research, site characterization, and regulatory modification needed to enable regulatory acceptance for an alternate site to Yucca Mountain. Negotiations on "deals" take place constantly in the United States. It is a major activity for our elected leaders.

The BRC in its report should not take any institutional or political position that might impede a "deal" involving Nevada or any other state. I agree it will need to be "a pretty good deal" as perceived by the state and its citizens. Such a deal might include funding facilities and high-paying research jobs on (1) reuse or recycling of used nuclear fuel, (2) packaging of used nuclear fuel for transport from reactor sites, for interim storage, and for disposal in a geological repository, and (3) site characterization for one or more sites in the state for a proposed geological repository. The deal might include an agreement that if a candidate site meets the applicable regulatory standards, then the state will not oppose it, but will allow proceeding with repository construction and subsequent emplacement of high-level waste and/or spent nuclear fuel.

In my judgment, as one of many people who have put a great deal of professional time and effort – in my case, in service on the Nuclear Waste Technical Review Board from 1989 to 1994, and then years of volunteer service on the Board on Radioactive Waste Management for the National Research Council - it is an expensive national tragedy that an apparent impasse has occurred in proceeding with the proposed Yucca Mountain repository, after Congress determined in 1987 that only the Yucca Mountain site would be characterized, and that the characterization and subsequent license application activities would be led by the Department of Energy.

The BRC has in its Draft Report recognized this tragedy and enumerated many good ideas for improving the existing process that has been enacted into US law. But the problem of the long time scale remains for developing a spent fuel repository. It has taken more than twenty years for the Yucca Mountain site, and another site could take even longer. The composition of the Congress changes extensively over this long time scale. America's nuclear future needs a process that will not reach another impasse, as the current process appears to have has done.

The best available information on all candidate sites should be used in selecting a national path forward toward a geological repository. A second repository was called for in the Nuclear Waste Policy Act. Even if a repository were to be constructed at Yucca Mountain, a second repository appears to be needed because of the size of the spent fuel inventory compared to the capacity of the Yucca Mountain site. The BRC might want to clarify that "prompt efforts" are appropriate for at least two repository sites.

If, indeed, the consideration of finishing the technical evaluation of Yucca Mountain as a potential site for a spent nuclear fuel repository is outside the BRC's charter, the BRC should express clearly this limitation at the very front of its Final Report. There should be no capability

for misinterpretation that the BRC has endorsed placing a repository at Yucca Mountain "off the table," for technical reasons or for societal reasons. A reconsideration of Yucca Mountain versus alternative sites may take place, several years to several decades from now. Neither the BRC nor the current Secretary of Energy should prejudge this reconsideration.

America's nuclear future needs a decision process that can endure on a time scale longer than what it takes to achieve the highest levels of seniority in the Senate or House of Representatives. The events of the past three years suggest our country does not now have such a process - although allowance should be made for judicial review that has not yet taken place. The BRC's Final Report should be an important step toward improving the national decision process, such that the federal government (or an entity that it has chartered), can, with appropriate participation by state and local governments, characterize appropriate sites, evaluate selected sites against regulatory standards, and when compliance with these standards has been judged to be achieved, proceed with construction of the repository and emplacement of the large existing US inventory of spent nuclear fuel and defense-related high-level waste.

I wish the BRC all possible success in helping our nation to overcome this societal challenge!

Sincerely,

D. Warner North

D. Warner North

References:

[1]. National Research Council, *Disposition of High-Level Waste and Spent Nuclear Fuel: The Continuing Technical and Societal Challenges*, Washington, D.C.: National Academy Press, 2001.

[2]. Hank C. Jenkins-Smith et al., "Reversing Nuclear Opposition: Evolving Public Acceptance of a Permanent Nuclear Waste Disposal Facility," *Risk Analysis*, 31(4):629-644, 2011.

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Sustainable Fuel Cycle Task Force Science Panel

September 29, 2011

The Honorable Lee H. Hamilton
Co-Chairman
Blue Ribbon Commission on America's Nuclear Future
U.S. Department of Energy
C/O Mr. Timothy A. Frazier
1000 Independence Ave., SW
Washington, DC 20585-1290

The Honorable Brent Scowcroft
Co-Chairman
Blue Ribbon Commission on America's Nuclear Future
U.S. Department of Energy
C/O Mr. Timothy A. Frazier
1000 Independence Ave., SW
Washington, DC 20585-1290

Dear Co-Chairman Hamilton and Co-Chairman Scowcroft:

As you have requested, the Sustainable Fuel Cycle Task Force Science Panel is pleased to make the following input on the July 2011 draft Blue Ribbon Commission (BRC) report.

While we support many of the constructive recommendations in the draft report, e.g. assurance of funding and local community consensus, we are disappointed that the BRC did not recommend the completion of the NRC Yucca Mountain licensing proceeding. We certainly agree with the draft BRC conclusion that geologic disposal capacity is promptly needed and we strongly believe that nation will be in a better position to decide on a path forward if the independent NRC licensing safety process is concluded in an open and transparent manner. Finishing the nearly completed licensing process will allow a comparison of the thoroughly evaluated real Yucca Mountain site (which has taken 30 years of study and $9 Billion) against a hypothetical unknown new site or approach that will likely take many more decades to develop. With this information in hand, a fair comparison can be made that best serves the national needs while respecting state and local concerns. As this is an urgent matter of national importance, we should be seeking to preserve options while we simultaneously seek potentially better options, if such exists and can be implemented in a safe as well as timely and cost effective manner.

Need to Preserve All Alternatives

For the past half century, the United States has undertaken efforts to develop mined geologic disposal facilities to address the ever increasing volumes of high-level nuclear wastes in the country. In the Nuclear Waste Policy Act, Congress found that a national problem had been created by the accumulation of spent nuclear fuel from nuclear reactors, radioactive waste from reprocessing of spent nuclear fuel, and other sources, and set the country on a path to remedy that problem.

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Following passage of the Nuclear Waste Policy Act Amendments Act in 1987, Congress set its policy in law and the country focused its efforts on disposing of spent nuclear fuel and high-level radioactive waste in a geologic repository at Yucca Mountain, Nevada. With wastes accumulating at greater rates due to reactor life extensions, and growing interest in advanced reactor technologies, the decision by the Department of Energy to cease the development of that repository and seek an elusive, if not illusionary, better solution is simply not justifiable.

A specific and compelling example of the importance of concluding the NRC's licensing process is the Nuclear Waste Technical Review Board's (NWTRB) endorsement (in their "Technical Advancements and Issues report of June 2011...") of thick unsaturated zones – such as that at Yucca Mountain – as a potential repository environment. Such environments occur throughout the southwest and completion of the NRC's licensing process would greatly expedite evaluation of future repositories in this vast region of our country. In addition, completing the licensing process for Yucca would provide valuable regulatory lessons learned feedback to improve the regulatory process for any possible repository site.

While your report contains numerous valuable recommendations, there is nothing in it that would warrant or justify abandoning a workable policy that was well on its way to achieving the intent of Congress. The creation of the Blue Ribbon Commission was shadowed by an intimation that the science supporting the recommendation and licensing of Yucca Mountain was weak or somehow flawed, in spite of Secretary Chu previously being a signatory to the August 2008 National Laboratory Director's letter on a sustainable energy future urging licensing of the Yucca Mountain repository. Specifically, as Director of Lawrence Berkeley National Laboratory, he was ultimately responsible for some of the most important technical studies of the science of Yucca Mountain. As Secretary of Energy, he requested you to search for a better solution because, in his words, Yucca Mountain "was unworkable."

We believe that it does not matter how one views your recommendations or how the recommendations are packaged, no better solution has been found - there is no "silver bullet". Many of your recommendations bring to mind the earlier work of the Inter-Agency Review Group empanelled by President Carter, the debates that led to the passage of the Nuclear Waste Policy Act and the resulting legislation, and the work of several National Academy of Sciences committees that addressed this issue, most notably, the 2001 study *Disposition of High-Level Waste and Spent Nuclear Fuel: The Continuing Societal and Technical Challenges.*

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The policies formulated throughout that time were working, and absent the politicization injected into the program over the past three years, would not only still be working, but would be nearing the accomplishment of a significant milestone directed by law. Starting over, without clearly defined criteria, selecting sites, implementing site characterization programs, and preparing and defending license applications will likely take upwards of twenty plus years to get back to where the Yucca Mountain program is now.

Deep Bore Holes

We are aware that some special interest groups are promoting that our national waste disposal efforts be directed away from mined geologic repositories, e.g. WIPP, Yucca Mountain, Olkiluoto or Forsmark facilities, with efforts placed toward the unproven deep borehole disposal concept. As scientists, who have worked for many decades in this field, we caution against an abrupt shift away from a known disposal concept to a new concept with many unknown unknowns. Although deep borehole disposal has some positive scientific attributes and it is certainly worthy of further scientific study, it is not developed sufficiently to become the primary pathway to meet our national disposal need. A host of scientific and engineering issues (that have already been resolved after decades of international progress on mined geologic repositories) would need to be addressed with at least a decade of deep borehole disposal research and development before that concept could be considered a national path forward approach.

Challenging issues of retrievability, reversibility, deep geologic environmental conditions, and statutory and regulatory requirements would have to be resolved for deep borehole disposal. In addition, if used nuclear fuel is to be disposed of in this method, thousands of tons of already packaged used fuel canisters would have to be cut open and repackaged into smaller packages with a large societal cost of many billions of dollars, health risks, and unknown engineering challenges. For your consideration, we have attached a Swedish paper that addresses some of the issues of the deep borehole disposal concept that have to be adequately addressed.

Your draft report has correctly pointed out that the social political siting challenges are the primary obstacle of selecting a disposal solution. There is no basis to assume that siting a deep borehole disposal facility will be any advancement in that critical area. Some deep borehole studies, e.g. Sandia National Laboratories and MIT, have suggested that most U.S. reactor sites have geologies that might be conducive to deep borehole disposal; however there is no reason to believe that these state and local communities would be supportive of deep borehole disposal at existing reactor sites.

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Historical Reality Complications

The fourth and fifth recommendations of your report, that there be prompt efforts to develop one or more geologic disposal facilities, and prompt efforts to develop one or more consolidated interim storage facilities, while desirable, risk repeating history.

Nothing the country has yet undertaken in its attempts to remove wastes from reactor sites can be characterized as prompt, or for that matter successful. Interim storage provisions, as well as provisions for a monitored retrievable storage facility were part of the 1982 Nuclear Waste Policy Act. By statute, construction of a monitored retrievable storage facility could not begin until a license for the construction of a repository had been issued. The interim storage provisions were even more restrictive. The 1987 Amendment to the Act created a Negotiator to attempt to find an entity willing to host a repository or monitored retrievable storage facility at a technically qualified site on reasonable terms; there were no takers even when there was a repository envisioned. Efforts by the Federally designated NWPA Negotiators to obtain a site for interim storage on the Mescalero Apache Indian reservation were achieving some level of progress, until a "not in my backyard" earmark was inserted by a powerful home state U.S. senator, ended DOE's ability to continue that initiative. Similarly, the Private Fuel Storage interim storage facility on the Goshute Indian Reservation was politically derailed by the State of Utah.

It is naive to assume that a willing host would step forward today after observing how readily an administration vacillated and derailed a non-partisan program in the face of political pressure from a single powerful U.S. senator. Moreover, taking your first recommendation literally, that this be a consent base process, starting over would be fraught with opportunities for mischief by those who seek to prevent any program from moving forward. The most prompt method to remove fuel and permanently dispose of spent fuel from shutdown reactors is to just complete Yucca Mountain in accordance with current law.

Regulation Development Complications

Moving forward with a new repository site would also require an entire new suite of regulations, as the existing sets are either non-applicable (Yucca Mountain specific) or not consistent with current thinking on regulating repositories. There is a pattern in the development of U.S. high-level radioactive waste regulations – each time that Pandora's Box has been opened, it has taken longer to close it. The Environmental Protection Agency standard for high-level radioactive waste repositories was remanded in 1987; while it was reinstated for the Waste Isolation Pilot Plant within ten years, the new Yucca Mountain regulation took closer to fifteen.

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Three sets of regulations are involved - for siting, implementation, and compliance. How those new regulations could be developed promptly defies comprehension, yet realistically, no first step to implement your recommendations can be taken without the new regulations.

The high-level radioactive waste regulations were changed for Yucca Mountain because Congress recognized that the existing U.S. standards were not appropriate for an unsaturated zone repository, and did not regulate in a manner that would protect those most impacted by the presence of a repository. If, in fact, the U.S. regulations had been appropriate to accommodate a repository in any media, they would not have needed to be changed. The exact situation exists today; should the U.S. decide to pursue borehole or salt disposal, the existing regulations would not be appropriate either. Million-year performance regulations are very difficult to realistically implement as you have acknowledged. Rational alternatives have been suggested, but the Environmental Protection Agency is not likely to lessen a requirement they have promulgated.

Interim Storage is Realistically Linked to Meaningful Repository Progress
Without a timely repository program underway, recommending that the United States proceed promptly to develop one or more consolidated interim storage facilities is likely doomed to fail because potential interim storage hosts would not have confidence that the materials would be removed.

Legislating a program for storage independent of a repository program is simply kicking the can down the road to become a problem for future societies, and is not consistent with policies that have been articulated in this country since 1978. If, in fact, the Blue Ribbon Commission had found a novel solution, there could be cause to welcome your report. Instead there is nothing new.

There should be a priority for stranded fuel at shutdown reactors; unfortunately, the best opportunity to move this fuel was associated with a repository at Yucca Mountain. There is no basis to conclude that any new program could result in that fuel being moved sooner than if it were moved to a fuel aging facility at Yucca Mountain.

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The Draft Report notes that even with timely development of consolidated storage facilities, a large quantity of spent fuel will remain at reactor sites for many decades. The report does not address the fact that important criteria for selecting reactor sites, which included the ready availability of water that could be used without significant impact to the surrounding ecosystems, and proximity to transmission lines, are not necessarily ideal for long term surface storage of spent nuclear fuel. It is also true that reactor sites that could once be described as rural are becoming urban as cities expand.

