

# BLUE RIBBON COMMISSION REPORT

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HEARING  
BEFORE THE  
COMMITTEE ON  
ENERGY AND NATURAL RESOURCES  
UNITED STATES SENATE  
ONE HUNDRED TWELFTH CONGRESS  
SECOND SESSION  
TO  
RECEIVE TESTIMONY ON THE FINAL REPORT OF THE BLUE RIBBON  
COMMISSION ON AMERICA'S NUCLEAR FUTURE

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FEBRUARY 2, 2012



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# BLUE RIBBON COMMISSION REPORT

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THURSDAY, FEBRUARY 2, 2012

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

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

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

The CHAIRMAN. OK. The committee will come to order.

The committee meets this morning to hear about the recommendations of the Blue Ribbon Commission on nuclear waste. We're very honored that General Brent Scowcroft is here, and Congressman Lee Hamilton. They are the co-chairs of this Commission.

We're also honored that Senator Domenici is here, our former chairman, and a distinguished member of this Blue Ribbon Commission.

The two chairmen, indeed the entire Commission, all 15 members, are to be commended for their work. They were asked to look into a problem that has resisted solution, that remains highly controversial, and that everyone agrees needs to be solved.

They did their job openly and thoroughly, they stayed focused on the tasks that were assigned to them, and they have produced a solid and eminently sensible report. They have presented us with 8 clear, concise, and straightforward recommendations.

Now is the difficult part. Implementing the recommendations obviously will require legislation. It will be up to Congress to absorb these Commission recommendations, to translate them into legislation, and to forge the political consensus that is needed to enact a bill into law.

The Commission admits that none of the major elements of its strategy are new. We've known for decades that we need a permanent waste repository, we need a community to host it—at least one—and we need a transportation system to get the waste there, and a dedicated source of funds to pay for it.

After years of work, we thought Congress had found a path forward in 1982, when Congress passed the Nuclear Waste Policy Act, which set up a fair, objective, and science-based process to pick repository sites.

President Reagan signed the Nuclear Waste Policy Act into law and praised the bipartisan cooperation and resolve and good sense that made it possible. Those traits deserted us in 1987. Bowing to

public opposition and budget constraints, Congress short-circuited the siting process and focused all of our efforts on Yucca Mountain.

That has now proven to have been a mistake. The Blue Ribbon Commission has provided us with a road map for putting the program back on track, but it obviously will once again take bipartisan cooperation, resolve, and good sense on our part to act on its recommendations.

So let me defer to Senator Murkowski for any opening statements she'd like to make.

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

Senator MURKOWSKI. Thank you, Mr. Chairman. Good morning and welcome to the very distinguished panel. General, Mr. Hamilton, thank you for your leadership on the Blue Ribbon Commission.

To my friend, our friend here on the committee, and a true leader in this area, Senator Domenici, it's good to see you, and thank you for your participation and assistance with this.

I think that this is a very timely hearing on the Blue Ribbon Commission's report, their recommendations. The issue of nuclear waste, as the Chairman has mentioned, and the management has been frustrating Congress, multiple administrations, utilities, ratepayers, clearly for decades now. Efforts to address it through the Nuclear Waste Policy Act of 1982, and the 1987 amendments remain unresolved.

Taxpayers thus far have paid over \$2 billion in damages resulting from the government's failure to take title to the used nuclear fuel. Department of Energy estimates that if title were to be taken by the year 2021, the total liability incurred would be just over \$13 billion.

Some in industry are estimating that the total cost would be closer to \$50 billion, if not possibly higher. So we're talking incredible liability here.

General Scowcroft, Representative Hamilton, I have great admiration for your willingness to tackle this assignment.

When the Blue Ribbon Commission was first announced, it was my belief that its credibility would be determined by the members of the Commission, and your participation, and that of Senator Domenici, has certainly given it credibility, and I thank you.

It was also my belief at the time that the administration's decision to form a commission was simply kicking the can down the road, that we would be in the exact same position as we were at the time of its formation.

I think I was wrong. I think we're actually in a worse position than we were before, and I'd like to explain why.

Any possibility of advancing legislation to address the back end of the nuclear fuel cycle was effectively put on hold when the Commission conducted its review. In the meantime, the administration shut down all of its activity on Yucca Mountain.

The Department of Energy attempted to withdraw its application for the Yucca repository, an effort that was rejected by the NRC Licensing Board. Given the NRC's inability to break a tie vote, it appears that a court will need to therefore decide the issue.

So at this point, the possibility of the Federal Government meeting its contractual obligations by the year 2021 seems even more unlikely than it was when the Commission was first formed.

It took us over 30 years and over \$10 billion to get this far on the Yucca Mountain repository site, and while I believe Yucca remains a possibility, we must also consider the potential of starting anew.

In looking at our own and other Nations' siting processes, the timeframe to establish a repository seems to be roughly 20 to 40 years. While I'd like to believe that we've learned enough along the way to speed up the siting process, the odds are closer to industry's estimate of what the total liability cost will end up being.

Now, as the Commission report notes, the government's failure to address our nuclear waste issues is damaging to the development of future nuclear power, and is simultaneously worsening our Nation's financial situation. I think we need to act, and I think we need to do it soon.

The Commission's report, as the chairman has mentioned, doesn't necessarily break a lot of new ground, but I think it is sensible in terms of its approach.

We've seen proposals along the lines of most of the recommendations in the past, so they're not necessarily new issues for this committee to take up and consider.

Senator Landrieu and I earlier this year introduced the Nuclear Fuel Storage Improvement Act to provide for interim used nuclear fuel storage capacity along the lines of the Commission's recommendation.

I was also a co-sponsor of Senator Voinovich's Federal—Fed-Corp proposal in the last Congress to create a quasi-governmental entity to take over the management of the back end of the fuel cycle, much like the Blue Ribbon Commission recommends. It may be time to reintroduce that legislation, or perhaps something similar to that.

Trickiest part, of course, and in my view the issue that needs to be addressed first, is the money. Accessing and utilizing the Nuclear Waste Fund creates a scoring problem with no real easy solution. At the same time, a stable, sufficient funding stream is needed, not just for whichever entity ends up handling the spent fuel management, but also the States and local units of government that agree to host the storage and the repository sites.

The Blue Ribbon Commission has resurrected a proposal by the DOE to administratively change the timing of fee payments, thus bypassing any legislative PAYGO requirement.

So I look forward to hearing more from all of you on this proposal, and other potential ways to resolve this very complex issue.

Again, I thank you for your contributions and your leadership in this area.

The CHAIRMAN. Thank you very much.

Congressman Hamilton, I understand you're going to start off with the testimony and then General Scowcroft will give his views. Obviously we would welcome any views Senator Domenici would want to offer as well.

Go right ahead. We appreciate you being here.

**STATEMENT OF HON. LEE HAMILTON, CO-CHAIR, BLUE  
RIBBON COMMISSION ON AMERICA'S NUCLEAR FUTURE**

Mr. HAMILTON. Thank you very much, Chairman Bingaman, and Ranking Member Murkowski. I ask unanimous consent that the full testimony be submitted into the record.

The CHAIRMAN. We will include everyone's full statement.

Mr. HAMILTON. We thank you, of course, for allowing us the opportunity to testify.

We have appreciated for some years the leadership of this committee on a variety of issues, but especially with regard to nuclear waste management.

It's a very special pleasure for me to work with General Scowcroft. By any measure, he's one of the great Americans, and he's been a marvelous co-chairman.

Likewise, we were extraordinarily privileged to have Senator Domenici on the Commission, and he—again, and again, and again—made valuable contributions to our work.

All of the members of the Commission and the staff itself were outstanding, and they enabled us to reach a unanimous report, which we present to you today.

We came away from our review quite frustrated, of course, by the decades—you've already referred to this—of not being able to resolve this.

Seeing Senator Udall here reminds me of Mo Udall standing up in the House of Representatives many years ago saying, "Shame on the members of the House of Representatives because you haven't solved the problem of what to do with nuclear waste."

Here we are, almost 50 years later, maybe 40, and we still haven't solved it.

So, at the same time, we come through this process—we're confident that we can turn this record around. Because of the observations the two of you made, it's urgent that we do so.

You're well aware, of course, that the process that we have been following is just basically broken down, and that the Nuclear Waste Policy Act simply hasn't worked to produce a timely solution to what you do with these hazardous materials.

What we have found is that our Nation's coming to grips with this issue has been damaging to the Nation, and of course, as you pointed out, very costly.

It's been damaging in a number of ways. It's set back the prospect for the development of nuclear energy. We've got to solve this problem before we go ahead—there are other problems to be resolved, but this has to be resolved before nuclear energy can really meet its potential.

We are impressed again and again during our testimony about the damage to U.S.—to the confidence in the U.S. Government to solve a problem.

People really have been turned off by the performance of the Federal Government with regard to nuclear waste, those who follow it closely, and so there's been a lot of damage, if you would, to the Federal Government's competence.

Another aspect of it, terribly important, is we've suffered a lot of damage, because of our inability to solve this problem, to our inter-



national standing as a leader on global issues relating to nuclear safety, nonproliferation, and security.

In addition to that, as Senator Murkowski has pointed out, the cost of this is just getting out of hand: a heavy cost to utility ratepayers, a heavy cost to the American taxpayer, a heavy cost to the communities that have been unwilling hosts to long term storage.

So we have a fundamental obligation. It's a legal obligation; it's an ethical obligation to the generation that follows us. We're the ones that created this problem, and we ought to be able to say to the generation that follows us that we've solved the problem. But of course we haven't.

They didn't have anything to do with creating the problem. We're the ones that created it, and therefore we think there's a very strong obligation—not just legal, but ethical as well—to see that we can handle these nuclear materials.

At the same time, we want to give to that future generation the options—in other words, we don't want to lock them in to a certain path—the options that they can do whatever is possible to make their choices and make this work out all well.