National Needs vs. Consensus

It is not our intention to argue against your recommendation for a consent-based program, that is, in the sense that affected communities have an opportunity to decide whether to accept facility siting decisions and retain significant local control. Rather, the two parts of this recommendation are very different. The Blue Ribbon Commission received testimony of local community consent that apparently was not considered seriously in developing the draft report recommendations. Ignoring the true local community and choosing instead to respond only to population centers 100 miles and 250 miles from Yucca Mountain is wrong. In addition, this recommended approach does not consider the needs of populations beyond the host state borders that are also impacted by the lack of government removal of wastes from their communities. All these communities also should have a vote in deciding how to dispose of the wastes. And for Yucca they did. Their representatives voted to pass the laws setting the U.S. on the path to disposal at Yucca Mountain. The Nuclear Waste Policy Act concept of the opportunity for a state to disapprove the site recommendation was carefully crafted to address the potential for lack of consent at the state level. The requirement for a super-majority to override the notice of disapproval was as fair as Congress could make this difficult decision. The Nuclear Waste Policy Act is just that – a law that Congress passed that included a fair consideration of state and national rights, and the amendment that selected Yucca Mountain as the single site to be studied is also a law.

As for the true local community, once the Yucca Mountain site was designated, Nye County resolved to constructively engage in the federal process to construct and operate a repository in a safe and environmentally protective manner. This consent-based process has been subject to a rigorous scientific and technical process.

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The second part of your recommendation for a consent-based program is that affected communities should retain significant local control and it is perhaps the most meaningful and potentially most useful recommendation of your report. Stakeholders should have an opportunity to understand key decisions and engage the process in a meaningful way, and key decisions should be revisited and modified as necessary along the way rather than being pre-determined. This is exactly the intent of the Safety Case approach that is being followed by most other countries. Nye County's enduring interest and support for the Project flies in the face of any notion that Yucca's closest citizens have been universally opposed.

Legal & Ethical Needs

There is another aspect of law that bears on this issue as well; the contracts that the Department of Energy signed with the utilities as a result of the passage of the Nuclear Waste Policy Act are legally binding. Today, the government is in default on those contracts and U.S. citizens are being taxed to pay the damages for the government's failure to follow the law.

These costs are a wasteful societal cost because the users of the nuclear generated electricity have already paid for its disposal.

Failure to follow existing law and instead recommend replacing it with a nebulous unknown concept for an unachievable future state burdens future generations in a way that would be abhorrent to the crafters of the Nuclear Waste Policy Act, and would force these future generations to continue paying for consequences of the government's current failure to follow the law.

Conclusions

We appreciate the major effort that has gone into the preparation of this comprehensive draft. And, we recognize that the BRC's "charter" dismissed it from commenting on Yucca Mountain as a repository. Nevertheless, while the draft explicitly noted reasons why Yucca Mountain has proven to be politically controversial, it failed to inform readers in the body of the text or barely mentioned the facts that: a) Yucca Mountain was ranked first in DOE's assessments of the three repository finalists prior to passage of the 1987 amendments; b) in 2002, Congress chose Yucca Mountain as the Nation's first repository; c) this site was endorsed by the Directors of all ten National Laboratories in August 2008, including Dr. Chu then head of Lawrence Berkeley National Laboratory; an d) the site has the approval of Nye County, Nevada thereby fulfilling a key recommendation of the BRC's report that a prospective site be endorsed by the hosting community.

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The Honorable Lee H. Hamilton
Co-Chairman
&
The Honorable Brent Scowcroft
Co-Chairman
Blue Ribbon Commission on America's Nuclear Future
U.S. Department of Energy
September 29, 2011
Page Seven

At the minimum, we strongly recommend that the BRC's final report consider and preserve *all* alternatives and recommend finishing the NRC's nearly completed licensing of the Yucca Mountain repository.

With this important information in hand, the nation can consider the BRC's other options and make the best decisions for implementing a successful nuclear waste management for our nation's future.

Sincerely,
Science Panel

Charles Fairhurst, Ph.D.

D. Warner North Ph.D.

Ruth Weiner, Ph.D.

Isaac Winograd, Ph.D.

Wendell Weart, Ph.D.

Eugene H. Roseboom Jr., Ph.D.

Mr. SHIMKUS. I would like to recognize Mr. Malsch for 5 minutes.

STATEMENT OF MARTIN G. MALSCH

Mr. MALSCH. Thank you, Mr. Chairman, Ranking Minority Member Green and other members of the subcommittee. I appreciate the opportunity to provide testimony today regarding the Recommendations of the Blue Ribbon Commission on America's Nuclear Future released just last week. My name is Marty Malsch, I am a partner in the law firm Egan, Fitzpatrick, Malsch & Lawrence which specializes in nuclear energy and nuclear waste matters. As the chairman has indicated, I do represent the State of Nevada on Yucca Mountain matters. My testimony today represents my own views and they do not necessarily represent the view of the State of Nevada.

In accordance with the committee's rules, I will proceed to offer a brief oral summary and would like to have my full testimony included in the record.

Mr. SHIMKUS. Without objection, so ordered.

Mr. MALSCH. The BRC studied the history of successful and unsuccessful attempts around the world to develop geologic repositories for radioactive waste. Its recommendations based on this study and other factors are thoughtful and well supported. We owe a debt of gratitude to the BRC members and the BRC staff for their willingness to serve, their dedication to the task, their openness to diversion of ideas and opinions and their careful analysis of problems and feasible solutions to the nuclear waste management issues confronting America today.

While I generally support all of the BRC's recommendations, I would like to focus my testimony today on four especially important and closely connected ones. First, I agree there should be prompt efforts to develop one or more geologic disposal facilities, although not in the sense that we need to select and license a repository in the near term. We are not facing any disposal crisis because vitrified high-level waste and spent nuclear fuel can be stored safely for a long time, but in many of the Nuclear Waster Policy Act organizing and staffing a new waste management organization, and implementing a new consent based site selection process as the BRC has recommended will take considerable time. We should start the process promptly especially the process to make necessary legislative changes.

Second, the BRC recommended an adaptive stage facility licensing and development process whereby project managers are able to reevaluate earlier decisions and redesign or change course where new information warrants. This recommendation addresses, I believe, what is one of the key lessons from the past that premature commitments to one site should be avoided. There should be multiple opportunities to assess the quality of the technical program and the safety case supporting the decision-making process and to pull the plug when warranted.

Third, I support the BRC's recommendations that there should be a new organization devoted solely to implementing the waste management program. DOE has not performed well here and a new organizational approach is clearly needed.

Fourth and most important, the BRC recommended a new consent-based approach to future siting waste management facilities. I believe that a consent-based site selection process is not just good government, it is a frank concession to reality and one of the key lessons that must be learned from history.

We should not assume that the objections of a host State or local government or Indian tribe will melt away and that they will be ready to deal if the NRC grants a license or construction authorization. Nor should we assume that the preemptive powers of the Federal Government are so great and that State and local rights and preferences are so undeserving of respect that a site can always be thrust upon an unwilling host State government or tribe. This means must be found to elicit the cooperation, or at least the acquiescence of the host State government or tribe.

I agree with the BRC that a successful site selection decision will most likely result from the negotiations between the implementing organizations and the potentially affected governments and that it will be desirable for these negotiations to result in some form of legally enforceable agreement. I also recognize that a State, local or tribal government's ability to veto a repository project cannot last indefinitely. Otherwise, the uncertainty of whether a project could ever successful would be so great that any significant investment and it would be imprudent. Ending the veto can be matter of subject negotiation between the waste management organization and the governmental entity.

The BRC report includes a brief summary of the U.S. experience in developing geological repositories and draws some conclusions based on this experience. My written testimony adds some details about this experience focusing on Lyons, Kansas, and Yucca Mountain, Nevada. I believe these are worth considering because they add substantial context and support for the BRC's recommendations and conclusions.

In conclusion, almost everything that could go wrong with a geologic repository program in the United States has now gone wrong. It would be unfortunate if the nuclear power program in this country floundered because of because of poorly chosen policies for managing spent fuel and high-level radioactive waste. And the citizens living near DOE legacy sites deserved a better program than the one they got. The BRC has now offered and recommended a path forward. We have ample time to consider the BRC's recommendations and get things right. Thank you for your consideration of my testimony.

Mr. SHIMKUS. Thank you, sir.

[The prepared statement of Mr. Malsch follows:]

SUMMARY OF THE TESTIMONY OF MARTIN G. MALSCH
U.S. HOUSE OF REPRESENTATIVES COMMITTEE ON ENERGY AND COMMERCE
SUBCOMMITTEE ON ENVIRONMENT AND THE ECONOMY

HEARING REGARDING RECOMMENDATIONS OF THE BLUE RIBBON COMMISSION ON AMERICA'S NUCLEAR FUTURE

FEBRUARY 1, 2012

Two things stand out from the history of attempts to locate geologic repositories in Lyons, Kansas and Yucca Mountain, Nevada. In both cases project proponents made a premature commitment to the site in the face of incomplete scientific information. In the case of Yucca Mountain, the BRC correctly observed that the "short-circuiting of the initial site selection process … had the effect of tainting all subsequent state-federal interactions over the project" and the process as a whole "created a widespread perception that the repository location was being determined on the basis of primarily political, rather than technical and scientific, considerations." Also in both cases the site proponents ignored the legitimate objections of the host State. The BRC observed correctly that "determined opposition at any level of government can at a minimum significantly complicate and delay, and in many cases defeat, best efforts to site a facility."

The BRC has now taken these lessons of the past into account and recommended a site selection process for a geologic repository based on the informed consent of the affected state, local and tribal governments, and an iterative, step-wise process that avoids premature commitments. I support the BRC's recommendations. We are not facing a nuclear waste disposal crisis and we have ample time to consider the BRC's recommendations and finally get things right, but we should start the legislative process to amend the Nuclear Waste Policy Act promptly.

TESTIMONY OF MARTIN G. MALSCH
U.S. HOUSE OF REPRESENTATIVES COMMITTEE ON ENERGY AND COMMERCE
SUBCOMMITTEE ON ENVIRONMENT AND THE ECONOMY

HEARING REGARDING RECOMMENDATIONS OF THE BLUE RIBBON COMMISSION ON AMERICA'S NUCLEAR FUTURE

FEBRUARY 1, 2012

Mr. Chairman and members of the Subcommittee, I appreciate the opportunity to provide testimony today regarding the recommendations of the Blue Ribbon Commission on America's Nuclear Future (BRC), released late last week. My name is Martin G. Malsch. I am a partner in the law firm Egan, Fitzpatrick, Malsch & Lawrence, PLLC. I have practiced law in the nuclear energy and nuclear waste fields for over forty years, including many years as the Deputy General Counsel or Acting General Counsel for the U.S. Nuclear Regulatory Commission. In private practice I have advised both public and private entities regarding nuclear issues. I believe I am one of the few practitioners in the nuclear energy field who has represented both proponents and opponents of nuclear facilities. I currently represent the State of Nevada on matters related to the Yucca Mountain repository, but I am not testifying today in a representative capacity. My testimony today presents my personal opinions regarding the BRC's recommendations based on my experience and expertise in the nuclear energy and nuclear waste fields; it does not necessarily represent the views of Nevada or anyone else.

BACKGROUND

The BRC report includes a brief summary of the U.S. experience in developing geologic repositories and draws some conclusions based on this experience (report at pp. 19-24). I would like to add a few details about this experience, focusing on Lyons, Kansas and Yucca Mountain, Nevada, because I believe this will add substantial additional context and support for the key

BRC conclusion that "any attempt to force a top-down, federally mandated solution over the objections of a state or community – far from being more efficient – will take longer, cost more, and have lower odds of ultimate success" (report at pg. ix). I also believe that consideration of some additional historic details will support the conclusion that a premature commitment to a site before sufficient supporting scientific evidence is available also creates a high risk of program failure and erodes credibility. The BRC mentions this second point as well (report at pg. 23) but I think it warrants additional emphasis.

Lyons, Kansas

In the 1960s a clamor arose over the potential that liquid high-level radioactive wastes would leak from Atomic Energy Commission (AEC) storage facilities located at the National Reactor Testing Station in Idaho, the Savannah River Site in South Carolina, and the Hanford Site in Washington. As a result, the AEC promised Idaho Senator Church that the Idaho wastes would be transferred out of Idaho to a permanent geologic repository by the end of the 1970s. The AEC pinned all its hopes on an abandoned salt mine in Lyons, Kansas. However, rather than taking the time to complete necessary scientific investigations, the AEC offered disputable safety conclusions and pressed ahead. The AEC believed state and local support was essential, but it lost that support when it failed to give any credence to the legitimate concerns of Kansas experts. Ultimately, the Lyons, Kansas site proved to be unsuitable.

Yucca Mountain

After the failure of Lyons, Kansas, the AEC's successor agencies continued to investigate other possible repository sites and the Congress enacted the Nuclear Waste Policy Act of 1982 (NWPA). In accordance with the NWPA, DOE selected five sites for more detailed study (characterization): salt deposits in Mississippi, Texas, and Utah; basalt formations in Hanford,

Washington; and volcanic tuff rock in Nevada. In perhaps a hint of what was to come, potential sites in Louisiana were excluded based on a political side agreement between Louisiana Senator Johnston and the Secretary of DOE. The NWPA then called upon DOE to narrow the choices to three, all three of which were to be fully characterized (studied) so that any one failure would not prematurely destroy the whole repository program. In 1986, the DOE Secretary announced that the final three choices were the ones in Deaf Smith County, Texas; Yucca Mountain, Nevada; and Hanford, Washington. The designation prompted angry protests from all three areas, whose representatives believed that the scientific investigations were not completed, and the protests became part of a nationwide movement when DOE cancelled the search for an eastern site, notwithstanding a clear informal agreement among NWPA supporters that the second site called for by the NWPA would be located in an eastern State.

The program was now in shambles and Congress reacted by enacting the NWPA Amendments Act of 1987. That Act directed DOE to limit its future site characterization and selection efforts to a single site in Yucca Mountain, Nevada, notwithstanding the advice from NRC (and others) that the scientific information was insufficient to make an informed safety conclusion about the suitability of the site. In fact, the selection of the Yucca Mountain site was based on DOE's so-called "Multiattribute Utility Analysis of Sites," which depended in important part on the assumption that little groundwater would move downward from the mountain top and seep into the tunnels where the waste would be disposed of. This assumption later proved to be false.

The NWPA Amendments Act of 1987 attempted to place the entire high-level waste disposal burden on one western state with no nuclear power plants or other high-level waste generating facilities. The Act's supporters ignored the incompleteness of the scientific

information and ignored the objections of the host State, which believed (with good reason) that Nevada had been singled out simply because it was "the small kid on the block." Lessons that should have been learned from the history of Lyons, Kansas were ignored.

In February 2002, DOE Secretary Abraham formally recommended the Yucca Mountain site to President Bush, notwithstanding the Nuclear Waste Technical Review Board's conclusion that DOE "has yet to make a convincing case that nuclear waste can safely be buried at Yucca Mountain," and President Bush recommended the site to the Congress. Citing numerous scientific flaws, Nevada Governor Guinn formally disapproved of the site, using the state veto procedure set forth in the NWPA. Congress then formally overrode Nevada's veto by enacting H.J. Res. 87. The designation of Yucca Mountain as a repository site became effective on July 23, 2002, when President Bush signed S.J. Res. 34 into law.

The NWPA required DOE to file its license application within 90 days after the President's site recommendation became effective, or by October 21, 2002. October 21, 2002 came and receded into history without any application being filed. This was not a surprising development, given the scientific and engineering challenges DOE still faced when Nevada's veto was overridden. Obviously, DOE's recommendation of the Yucca Mountain site to the President was another example of a premature commitment to the site, continuing the trend set in 1987. The application was not filed and docketed by the NRC until September 8, 2008, almost six years after the statutory deadline expired. Final repository safety regulations were not even in place until 2009.

DOE moved to withdraw its license application on March 3, 2010 and the presiding Licensing Board denied DOE's motion on June 29, 2010. On September 9, 2011, the Commission announced that it could neither affirm nor reverse the Licensing Board's decision

because it was evenly divided on the matter. However, because of budgetary limitations, the Commission also directed the Licensing Board to take steps that would facilitate an orderly suspension of the licensing proceeding. The Licensing Board suspended the licensing proceeding on September 30, 2011.

Thus, the Yucca Mountain license application proceeding before the NRC is now suspended indefinitely because of budgetary limitations. All four participating NRC Commissioners agreed with this result (one NRC Commissioner previously recused himself), including the two Commissioners who believed DOE lacked the authority to withdraw the license application. No party to the proceeding has asked the NRC to reconsider the suspension. Congress "zeroed out" Yucca Mountain in the final FY 2012 Appropriations Act and, as a result, there are not enough funds to come anywhere close to completing the proceeding.

PAST MISTAKES AND LESSONS LEARNED

Two things stand out in this brief history of the two most significant attempted U.S. geologic repository projects. First, in both cases project proponents made a premature commitment to the site in the face of incomplete scientific information. In the case of Yucca Mountain, the BRC correctly observed that the "short-circuiting of the initial site selection process … had the effect of tainting all subsequent state-federal interactions over the project" (report at pg. 48). Indeed the process as a whole "created a widespread perception that the repository location was being determined on the basis of primarily political, rather than technical and scientific, considerations" (report at pg. 23).

Second, in both cases, the site proponents ignored the legitimate objections of the host State. The BRC observed correctly (report at pg. 58) that "determined opposition at any level of

government can at a minimum significantly complicate and delay, and in many cases defeat, best efforts to site a facility."

While there may be some residual hope in some quarters that Yucca Mountain might somehow be revived, I believe most informed observers would agree with the BRC that tying the entire fate of the U.S. high-level waste program to Yucca Mountain "has not worked to produce a timely solution for dealing with the nation's most hazardous radioactive materials" (report at pg. vi).

BRC RECOMMENDATIONS

I agree with the BRC's recommendations. The BRC studied the lessons of history and its recommendations are well supported. We owe a large debt of gratitude to the BRC members and the BRC staff for their willingness to serve, their dedication to the task, their openness to divergent ideas and opinions, and their careful analysis of problems and possible solutions to the nuclear waste management issues confronting Americans today.

I would like to focus my testimony today on three key and closely connected BRC recommendations: (1) that there should be prompt efforts to develop one or more geologic disposal facilities; (2) that there should be a new single-purpose organization dedicated to implementing the waste management program; and (3) that a new consent-based approach to site selection should be adopted.

DEVELOPING A NEW GEOLOGIC DISPOSAL FACILITY

The BRC recommended that there should be "prompt efforts to develop one or more geologic disposal facilities" (report at pg. vii).

I agree there should be prompt efforts to develop one or more geologic disposal facilities, although not in the sense that we need to select and license a repository in the near term. We are

not facing any disposal crisis because vitrified high-level waste and spent nuclear fuel can be stored safely for a long time and we therefore have plenty of time to get things right. But amending the Nuclear Waste Policy Act, organizing and staffing a new waste management organization, and implementing a new consent-based site selection process, as BRC recommends, will take considerable time. We should start the process promptly, especially the necessary changes to the NWPA.

The BRC recommended an "adaptive, staged facility siting and development process" whereby "[p]roject managers are able and willing to reevaluate earlier decisions and redesign or change course when new information warrants" (report at pg. 54). This recommendation addresses the key lesson from the past that premature commitments to one site should be avoided. The development of a geological disposal facility can take decades, and a step-by-step, iterative process is required. The amount of time and effort required creates a grave danger that project momentum will overcome common sense and sound science. There should be multiple opportunities to assess the quality of the technical program and the safety case supporting the decision-making process and no reluctance to "pull the plug" when warranted.

A NEW ORGANIZATION

I support the BRC's recommendation that there should be "a new organization dedicated solely to implementing the waste management program" (report at pg. vii). This means that the responsibility for the geologic repository program should be taken away from DOE and assigned to a new single-purpose organization, perhaps a government-chartered entity like TVA. DOE has not performed well here and a new single organizational approach is clearly needed. In fact, I made a similar recommendation several years ago at an NRC Regulatory Information Conference.

The new organization should be dedicated solely to implementing the waste management program and empowered with the authority and resources to succeed. It will also be important that the new organization be subject to independent licensing and regulation of its waste management activities (including transportation) in the same way that any other private entity would be.

CONSENT BASED SITE SELECTION

The BRC recommended "a new consent-based approach to siting future waste management facilities" (report at pg. vii). I believe a consent-based site selection approach is not just good government – it is a frank concession to reality and, as I indicated above, one of the two key lessons that must be learned from history. We should not assume that the objections of a host state or local government or tribe will melt away and that they will be "ready to deal" if the NRC grants the construction authorization. Nor should we assume that the pre-emptive powers of the federal government are so great, and that state and local rights and preferences are so undeserving of respect, that a site can always be thrust upon an unwilling host state, local government, or tribe. Even a site located on Federal land is subject to numerous state and local laws and regulations that can be used to vindicate states' rights absent draconian and dubious Federal legislation preempting state law. The BRC put it well when it concluded that "determined opposition at any level of government can at a minimum significantly complicate and delay, and in many cases defeat, best efforts to site a facility" (report at pg. 58).

Therefore means must be found to enlist the cooperation, or at least the acquiescence, of the host state, local government, and tribe. Generous financial or other incentives (a so-called benefits package) can be provided to the affected governmental entities, but this approach can easily operate or be construed as a kind of unacceptable bribe in return for ignoring the safety of

current and future generations of citizens. Therefore an affected governmental entity should never be asked to agree completely with, and withhold its objections to, a site while site investigations and safety analyses are still underway. This asks for too much. Instead, as the BRC recommended, there should be a step-wise and iterative process that avoids premature commitments on all sides.

I suggested how such a step-wise and iterative process might be constructed in written comments I provided the BRC, dated November 10, 2010. But I agree with the BRC that a successful site selection decision will most likely result from "a complex and perhaps extended set of negotiations between the implementing organization and the potentially affected state, tribal, and local governments, and other entities," and that it would be desirable for these negotiations to result in "a partnership agreement or some other form of legally enforceable agreement" (report at pg. ix). I also recognize that a state, local or tribal government's ability to "veto" a repository project cannot last indefinitely; otherwise the uncertainty over whether the project could ever be successful would be so great that any significant investment in it would be imprudent. Ending the "veto" can be a matter subject to negotiations between the waste management organization and the governmental entity.

SOME RESERVATIONS

I agree with the BRC that independent regulation is "an essential element of a safe, secure, environmentally responsible and ultimately effective nuclear waste management strategy" (report at pg. 88) and also that site-specific regulations like those that apply now to Yucca Mountain "undermine confidence" (report at pg. 23). I also agree with the BRC that there is no need to readjust the assignment of generic repository regulatory authority as between NRC and EPA.

However I have some reservations about certain parts of the BRC's discussion of regulatory standards issues (report at pp. 89-92). I suspect the BRC would agree with me that these particular topics are best addressed by the NRC in a future standards rule making and I see no need to address them in any depth today. Suffice it to say here that there is some tension between (1) concluding, as most experts have, that very long-lived radioactive wastes can be safely disposed of if a suitable site is selected, but (2) cautioning that it may be unrealistic to have a very long requirement for demonstrating compliance with a traditional safety regulation and suggesting that a different standard of proof should be applied. If we are overly aggressive in limiting compliance time frames and relaxing the burden of proof we will undercut the first conclusion and detract from the credibility of the licensing process.

CONCLUSION

Almost everything that could go wrong with a geologic repository program in the United States has now gone wrong. It would be unfortunate if the nuclear power program in this country foundered because of poorly chosen policies for managing spent fuel and high-level radioactive waste, and the citizens living near DOE nuclear legacy sites deserve a better program than the one they got. The BRC has now offered a path forward. We have ample time to consider the BRC's recommendations and get things right. But history suggests that amending the Nuclear Waste Policy Act, organizing and staffing a new waste management organization, and implementing a new consent-based site selection process, as the BC recommends, will take considerable time. Therefore we should start the process now – especially the legislative process.

Moreover, the BRC has also recommended some significant useful steps that can be taken without new legislation, especially regarding the equitable treatment of Nuclear Waste Fund (NWF) fees (report at pp. 75-78). These also should be considered promptly.

Thank you for your consideration of my testimony. I would be pleased to answer any questions you may have and to assist the Subcommittee in its future efforts to develop a sound nuclear waste management policy.

Mr. SHIMKUS. Now I would like to recognize Mr.—Dr. Edwin Lyman, sir, recognized for 5 minutes.

STATEMENT OF EDWIN LYMAN

Mr. LYMAN. Thank you. On behalf of the Union of Concerned Scientists, I appreciate the opportunity to present our views on the recommendations on the Blue Ribbon Commission. I would like to thank Chairman Shimkus and Ranking Member Green and other members for hearing us out.

The Union of Concerned Scientists is neither pro nor anti nuclear power, but we have served as a safety and security nuclear watchdog for over 40 years. We are deeply concerned about global climate and we have never ruled out an expansion of nuclear power to cope with those problems provided that it meets high standards of safety and security. However, the Fukushima Daiichi accident has revealed significant vulnerabilities in nuclear safety that really need to be addressed if nuclear is going to be a serious option in the future and the management disposal of the nuclear waste is clearly a major factor in that.

Before proceeding, I would like to point out that UCS has never had a position for or against Yucca Mountain or any other site, we simply don't have the geological expertise to be able to assess a site's ability independently. We commend the Commission staff of the BRC for an excellent report and think they have addressed very well a very challenging set of issues. We reviewed all eight recommendations, and agree with most of them, but our greatest area is of agreement concerns, the absence of a recommendation. We were pleased to see that the Commission did to not call for an immediate change in U.S. long-standing policy not to reprocess spent nuclear fuel. So we do concur with BRC on that.

UCS has long opposed reprocessing primarily because it produces Plutonium and other weapons-useable materials that greatly increase the risk of nuclear terrorism, nuclear proliferation, and at the same time, do not provide any benefits for waste management. Now we heard earlier about figures provided by AREVA that claim they can reduce the volume of nuclear waste for final disposal through reprocessing. I reviewed those numbers and I can say the factor of 4, which we heard earlier this morning is not technically valid and I would be happy to provide more details on that.

Be also believe if the BRC had endorsed reprocessing, it would have send the wrong message to the rest of the world control, undermining efforts to control the growth of separated Plutonium. For instance, in Japan today, they are currently reconsidering the start up of a large reprocessing plant at Rokkashomura, which has been idle because of the technical problems and the ramifications of Fukushima. Japan already has 45 metric tons of Plutonium, of which 10 tons are in Japan that is on the order of a thousand Nagasaki-type weapons, Japan just simply doesn't need any more Plutonium. And we are just glad that the BRC did not give the signal that would have given coverage to Japan for restarting that facility.

On the recommendation for creating a new entity independent from Department of Energy, we agree with that, but we believe that it is very important to limit that entity to the constraints

called for in the report with, based on transports storage and direct disposal, spent fuel and high-level waste with only limited research and development to support those activities.

We did disagree with the BRC on the urgent need for centralized interim storage. We still are not persuaded that there is a good reason to cite our new centralized interim storage facilities, either for operating or for shutdown reactors. And we are concerned that an effort could to distract from the goal of citing a geological repository. Simply too many moving parts, too many potential sites being considered, too much incentive money that would have to go around we think could really interfere with the goal of finding a repository which we think we agree as a fundamental requirement.

We do think that spent fuel can be stored safely and securely for probably 100 years at reactor sites provided that the NRC upgrade its safety and security practices.

In particular, we are continually concerned about the long-term storage of spent fuel in wet pools under densely-packed conditions. We believe that poses a greater threat of large radiological release, and we encourage the thinning out of those pools by transferring spent fuel into dry casks. Dry casks are safer but do need to be protected especially against sabotage, and we also call for increased protection against sabotage in dry cask facilities.