Sixty-five thousand metric tons of inventory, spent nuclear fuel, are spread across the country today. We're creating about 2,000 metric tons per year. So the action needed is urgent.

We have several key elements to our recommendations. You have them in the report; I'll just summarize them very quickly, or summarize 3 of them and then turn over to General Scowcroft to summarize the others.

We think they're integrated. That is, we think they're all part of a whole. Some parts may be more important than others, but we want a truly integrated national nuclear waste management system, and that's what we tried to recommend.

First of all—a consent-based approach deciding future nuclear waste management facilities. It's pretty clear, both with the experience in the United States and in other countries abroad, that any attempt to force a solution, top-down, a federally mandated solution if you will, over the objections of State and local communities—far from being more efficient, is going to take longer, it's going to cost more, and you're going to have less—fewer odds of success.

By contrast, what we're recommending is an adaptive, staged, consent-based approach. We base it on successful siting processes in the United States. Senator Domenici can testify to this with regard to the WIPP program in New Mexico. We've succeeded at this in this country. So we know how to do it.

Of course, there's been some positive outcomes in Spain, Finland, Sweden, other countries, so that we know this can be done.

We believe that this consent-based approach that we're talking about can provide the flexibility and sustain—very important—sustain the public trust and confidence that's needed through a very, very long process under the best of circumstances.

Second, we recommend a new organization dedicated solely to implementing the waste management program, and empowered with the authority and the resources to succeed.

To be very blunt about it, the overall record of the DOE and the Federal Government here has not inspired trust or confidence.

We listened to hours and hours of testimony on this point, and they said—it was pretty hard to find anybody that said a nice thing about the way the Federal Government has handled this.

So, the Commission concludes that what you really need is new institutional leadership, and specifically, we say you have to have a single purpose organization, congressionally chartered. We recommend appointed by the President, confirmed by the Senate for the membership, but there's a lot of flexibility here.

But we believe this kind of an organization is best suited to give the stability, the credibility, and the focus that you need in this kind of an organization to succeed.

Now, it has to have some things to go along with it. It has to have the implementing authority. It's got to have assured access to funds, and it's got to have very rigorous oversight by the U.S. Congress in order for it to succeed. But we think that's the way to go.

The third point I want to make in the recommendations is that the access to the funds nuclear utility ratepayers are providing for the purpose of nuclear waste management have to be available.

You all know that the law has provided that the nuclear utilities are assessed a fee on every kilowatt hour produced of nuclear energy, and then the payment is in exchange for the Federal Government's contractual commitment to begin accepting commercial spent fuel, beginning January 1998.

That's all set up; it was set up very well. We like the concept of that. The only problem is the Fund has not worked as it is intended to work because of a series of decisions made in the executive branch, some made in the Congress. The annual fees are effectively not accessible to the access program, the waste program. That's about \$750 million a year.

Instead, the waste program has now to compete for Federal funding each year, and is therefore subject to exactly the budget constraints and uncertainties that the Fund was created to avoid.

That has to be remedied, and we think and hope it should be remedied immediately to allow the program to succeed.

The other recommendations will be put forward by my colleague, co-partner, co-chairman, General Scowcroft.

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

PREPARED STATEMENT OF HON. LEE HAMILTON AND GENERAL BRENT SCOWCROFT,  
CO-CHAIRMEN, BLUE RIBBON COMMISSION ON AMERICA'S NUCLEAR FUTURE

INTRODUCTION

Chairman Bingaman, Ranking Member Murkowski, members of the Committee, 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 Committee 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 Committee 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 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.

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 comingling 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—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 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 ade-

quately 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.

**STATEMENT OF GENERAL BRENT SCOWCROFT, USAF (RET.),  
CO-CHAIR, BLUE RIBBON COMMISSION ON AMERICA'S NU-  
CLEAR FUTURE**

General SCOWCROFT. Thank you, Lee.

Mr. Chairman, Ranking Member Murkowski, I want to thank the committee for its willingness to listen to our presentation, and say at the outset it's an honor for me to be asked to participate in an issue I think is so deeply in the national interest.

It's a delight to be associated with the Commission members, with my co-chairman, former Congressman, and former Senator Domenici, and the outstanding members of the Commission, which gave a perspective to us from almost every aspect of this problem.

Element number 4 in our 8 elements are 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 this issue, and by every other country that is pursuing a nuclear waste management program.

Moreover, all spent fuel reprocessing or recycle options, either that already are available, or those under active development at this time, still generate waste streams that will require a permanent disposal solution.

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.

The 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 storage or disposal of spent nuclear fuel and high-level waste. Nor have we taken a position on the President—on the Administration's request to withdraw the license applications.

We simply note that regardless of what happens with respect to Yucca Mountain, the U.S. inventory of spent nuclear fuel will soon exceed the amount that can legally be emplaced at this site until a second repository is in operation.

So, under current law, the United States will need to find a current new disposal site, whether or not 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.

Our 5th element of our recommendations is prompt efforts to develop one or more consolidated storage facilities. Here let me point out, or emphasize, the difference between storage and disposal. Storage is a temporary condition; disposal means permanent while retrievability may be an issue. So those are the differences between storage and disposal.

Developing consolidated storage capacity would allow the Federal Government to begin the orderly transfer of spent fuel from the reactor sites to safe and secure, centralized facilities independent of the schedule for operating—opening and operating a permanent repository.

The arguments in favor of consolidated storage like this are strongest for what is termed “stranded” fuel, that is spent fuel from shut down plant sites, of which there are ten now 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. This is a very expensive stranded fuel operation.

Looking beyond the issue of today’s stranded fuel, the availability of storage—consolidated storage itself will provide valuable flexibility in nuclear waste management systems that could achieve meaningful cost savings.

It could provide backup 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.

The sixth element of our recommendation is 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 has functioned really 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 made to our Commission, indicate that many people have a fear of the transportation of nuclear materials. Thus, more transport demands for nuclear materials are likely to raise additional 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 to discharge their roles and obligations in this area.

Historically, some programs have created transportation planning as an afterthought. No successful programs have done so.

The seventh recommendation is support for advances in nuclear energy technology and work force 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 inevitably confront in this century, justify sustained public and private sector support for RD&D on advanced reactor and fuel cycle technologies.

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 work force needed to support an effective waste management program, as well as 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. This long hiatus has led to a sharp decline in the skills required.

The last element is active U.S. leadership in international efforts to address safety, nonproliferation, and security concerns we believe are important.

As more Nations consider pursuing nuclear energy or are expanding their nuclear programs, U.S. leadership, we believe, is essential on issues of safety, nonproliferation, security, and counter-terrorism issues.

From the U.S. perspective, 2 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 affect effective leadership on issues related to the back end of the fuel cycle so long as its own program is in its current state of disarray. Effective domestic policies are needed to support our international agenda.

In conclusion, the problem of nuclear waste may be unique in the sense 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, 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—are being—collected.

The core difficulty remains what it has always been: finding a way to site these inherently controversial facilities and to conduct a waste management program in a manner that allows all stakeholders, especially those host communities, States, 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 the Congress to do without delay.

Thank you for having us here today. We intend to submit as co-chairmen. Hamilton has said a full version of our testimony.

We look forward to your questions.

The CHAIRMAN. Thank you very much.

Let me just ask if Senator Domenici wanted to make any comment at this point—he's certainly welcome to.

Senator DOMENICI. Mr. Chairman, just a couple of minutes.

The CHAIRMAN. Please, go ahead.

Senator DOMENICI. I believe it's imperative that the committee understands that there is already in existence a law that causes the nuclear utility companies to pay approximately \$750 million a year.

Now one would say with that much money coming in—and it is, and it will for some time to come—why don't we have all the money we need to carry out a program?

You should know that the reason it doesn't work is because, under the budget process, that money is part of the total moneys available for appropriate for domestic affairs. It just goes into the pot. It isn't set aside for this.

So when you go to Appropriations for a few tens of millions of dollars, you are not using your own money, which the law said was yours. You're having to compete among everybody's appropriated money.

Now we suggest that you fix that by statute. That's your prerogative. If you introduce a statute, bipartisan, here, if you introduce one, you should do what is recommended here and set up a new company and have the money run through it to do what it is supposed to do with the money, and to change the budget allocation with the new bill.

We told you how to do it, and we got the best budget experts around to show us and tell us this was the right way. If it was done, nobody should complain because it is their money. It is money—they shouldn't be collecting it from these thousands of utility payers if it's going in the general fund of the United States. So that's the biggest point I think we have to understand.

The second one is that this recommendation says that the location shall be consensual. That means we will not have the Yucca fight, because a site will want it or we won't be building it there.

So in other words, we are gambling, and I think properly, that more than one community sees what's involved and if they have a chance, visit the WIPP to see how a low-level transuranic site one mile underground is handled.

There will be more than one, which would be saying they want it. That's very important that you know it is going to happen.

We've already had communities come and ask us—and Senator Bingaman, you must know that your constituents, many of them, are already exploring with the communities of Carlsbad and Hobbs, et cetera, unifying to apply to this when it's ready. So I would just want to make those points. The others are very beautifully set out for you.

It's an excellent report. I hope the two of you, as a chairman and ranking member, see fit to introduce a bill that carries out the purposes, and that you back it. You will have a lot of support because it is the right thing to do, it is fair, and the country ought to be angry that we've set all this money for all these years—it's now almost 30 billions of dollars—that belong in nuclear waste, it's just going in the Federal Treasury and being used for the deficit.

That's not the right thing. Wearing my budget hat, I would say that has to be that way until it's changed, and that's correct. So you should change it, just like we changed it for the gasoline tax. It was in trust, but not in trust. I said it should remain the way

it is, and Senator Graham and others said it should be held aside like it says, and they won. You've already won with this Commission saying it belongs to nuclear waste; it doesn't belong to the budget.