Finally with regard to research and development, we believe a limited program of R&D on nuclear energy continues to be appropriate, but we think it needs to be focused, needs peer review, and that the merits of those programs need to be under constant observation so we don't waste taxpayer money on options like reprocessing that have not shown to be successful in the past. I thank you and would be happy to take your questions.

Mr. SHIMKUS. Thank you, Dr. Lyman.

[The prepared statement of Mr. Lyman follows:]

Testimony of Dr. Edwin Lyman

Senior Scientist, Global Security Program

Union of Concerned Scientists

"Recommendations of the Blue Ribbon Commission on America's Nuclear Future"

Before the

Subcommittee on Environment and the Economy

Committee on Energy and Commerce

U.S. House of Representatives

February 1, 2012

SUMMARY OF UCS TESTIMONY

- The Union of Concerned Scientists (UCS) commends the commissioners and staff of the Blue Ribbon Commission (BRC) for doing an excellent job in addressing an extremely challenging set of issues.
- UCS agrees with most of the eight recommendations in the BRC report.
- UCS strongly concurs with the BRC's conclusion that "no currently available or reasonably foreseeable reactor and fuel cycle technology developments --- including advances in reprocessing and recycling technologies --- have the potential to fundamentally alter the waste management challenge over at least the next several decades, if not longer." UCS believes that if the BRC had endorsed reprocessing, it would have sent the wrong message to the rest of the world, undermining efforts to control the growth of weapon-usable material stockpiles.
- UCS supports the consent-based siting approach and the creation of a new waste management organization that is independent of DOE, provided that its operations are limited to transport, storage and direct disposal of spent fuel and high-level waste.
- UCS is not persuaded that new legislation to facilitate the siting and development of consolidated interim storage facilities is necessary, either for spent fuel from operating reactors or from shutdown reactors.
- UCS believes that spent fuel can be managed safely at reactor sites provided that the Nuclear Regulatory Commission appropriately upgrades its requirements to minimize the safety and security risks associated with long-term (up to 100 years) storage at reactors.
- UCS supports limited taxpayer-funded nuclear energy R&D on improving safety, security and efficiency of existing nuclear plants and the once-through fuel cycle.

Good morning. On behalf of the Union of Concerned Scientists, I would like to thank Chairman Shimkus, Ranking Member Green, and the other distinguished members of the Subcommittee for the opportunity to provide our views on the recommendations of the Blue Ribbon Commission on America's Nuclear Future (BRC).

The Union of Concerned Scientists (UCS) is neither pro nor anti-nuclear power, but has served as a nuclear power safety and security watchdog for over 40 years. UCS is also deeply concerned about global climate change and has not ruled out an expansion of nuclear power as an option to help reduce greenhouse gas emissions—provided that it is affordable relative to other low-carbon options and that it meets high standards of safety and security. However, the Fukushima Daiichi crisis has revealed significant vulnerabilities in nuclear safety and has shaken public confidence in nuclear power. Regulators around the world must seriously address these vulnerabilities in order to reduce the risk of another Fukushima in the future. Otherwise, the viability of nuclear power as a reliable electricity option will be in doubt.

Before proceeding, I would like to mention that although UCS supports the development of one or more geologic repositories for the direct disposal of spent fuel, UCS does not have a position on the suitability of the Yucca Mountain site, or for that matter, any other potential site in the United States. The UCS Global Security Program does not have the geological expertise necessary to evaluate site suitability. However, we concur with the BRC's assessment that the process by which Yucca Mountain was selected was flawed and contributed to the program's ultimate failure. UCS supports the BRC's call for a new, consent-based repository siting

approach that will be more likely to lead to selection of sites that are both technically suitable and broadly acceptable to the public.

UCS commends the BRC commissioners and staff for doing an excellent job in addressing an extremely challenging set of issues. The BRC's report is clear, well-written and compelling, and provides a comprehensive roadmap for moving toward achieving a national consensus on this highly controversial issue. And the BRC's exhaustive effort to conduct its business in a transparent way and to solicit and seriously consider public input was apparent. UCS staff had the opportunity to testify three times before the BRC and also to participate in more informal BRC-sponsored forums.

UCS has reviewed the eight recommendations in the final report and agrees with most of them. However, perhaps our greatest area of agreement concerns the absence of a recommendation. The BRC, after careful consideration, did not recommend that the United States reverse a 35-year precedent and proceed immediately with development of facilities for spent fuel reprocessing and plutonium fuel production and use. UCS strongly concurs with the BRC's conclusion that "no currently available or reasonably foreseeable reactor and fuel cycle technology developments --- including advances in reprocessing and recycling technologies --- have the potential to fundamentally alter the waste management challenge over at least the next several decades, if not longer."

UCS has long opposed reprocessing because it produces plutonium and other materials that could be used in nuclear weapons, greatly increasing the risks of nuclear terrorism and proliferation, yet provides no benefits for radioactive waste management. In contrast, reprocessing actually worsens the radioactive waste disposal problem. For instance, the Energy Department calculated in a 2008 draft environmental impact statement that a 50-year reprocessing program would only reduce the volume of high-level waste by 15,000 cubic meters compared to the once-through cycle, while generating an additional 400,000 cubic meters of greater-than-class C low level waste, a category of waste that itself will likely require deep geologic disposal.

UCS believes that if the BRC had endorsed reprocessing, it would have sent the wrong message to the rest of the world, undermining efforts to control the growth of weapon-usable material stockpiles. For instance, Japan is on the verge of restarting its reprocessing plant at Rokkasho-mura, a troubled $20 billion project that has been buffeted by technical problems, massive cost escalation and, since the Fukushima accident, renewed concerns about its vulnerability to accidents and severe natural phenomena. Japan has already accumulated 45 metric tons of plutonium from overseas and domestic reprocessing operations, of which 10 metric tons—enough for more than one thousand Nagasaki-type nuclear weapons—is on Japanese territory. Japan will be unable to use any of this plutonium in its nuclear reactors for the foreseeable future because of public doubts about reactor safety in the wake of Fukushima, and the technical failure of the Monju experimental fast breeder reactor program. Thus Japan does not need to add to its stockpile of separated plutonium by resuming reprocessing. UCS appreciates that the BRC report will give no support to advocates of a reprocessing restart in Japan.

Concerning BRC recommendation 2, creation of a new congressionally chartered federal corporation for managing the disposal of spent fuel and high-level waste, UCS supports creation of a new entity that is independent of DOE, fully transparent in its deliberations and decision-making, and free of undue influence from any of the multiple stakeholders that it must serve. Most importantly, however, the entity's operation should be strictly limited to the activities recommended by the BRC: transport, storage and direct disposal of spent fuel and high-level waste, with limited research and development as needed to support the safety and security of those activities. The entity should not be given any authority to use the Nuclear Waste Fund or any other funds to conduct research, development or deployment of reprocessing plants or any other fuel cycle technology or facility not needed for direct disposal of spent fuel and high-level waste. In any event, the huge additional cost of such activities would require a significant increase in the waste fee assessment that would be unpopular among ratepayers.

One area where UCS disagrees with the BRC recommendations concerns its strong endorsement of prompt efforts to develop centralized interim storage facilities (Recommendation 5). UCS is not persuaded that new legislation and other actions to facilitate the siting and development of consolidated interim storage facilities are necessary, either for spent fuel from operating reactors or from shutdown reactors. The argument for consolidating spent fuel from shutdown reactors is more compelling than for fuel from operating reactors, but UCS has yet to see an analysis clearly demonstrating that the benefits of interim storage outweigh the additional costs and risks associated with siting and licensing new storage facilities and the additional transportation that would be required—even for spent fuel from shutdown reactors. An alternative that might be more desirable would be to arrange to ship spent fuel from each shutdown reactor to the nearest

operating reactor that has the space to accommodate it, thus eliminating the need to license greenfield facilities, capitalizing on existing infrastructure and reducing transport distances.

It is not apparent that siting a consolidated interim storage facility would be any easier politically to achieve than siting a geologic repository. Prospective host communities for new centralized storage sites would likely demand significant incentives, such as new research and development facilities, in exchange for their acceptance. Such costly incentives would best be reserved for potential repository host communities, as there is unlikely to be enough funding to support multiple endeavors. Also, efforts to site interim storage facilities could distract from or even derail the far more important goal of finding a repository site. There was a good reason why the 1987 Nuclear Waste Policy Act amendments linked construction of a monitored retrievable storage facility to progress on licensing a repository; UCS does not support the BRC's proposal to sever that link. UCS also does not agree that the "flexibility" a retrievable interim storage facility could provide is necessarily a desirable property, should that flexibility facilitate reprocessing of spent fuel in the future. We believe that the principle of intergenerational equity requires that action must be taken today to preclude easy access in the future to the plutonium in spent fuel, which will become more vulnerable over time as the spent fuel radiation barrier provided by cesium-137 decays away. This can best be accomplished by direct geologic disposal of spent fuel as soon as practicable.

UCS believes that spent fuel can be managed safely at reactor sites provided that the Nuclear Regulatory Commission appropriately upgrades its requirements to minimize the safety and security risks associated with long-term (up to 100 years) storage at reactors. To this end, we

support the BRC's call for a new review by the National Academy of Sciences (NAS) of the safety and security issues associated with spent fuel storage, both in wet pools and in dry casks. This review should consider all that the NRC has—or hasn't—done since the 2006 NAS study on spent fuel security to address the risk of a zirconium fire and widespread fuel damage at densely packed spent fuel pools. As was the case at the time of the 2006 study, much of the information associated with this issue is classified. Now, however, there should be additional efforts to declassify the information necessary to fully inform Americans of the risks they face from overstuffed spent fuel pools in the event of a terrorist attack or severe accident. Any lessons learned from Fukushima, where the spent fuel pools were not nearly as full as those at U.S. plants, will have to be interpreted appropriately for the U.S. case.

Although a new NAS study would be useful for a number of reasons, we do not believe that more study is needed to support a new requirement by the NRC to thin out densely packed spent fuel pools by accelerating transfer to dry cask storage. With regard to addressing the potential risk of a zirconium fire in a spent fuel pool, NRC Chairman Gregory Jaczko commented at an October 2011 meeting that it "should be an issue we should have a handle on today, there really is no excuse for that. This came up in 9/11, we've done experiments so, I think if we do this the way we've always done things we will not get these things done in a reasonable period of time ..." In other words, NRC appears to already have sufficient information. All it needs now is the political will to follow through and do what is necessary to protect the public.

The NRC must also comprehensively address the potential sabotage threat to dry storage casks and transport casks. It must consider a wide variety of plausible attack modes that could lead to

significant radiological releases when setting its requirements for physical protection systems for dry cask storage facilities and spent fuel shipments.

With regard to BRC Recommendation 7, UCS supports a limited program for nuclear energy research and development. However, it does not support BRC's endorsement of a major DOE research and development program on spent fuel reprocessing and related technologies. UCS maintains that the proliferation, nuclear terrorism and environmental risks posed by reprocessing-based fuel cycles are so intractable that continuing to spend scarce taxpayer dollars on studying these systems is a clear case of throwing good money after bad. Instead, we believe that taxpayer funded R&D needs to focus on enhancing the safety, security and effectiveness of nuclear plants and the once-through fuel cycle, and the safe interim storage, handling, transportation and direct geologic disposal of spent fuel.

In the current and foreseeable fiscal climate, DOE should not continue to spend money on failed technologies, such as actinide-burning fast reactors, that cannot meet basic waste management objectives even if the systems were to perform perfectly. For instance, the BRC points out that "many decades to a couple of centuries" would be needed to decrease required repository space by 75% in a fast-reactor based closed fuel cycle, and that this is fundamentally due to the low rates of consumption of plutonium and other long-lived elements in fast reactors. We believe that this fact illustrates the futility of such approaches, as well as their incompatibility with the principle of intergenerational equity. DOE has already spent decades and many millions of dollars studying these systems even though their limitations were widely known. DOE also continues to research advanced reprocessing technologies that it calls "proliferation-resistant,"

even though the U.S. nuclear weapons labs have concluded there is little value to such approaches. Yet the BRC apparently ignores this history, specifically citing "fast-spectrum reactors ... capable of continuous actinide recycling" as a good example of potential "game-changing" technologies worthy of further R&D.

For this reason, an external, independent peer review process for DOE fuel cycle R&D should be established by an entity such as the NAS. Simply relying on a quadrennial internal review, as the report recommends, is not sufficient. The review should be based on clear and quantitative objectives and milestones, and should reject technologies without a realistic chance of achieving program goals, such as actinide "recycling."

Finally, UCS agrees with Recommendation 8 that U.S. leadership is an important factor in promoting safety, nonproliferation and security, and believes that the best approach is for the United States to lead by example. With regard to the nuclear fuel cycle, the most valuable signal the United States could send to the rest of the world is the demonstration that direct disposal of spent fuel in a nation with a very large nuclear power program is both politically and technically feasible. In addition, this would show the rest of the world that reprocessing spent fuel as a waste management strategy is neither necessary nor desirable.

UCS supports the concept of multi-national fuel cycle facilities with regard to those facilities needed for the once-through fuel cycle, such as uranium conversion, uranium enrichment and uranium fuel fabrication. However, UCS does not believe that a multi-national model could mitigate the profound proliferation and nuclear terrorism risks associated

with spent fuel reprocessing plants, MOX fuel fabrication plants and other facilities that produce or process separated weapon-usable materials.

In particular, the threats of sub-national diversion or theft would not be effectively addressed merely by adopting a multi-national approach, because they would be as challenging to control at a multi-national facility as they would at a national facility. Such arrangements would also involve the international transport of weapon-usable materials such as MOX fuel, presenting additional opportunities for theft.

Thank you for your attention. I would be happy to answer your questions.

Mr. SHIMKUS. Now I would like to recognize Mr. Shatz for 5 minutes.