So you've got to fix that or you don't have money for this program. But if you fix it, you have \$750 million a year, and we think that's, in early stages, more than you need, and then it goes in trust if you have extra money until you need it. So that part is pretty good, I think, and understandable.

I thank you for giving me a couple minutes. Thank you.

The CHAIRMAN. Thank you very much. Thank you, all of you, for your excellent testimony.

Let me start with a few questions. I'm sure each of us will have questions.

Under the Nuclear Waste Policy Act of 1982, I think the concept there was let's find the best geologic site and then persuade the public to accept the waste going to that site. That was the concept behind it, at least.

Seems that the proposal that your Commission is making is somewhat reversed, in that you're saying let's find a site that the public would like, or the public would accept, and then hope that the proper geology exists at that site.

What do you suggest we do in this legislation, if we do legislation, to ensure that the geology is right? I think you might find that there are communities that want to have this, but that the concerns about proper storage and safety and all of that might get short shift in the rush to put it where communities are willing to take it.

Mr. Hamilton, did you have a thought on that?

Mr. HAMILTON. Look, there isn't any magic bullet here. We do recommend a consent-based process. That has to be very flexible. You can't spell it out ahead of time, and you have to give the players, this new organization, Department of Energy, the local communities, the tribal groups, States, and so forth, quite a bit of running room.

We don't recommend either way that you suggest. That is to say we think the top-down forced solution, proposed solution, hasn't worked. Federal Government tries to impose Yucca on the people of Nevada. That hasn't worked. We say that it has to be a negotiated process. It is quite possible that communities will volunteer. After all, there are a lot of benefits to one of these facilities: a lot of jobs created and other things.

So, if a community has the right geographical and geological assets, they might volunteer. On the other hand, they may have those assets and not volunteer, in which case we think the Federal Government may very well have to offer some incentives to get them to come into the negotiating process.

So it's going to be different, I guess, in different places, but you have to have an organization that has the ability to manage and conduct this site selection process. You have to give that organization the tools that it needs to engage in the negotiations, and you want to encourage communities to come forward.

So when we talk about consent-based, we're talking about transparency, we're talking about flexibility, accountability, responsive-



ness, and consultation and all the rest. It's easy to talk about those things. We know, as a matter of fact, this process we're recommending is not a surefire guarantee. It's going to take a lot of negotiation between the interested parties to achieve.

General SCOWCROFT. Mr. Chairman, if I could. We have not really reversed the process. We say first there should be a general set of criteria for sites that are reasonable. There's a great deal known about appropriate sites.

Now if some community comes forward with a site that has not been identified as appropriate, then of course we would have to look at it and judge it. But we would start—this new organization would start by getting some EPA set of criteria that have to be met.

The CHAIRMAN. Yes, Senator Domenici.

Senator DOMENICI. Mr. Chairman, I believe in the report that we recommended that the Nuclear Regulatory Commission establish now a safety standard that any site must meet. In other words, we'll have a safety standard going into the process NRC will establish, and if you don't have that, you're not—consent or otherwise, doesn't matter, you're not going to get it. It's not going to bet here. It's going to have to meet the standard. I think that's a very important thing we did.

The CHAIRMAN. All right.

Let me ask about the connection between establishment of these independent—or these—I think you call them consolidated storage facilities, which are of an interim nature as I understand it, or a temporary nature.

The siting of those as it relates to the siting of a permanent repository—it does seem like transportation increases cost, transportation of the waste increases cost—transportation increases danger of an accident. You don't want to structure a system for handling nuclear waste that increases the amount of transportation involved.

I remember we had quite a discussion back in the 1980s, I believe, when Senator Murkowski's father was the chairman here, maybe in the 1990s, about whether or not we should go ahead and just establish an interim site at Yucca Mountain or very near Yucca Mountain. A concern was raised there, no, no, that wouldn't be a smart thing to do or an appropriate thing to do until we have a determination that we're going to use Yucca Mountain as a permanent site.

So that's a set of concerns. How do you see the decisionmaking with regard to these interim sites being related to the decisionmaking with regard to location of a permanent site?

General Scowcroft, if you want to address that.

General SCOWCROFT. Yes, of course.

I think ideally there would be some connection. It may be difficult because our notion is we need to—we can proceed faster on the storage site then we will be able to do on a permanent disposal site.

But I would note in the case of the WIPP facility, the local people are already establishing ground that could be used for a storage facility, which of course would be ideal given the relationship to WIPP.

So the two are clearly interrelated, but there's the issue of timing that might force us to develop storage sites before we know precisely where the permanent site will be.

Mr. HAMILTON. What has to happen is you have to operate on parallel tracks. You've got to move ahead with the consolidated storage, and at the same time you've got to move ahead with regard to a repository. The interaction between the two becomes very important.

You've got to give these folks hope that this problem can be solved eventually, and of course that's what the repository is for.

You mentioned the problem of transportation. We didn't pay enough attention to that early on in the commission. We had our draft report circulated and we got a lot of criticism on it, constructive, with regard to transportation.

I've had experience, and I imagine many of you have had experience with the fear that exists among people about transporting nuclear waste across Indiana, or Oregon, or wherever. It's genuine.

The fact of the matter is, our record on transportation of nuclear waste is very, very good. I don't think there's been a single serious accident. So we've had a good track record.

But of course you are right. If you move a lot of this waste material from a variety of sites now around the country to three or four, or one or two, whatever, consolidated storage places, you're going to increase the amount of transportation required. As the General said in his testimony, this had tended to be overlooked.

What has to happen here is a lot of planning, and consultation, and education has to precede the actual movement of the materials. That hasn't happened.

So you have to begin planning immediately as to how the transportation is going to be done. You have to involve the local communities; you have to educate people about the safety of the process. All of this is a complex matter.

There are clear advantages to having consolidated storage sites. Those advantages include moving the stranded fuel at many sites today where the reactors are present, and getting it in one central place. You'll increase your safety in all likelihood, but you also have the advantages, I might say with regard to stranded fuel, there are ten sites today where shut down reactors are in place. You'll want to get that stuff out of there and put it into a consolidated storage site. But you're going to save money in the long run, I think, if you use that—if those sites can be used for constructive purposes other than just having the stuff sit there.

But a consolidated storage site would provide a backup storage capacity; it provides a very good platform for research and development, and we think it's an important part of the overall process. But it has to be in parallel.

You can't set up these storage places and quit there, because people then will begin to have in their frame of mind this is going to be permanent, this is going to be forever. You've got to give them confidence and hope that the process is going to move forward and get that stuff eventually into a permanent site disposal.

The CHAIRMAN. Senator Murkowski.

Senator MURKOWSKI. Thank you, Mr. Chairman.

I appreciate what you're saying, Congressman, about the parallel tracks. You do have to give that promise or make good on that promise that it will have a permanent repository.

Let me ask you this, and the Commission chose not to address the potential for nuclear fuel recycling. But if we're looking at how we build out the consolidated storage facilities, these interim facilities, but recognize that the waste streams that we may see from a recycling plant are likely to be sufficiently different than that of spent fuel, wouldn't that have some kind of bearing on either the design, the cost of the repository, possibly even the criteria that might go into a permanent repository? So that as we're trying to pursue these parallel tracks, maybe we don't have all that we need to make that determination for the permanent repository at this point and time?

Mr. HAMILTON. You're raising the question of reprocessing and recycling.

Senator MURKOWSKI. Right, which I know was not addressed within the report.

Mr. HAMILTON. We did look at it, and obviously there are people who support that idea of reprocessing. We don't rule that out, we just think it's premature at this point to make a judgment that that's the way to go with regard to handling the nuclear fuel cycle.

It's important to remember that all spent fuel reprocessing or recycling options produces nuclear waste. It doesn't remove it. May reduce it. We've found that the reprocessing proposal, recycling, does not fundamentally change the way you have to look at the waste management program.

We don't want to rule it out, and we know that some countries like France are doing it—it's very expensive, incidentally, as a process. But we keep that option open. We just say that you're going to have to have waste management under any circumstance. If you can reduce the amount of waste, obviously that's advantageous.

Senator MURKOWSKI. That's better, but you don't think that that would sufficiently alter any criteria that you may be looking at, at this point and time.

Mr. HAMILTON. That's correct.

Senator MURKOWSKI. All right.

Let me ask about—and Senator Domenici brought this up with the issue of the funding—this idea of a FEDCorp is one that I have certainly considered and think makes some good sense.

But if you structure it as has been proposed with access to the funding that you have recommended, do you have any suggestions as to how we insulate such an entity to prevent the politics from being a driving force within the decisionmaking process?

I think we know how complicated that can or will make things. Have you given any thought to how we might structure that? I throw that out to any of you.

Senator DOMENICI. Let me say, Senator, in setting up the corporation, we provide the best possible way that we know, around here at least, to get good people on that board, the board of directors of that company will be appointed by the President, confirmed by the Senate.

There's no way we can assure that they will be free of politics or that process will be, but it would appear to us that this approach is the best possible thing we could do to make this work.

Right now it doesn't work at all even though the money is there. It's all commingled. They would have no business other than the establishment of the waste process facilities and the rules, and use the money appropriately.

I can't give you any other answer other than those processes are calculated to see that it's done properly. Who knows around here whether it'll work. We think it will, though, much better than it is now.

Senator MURKOWSKI. Of course you do have some apprehension out there now as we look at some of these quasi-Federal agencies that have this independence and this autonomy, and have created some serious problems.

So it's not only ensuring that the politics don't intervene, but that you don't have an agency that will have the ability to go run amok, if you will.

Mr. HAMILTON. It's obviously going to take a lot of oversight to make it work, and of course you've got to have the right people on the board or it'll never work in the organization.

But we hope that the administration can move forward immediately with regard to correcting this funding process, the inaccessibility of these funds.

General Scowcroft and I have written a letter to the President asking him to do it in the budget, I guess that's going to be submitted here in a few days to the Congress.

What could happen is that the Secretary of Energy would amend the standard nuclear waste contracts with nuclear utilities. He's authorized to do that under current law. He can move that fee up and down so that the utilities remit only a portion of the amount that is needed, and then you put the rest of it into a trust fund or trust account that would be held by a third party institution. All of this is spelled out in the report.

At the same time, we recommend that the OMB and the congressional budget committees change the budgetary treatment of these annual receipts so that they go directly into an appropriation for the waste management program.

In the longer term, you're going to need legislation to transfer the unspent balance in the fund to the new waste management organization.

So all of this can be done—or, excuse me, a lot of this can be done without legislative approval now. To get us on the right track, to get this funding problem fixed, if you would, right away, and it can be done by administrative action, largely—and I very much hope that the President will agree with that.

The Department of Energy Secretary, Mr. Chu, has—I don't want to speak for him, obviously, he can speak for himself—but he has certainly indicated his positive comments about the recommendations we have made with regard to moving ahead now on correcting the problems in the funding.

Senator MURKOWSKI. Thank you.

General SCOWCROFT. Senator, I think one of the primary reasons we suggested a government corporation rather than a private entity was to minimize the chances of this running amok.

Because we think that this is an issue, and nuclear waste is so important, the government has to retain responsibility but move the operation away from the political atmosphere that it has in DOE.

The CHAIRMAN. Senator Wyden.

Senator WYDEN. Thank you, Mr. Chairman. Thank you, Mr. Chairman and Senator Murkowski. I know we're going to tackle this as we've always done in a bipartisan way.

In this particularly important hearing we have 3 wonderful public servants, two of whom I got to serve with in the House and in the Senate, and General Scowcroft, you're extraordinary service is legion.

Here's how I come to this. First, I can't help but noting that the staff has pointed out that this is Groundhog Day.

[Laughter.]

Senator WYDEN. You know, we've gone at this thing again, and again, and again. Let me start with you, if I could, Congressman Hamilton, old friend.

You know, on this question of voluntarism, it seems to me as important as that is, it's really not voluntarism. It's good science. All of these issues are constantly driven by good science policy. I know you shared this view as well.

I mean, at the end of the day if somebody volunteers, we still have to find a way on the repository issue to make sure it's a safe place where you can keep it for a thousand years.

So if you would, give me your sense of how we can figure out a way to link the idea of getting people to volunteer—which nobody I think in their right mind could be opposed to—can link that in a very practical way to getting the good science that, at the end of the day, is going to help us figure out how to do this.

Mr. HAMILTON. Obviously you have to have good science. You cannot dump this stuff in a place that can't contain it for a long, long period of time.

So what has to be done is the Federal Government—and it is my understanding, at least under today's authorities in law—it's up to the EPA to develop generic disposal standards and the necessary regulatory requirements to go along with that. So that those standards, scientifically based, would have to be a prerequisite, if you would, of moving ahead with regard to any site.

So when I'm speaking about voluntary I didn't mean to exclude the good science part of it, obviously.

Senator WYDEN. I understand.

Mr. HAMILTON. The two things have to go together.

Senator WYDEN. I think we'll want to follow up with your staff some more, because obviously you've done a lot of good work in this area. But that was my one concern in terms of the big picture issue, is how the link was going to work between voluntarism and good science.

Let me—if I might—ask you three, because of your expertise, a question on the defense waste issue. Maybe we'll bring you into this, General Scowcroft, because of your military background. This

is something that concerns folks in our part of the world, Senator Cantwell's constituents, and hundreds of thousands of folks in the Northwest because the Columbia River, Hanford, you know, really are our lifeblood. Concerned about how the process is going to go forward to dispose of high-level waste from the nuclear weapons program.

Over the years there's been a sense it really went to Hanford because, well, Hanford was there. When you think about Yucca, I mean, one of the unfortunate secrets about Yucca was that it wasn't going to be big enough for all of the waste that needed to be disposed of. I mean, for 70,000 tons of spent fuel, your own report indicated that we would need much more than that. You all note continued operations, current plans would roughly double the amount of spent fuel by 10-50.

So the bottom line is that our country needs to find capacity to dispose of a lot more nuclear waste than really has gotten out, one, and that putting all of the nuclear waste eggs in one basket—like some thought about with respect to Yucca—seemed to me to be a questionable approach from the get-go.

I'd be interested in the thoughts of the 3 of you, whoever wants to take it, I thought of you Mr. Hamilton, and General Scowcroft, all of you, Senator Domenici as well. How many disposal sites do you all think the Federal Government ought to be pursuing to deal with this defense waste issue? What's your sense? Congressman Hamilton, you want to start? Any of you three.

Mr. HAMILTON. I think what we said in the report is one or more. We really did not try to make a judgment about that. I would think almost certainly it would be more than one, but my judgment would be we'd end up with several.

There are plenty of sites I think available in the United States that would qualify, but we did not make a recommendation nor did we try to say how many.

Senator WYDEN. My time is getting to run out. General Scowcroft, Senator Domenici, either of you on that?

General SCOWCROFT. I think that is correct. Whatever happens to Yucca Mountain, for example, we will need another site, we know. So there will be at least two. I think we had not—we did not have the resources nor the time to make the differentiation between government-created waste, which is much of what is at Hanford, and commercial reactor fuel.

So, one of our recommendations is to urge a quick study on whether or not the government-owned fuel—or, the government-owned waste—should be a part of this system, or whether DOE should continue to manage that. We simply didn't have the time to look into that.

Senator WYDEN. Last words from my friend Senator Domenici, if he wants it.

Senator DOMENICI. I think you ought to—in response to your question, I would suggest that the committee take a good look at the reality of military waste or defense waste. Much of it is ready to be disposed of; it's already been put in glass, whatever the words are for that. What do you call that when it's been—it's gone through the process of vitrification and it's ready.

We did not have the time to pass on whether we should separate that out and go with a repository for it all its own, but we suggested that the executive branch look quickly at what should be treated differently and proceed, perhaps, with dispatch to establish a facility for the military.

Actually if you wanted to prove up something you could do that one and do it first. It is ready and it is not reusable. I mean, it doesn't have to wait around to be reused. It is finished. It's going to be in that form and never used again, and there's a lot of it ready to go.

Senator WYDEN. Thank you, Mr. Chairman.

The CHAIRMAN. Senator Risch.

Senator RISCH. Thank you.

Gentlemen, I was really looking forward to the report, being from Idaho. We're very anxious to have a permanent repository identified. I was hoping it was going to be one page with a picture of the United States and a red arrow pointing to a spot.

[Laughter.]

Senator RISCH. But obviously that didn't happen, nor did it come close to that, so I was deeply disappointed.

Where are we going here? I mean, here we are, February 2, 2012. We're the same place we've been year after year after year. Who's going to do this? When is it going to be done? Where is the location going to be?

We have spent billions, and billions, and billions, the most powerful country in the world, and we can't figure out what to do with this. Help me out here, where are we going?

General SCOWCROFT. Senator, that's what we tried to solve. But as Mr. Hamilton said, you know, there's no easy answer. But I think we've got the right answer. I think we're going in the right direction.

As we look at other countries who have struggled with this, the ones who have made progress are the ones who have dealt—have adopted this consent approach. That is, you make it valuable to local communities. In Sweden's case, they bid for it.

So, rather than start—or continue the way we have, which is force it down, you guys are the ones who are going to do it whether you like it or not, to make it an attractive thing to have happen, which has been the case in Finland, Sweden, Spain, and it's going that direction in Canada.

We think that's the way to go. I think if we can get this thing started and going—it's not going to be done tomorrow, there's no question about it. It's going to take a matter of some decades.

Mr. HAMILTON. There's a lot of frustration here, Senator, as you expressed, because we haven't moved forward on it.

We took a guess in the report as to how long it would take, and we said 15–20 years, I believe, to identify and locate a geologic repository, and 5 to 10 years a consolidated storage site. Now those are guesses, but it is important here that you have some realism about what can be done and how quickly it can be done.

We've wasted, as you suggest, an awful lot of time—

Senator RISCH. Money.

Mr. HAMILTON. Money in dealing with this, a huge amount of both. So the frustration levels are understandably and justifiably

high. But, having said that, to do it right is going to take some time, and people have to get into their mindset on this that it is going to take decades to solve this problem and not years.

Senator DOMENICI. Senator, might I say—I didn't get to know you very well by the time I left the Senate but I know from whence you come and who you follow, so I would expect you to be anxious about this and wondering.

But I would throw it back to you and say we have concluded there's no way to do it without some new laws, so if you agree with us then I would throw it back to you. You ought to help us by getting on board and working to get this law changed.

Second, the administration has to change the funding mechanism, as our chairman has indicated, or there's no chance to have the money used for what it's supposed to be. We have entangled it so much, we've got to untangle it whether we like it or not. We've got to do that.

So I'd say you ought to help us, and the committee ought to push the administration to support the Hamilton-Scowcroft letter, which recommends that they make some changes to get things going.

Mr. HAMILTON. One of the questions the House Members raised with us was how long is it going to take to set up the new organization? That's your question, that's not our question. We can't answer that. I'd like to see the new organization set up this year. I doubt very much if that's possible with all that you've got on your plate, but at the House side they were talking 2 or 3 years to set up the new organization.

Now what we don't want to happen is to have everything come to a stop until the new organization is set up, if it is set up. That would be awful. That would be another 2 or 3 years of dead in the water.

So we therefore suggest that the administration move ahead on the funding, as Senator Domenici has said, and in other areas so that we're just not losing valuable time.

Senator RISCH. I think saying that I'm deeply disappointed is an understatement, and I think that's true for the American people.

Second, I appreciate what you've done and admire your perseverance, but I really question about sitting around waiting for someone to jump up and say, "We want to take this," because so far that hasn't happened or come anywhere close to that.

Not only that, but when somebody does that there's always neighbors in the same neighborhood that say, "Absolutely not," then you're deeply divided.