STATEMENT OF THOMAS A. SCHATZ

Mr. SCHATZ. Thank you, Mr. Chairman, Ranking Member Green, other members of the subcommittee. My name is Tom Schatz, I am president of Citizens Against Government Waste. The organization was founded in 1984 by the late industrialist, J. Peter Grace and nationally-syndicated columnist Jack Anderson to build support through the implementation of the recommendations of the Grace Commission, which was established by President Reagan. CAGW was, as I said, founded in 1984, that was a year after President Reagan signed into law the Nuclear Waste Policy Act of 1983. And yet, we have certainly seen a lot of wasteful expenditures over the years, but the fact that we spent all this money and come up with zero in terms of anything being sent to Yucca Mountain is certainly one of the largest examples of wasteful spending we have ever seen. Usually we are looking at examples of ear marking a few million here and there, but we are talking about tens of billions of dollars that have been spent, and based on some of the estimates, possibly $100 billion, and now we have a Commission coming in and saying let's pull the plug on all of this and start over.

So we understand and appreciate the outrage that has been expressed by some of the members here today. And while we are usually pretty expressive about our concerns on this, maybe we understated some of the comments in our testimony.

Yucca Mountain has been certified, nuclear waste fund has assessed ratepayers between 750- and $780 million each year since 1983. As everybody has mentioned, $15 billion spent to evaluate sites to get Yucca Mountain going. We have 65,000 metric tons, and not one spent fuel rod has been sent to Yucca Mountain or anywhere else for permanent storage.

And the fuel languishes at 75 sites in 33 States so it is a little difficult to hear people say we don't have a problem, we can just leave it there. Clearly that is not only a problem, it is also against the law, because all of those facilities went into operation understanding that the fuel would be sent to a permanent repository.

The White House, unfortunately, made good on President Obama's campaign promise to close Yucca Mountain, no funding in the fiscal year 2011 budget, but the determination to close this facility was not based on science or technology. The administration stated the decision was predicated upon a proposed change of department policy for managing spent nuclear fuel, but they didn't come up with an alternative plan except to call on some very distinguished gentlemen to create a commission and issue a report that took 2 years, cost $5 million at a time when another $2 billion in liability was assessed against the Department of Energy.

The fact that the Commission couldn't review the suitability of Yucca or evaluate any site certainly creates another problem because we are back starting over based on their recommendations with the new organization. Perhaps this new corporation will be as effective as maybe Fannie Mae and Freddie Mac or some other Federal corporation that's done such a great job with our tax dollars over the years.

And we had consent, as the chairman's chart showed, the local community said yes, the State of Nevada itself in 1975, the legislature said yes. So if we had a "consent-based agreement," what is to stop that same community 10 years later from saying, no, we don't it want in the middle of construction? This is a national issue. There is local consent, and as many have mentioned, there are a handful of people that are getting in the way of moving this forward.

It seems that even the commissioners admitted that indirectly, that Yucca should have moved forward, at least the licensing should have moved forward because if we don't do that, we are going sit here for another 10, 20, 30 years trying to figure out where to put all of this nuclear waste.

Utility industry estimates it is a $50 billion liability, DOE says 20 billion, but the Department of Energy estimate is based on a promise that Yucca would accept fuel in the next 8 years. Clearly that estimate is now quite low.

There's also a report sitting out there that has not been released, the safely evaluation report volume 3 the science-based and technology committee has it, I think taxpayers should see it. Because this will also establish the science on this issue and hopefully move some of the politics out of the way.

The BRC noted that this generation has an ethical obligation avoid burdening future generations with the entire task of funding a permanent solution for hazardous materials. We agree, that burden should not be passed on to the next generation along with a lot of other burdens that are going to be passed on to the next generation based on Congress's failure to act on other good ideas to cut spending. Thank you, Mr. Chairman.

Mr. SHIMKUS. Thank you, Mr. Schatz.

[The prepared statement of Mr. Schatz follows:]

Testimony of
Thomas A. Schatz
President, Citizens Against Government Waste
Before the House Subcommittee on Environment and the Economy
Recommendations on the Blue Ribbon Commission on America's Nuclear Future
February 1, 2012

My name is Thomas A. Schatz and I am president of Citizens Against Government Waste (CAGW). CAGW was founded in 1984 by the late industrialist J. Peter Grace and nationally-syndicated columnist Jack Anderson to build support for implementation of President Ronald Reagan's Grace Commission recommendations and other waste-cutting proposals. Since its inception, CAGW has been at the forefront of the fight for efficiency, economy, and accountability in government. CAGW has more than one million members and supporters nationwide, and, over the past 28 years, has helped save taxpayers $1.2 trillion through the implementation of Grace Commission findings and other recommendations.

CAGW's mission reflects the interests of taxpayers. All citizens benefit when government programs work cost-effectively, when deficit spending is reduced and government is held accountable. Not only will representative government benefit from the pursuit of these interests, but the country will prosper economically because government mismanagement, fiscal profligacy, and chronic deficits soak up private savings and crowd out the private investment necessary for long-term growth.

Since the 1970s, the U.S. has been searching for a long-term site to dispose of its nuclear waste. As far back as 1957, and in as many as 50 separate official reports and scholarly essays, including several by the National Academy of Sciences, disposing of nuclear waste in deep geologic repositories has been recognized as the best solution. This method is also the state-of-the-art method of nuclear waste disposal internationally. It is the preferred method of disposal for long-lived radioactive waste in countries such as Australia, Belgium, France, the Netherlands, Russia, Spain, Sweden, and Switzerland.

In 1983, President Ronald Reagan signed the Nuclear Waste Policy Act of 1982 (NWPA), which acknowledged that disposing of spent nuclear fuel was a national priority. The bill authorized the Department of Energy (DOE) to begin searching for an appropriate deep geologic repository. Nine sites were reviewed and in 1987, Congress amended the NWPA and directed DOE to focus only on Yucca Mountain, Nevada, a site which is 100 miles north of Las Vegas on the Nevada Test Site, where more than 800 nuclear weapons tests were conducted during the Cold War. Yucca Mountain is virtually surrounded by Nellis Air Force Base. It was chosen for its extreme isolation, arid conditions, and the prospect of being able to sequester the spent fuel beneath 1,000 feet of solid rock, yet 1,000 feet above the water table.

The 1987 amendment also directed the DOE to begin entering into contracts with commercial nuclear reactor operators to take custody of their spent nuclear fuel for disposal at the repository beginning in January 1998. Former Energy Secretary Spencer Abraham certified the suitability of Yucca Mountain in February, 2002 and that recommendation was forwarded to Congress for a final decision. Congress approved the site in July 2002.

As directed in the NWPA, nuclear reactor operators and their millions of customers have been paying fees into the Nuclear Waste Fund (NWF) since 1983, in exchange for the government's guarantee that the revenue collected would be used to create a safe, long-term repository for the spent nuclear fuel. Through assessments in their utility bills, ratepayers have contributed between $750 and $780 million each year since 1983 into the NWF. DOE has spent $15 billion to evaluate various possible sites, to develop Yucca Mountain, and to submit the licensing application.

Yet, today, the national inventory of spent nuclear fuel stands at 65,000 metric tons and not one spent fuel rod has been moved to the Yucca Mountain facility. The spent fuel languishes at 75 sites in 33 states, stored either in cooling pools or, when the pools have reached capacity, in expensive dry cask storage facilities adjacent to operational reactor sites.

As a presidential candidate, Barack Obama pledged to voters (and Nevada voters in particular) that, if elected, he would do all that he could to make sure the Yucca Mountain project never saw the light of day. In a May 20, 2007 letter to the editor of the *Nevada Review Journal*, candidate Obama stated, "I believe all spending on Yucca Mountain should be redirected to other uses...All Nevadans should know that as president, I will bring to this issue not just independent judgment and careful deliberation, but a personal appreciation that comes from my own experience of living in the back yard of hazardous nuclear materials."

It became official on January 29, 2010, when the White House's top energy adviser, Carol Browner declared that "The debate over Yucca Mountain is over as the president has made clear...We're done with Yucca. We need to be looking at other alternatives." The DOE under the Obama administration moved to terminate the Office of Civilian Radioactive Waste Management and the Yucca Mountain repository project. The president's FY 2011 budget contained no further funding for the project. DOE Secretary Stephen Chu, in his statement explaining the decision to terminate the facility, did not mention safety or environmental issues as the rationale for shuttering the operations. Instead, the administration simply stated that the decision was predicated upon "a proposed change of department policy for managing spent nuclear fuel." That is quintessential Washington double talk, meaning "log rolling and politics as usual."

The DOE's announcement to terminate Yucca came with a prototypical kick-the-can-down the-road tactic of calling for more taxpayer-funded studies and the establishment of the Blue Ribbon Commission (BRC) on America's Nuclear Future. Although the BRC was led by two distinguished veterans of public policy and public service, it was predisposed to spin its wheels, since it was prohibited by the administration from reviewing the administration's decision on Yucca or to revisit the suitability of the site.

Consequently, the BRC spent another more time and additional scarce federal resources to reiterate the obvious; that national nuclear waste storage and disposal policies have deadlocked over the pressures of political favoritism rather than following science and technology, even as demand for electricity rises, even as stockpiles of spent fuel become more mountainous, even as lawsuits and tens of billions of dollars worth of judgments have sapped the U.S. Treasury, and even as utility ratepayers are still being forced to pay more than $750 million in annual payments into a fund that has a $26.7 billion balance and earns annual interest in excess of $1 billion.

Ironically, the commission itself cost taxpayers $5 million, and in the two years it took to deliver its litany of tepid recommendations, the judgment fund paid out another $2 billion in liability payments.

The panel's final report, which came out on January 26, 2012, made eight recommendations, but offered little that is new. The report admits that it was "not chartered as a siting commission. Accordingly, we have not evaluated Yucca Mountain or any other location as a potential site for the storage or disposal of spent nuclear fuel and high-level waste, nor have we taken a position on the Administration's request to withdraw the license application."

One of the commission's top recommendations is that, next time around, lawmakers and DOE officials should adopt a "new consent-based approach for siting nuclear waste facilities."

While it is good public policy and completely appropriate to ensure that DOE officials and lawmakers fully engage with state and local officials, it is worth remembering that, years ago, Yucca Mountain had support in the state of Nevada. In fact, in 1975, the Nevada state legislature strongly urged federal officials to choose the Nevada Test Site for the storage and processing of nuclear material. The Yucca Mountain project owes its ultimate demise to years of delays, manipulation, and obstructionism by Senate Majority Leader Harry Reid and the exigencies of election-year politics. Nuclear waste policy decisions are complex and should be driven, first and foremost, by scientific and technological rigor.

The BRC report offers the usual platitudes about the urgency of the nuclear waste disposal issue, supports more public funding for research and development, continued preparation for large-scale transportation challenges, and, as always, more taxpayer money for research and development.

Congress bears an enormous amount of responsibility for the Yucca Mountain program's current status. While members of Congress meddled, apparently more interested in using the NWF fees to spend on other projects or to make the deficit numbers look better, the spent nuclear fuel piled up at operational reactors across the country, forcing utility companies to construct temporary storage facilities to house the material until the Yucca facility was ready. The BRC commissioners implicitly acknowledge that Congress and the administration can no longer be counted upon to handle the issue without rank politicization and mismanagement, and call for the establishment of a federally-chartered corporation to run the nuclear waste effort.

The BRC states that it believes "a congressionally chartered federal corporation offers the best model, but whatever the specific form of the new organization it must possess the attributes, independence, and resources to effectively carry out its mission. The central task of the new organization would be to site, license, build, and operate facilities for the safe consolidated storage and final disposal of spent fuel and high-level nuclear waste at a reasonable cost and within a reasonable timeframe."

Termination of the Yucca project poses serious challenges to the funding of any future disposal site. According to the Government Accountability Office's (GAO) April 2011 report, "If DOE were to pursue an alternate repository – assuming an alternate repository would have costs similar to the Yucca Mountain repository – it is not certain that the fund will have built up a sufficient surplus to site, license, construct, and operate it. DOE makes an annual assessment of

the adequacy of the nuclear waste fund to ensure that full costs of a disposal program will be fully recovered.

"In November 2010, the Secretary determined that the fund was adequate, even though an attachment stated that DOE had no alternative to the Yucca Mountain repository, and that the Yucca Mountain repository provided the closest 'proxy' – in terms of cost – to an alternative. If the nuclear waste fund does not have a sufficient surplus for an alternate repository, additional funding would have to be found... Moreover, since the taxpayers have paid a proportion of the costs to establish a repository for DOE-managed high-level waste and spent nuclear fuel, the taxpayers may also end up paying more for an alternate repository. In addition, the proposed termination has prompted calls from industry for DOE to suspend collection of payments into the Nuclear Waste Fund. Industry has argued that their customers should not pay for a repository effort that has been shut down, with no work being done on an alternative. Suspending payments into the Nuclear Waste Fund could reduce the funds set aside for a repository."

Although CAGW agrees with the BRC that the funds in the NWF should no longer be made to go through the appropriations process, where the money has subjected to years of inappropriate diversion by Congress, the BRC recommendations do not have the force of law. The NWPA is still the law; Yucca Mountain is still the only repository available; and any changes to the siting procedures and funding mechanisms would require congressional action.

Questions remain about whether there should be an immediate suspension of payments by utilities and ratepayers into the NWF until such time as the courts decide whether or not Yucca will be resurrected or permanently moribund and whether Congress should prohibit the use of the Judgment Fund to pay any liabilities of the DOE resulting from litigation. Taxpayers are now left with deep and abiding questions of whether the administration has the legal authority to terminate Yucca and understandable suspicions about whether, given the failures of the current administration to abide by current law and Congress's predilection for injecting politics into every nook and cranny of public policymaking, the next go-around won't be just another exorbitantly expensive sequel to the first one.

The stockpile of spent nuclear fuel increases by about 2,000 metric tons each year, and according to the GAO, the volume of commercial spent nuclear fuel is projected to more than double by the year 2055. The NWF fund balance stands at $26.7 billion as of September 30, 2011 and ratepayers continue to be forced to pay into the fund. But those expenditures only scratch the surface of the total costs associated with the development and subsequent rejection of Yucca Mountain, not to mention the cost of starting all over.