Just as importantly, you've got to transport this stuff. In Idaho we've had—even the transportation has caused horrendous problems. Somebody's got to take the bull by the horns and do it.

Thank you, Mr. Chairman.

The CHAIRMAN. Senator Udall.

Senator UDALL. Thank you, Mr. Chairman.

Good morning, gentlemen. Thank you for all the important work you did on the Blue Ribbon Commission, and more broadly, for all your service to America for all these years. You're shining examples to all of us. When I grow up I want to be like all 3 of you.

[Laughter.]



Senator UDALL. I support and encourage responsible development of safe nuclear power, and I think it's the goal that colleagues on both sides of the aisle share. In particular, you in your report highlighted the need for a well-designed Federal R&D program so that we could lead the world in advancements in nuclear technology.

One of the long-term efforts you cite as a potential is a game-changing nuclear technology development that would have large benefits in the areas of jobs, energy security, and economic growth. You particularly talk about small modular nuclear reactors.

The chairman, the ranking member and I, and a number of other members of this committee have had a real strong interest in SMR, which we believe would make nuclear power more safe, secure, and cost-effective.

Could you expand, in that spirit, the Commission's recommendations to encourage further R&D in innovative small modular reactors, which would hopefully be safer and would have better financing structures?

Mr. HAMILTON. We had on our Commission some real experts on this, and the General and I are not the experts on the nuclear technology. What we feel is that the advances that are taking place today in nuclear energy technology have the potential to deliver a lot of benefits in the future.

What we cannot do at this point—I believe I'm correct in saying this—that we know exactly what needs to be done for the future of nuclear energy. In other words, the field is sufficiently fluid, that there are a lot of options still being explored.

So, we left it that we would support vigorous, robust, advanced R&D research on advanced reactors and on fuel cycle technologies. In the near term, of course, we have to focus a lot on the safety and performance of existing reactors.

Right in the middle of our work, Fukushima occurred and that focused our attention, of course, on the whole safety question.

In the longer term, we think that the game-changing technologies may very well appear, and we hope they do. They could dramatically change. So what you have to do is put into place a process here that doesn't lock us in, that keeps the options open for us in the future to see how the science develops, and then be in a position that you can take advantage of the science.

Senator UDALL. General Scowcroft, do you—

General SCOWCROFT. Yes, we were not asked to make recommendations about a nuclear future or a nonnuclear future for the country. But we felt that in order to look ahead and to try to deal with a future where energy becomes more and more expensive, and more and more desirable and necessary around the world, that we ought to keep our options open—and therefore, both in reactor design and in ways to deal with the fuel so that we can use more than about the 1 percent of the energy value that we use now, to see if there are not better ways to go.

As I say, that was not a primary focus. Whatever—whatever science can do, so far there's no one who has said, "Yes, we can literally use it all in a way that there is no waste." So we focused on that aspect, which was what our charter was.

Mr. HAMILTON. Senator Domenici, you wanted to make a statement—and then he has to leave.

Senator Domenici.

Senator DOMENICI. Mr. Chairman, Senator Udall, I apologize for interrupting.

I just wanted to say to the Senator from Idaho—I believe you should meet the leadership of the city of Carlsbad, New Mexico, and Hobbs, New Mexico, and I believe you should visit, if you have not, the Waste Isolation Pilot Project one mile underground in New Mexico, harboring a 10-year effort wherein high-level transuranic waste has been buried.

The people in that area are led by individuals who are informed about waste. They could come here and take a seat up there with you all and—pardon me, but do better than we do.

They know more about it, they have been with it and arguing for it for years. They are the kind of leaders we're looking for in the country for other sites, if any, because that's how you'll get it done. It is very safe when it's done right, and it's very remunerative to the society that surrounds it if done right. New Mexico is a shining light in that regard, there's no question about it.

Now you have to prove that if you—looking at a medium, you have to prove that the heat that would be added in addition to the transuranic to get the high level, that that salt or whatever geological formation will contain that extra heat—you should know that even though that sounds like it ought to be done next week and you would say, "Get on with it," some predict that will take quite a long time to get done, to see what the heat level that will be containable—if you just move into that salt.

Salt is being used as one of the excellent modiem. That one there has not moved, that salt has not moved in 40 million years. So you're into some very, very safe areas.

I just wanted to say that because it should be on the record, and you should know that there are people at the local level who are going to support this, that have learned that it is good. We're not going to get it any faster than we are producing local leaders that are willing to stick their necks out and fight for it.

We expect that. We expect Governors to do it. If they don't, it's pretty hard to get it done.

I thank you, Mr. Chairman, I'm sorry that I have to leave.

The CHAIRMAN. Thank you for being here.

Did you want to make a comment? Then we'll go back to Senator Udall.

Senator RISCH. Very briefly—I haven't spoken to the county commissioners in Nye County, Nevada, but they tell me that they're fully on board with this and want to proceed with Yucca Mountain. If you can't do that, then where are you going to go? Here's the county commissioner, which is the highest local authority that there is, and they say, "Come on, bring it on," and we won't do it, so.

Senator CANTWELL. Mr. Chairman.

I know we're still on Senator Udall's time, but Senator Domenici brought up a very interesting, and very prevalent, and very important point for us in Washington State and the Tri-Cities, and that

is the possibility of prioritizing the military waste and moving forward more quickly on that.

We just can't allow Washington State to be the repository for 90 percent of the Nation's high-level waste and then think we've done our job. So I know this wasn't the primary problem the report was addressing, but now you've brought up an interesting point here, so I want to follow up on it, and how we could proceed on that recommendation or on Senator Domenici's comments, I should say.

Mr. CHAIRMAN. Senator Udall was in the middle of his questioning. I hesitate—

Senator CANTWELL. So maybe Senator Domenici and I could follow up. I know he's leaving, but this is a very important issue; so I appreciate your comments this morning and will look forward to hearing more from you—maybe officially for the record. Thank you.

Senator UDALL. Mr. Chairman, I'm a patient man. I think this is an important conversation, but I would reclaim—

Mr. CHAIRMAN. It's very possible that Congressman Hamilton or General Scowcroft would have a comment on this issue when we get to Senator Cantwell's questions.

So why don't you go ahead, Senator Udall.

Senator UDALL. I'm reclaiming my time from the chairman, Senator Risch and Senator Cantwell.

[Laughter.]

Senator RISCH. Himself.

Senator UDALL. Myself. To talk just briefly, I think I had about 40 or 50 seconds left before we had an important set of statements from Senator Domenici.

What can we be doing at the IAEA level to build on the successes there, but also the ongoing challenges that we face at the international level tied to global nuclear safety and security?

General SCOWCROFT. I think what we ought to be doing at the IAEA—or let's say at a global level—is to be taking steps to internationalize the fuel cycle so that we don't have every country, like Iran for example, that says, "Yes, we want nuclear power, we want to enrich uranium." Now we have the case, UAE has just decided they want nuclear power and they said, "We're not going to enrich uranium." Those are the kinds of things that we ought to focus on.

So, if we can internationalize the fuel cycle so that the IAEA is responsible for making sure that any country with reactors that meet the safety and security standards has fuel available, and that we can take away that spent fuel afterwards.

That seems to me what the country ought to be looking at in terms of going forward. There are some 60 nuclear plants now being started. Whether we go ahead with nuclear power or not, the world is. The only way we can influence it is to get our own act in order and try to do it in a way which doesn't leave us a badly proliferated world.

Senator UDALL. Thank you, General Scowcroft.

Thank you, Chairman Bingaman.

A 10-second final comment: I know there's plenty of blame that could be apportioned for the situation we find ourselves in, but I appreciate the tone that you have said and Congressman Hamilton, Chairman Hamilton, you did this in the House yesterday, which was say, "Look, we can spend all our time blaming each other but

our strength has always been as a country we learn the lessons and then we move forward.” Hopefully that’s what we can do in this important policy arena.

Thank you again for your hard work.

General SCOWCROFT. That’s basically what we’re recommending, and I understand Senator Risch’s irritation and complaint.

But there is no simple way to do this. We think we have a process which will work, and as I said, our Commission is composed of members with very different ideas about nuclear energy itself, and from different parts of the industry. We have come—surprising to me—to a unanimous conclusion about our recommendations.

I didn’t think when I first sat down with the Commission—I didn’t think we had a prayer of coming up with a consensus report.

Senator UDALL. You did, you must have prayed overtime.

[Laughter.]

Senator UDALL. Thank you, Mr. Chairman.

Mr. HAMILTON. Senator Udall, we make 3 areas in the international area—we make recommendations in 3 areas. One is safety, one is nonproliferation, and the other is security. In each of those areas, particularly in the latter 2, you’re really going to have international involvement or you’re not going to solve the problem.

We can’t solve the problem of nonproliferation by ourselves. We’ve got to have the support of certain countries and the international community. These countries are going to go after the development of nuclear energy, there’s not much doubt about that. We want to make sure that they go about it in a way which will protect nonproliferation interests, for example.

That will require high-level diplomatic efforts on our part, but also working with and strengthening, in my view, the IAEA. It’s a very important organization here.

Senator UDALL. Thank you.

The CHAIRMAN. Thank you.

Senator HELLER.

Senator HELLER. I have a comment I’d like to read into, or a statement I’d like to read into the record. But to start with, I’d just like to broaden our perspective, perhaps with some of my colleagues here, that the argument for or against Yucca Mountain doesn’t begin and end in Nye County. I think that’s fair to say.

These are good county commissioners and I’ve met with them all, and I understand their concerns. I think it’s important, though, to understand that both United States Senators, Governors, lieutenant Governor, the majority of the State Senate, the majority of State legislature, for that matter, is opposed to this site. So, anyway, again I understand where the local government is on this particular issue, but I would hope that our perspective is much broader.

But to begin my statement, Nevada is home to Yucca Mountain. Our State has been dealing with this boondoggle project for literally decades. I’m grateful to have an opportunity to talk about this issue because of the serious implications that it has with the State of Nevada.