Originally, utility companies and their consumers were promised that the Yucca Mountain site would begin accepting spent fuel in 1998. Almost from the start, Congress began siphoning and interfering with the project's funding. For example, Edward Sproat, then-Director of the Office of Civilian Radioactive Waste Management, testified on October 4, 2007 before the House Budget Committee that "The projected budget authority needed through repository construction is well above current and historic levels, and the current funding levels are insufficient to build the repository and the transportation system. If the Program is funded at its current levels without fixing the current funding mechanism, the shortfall in the funding needed would be between $1.0 billion and $1.5 billion per year. This funding shortfall will not allow the

placement of the design and construction contracts for the repository or the transportation systems. In short, DOE will not be able to execute its responsibilities under the Nuclear Waste Policy Act and will not be able to set a date for meeting its contractual obligations. Government liability will continue to grow with no apparent limit... So basically, unless we fix this issue and are able to achieve these cash flows to build this repository, the liability of the Federal Government and the U.S. taxpayers will continue to grow unabated."

Director Sproat warned the Budget Committee that, even at that point, had the Yucca Mountain facility begun accepting spent fuel in 2017, nineteen years beyond its statutory deadline, the DOE's liabilities for the delays would have lasted far beyond the date on which the facility became operational.

Director Sproat also pointed out that Congress had been starving the Yucca Mountain project of necessary funds, which triggered a cascade of delays and deferrals that invited costly lawsuits from utility companies. He pointed out that the budget rules required NWF revenue fees to be classified as mandatory receipts, while the program funding would be classified as discretionary. Sproat noted that "the fees are not dedicated to offset the appropriations on the program, and therefore, both the fees and the interest generated on the fund are used as offsets against the total federal deficit. Essentially, we have $20.5 billion in the Nuclear Waste Fund, but we are not able to use it for its intended purpose to actually build the repository."

The first lawsuit was filed in 1998. The U.S. Court of Federal Claims found that the DOE had failed to begin accepting spent nuclear fuel from nuclear power plants when Yucca Mountain was supposed to be operational. That suit was the first of 74 separate lawsuits to date against the agency for its abject failure to comply with the provisions of the NWPA. In each of those cases, the courts have ordered the DOE to compensate the utilities for failure to begin moving the spent fuel to Yucca, as mandated by law, and to reimburse them for the cost of storing the fuel at the reactor sites. Those fees come straight out the taxpayers' pockets.

If that were not bad enough, GAO estimates that the Department of Justice spent $188 million by the end of 2011 just to defend the DOE in court, unsuccessfully, against the suits. That excludes the cost of DOJ and DOE staff. The DOJ anticipates as many as six more lawsuits could move forward in 2012.

According to a December 22, 2009 Congressional Research Service (CRS) report, "...contract damages will continue to build as there seems to be no prospect for a completed facility capable of storing [spent nuclear fuel] anywhere on the horizon."

Although Yucca Mountain has been terminated, the fiscal fallout of this convoluted and costly tale of governmental and congressional ineptitude will hang over taxpayers and eat away at the federal budget for decades. The DOE's latest estimates for taxpayer liability for the agency's failure to comply with the NWPA are stunning.

To date, the Treasury Department's Judgment fund has paid $1.7 billion to settle cases for those utilities which have incurred damages as a result of the DOE's delays. The DOE's FY 2011 Audit Report stated that "Additional payments under these settled and adjudicated cases may be made if the utilities incur additional costs before the Department permanently disposes of the

spent nuclear fuel. The Department believes its assumptions and methodology provide a reasonable basis for the contingent liability estimate."

Utility industry estimates for the ultimate liability costs to taxpayers, including what has already been paid out, are in the range of $50 billion. DOE officials dismiss those predictions as highly inflated and peg the losses at closer to $20.7 billion. However, the department's estimates are predicated upon the promise that Yucca Mountain would have begun accepting spent fuel for disposal in 2020. Now that the administration has shuttered Yucca and terminated the program, the 2020 assumption is null and void and it is clear that the taxpayer liability will be exponentially higher than the DOE's estimates; in fact, it is certainly arguable now that even the industry estimates of $50 billion might be too low.

In a June 10, 2011 report accompanying the FY 2012 Energy and Water Appropriations bill, the House Appropriations Committee castigated the administration's plans to shut down Yucca, noting that "The Department of Energy now estimates that taxpayers will have to pay nearly $16.2 billion in damages by 2020, and an additional $500 million for each year after 2020 that the Department does not fulfill its legal obligations." According to a March 16, 2011 article in the *Orange County Register*, "Payouts to nuclear plant operators – to essentially cover their costs for storing the spent nuclear fuel that the government was supposed to handle – could total as much as $50 billion."

Adding to the tens of billions of dollars in liability costs for nuclear power facilities and their ratepayers associated with the abandonment of the Yucca Mountain, the ill-advised decision to close the facility has also left the U.S. Navy with a serious conundrum.

The DOE has an agreement with five states, including Idaho, and the Navy has a separate agreement with Idaho, regarding the storage and disposal of nuclear waste at DOE sites. The DOE promised to remove the waste from Colorado and the DOE and the Navy promised to remove the waste from Idaho by January 1, 2035. The two states have penalties, respectively, or $15,000 per day and $60,000 per day for each day the waste remains in the state after that date.

According to a May 5, 2011 GAO report, the penalties for failure to comply with the contractual obligations in Idaho and Colorado could amount to about $27.4 million annually. The Navy has no other location for its waste disposal, and the GAO quotes Navy officials as being most concerned about the fact that the failure to open Yucca Mountain in a timely manner could "interfere with the Navy's ability to refuel its nuclear warships…it would likely extend on-site storage and increase storage costs, which could be substantial."

There are additional costs for extended storage at the sites in those states. A DOE Office of Environmental Management analysis estimates that it would need another $918 million in appropriations to extend storage, again, assuming a 20-year delay in a repository's opening. Since there is now no known alternative to Yucca Mountain and the administration intends to begin this process from scratch, the total additional storage costs stemming from terminating the repository will certainly be higher than that.

Not only is the spent nuclear fuel piling up around the country, so are the massive costs associated with this blatantly politicized decision. What confidence can the states have that DOE

will make good on its commitment to them when the administration and the Congress have so casually disregarded their other legal obligations?

The saga of Yucca Mountain has been one of gross disregard for the demands of nuclear-generated electricity, which constitutes 20 percent of the electricity generated in the country; for the ratepayers, who have contributed and continue to contribute billions to what was supposed to be a lockbox to build a spent nuclear fuel repository; and to the taxpayers, who will pay for the debacle far into the future. Congress and the DOE have squandered not only the money in the trust fund, but also the trust of the ratepayers and the taxpayers.

Notwithstanding the politics of the issue, the United States must, at some point, construct a deep, geologic disposal repository and the nation cannot afford to begin at square one. The GAO has signaled that the death of the Yucca Mountain project could delay the opening of a new waste disposal site by more than 20 years. The Waste Isolation Pilot Plant (WIPP) just outside Carlsbad, New Mexico, is the only operating deep geological waste repository in the United States, and it is not suitable as a long-term solution for all nuclear waste. That site was chosen by the U.S. Atomic Energy Commission, now the Department of Energy (DOE), in 1974. In 1979, DOE estimated that the total cost for the WIPP, both for construction and to operate the facility for 25 to 25 years, would be $1.1 billion. By the time the facility opened and took its first shipment in 1999, construction alone had cost approximately $3 billion, three times the original estimate.

Furthermore, when it comes to Yucca Mountain and nuclear power, the Obama administration has transmitted a series of decidedly mixed messages. A few weeks after the announcement to ax funds for Yucca and pull the plug on its licensing application, President Obama announced his support for $54 billion in federal loan guarantees to build new nuclear power plants. The President, who has been described as a "resolute advocate" for nuclear power, claims he has never wavered in his support for nuclear power, and that he supports accelerating the nuclear licensing process. This policy is patently incoherent and irresponsible, given the administration's do-nothing attitude toward managing the spent fuel at the back end.

In addition, there appears to be no discernible plan in sight for the disposition of spent nuclear fuel currently located at 121 sites in 39 states around the country. This includes the Savannah River nuclear complex in South Carolina, which currently manages 36 million gallons of high-level liquid radioactive waste, and the Hanford site in Washington, which has 56 million gallons of high-level radioactive tank waste, as well as nuclear fuel. All of that waste was lined up to go to Yucca.

There are countless problems associated with the politicized and short-sighted decision to abandon Yucca Mountain. First, and perhaps most importantly, it contravenes the law. The NWPA, as amended, clearly designates Yucca Mountain as the only permanent nuclear waste storage facility and any alteration of that location will require a legislative change to the NWPA. Neither Congress nor the Obama administration has moved to amend the Act.

In its April, 2011 report, the GAO suggested that in any future attempts to address the nuclear waste disposal issue Congress must consider infusing the entire process with more transparency, predictability, and independence. With GAO's recommendation in mind, CAGW respectfully requests that the House Committee on Science, Space, and Technology release an unredacted

copy of the Safety Evaluation Report (SER), Volume 3, which it currently has in its possession. If they will not release it to the public, the committee should publicize the legal rationale it is relying upon for withholding the report.

Taxpayers and ratepayers have paid tens of billions of dollars over the last 25 years and will pay tens of billions more in the future for a national nuclear waste repository. They have been dismissively informed that Yucca Mountain is simply no longer "workable." They deserve to know now exactly what the DOE discovered and what the SER has to say about its comprehensive review of the Yucca Mountain application in terms of the site's suitability and its "workability."

This troubled saga has destroyed the public's confidence in the government's ability to provide a safe and timely solution for the disposal of spent nuclear fuel. Whether Yucca Mountain is reopened or the taxpayers are forced to initiate another costly and time-consuming search, as long as the process and the funds that attend that process are accessible for manipulation by politicians, there is little reason to believe that the taxpayers and ratepayers won't be forced to buy into yet another boondoggle that will cost more than projected and arrive later than promised, if ever. The entire process has set an appalling legal precedent; DOE has repeatedly been found guilty in court of breaching its contractual obligations to millions of ratepayers and their utility companies, yet the department has been allowed to impose the cost of those verdicts back onto the backs of taxpayers.

There are already too many examples of the federal government breaching, sidestepping, and blatantly ignoring its contractual obligations, even thumbing its nose at the law, as in the case of Yucca Mountain. Even more insidiously, the Yucca Mortmain debacle graphically illustrates a deepening cultural flaw which is becoming almost organic in the federal government. Lawmakers and executive branch officials appear to be increasingly ill-equipped and unwilling, often for shallow political reasons, to address larger national issues. Year in and year out, lawmakers and government officials are permitted to shy away from their constitutionally-mandated obligations to grapple with momentous national issues until they have become even more damaging and destructive to our country's bottom line and to the rule of law.

Legislative action on vital public policy issues is increasingly pushed off to bloated commissions, indolent study committees, portentous but impotent boards, and unaccountable regulators who patch together short-term quick fixes, all paid for with taxpayer dollars. More often, nothing at all is done and the problems fester. It would be difficult to come up with a more pertinent example of this kind of reckless Washington behavior, and certainly not one as costly and egregious as Yucca Mountain.

The BRC report included the following statement: "This generation has a fundamental, ethical obligation to avoid burdening future generations with the entire task of finding a safe, permanent solution for managing hazardous nuclear materials they had no part in creating." That statement is just as true about the staggering financial liabilities related to this epic failure as it is regarding the spent nuclear fuel. Without a rational plan for dealing with nuclear waste disposal, which had already been decided and enacted into law in 1982, the viability of future energy policy, along with the fiscal well-being of our children and grandchildren, will remain tenuous.

Mr. SHIMKUS. And now I would like to recognize Mr. Wright for 5 minutes, sir.

STATEMENT OF DAVID A. WRIGHT

Mr. WRIGHT. Thank you. Good afternoon, Chairman, Ranking Member Green.

Mr. SHIMKUS. Your microphone.

Mr. WRIGHT. It is on, I believe, I will pull it closer. My name is David Wright, and I am a commissioner with the South Carolina Public Service Commission, and I serve as president of the National Association of Regulatory Utility Commissioners on whose behalf I am speaking today. NARUC and State utility commissions in 40 States served by nuclear generated electricity have been involved in the troubled history of nuclear waste disposal since 1983. That is when the utilities, which own the fuel, were required by the Nuclear Waste Policy Act, to enter into contracts with DOE. Those contracts called for payments of fees for nuclear-generated electricity to the Treasury for deposit into the nuclear waste fund to pay for the cost of disposal of used fuel beginning in 1998.

Disposal has not happened, but the fee payments continue to be made. Or as a former Florida utility commissioner summarized the status in 1991, the government has our money, we have their waste. It is now 20-plus years later, and we still have the government's waste.

Utilities passed the cost of the fees to their customers through their electric bill. In addition, and because of the government's failure to open Yucca, customers, through their rates, have had to pay additional amounts to cover the cost of reracking utility spent fuel pools to accommodate more spent fuel. And have had to pay for onsite dry cask storage as well as the increased security required there.

Moreover, all taxpayers, through the judgment fund, have had to pay damages for the lawsuits brought to date as well as those to come. In 2009, the administration pronounced Yucca Mountain not a workable option, and that it intended to terminate the repository development there, a position contrary to the law of the land. In March 2010, DOE asked the NRC's Atomic Safety Licensing Board for permission to withdraw the application with prejudice. In June, the ASLB rejected the request. The decision was appealed to the NRC. While the NRC was disposing of the license matter the President directed that the Secretary of Energy appoint the Blue Ribbon Commission on America's nuclear future to consider and recommended a new strategy, a strategy that soon became evident would be a post-Yucca strategy.

In 2010, NARUC and several other parties petitioned the Court of Appeals under the NWPA, to challenge DOE's authority to withdraw the Yucca Mountain license application, but the case dismissed because there had been no final agency action by the NRC on the appeal of the board's decision rejecting DOE's request. The NWPA mandates that once the Yucca Mountain license was submitted. The NRC had only 3 years to complete the review proceedings, those 3 years have expired. Currently, the NRC faces a mandamus action to force it to complete the required review in the U.S. Court of Appeals for the District of Columbia circuit. NARUC

is one of several petitioners in that suit. Our reply briefs were filed last Friday.

Notwithstanding, our pro Yucca position, NARUC was closely involved in the work of the BRC, we wrote letters, gave testimony, provided comments to the subcommittee and attended the public meetings. As for the recommendations, we have the following points: 1, reform with nuclear waste fund is, essential; 2, regardless of Yucca Mountain, we will need another new repository. The lessons of Yucca and others suggest the consent-based siting approach may get better reports but will require patients; 3, we have long favored consolidated and home storage on a parallel track with Yucca, but find the report vague as to quantity, duration and cost as well as what the effect will be on the fee if the nuclear waste fund is to be used to pay for storage; 4, we agree with the concept and benefits of a new Federal corporation that can focus solely on the waste management mission; 5, transportation planning and coordination with States and others cannot begin soon enough.

There are two areas where we disagree with the Commission report. A, the report says, "Overall we are confident that our waste management recommendations can be implemented using revenue streams already dedicated for this purpose." There are no cost estimates to substantiate that belief, which likely also assumes the $26.7 billion under the nuclear waste fund is assured; B, the report further says, "We know what we have to do, we know we have to do it, and we even know how to do it." While we may wish that were true, our assessment is that there were too many people who are content to pass the problem along to future generations and leave the waste where it is. Continuing to kick the dry cask down the road should not be an option.

So yet another study calls for prompt action, yet despite on paper a financing plan, implementation relies on leadership from the administration and the Congress. NARUC stands ready to assist on behalf of ratepayers who may not even realize it, but they are already paying for safe waste disposition. Thank you for listening.

[The prepared statement of Mr. Wright follows:]

BEFORE THE
UNITED STATES HOUSE OF REPRESENTATIVES

COMMITTEE ON ENERGY AND COMMERCE,
SUBCOMMITTEE ON ENERGY AND THE ENVIRONMENT

TESTIMONY OF THE HONORABLE DAVID A. WRIGHT
PRESIDENT, NATIONAL ASSOCIATION OF REGULATORY UTILITY COMMISSIONERS
COMMISSIONER, SOUTH CAROLINA PUBLIC SERVICE COMMISSION

ON BEHALF OF THE
NATIONAL ASSOCIATION OF REGULATORY UTILITY COMMISSIONERS

ON

"Recommendations of the Blue Ribbon Commission on America's Nuclear Future"

February 1, 2012

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Summary for Testimony of the Honorable David A. Wright
On Behalf of
The National Association of Regulatory Utility Commissioners

- The NRC has stopped the review of the Yucca Mountain license application. We are currently in litigation challenging the basis for not letting the process run to a conclusive result.
- NARUC welcomes the Blue Ribbon Commission Report.
- We support all of the recommendations.
- We place highest priority on fixing the Nuclear Waste Fund so that fees collected are available for purposes intended—disposing of used nuclear fuel.
- The Commission reaffirmed that we still need a new repository regardless of what happens with Yucca.
- We support consolidated interim storage but find the Report vague as to quantity, duration and cost. We encourage seeking volunteer sites.
- Implementation requires leadership from the Administration and Congress. NARUC stands ready to help and represent ratepayers.

Good Morning, Chairman Shimkus, Ranking Member Green, and Subcommittee Members. Thank you for the opportunity to appear before you today.

My name is David Wright. I am a commissioner with the South Carolina Public Service Commission and I serve as president of the National Association of Regulatory Utility Commissioners (NARUC), on whose behalf I am speaking this morning. I appreciate the opportunity to present NARUC's views on the subject of disposition of spent or used nuclear fuel from commercial nuclear power plants.

NARUC is a quasi-governmental, non-profit organization founded in 1889. Our membership includes the public utility commissions serving all States and territories. NARUC's mission is to serve the public interest by improving the quality and effectiveness of public utility regulation. Our members regulate the retail rates and services of electric, gas, water, and telephone utilities. We are obligated under the laws of our respective States to assure the establishment and maintenance of such utility services as may be required by the public convenience and necessity and to assure that such services are provided under rates and subject to terms and conditions of service that are just, reasonable, and non-discriminatory.

NARUC and State utility commissions in forty States served by nuclear-generated electricity have been involved in the troubled history of nuclear waste disposal since 1983. That is when the utilities, which own the used fuel, were required by the Nuclear Waste Policy Act to enter into contracts with DOE. Those contracts called for payments of fees for nuclear-generated electricity to the Treasury for deposit into the Nuclear Waste Fund to pay for the cost of disposal

of the used fuel beginning in 1998. As you know, that disposal has not happened, but the fee payments continue to be made. Or, as a former Florida utility commissioner summarized the status in 1991, "The government has our money—we have their waste." It is now 20-plus years later and we still have the government's waste. Utility commissioners care because the utilities pass the cost of the fees to their customers through their electric bill. In addition, and because of the government's failure to open Yucca, customers, through their rates, have had to pay additional amounts to cover the cost of re-racking of the utility spent fuel pools to accommodate more spent fuel, and have had to pay for on-site dry cask storage as well as the increased security required there. Moreover, all taxpayers, through the Judgment Fund, have had to pay damages for the lawsuits brought to date as well as those to come.

We followed the slow progress of the civilian radioactive waste management program as it met a variety of setbacks and advances, exacerbated by chronic budget cuts even as the illusion of a multi-billion dollar corpus grew in the Nuclear Waste Fund. A significant milestone was met in 2002 when Congress passed the joint resolution approving Yucca Mountain as the site for the geologic repository, subject to the Department of Energy obtaining a construction license from the Nuclear Regulatory Commission. The next setback was the court remand to the Environmental Protection Agency to revise the regulation setting the radiation standard for the facility. Finally, DOE submitted the license application in June 2008. The NRC began its review of the 8,000-page application for the first-of-a-kind facility which was expected to take three to four years.

In 2009, the Administration pronounced Yucca Mountain not to be a "workable option" and that it intended to terminate the repository development there. In March 2010, DOE asked the NRC's Atomic Safety Licensing Board for permission to withdraw the application with prejudice. In June, the ASLB rejected the request, ruling that once a valid license application was submitted under the NWPA, the NRC was required to review and act upon the application. The decision was appealed to the NRC.

While the NRC was disposing of the license matter, the President directed that the Secretary of Energy appoint the Blue Ribbon Commission on America's Nuclear Future (BRC) to consider and recommend a new strategy; a strategy that soon became evident would be a "post-Yucca" strategy.

In 2010, NARUC, and several other parties, petitioned the Court of Appeals under the NWPA to challenge DOE's authority to withdraw the Yucca Mountain license application, but the case was dismissed because there had been no final agency action by the NRC on the appeal of the Board's decision rejecting DOE's request. After lengthy and unnecessary delays, the NRC Chairman ultimately released a decision. The NWPA mandates that once the Yucca Mountain license was submitted the NRC only had three years to complete the review proceedings. Those three years have expired. Currently, the NRC faces a mandamus action to force it to complete the required review in the United States Court of Appeals for the District of Columbia Circuit. NARUC is one of several petitioners in that suit. Our reply briefs were just filed last Friday.

Notwithstanding our position on Yucca, NARUC was closely involved in the work of the BRC. We wrote letters, gave testimony, provided comments on the Subcommittee, and attended most of the public meetings. We were impressed with the distinguished members, their approach to the task, the talented professional staff, and the sincere interest in public input. We have asked DOE to preserve and maintain access to the Commission website.

As for the recommendations, while we welcome them all, we have the following points:

1. Reform of the Nuclear Waste Fund is essential for most of the others to occur.
2. Regardless of Yucca Mountain, we need another repository. The lessons of Yucca and the better lessons of Finland, Sweden and WIPP suggest the "consent-based" siting approach may get better results, but will require patience.
3. We have long favored consolidated interim storage, but find the Report vague as to quantity, duration, and cost. We are not sure what the effect will be on the fee if the Nuclear Waste Fund is to be used to pay for storage.
4. We agree with the concept and benefits of a new federal corporation that can focus solely on the waste management mission, hopefully with a fresh partnership attitude for encouraging the consent-based approach. We look forward to refining the concept in enabling legislation.
5. Transportation planning and coordination with States and others cannot begin soon enough.

We would add that the time is not right to commit to a reprocessing strategy, although R&D should continue, as the BRC recommends. Also, we encourage DOE to take steps to seek volunteer host communities to step forward in storage siting without waiting to form the new management organization.

There are two areas where we disagree with the Commission Report:

1. The Report says: "Overall, we are confident that our waste management recommendations can be implemented using revenue streams already dedicated for this purpose." There are no cost estimates to substantiate that belief, which likely also assumes the $26.7 billion in the Nuclear Waste Fund is assured.
2. The Report further says: "We know what we have to do; we know we have to do it, and we even know how to do it." While we may wish that were true, our assessment is that there are too many people who are content to pass the problem along to future generations and "leave the waste where it is." It is fitting for the Commission to call for prompt action developing both consolidated interim storage and beginning the search for a new repository, but we may need public education and outreach to help persuade some who seem to favor the "no action" alternative. Continuing to "kick the dry cask down the road" should not be an option.

So, yet another study calls for prompt action, yet despite (on paper) a financing plan, implementation relies on leadership from the Administration and Congress. NARUC stands ready to assist on behalf of the ratepayers who may not realize that they are paying for safe waste disposition.

Mr. SHIMKUS. Thank you. Now I would like to recognize myself for the first 5 minutes of questions. And just to follow up, Mr. Wright, I would cut the Blue Ribbon Commission a little slack because I think they do know what they need to do, long-term geological repository; they do know how to do it because Yucca Mountain is there to do it. So I think in them saying that, that—I mean, that they were very careful if you read the whole document in saying, no, we are not supposed to, but we are not limiting it and stuff like that.

So let me first start with Dr. Lyman just as an aside, I appreciate your testimony. I have had some good battles with your organization on climate. But your position on nuclear power and carbon dioxide emissions, it is very clear: If we are going to go in that route, if electricity generation is boosting 30 percent or 27 percent in 30 years and you keep the same ratio of 20 percent electricity generation, that would be 37 new nuclear power plants, that just exacerbates the problem we have with nuclear waste. Whether we go in that direction I don't know because of natural gas and things. But I did appreciate your testimony. I wanted to give Mr. Barrett and Dr. North a chance to comment on comments from the first panel.

Mr. Barrett, do you have anything you want to publicly say about our 2 esteemed members of the commission who were before us?

Mr. BARRETT. I believe they are great public servants to America and have done many great things and they deserve a lot of praise for a job well done. I am very unhappy and disappointed that they were constrained so due to the political actions of this administration.

Mr. SHIMKUS. I like both, and I want to key on because you could tell, I got frustrated at the end when they kept stating how we have failed to act. And we have known a long time in this process, it does take a long time. We are right at the cusp of really doing that. And now I think the frustration—Dr. North, in your testimony, you hit the nail on the head and you have said we have had long working public servants over decades to get here now because of the fault of who? The politicians were not there.

Mr. NORTH. I have to say as once his critic when I was on the TRB, there has been a lot of oversight and criticism and get it right on DOE from lots of places, including the Nevada Waste Project Office. On TRB meetings, I was amazed how much they would come in and try to help pointing out technical problems on Yucca so that we could find solutions to them. So there has been a huge investment here by the technical community, but the issues I thought former Congressman Hamilton spoke to about the difficulty of electoral politics in the United States and getting a large enough majority in the Congress to override the present majority leader in the Senate, is that politically realistic? We might hope and pray for it, but it seems to me that what the presidential candidates have been saying, we need a pretty good deal, maybe a good place to back up to and think about what might be done, either in Nevada or in other sites.

For example, the State of Washington, the basalt rock was considered as a potential host site when DOE was looking at five sites

and picking three, and I was brought in to be a consultant on the methodology they were using to make the choice. Or New Hampshire, we were looking at granite as the rock for the second repository program. On the eve of a presidential primary, the second repository program went away. It seems to me these are failures in leadership rather than failures in the technical community. And if States wish to submit a bid because they think it will be a pretty good deal, we definitely need to talk. New Mexico is talking, maybe other States will be attracted to this, maybe even Nevada.

Mr. SHIMKUS. My time is short. Let me go—how many of you would agree that the nuclear waste fund mechanism should be fixed so that managers of it can have access to the money paid into it, yes or no. Mr. Barrett?

Mr. BARRETT. Yes.

Mr. SHIMKUS. Dr. North?

Mr. NORTH. Yes.

Mr. SHIMKUS. Mr. Malsch?

Mr. MALSCH. Yes.

Mr. SHIMKUS. Dr. Lyman.

Mr. LYMAN. Yes.

Mr. SCHATZ. Yes.

Mr. SHIMKUS. Very good. My time has expired. I now would like to turn to my ranking member, Mr. Green, for 5 minutes.

Mr. GREEN. I have a number of questions, but first, let me say politics in Washington, we are shocked that is being done. We have a President who campaigned in Nevada saying he was going to shut down Yucca, we have the majority leader in the Senate saying that. We know what happens in New Hampshire, it is an early State, that is why we have Iowa with corn subsidies, ethanol, which coming from my part of the country, I am not a big ethanol person, as our chairman knows, so that is the dilemma we are in. And the Blue Ribbon Commission gave us somewhat of a way we can get out of it.

I have been to Yucca Mountain, I think some day, Senator Reid will not be there anymore than any of us will be here and that will be a possibility. But between now and then, we need to get serious about doing particularly interim storage facilities so we take it out of our site base that we are doing. It is not just in the United States.

I was surprised last year because of what happened in Japan, Germany are now shutting down their nuclear power plants. So I guess they will buy more gas from Russia, or maybe they will frack it because there are some places in Eastern Europe that have shale.