I know many of my colleagues disagree with me on this issue. The irony of the situation is that both opinions stem from concerns relating to the importance of the Nation’s nuclear waste in our re-

spective backyards. In other words, don't put it on our backyards, we want it in your backyard.

According to the Government Accountability Office over the past 20 years, the proposed site has suffered from gross mismanagement, faulty science and research, contract mismanagement, and most alarmingly, questions about the safety and design of the site and its impact on its surrounding environment and people.

I'm a strong supporter of a need to responsibly develop our Nation's energy resources, including—including—nuclear energy. However, the key to my position is the need to be responsible, and the history of Yucca Mountain is far from responsible.

Congress approved the Nuclear Waste Policy Act in 1982, which charged the Department of Energy with the responsibility of finding an appropriate repository site for the disposal of spent nuclear material.

At the time, Yucca Mountain was one of many, many proposed geological sites to investigate based on rigorous guidelines. Unfortunately, the Act was then amended in 1987 to concentrate only on one site: Yucca Mountain.

Nevada, a State without any nuclear power plants, was legally compelled to bear the sole burden of long-term storage of the Nation's nuclear waste. This decision in 1987 infuriated—or initiated a one-sided debate, and a study of alternatives has been curtailed ever since, infuriating many in Nevada.

Given the historically politicized nature of this project, I don't trust the Federal Government to appropriately manage the proposed Yucca Mountain facility. I believe Nevadans have the right to be safe in their own backyards. I recognize the need to address the problem of spent nuclear fuel, but it must be solved through careful consideration of all alternatives based on credible scientific information rather than by politicians here in Washington.

The Blue Ribbon coalition report seeks to provide a framework to do just that. I would argue that if the process would work without Yucca Mountain, it proves that Yucca Mountain isn't essential.

Having said that, I spent some time with a university regent from the University of Texas, and I'm not a scientist. But he said there's a difference between fusion reactors and fission reactors. I don't know that anybody on the panel can answer this question, but accordingly, based on this information, onsite waste is minimized. It's still being studied; let me say it's very positive results.

Developments look up—looks like it's going upwards, and many of the energy companies are involved in this particular study. If you get a chance to take a look at any of this or get any background information on what alternatives can be done, as opposed to just burying nuclear waste in the ground?

General SCOWCROFT. Senator, I can agree with many of the comments that you made, which is why our Commission was established. We focused on many of the points that you raised on the history of it in the United States to try to fix it.

We did not—and were not chartered to—look into the technology of nuclear reactors or of reprocessing. But we did look at it, and we had a few experts on the committee to know that there are scientifically a number of promising developments. We did not focus on any one other than the general statement that we should pur-

sue vigorously R&D both in reactor design and in reprocessing technology.

Mr. HAMILTON. What we found confirmed much of what you just said. I noted you said you don't trust the Federal Government—I think you said something like that in your statement.

We heard that 150 times in the process, many of them from your State, who said they don't trust the Federal Government and the process that was followed. You talked about it being—Nevada being legally compelled to have this as the sole site repository. That's exactly right.

That has a certain appeal to it if you don't live in Nevada, but we don't think it works. We don't think it has worked to force the decision down. You spoke about a buy-in by the local community—that's what the consent process is all about that we recommend.

You have to have the buy-in not just for the folks at the Department of Energy, and the experts, and the scientists, you have to have the buy-in of the local community or it's not going to work.

So the consent process that we put forward is difficult, it's hard, it's going to call for tough negotiations, but we think it's the only way to go to reach a solution here.

So I am very sympathetic to the comments that you make about what's happened at Yucca, and I think so many mistakes were made in that process that we say this is not going to work.

Senator HELLER. Mr. Chairman, thank you.

I don't have any further questions or comments. I just want to thank the Commission for their hard work and effort, and thank those on the panel today for their overall view and insight on the situation.

The CHAIRMAN. Thank you very much.

Senator Shaheen.

Senator SHAHEEN. Thank you, Mr. Chairman.

Thank you to both of our panelists, not only for being here today and taking on this issue, but for your continued willingness to take on contentious issues facing the country.

New Hampshire is home to the Seabrook Nuclear Power Plant. We are right across the border from Vermont Yankee, so there has been a lot of—there have been a lot of issues raised over the years relative to nuclear power in the State.

Back before the 1997 amendments that Senator Heller talked about, New Hampshire was identified as a potential site for nuclear waste like Yucca Mountain.

I think it's fair to say that that's one of the most controversial issues that I've ever seen addressed in New Hampshire.

I understand what you're saying about the consent question, but it's still not clear to me how this will work. What's going to initiate that kind of an effort at a local level in a State or community that will actually produce the process that would develop a consensus around taking nuclear waste?

I agree with the thesis that you've got to have support from the community, the State, but it's still not clear to me how that actually gets accomplished. So I wonder if you could speak to that a little more.

Mr. HAMILTON. I think it can be accomplished locally up, and nationally down. I don't think you can tell which way it'll go. But it

could very well be that the national government, DOE or whatever, would locate potential sites and say to a community in New Hampshire, "You've got a spot here that scientifically works," or we think it works. Then the New Hampshire community may say, "Well, that's wonderful. We're not interested."

In that case, I think the negotiations have come to an end and it won't work. Then the Federal Government may come back and say, "OK, you don't particularly want it, but let me say we're going to give you blank number dollars, we're going to create so many jobs, you may want to reconsider." The negotiating process goes forward.

It may also start at the local level, and people who know that they have facilities that—assets in the community that might work, would contact the Federal Government.

We can't predict how this process will go forward. We think it has to be a negotiating process, it has to be consent, and by that, at the end of the day, we mean there has to be an agreement struck.

It has to be an agreement among the parties, and that includes the new organization we're talking about. If it is, in fact, created, it includes the local communities at county, city, State levels, and it'll certainly include a lot of others because there's a huge nuclear community out there in this country.

So it's not a process that we can spell out for you, but the initiative could come locally or nationally.

Senator SHAHEEN. Does it not—I'm sorry, go ahead, General Scowcroft.

General SCOWCROFT. It has worked elsewhere. There's an additional difficulty in the United States because we have a Federal system. No other country in which this worked has intermediate government levels like our State government levels with so much power. That is a seriously complicated factor as Senator Heller just announced.

But we can't think of a better way of doing it, and one of our overall national responsibilities is to deal with the Federal structure in a way that can serve the American people as a whole, and individually.

I don't think it's beyond—I think the example of New Mexico and the WIPP plant is very instructive. Because there, there is some difference between State level and local level. But it has been subordinated in a way which we found very positive and very encouraging.

Mr. HAMILTON. You might say that in the WIPP case, Carlsbad volunteered. In other words, the initiative in that case, which we cite repeatedly as being a successful instance, came locally, initially.

Senator SHAHEEN. I'm almost out of time, but I want to follow up, if I can, just on one issue that you had addressed, Congressman Hamilton, talking about the transportation concerns. Because that's something that we hear a great deal of concern about in New Hampshire, given our proximity the plants by a lot of small communities.

You talked about the great record that the nuclear industry has had to date from moving waste. Can you quantify how much of it moves, in a way that helps us envision just what that means?

Mr. HAMILTON. No, I cannot quantify that for you, but I'm sure we can furnish it for you.

Senator SHAHEEN. That'd be great. Thank you.

Mr. HAMILTON. I've had that experience. They were talking about moving nuclear waste across my district in Indiana. I'd go to a public meeting—instead of having 20 people there, there would be several hundred people there. I'm sure anybody that's had that experience knows it. They come to that meeting mad because they don't want it to go across their areas.

So there's a lot of work that has to be done here on transportation—a lot of work.

General SCOWCROFT. I think—I can say that the WIPP facility in New Mexico has received over 10,000 shipments, and the Western Governors' Association has really developed a very efficient and effective system to move it.

As Lee has said, there have not been any serious accidents. But the thing is, if you organize the police and the local authorities, then if there is an accident they can be on it instantaneously. But if they don't know what to do, sure.

That's why we focused on the transportation aspect of it.

Senator SHAHEEN. Thank you.

The CHAIRMAN. Senator Cantwell.

Senator CANTWELL. Thank you, Mr. Chairman. I apologize earlier for jumping in with Senator Risch and others on Senator Udall's time.

I pointed out to the Senator that Rocky Flats is in a better clean-up position than Hanford is, and that's why I felt I needed to jump in on his time.

I want to go back to that subject. Obviously Hanford played an incredible role for our country and we're very proud of that. We've been working very diligently on something that's very complex and very costly, and we're hopefully going to get to an endpoint here as vitrified glass logs start to be produced in the next 7 to 10 years. But they need a place to go.

Senator Wyden suggested that the first waste to be looked at ought to be this military waste, and considering the complexity of the issue, the timeframe for discussing where that should go, in my mind should be now.

So General Scowcroft or Mr. Hamilton, not to have you address what Senator Domenici brought up, but do you have particular thoughts about the urgency of dealing with the military waste at Hanford?

General SCOWCROFT. One of the reasons that we turned to storage facilities was exactly this point. Because a lot of people have said, "Well, why do you want storage facilities in addition to disposal sites?" Because that just means more sites that you have to locate, more transportation, and so on.

But it's exactly to take care of the waste, the government waste at Hanford and also especially the stranded waste at nuclear power plants that are shut down. Yet they have to have this full security system and so on to guard them.



So, the storage facilities that we recommend can be built much more quickly than a disposal, and that's what we hope.

Mr. HAMILTON. I think if I'm correct, you would know most of the waste at Hanford is defense waste, is it not?

Senator CANTWELL. Yes.

Mr. HAMILTON. We visited Hanford. We have some understanding of what you have encountered there. Incidentally, the people were very gracious to us there and very constructive in their suggestions to us.

Quite frankly, we did not make a recommendation with regard to defense waste. The question came to us kind of late in the process. We did not really have the resources available in the committee to comprehensively assess the implications of whether defense waste and civilian waste should be commingled, as I think it is today, or since the Reagan administration I believe.

So we ended up, frankly just saying to the administration that they ought to launch an immediate review of the implications of defense waste. So we did not address us.

Senator CANTWELL. I'm well aware that you didn't. That's why I'm here this morning, because I do think it's a shortcoming of the process.

Because the issue at hand is that Hanford is the site with the majority of the Nation's military waste. We've been in a diligent process to clean it up. It's not that every solution put on the table in the past has been sufficient. I mean, getting a commitment for how much was going to be put in Yucca Mountain was also a very challenging thing, and that site was only ever going to take a small percentage of Hanford's waste.

So this is about getting an answer for Hanford and where this waste will ultimately go. We will now have waste in a shippable form in these vitrified logs within 7 to 10 years. So we can move forward.

We can't allow Hanford to become the de facto storage place. We can't. So I appreciate that what you're saying here this morning is that you see a path where Hanford waste could be the first waste to be prioritized and you're actually asking the administration to do something about that.

Mr. HAMILTON. I think it's very important we give those folks some hope out there, that there is a solution underway. For a long time I think they've operated with the feeling that there really isn't any hope. De facto, they're going to be the repository and we don't want that. That's not the way to do it.

Senator CANTWELL. I hope we use the science available to us today and move forward to a solution to the Hanford waste problem.

I'll never forget when we had the Western Electricity Crisis and we saw rates go skyrocketing and we had hearings. The toughest question we got was from a 10-year-old who said, "What did you learn in the 1970s, and what have you done to correct it?"

I think that's the question for us today. What have we learned over the last 3 decades about how difficult this process is, and what are we going to do to correct it?

So to me moving forward on doing something about the military waste is critical.

So, thank you gentlemen.

The CHAIRMAN. Senator Murkowski.

Senator MURKOWSKI. Thank you, Mr. Chairman.

Just kind of dovetailing on Senator Cantwell's comments in response to what Senator Domenici proposed, that perhaps you move first with the defense waste.

You have mentioned that we have ten stranded sites where we're incurring pretty considerable expense for the security in these areas. I don't know how much waste is actually at each of these.

But it would seem to me that if you've got a situation where there's no activity going on other than the security, it may be possible to move first with those stranded sites, those orphan sites, to move them into a consolidated storage. You gain some of the confidence that we're talking about.

You know, Senator Risch's frustration is clearly palpable here, but I think some of it goes to just the frustration that the American public has on this issue.

As he said, "If we can't figure out how we take care of our waste, how we take care of your garbage, how can we do anything as a government?"

So by moving to deal with these stranded sites first—and I hesitate to call it a pilot project—but instead of trying to figure out the whole bigger picture, is this something that you considered as a Commission? Do you think this is a wise approach to get us started, kind of addressing what all of you had said, that there's an urgency to this. We've got to start sometime. I think you've indicated that the timeline, even moving to this consolidated storage was 5 to 10 years, I believe is what you said. That's still a long ways away.

Is that an approach that you might recommend that we take, is to move first with the stranded sites?

Mr. HAMILTON. It is. We think the strongest argument is to move the stranded fuel first into a disposal—a storage facility.

Senator MURKOWSKI. Recognizing—I'm assuming that you've got these stranded sites all over the country. Do you move to one consolidated storage, or is it regional? How do you advance that? Because then again you're dealing with the transportation issue, which I think we recognize is considerable.

Still, even though it is viewed as interim storage, you still have a lot of the "not in my backyard" type of an approach because of the concern that it may ultimately end up being the de facto permanent repository. So how do we calm those fears?

General SCOWCROFT. That's why we think it's going to take 5 to 10 years even for storage facilities. But again, we would use the same consent-based process to site the storage facilities.

Now you don't have the same criteria that you need for disposal, but that's the way we would proceed. We do specifically establish—one of the main reasons for the whole storage facilities is to deal with the stranded fuel.

In the process, though, we can learn. We can learn more about the transportation, we can learn more about how to go about these things as we proceed, and that will be helpful as we look at the disposal sites.

Senator MURKOWSKI. Can you give me any sense as to how many consolidated storage sites you might need, given the ten stranded sites that we have now?

Mr. HAMILTON. We said one or more, but the answer is we did not try to determine—

Senator MURKOWSKI. Several, I think is what you said.

Mr. HAMILTON. How many consolidated sites there should be. But the important thing that I think your question raises is the linkage between the storage and the disposal. You just cannot go down one track. You've got to do both of them. You've got to start on looking for storage, you've got to start looking at repository so you get away from this feeling that several senators have expressed about people having no hope that they'll ever get rid of this stuff.

General SCOWCROFT. But I would point out again at WIPP, which is one place it has really worked, is the local authorities there have already leased some land in anticipation that they could be selected as the storage site, right next to their permanent disposal.

So it sounds daunting, but we're not without hope that if it's pursued diligently and carefully, it will work.

Senator MURKOWSKI. I thank you. I think again, the more we look at this, the more we realize, as you've repeated, there are no easy answers here and this is why we're sitting here years later, decades later, and millions and billions of dollars later.

I do share your sense of urgency though, that we must get moving on this. I appreciate the fact that the chairman, along with the chairman and the ranking member on the Appropriations Committee, are sitting down trying to figure out if we can develop an action plan. So I'd hope to work with you and others on this, extraordinarily important.

I thank you, Mr. Chairman, for your leadership on it as well.

The CHAIRMAN. Thank you.

Let me just ask one other line of questions. This is on the liability issue. You say in your report the Federal Government is going to be liable—I think you say for an estimated \$20.8 billion in damages under the utility contracts even if we are able to start accepting waste by 2020, and that it will be liable for an additional \$500 million each year—for each year of delay.

What do you see happening to that liability if we set up this new entity that you're talking about, this new governmental corporation. Would we want to transfer liability to that corporation?

I think it's clear from court decisions that these waste contracts cannot get redress or damages out of the nuclear waste fund. Is there any thought about what we do to deal with this liability problem as part of your recommendations?

General SCOWCROFT. I don't think we focused on that.

Mr. HAMILTON. I'm not sure I can answer your question, Senator, but what we know is that these liabilities are coming due every year now, and they are getting very, very sizable. They are paid out of the judgment fund in the Treasury Department, and they will explode in the years ahead.

Now if nothing is done here, that liability just continues to grow. I think once you begin this process of putting into place a plan for the handling of these waste materials, both in storage and in dis-

posal, what you will see then is a series of negotiations to resolve these liability questions and to bring them to an end.

I don't suggest that'll be easily done or quickly done, but you will bring the process to an end in time if we put into place a process for dealing with nuclear waste.

The CHAIRMAN. Would you expect this newly established corporation to have the job of accomplishing that negotiation as well, or do you think that would remain with the Department of Energy?

Mr. HAMILTON. Yes, I think that would be the center of it because they will have the responsibility to build and to manage the whole system, and this would be a big part of it a very big part.

The CHAIRMAN. All right, General, did you want to comment?

General SCOWCROFT. No. No, This is something I think we suggest that Congress is going to have to look at, in how to deal with the liabilities.

The CHAIRMAN. All right. We very much appreciate the good work that's gone into your report and your Commission's hard work on this, and both of you very much being here to testify today.

That will conclude our hearing.

[Whereupon, at 11:23 a.m. the hearing was adjourned.]

APPENDIX  
RESPONSES TO ADDITIONAL QUESTIONS

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RESPONSES OF THE BLUE RIBBON COMMISSION TO QUESTIONS FROM  
SENATOR BINGAMAN

ADEQUACY OF THE NUCLEAR WASTE FEE

The Department of Energy says it has spent about \$7.5 billion from the Nuclear Waste Fund in the past 29 years, most of which has been spent on Yucca Mountain.

The program the Commission is proposing appears to be considerably more expensive than the Yucca Mountain-only program. The Commission is proposing, in addition to a geologic repository, one or more interim storage facilities, more generous incentive payments to host states and communities, more shipments to move spent fuel from reactors to interim storage and then to a repository, more financial assistance to states and tribes for transportation planning, and the cost of a new waste management organization.

At the same time, the Commission says that it is confident that its recommendations can be implemented using the existing nuclear waste fee.

*Question 1.* Does that mean that the one mil per kilowatt-hour fee is sufficient to pay for the proposed program or will the fee need to be increased to ensure full-cost recovery for the expanded program?

Answer. The BRC makes no determination as to the adequacy of the current level of the nuclear waste fee. Depending on a number of factors affecting the needs of the program in the long term, the waste fee may need to be increased or even decreased if necessary to ensure full cost recovery as determined by the Secretary. The BRC notes that the existing nuclear waste fee generates approximately \$750 million per year, and that any realistic program activity to implement the BRC's recommendations in the short term will not likely need additional funding.

*Question 2.* The Secretary of Energy currently has authority to raise or lower the fee, but has never used it. Assuming that the fee might need to be adjusted someday, who should have the authority to adjust it? If responsibility for implementing the program is transferred to a new government corporation, should the corporation have that authority, or should it remain with the Secretary? What role, if any, should Congress have in approving a fee increase?

Answer. Under current law, the Secretary of Energy is required to make adjustments to the fee, as necessary, to ensure recovery of the full costs of managing and disposing of commercial spent nuclear fuel. Giving authority to review and approve fee increases to an independent organization with suitable expertise and staff would enhance confidence that the increases are just and reasonable and are not simply the result of ineffective use of the program's resources. In 1984, DOE's Advisory Panel on Alternative Means of Financing and Managing Radioactive Waste Management Facilities (also known as the AMFM Panel) recommended that a "Waste Fund Oversight Commission" be established for the specific purpose of ensuring that NWF fees are being used cost-effectively and to approve or disapprove proposed changes to the level of the fee. In its 2001 update of the AMFM study, DOE instead recommended that the Federal Energy Regulatory Commission (FERC) serve this purpose.