So politics is part of our governance, and we have to deal with it and sometimes we have to survive. And that will change, and that is what elections are about.

Mr. Malsch, one of my concerns is consent-based process necessary and how it could help with the potential approval of some type of Yucca Mountain-type facility in the future. After spending time in Nevada in talking with New Mexico Members of Congress, even though the southern part of New Mexico likes what is going on now and would like to expand it, nobody thinks that the New Mexico legislature will approve it. And so if we are considering con-

sent-based on some legislative body, we will be back where we are in Nevada with everybody who runs for office in Nevada, Republican or Democrat, says I am against Yucca, so you will see the same thing, not in my backyard. In fact, Congressman Bass talked about it in New Hampshire.

If we base it only on consent, we will not get there, that is where, I think, the frustration was in the 1980s when Congress made that decision for Nevada, because they couldn't get anyone else to settle on it.

I don't want to rehash the history, but in your testimony you offer a few key lessons on efforts to site repositories in Kansas and Nevada that we could apply to move forward to a new strategy. First, you suggest the Federal Government not commit to repository until the appropriate scientific investigation is complete. That seems a no-brainer that we should do that. Can you explain how the Federal Government failed to heed this lesson in both Kansas and Nevada and how, if we change, the likelihood of success?

Mr. MALSCH. Well, certainly in Kansas, the AEC pressed forward in the face of—with only very incomplete investigations and didn't pay sufficient attentions to the advice of experts in Kansas, including the Kansas geologist. And ultimately the project failed.

In the case of Yucca Mountain, the Congress decided that Yucca would be the only site to be studied and characterized in the face of incomplete information, and information was even incomplete when the President recommended the site to the Congress because it took another 6 years even to complete the license application after the site recommendation was made.

I think I agree with the Blue Ribbon Commission that there has to be an iterative process in which decisions are made on an iterative step-wise basis consistent with the level of information available. It would be one thing for a State or community or tribe to agree, for example, to have a site investigated; quite another to agree prior to the completion of the investigations with repository or even for that matter, centralized storage facilities. You have to go step by step, you can't ask too much in the earlier stage. I think, really, that premature commitments its Lyons, Kansas and Yucca greatly eroded the credibility of the program, and I would hate to see that repeated again.

Mr. GREEN. I am going run out of time. There is a history of Congress overriding States' decisions, and obviously the Yucca Mountain is one of them, but the 2005 energy bill that we passed on siting at that time, we needed importation of L&G, and a great many States would not allow those facilities to be built, obviously Texas and Louisiana we build them everyday. We took away that permission and Federalized that permitting process, because our country in 2005 needed natural gas. Now some of those plants are actually retooling to export it.

So there are times where the Congress makes a decision for the country and doesn't necessarily get the consent of the local States, but we have to have a process that gives them time, but I think there is a National imperative we have to have some place to put nuclear waste instead of storing it where we have it now. Thank you.

Mr. SHIMKUS. I agree, I think that is the debate on eminent domain, local people have—that someone has to make some decision sometimes. I would now recognize my colleague from Ohio, Mr. Latta, for 5 minutes.

Mr. LATTA. Well, thank you, Mr. Chairman, and thank you gentlemen for being here this afternoon and this morning. If I could start with Mr. Wright. There were some suggestions made to the Commission that instead of using geologic repositories or central interim storage facilities, that they should be—maybe the waste should be held on site and hardened on site storage. Do you have any comments on that?

Mr. WRIGHT. Well, I don't think that is a good idea. You know, when you talk about harden on site storage, that is not what was mandated by the Nuclear Waster Policy Act nor is that what the contracts that all the utilities which own the fuel are compelled to enter with DOE.

There are technical and operational factors that should be considered, and this little added benefit to the cost. And it is probably well intended the process, but it is a little—I don't know, it begs the question and then what, and you miss the opportunities, I think, to take advantage of consolidation of fuel and the associated economies of scale that come with that.

Mr. LATTA. Thank you. Mr. Barrett, what should we expect to see out of DOE next if this administration is going to take the Commission's recommendation seriously?

Mr. BARRETT. I hope Secretary Chu directs the staff to move forward on things that the BRC has recommended, start the consensus process, let's see if it is going to work, let's see if they bring in a consensus site. We know the issue is not with the locals. We know the issue rests in the State capital. Santa Fe has not spoken to New Mexico yet. Let's find out, will they speak in a reasonable condition. So let's start the consolidated storage process. Let's move forward, they can do it under existing law, and I hope the Secretary does it very soon.

Mr. SHIMKUS. Would the gentleman yield for one second?

WIPP is not high-level waste. We have to make that clear. We are making them synonymous, and they are not.

Mr. BARRETT. That is absolutely true. WIPP is only defense true waste, is not high-level waste at all, but the people in the southeast of New Mexico have aspirations to do that.

Mr. LATTA. Let me ask the other panelists, what should the DOE action be that would demonstrate concrete and rapid action take up on these recommendations? Anyone?

Mr. NORTH. I think in the near-term, they can provide the staff support for discussion on these issues and we will need a good deal of such discussion. But until the money is made available to go forward, for example, the planning of the packaging and the transportation will be very difficult. The problem here is that spent fuel is stored in dry casks and can be moved only in very special transporting casks.

Some of these casks can be designed in such a way to serve multiple purposes, but they are very expensive, they are very heavy and if you have an accident involving them, you really want the State and local authorities to know how to handle that. So for

WIPP with a much easier transportation problem for transuranic waste, this was done over the period of a decade with a lot of funding and a lot of cooperation between the parties. The process was put on hold for transporting and packaging spent nuclear fuel. It needs to be restarted and in my judgment it will take at least a decade to get it to where we need it for doing the transport wherever it is going to go, an interim storage facility or a geologic repository.

Mr. LATTA. Anyone else?

Mr. MALSCH. I would like to add to what Dr. North just said that the Commission has recommended a number of actions, that could be implemented administratively without legislation to deal with the unfortunate status and use of the nuclear waste line. I think those things should be considered promptly.

Mr. LATTA. Well, let me ask this to the panelists again that, I have sat through a lot of hearings in here with NRC and DOE. With the administration's track record right now, do you think there will be any stalling or delaying to get this thing done? Anyone?

Mr. BARRETT. I hope not. There is a big responsibility that they have when they swore their oaths of office to uphold the law. I hope that Secretary Chu now that he has the results from the BRC which doesn't show any new path forward that we ever thought of before, and we have always thought about consultation cooperation agreements that he would resume licensing and move forward.

Mr. LATTA. Mr. Wright, and I know, Mr. Chairman, my time has expired, but he was going to answer, Mr. Wright.

Mr. WRIGHT. If it is appropriate. You know, it is going to take leadership on a number of levels, all across this country to get moving, but I think that we need to—we have got to move forward with things as simple as providing funds just for the completion of the license app, that is a simple thing to do. But we also need to take what is in the BRC and look at what we can all agree on and move forward on, rather that wait for some giant legislative package to come through, because I think the bigger the package, it probably is going to move very, very slow. So I think we need to be a little bit specific in what everybody can agree on and move forward.

Mr. LATTA. Thank you. Mr. Chairman, my time has expired and I yield back.

Mr. SHIMKUS. The Chair recognizes the gentleman from Louisiana for 5 minutes.

Dr. CASSIDY. Mr. Malsch, you may have addressed this earlier, I was in a committee hearing earlier, but Chairman Shimkus put a thing up there, he asked what is local; and he showed how all these surrounding counties in Nevada actually favor this project. But, obviously, Senator Reid does not and he has effectively used his power to kill it.

So let me just ask you what is local? Is it the people that live next door, in the next county, in the next two counties, or is it the Senator that represents.

Mr. MALSCH. Well, I think that—I mean, it obviously includes the people that live and work closest to the facility, but it also includes the people, as I have stated, as a whole, because the facility

can impact the State as a whole, not only in terms of its own operations but in terms of the transportation that is necessary.

Mr. CASSIDY. That is true of the entire country, correct?

Mr. MALSCH. That is true of the entire country.

Mr. CASSIDY. And if you bring this in from Georgia and you were to bring it all the way across, assuming it is I–10, you are going to affect my State, Louisiana. So again, theoretically somebody in India is affected. So do we have a workable definition of local more workable than anyone that may potentially be affected?

Mr. MALSCH. Well, I think the Commission recommended a negotiation process and an iterative consent-based process that involves the State, local governments and Indian tribes. I think the relationships among those is going to vary.

Mr. CASSIDY. Now, at some point though, one of my favorite quotes—I don't mean to interrupt, I only have 3 or 4 minutes left—is a Samuel Johnson quote: "No one likes change, even from worse to better." Now, I can see it is easy for some well funded group to whip up emotional opposition, particularly when there are reports that are not being released that may show the safety of this project. So I am a little bit kind of concerned that as long as there is somebody well funded who wants to show pictures of mutant animals that we won't have—so going back to my definition, what is local? If it is not the country surrounding and the county surrounding the counties which surround, indeed what is local?

Mr. MALSCH. Well, I think that has to be worked out on a facility-by-facility basis, but I think you have to include both the local governments, Indian tribes and the State just as a practical matter. As the Commission said here this morning, this is not going to be easy, it is going to be very difficult, but I really do see it as the only reasonable path forward.

Mr. CASSIDY. Is it a path or is it a dead end? I am asking that not rhetorically, but I mean, because you obviously are an attorney representing the State of Nevada, you got a position, I understand that. At the same time knowing the emotional aspect of this, it just seems almost like almost it can't happen as long as you define local so broadly.

Mr. MALSCH. Well, I really think we should not be so discouraged. I mean, it has worked reasonably well in the case of one geologic disposal facility in New Mexico. It worked and is apparently working in several foreign countries.

Mr. CASSIDY. And I gather from the earlier testimony that it worked there because they have a different structure so the central government was better able to impose its will upon a State government; is that correct or incorrect?

Mr. MALSCH. I am sorry, are you talking about foreign countries?

Mr. CASSIDY. Yes. In Spain, for example, the Federal Government can make a decision the province could not object sort of thing. Is that correct? I don't know that. I am just asking.

Mr. MALSCH. I am not sure that is correct. I would have to go back and read the report.

Mr. CASSIDY. Let me go back to—thank you—Mr. Wright. I have read Dr. Lyman's testimony so I am familiar with that. Going back to the reprocessing question which we had earlier, again, if you read AREVA, which I gather Dr. Lyman objects to theirs, but I am

sure it would be vice versa. But you also said that you are not sure that the reprocessing is ready for prime time. I ask this not as an advocate but as someone who is curious. Why would you not say it is not ready? Do you not believe AREVA, but you do believe Dr. Lyman, or you see where I am going with that?

Mr. WRIGHT. I guess to be really clear about it, I mean, the technology, it depends on what you are going to be picking, what technology you are looking at. You know, are you looking at some new generation of technology. So until we kind of determine which way we want to go there I believe that is what we mean. I don't think—we haven't been—we haven't picked one yet or even several to choose from. You know, they are doing—we used to have the technology and now France has it.

Mr. CASSIDY. But at the French I understand there AREVA has even proposed as a private entity to set up a reprocessing plant, which obviously logically would be right next to a regular nuclear power plant, if you will. They seem to feel like they have it. And I know that Dr. Lyman objects to this but they claim that they are reducing the amount of waste.

Mr. WRIGHT. Well, there is no question it would probably reduce the amount of waste and probably what would be left if you did it in a way that you took care of the proliferation issues, the half lives would be less, you have less waste. I mean, that is just common sense that would tell you that would probably be the case. How much that reduces I don't know. But DOE was looking and exploring something a number of years ago with the GNEP program. And they went around to places, including one in South Carolina, around Akin, where we had a big meeting, a willing host site. But it was a willing host site for the fabrication of the fuel and also for a reactor, and then as long as it was an approved pathway out to a geological repository with the waste that was left. Because no matter what you do in a commercial back end of the cycle you are going to have waste. That stands alone from the defense waste which is not a candidate for reprocessing. And we are going to have defense waste no matter what. We got to put that somewhere.

Mr. CASSIDY. Thank you. I yield back.

Mr. SHIMKUS. Dr. North, I was curious, you were looking at this book and it looked like you wanted to comment.

Mr. NORTH. Yes. I was going to say the National Academy of Sciences did an exhaustive study on separation and reprocessing in 1996. My committee, the 2001 National Academy Report, looked at this issue, and we had access to the same staff who had done the investigations earlier. So the BRC cited in an end note our committee's report in this area. The problem is the geologists became too good at finding high grade uranium ore. So using plutonium and mixed fuel is too expensive. It is an economic issue. But several hundred to let's say 1,000 years from now we may have depleted all the high grade uranium ore. And at that point being able to retrieve spent nuclear fuel and reprocess it then may be economically very important. And the fission products will have died way down and so less radioactivity, it will be easier to do it.

So I think there is a very strong argument for retrievability. Even if reprocessing isn't economic now, it may become so in the

future. And ask the French and the British and maybe the Japanese about the economics of their present process and I think they will tell you that it is a problem.

Mr. SHIMKUS. Thank you. That is very, very helpful. We are going to end here. Instead of just placing this in the record I just want to reiterate a couple things. On the House vote to override the Nevada disapproval in May 2002, that vote was 306 to 117. As I said before, the override was a voice vote in the U.S. Senate, which I found amazing. I also want to put the report language out of the House, just highlighting Congress is both of us but there are two chambers. In the report language for the House to pay for the BRC study, I quote, therefore, the committee makes the $5 million for the Blue Ribbon Commission available provided that Yucca Mountain is considered in the review. That was pulled out by the Senate. We are just again addressing the facts. Finally, we did have an appropriation vote to fund the scientific study co-authored by my colleague from Washington State. That vote on the floor was 306 to 117.

The House has spoken numerous times that it is the will of the House that we move forward on Yucca Mountain, and we hope that we can get there some day in the near future. With that, I do appreciate your time, I look forward to working with you in the future, and with that I will adjourn the hearing.

[Whereupon, at 12:45 p.m., the subcommittee was adjourned.]

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