Since the FERC already exists and deals with rate issues, the Blue Ribbon Commission recommends that it be used for this function. As it determines how to carry out this new responsibility, we encourage FERC to consider the development of a "joint board" with state commissioners as provided for under Section 209 of the Federal Power Act.

The BRC believes that requiring congressional action for approving nuclear waste fee changes could frustrate the objective of timely adjustments to ensure that neither too little nor too much is being collected, and could add to the belief by many stakeholders that the process was being unduly influenced by political consider-

ations. Although the Nuclear Waste Policy Act of 1982 provides for a one-house veto of any fee change, a subsequent court decision ruled that the one-house veto provision is unconstitutional and that fee changes proposed by the Secretary will automatically go into effect unless Congress passes legislation to prevent it. In its 2010 Fee determination letter, the DOE stated: “The Eleventh Circuit in *Alabama Power* struck the ‘unless’ clause from the fee adjustment statutory provision as violative of the Supreme Court decision in *INS v. Chadha*, 462 U.S.919 (1983). See *Alabama Power Co. v U.S. Department of Energy*, 307F. 3d 1300 (2002). As a result, the statute that remains reads ‘the adjusted fee proposed by the Secretary shall be effective after a period of 90 days of continuous session have elapsed following the receipt of such transmittal [to Congress],’ while the clause ‘unless during such 90-day period either House of Congress adopts a resolution disapproving the Secretary’s proposed adjustment. . .’ was invalidated.”

*Question 3.* Should the utilities be expected to pay more if the program is restructured?

Answer. Yes, if lifetime costs of the program increase as a result of the restructuring. The Commission does not recommend a change to the full-cost-recovery principle that was established in the Nuclear Waste Policy Act and the contracts with utilities. Certainly it will cost something to implement a successful U.S. waste management program; however, trying to implement a flawed program that is not working could be even more costly

#### AUTHORITY TO CHANGE THE TIMING OF FEE COLLECTIONS

The Nuclear Waste Policy Act expressly require nuclear utilities, through the waste contracts, to pay to the Secretary of Energy a fee of one mill per kilowatt-hour on all electricity generated by nuclear power and sold on or after April 7, 1983, and it expressly requires the Secretary to deposit those fees in the Nuclear Waste Fund in the Treasury.

The Commission proposes that the Secretary allow the utilities to pay all or part of those fees to a “third-party financial institution,” and asserts that the Secretary has the authority to do so under existing law.

*Question 4.* Where in the Nuclear Waste Policy Act or other law is the Secretary given authority to allow payment of fees to a third-party financial institution, rather than to the Secretary for immediate deposit into the Treasury?

Answer. During the course of its investigation, the BRC asked outside legal counsel to examine this question. Their legal analysis of BRC recommendations for near-term actions has been submitted to the Committee.

Page 9 of this analysis states, “Section 302(a) of the Nuclear Waste Policy Act does not prescribe a specific method of collection of the nuclear waste fee. Rather, it gives the Secretary authority to establish procedures for the collection and the payment of the fees. This section gives the DOE broad discretion to select the method of collection and payment of the fee and a clear legal basis for prescribing a method that differs from the current methods, if DOE chooses to do so. There is nothing elsewhere in the NWPA that prohibits the Secretary from changing the current process of fee collection and payment, so long as contract-holders agree to the change. Moreover, there is long-standing administrative precedent under the Standard Contract for providing various options for structuring payment and collection of the fee.”

The analysis also points out that the Secretary is required to deposit funds in the NWF only upon “realization” of those funds. “Realize” is not defined in the NWPA, but the definition and interpretation under other laws (e.g. the Internal Revenue Code) support a conclusion that payment of nuclear waste fees into a third party trust account would not constitute a “realization” by the Secretary because the Secretary has not received or taken possession of the funds, and the funds in the trust account would be subject to a restriction precluding their disbursement except for specified purposes. For these reasons, fees deposited directly into an irrevocable trust account under the BRC’s proposal would not be “realized” by the federal government unless and until they are drawn down in accordance with the specific restrictions contained in the trust instrument.

The analysis concludes, “...we believe that there is a sound legal basis for concluding that the Secretary’s broad statutory authority under the NWPA to prescribe procedures for the payment and collection of the nuclear waste fee permits him to postpone the time of collection of a portion of the fee. That authority, together with the Act’s specific direction respecting timing of deposit of fees in the Treasury, permits the Secretary to require use of an irrevocable trust account to safeguard the government’s interest in ultimately receiving the fees.”

We also note that our proposal to delay collection of part of the fee is a modified version of an approach proposed by the Secretary of Energy in 1998 as part of a litigation settlement concept. Specifically, DOE proposed to offer to amend its contracts with utilities to allow utilities to retain the portion of the 1 mill/kwh fee that exceeded the annual appropriations level, to be paid (with interest) later. In proposing this approach, the Secretary of Energy stated that this “can be accomplished promptly within [DOE’s] current authority.” We have attached a copy of the May 18, 1998 letter from Secretary of Energy Federico Peña to Alfred William Dahlberg, Chairman, President, and Chief Executive Officer of Southern Company, making this offer.

## ATTACHMENT

VANNESS FELDMAN, ATTORNEYS AT LAW,  
1050 THOMAS JEFFERSON, STREET, NW,  
Washington, DC.

TO: Blue Ribbon Commission on America’s Nuclear Future  
FROM: Van Ness Feldman, P.C.  
DATE: July 29, 2011 (REVISED: October 11, 2011)  
RE: Legal Analysis of Commission Recommendations for Near-Term Actions

At the request of the staff to the Blue Ribbon Commission on America’s Nuclear Future (“BRC”), we have reviewed whether certain recommendations in the BRC’s July 29, 2011 Draft Report respecting near-term actions by the Department of Energy (“DOE”) or other officers or agencies in the Executive Branch can be implemented under existing law. These recommendations relate to:

- (1) Initial steps to site, license and construct consolidated interim storage facilities for spent nuclear fuel (“spent fuel”);
- (2) Changing the order in which DOE accepts spent fuel from commercial nuclear reactor licenses (the “queue”) under DOE’s Standard Contract;<sup>1</sup> and
- (3) Changing the timing and method of payment of the nuclear waste fee by licensees.

We conclude in Sections I-III of this memorandum that these recommendations can be implemented under the existing provisions of the Nuclear Waste Policy Act of 1982 (“NWPA”). We also conclude that the BRC’s recommendation respecting modifying the queue for spent fuel from decommissioned reactors is consistent with the provisions of the Standard Contract.<sup>2</sup>

Section IV of this memorandum examines the list of near-term action recommendations provided in Chapter 12 of the Draft Report. The recommendations that are directed at DOE can be implemented using funds from the Nuclear Waste Fund (“NWF”), as long as the recommendation fits within the scope of Section 302(d) of the NWPA and the requisite appropriation is provided by Congress.

Section V of this memorandum reviews the federal government’s authority to accept spent fuel from foreign commercial reactors. This concept was raised in Chapter 11 of the Draft Report under the subsection on multilateral / multi-national fuel cycle options.

## I. CONSOLIDATED INTERIM STORAGE

*A. Introduction*

The BRC staff has asked us to address the statutory authority of DOE to provide consolidated interim storage of commercial spent fuel. In this section of our memorandum, we address the extent of DOE’s authority under the NWPA<sup>3</sup> to investigate, site, develop, license, construct, fund, and operate one or more consolidated interim storage facilities, and whether the BRC’s recommendations for near-term action respecting consolidated interim storage can be implemented under existing law.

*B. Recommendations of Draft Report*

The BRC makes the following recommendations respecting near-term actions to initiate work on consolidated interim storage:

<sup>1</sup> Standard Contract for Disposal of Spent Nuclear Fuel and for High Level Radioactive Waste, 10 C.F.R. § 961.11 (2011) (“Standard Contract”).

<sup>2</sup> Most of the provisions of the NWPA and Standard Contract we discuss apply to high-level radioactive waste (“HLW”) as well as spent fuel. For simplicity of presentation, we discuss only spent fuel but our conclusions respecting spent fuel in general apply to HLW also.

<sup>3</sup> 42 U.S.C. § 10101, et seq. (2006).

- “Work toward a consolidated storage facility can begin immediately under the existing provisions of the Nuclear Waste Policy Act, which authorize the federal government to site and design a monitored retrievable storage (MRS) facility and obtain construction authorization. Further legislative action would not be required until prior to designation of a MRS facility site (and potentially not until the construction phase), at which time Congress would need to amend the NWPA to allow DOE to go forward independent of the status of a permanent repository.”<sup>4</sup>
- “[I]t is important to reiterate an earlier point: that sufficient authority already exists under the NWPA to begin laying the groundwork for consolidated storage without further delay, assuming Congress makes appropriations available for this purpose. Specific steps that DOE could take in the near term include performing the systems analyses and design studies needed to develop a conceptual design for a highly flexible, initial federal interim spent fuel storage facility, assembling information that would be helpful to the siting process for such a facility, and working with nuclear utilities, the nuclear industry, and other stakeholders to promote the standardization of dry cask storage systems with an eye to facilitating later transport and consolidation in centralized storage and/or permanent disposal facilities.”<sup>5</sup>

### C. Authorities Under Existing Law

In 1982, Congress enacted the NWPA to address the issue of nuclear waste. The NWPA created the current structure for nuclear waste disposal in the United States by directing DOE to create a permanent repository for spent fuel and high-level waste (“HLW”) using funds derived from a 1 mil/kWh fee on civilian nuclear power generation, to be paid into the NWF. In addition to authorizing a permanent geologic repository at a site that was later identified as Yucca Mountain, the NWPA provided two main avenues for DOE to provide temporary interim storage for spent fuel.

Subtitle B of Title I of the NWPA established a limited interim storage program. Section 135 authorized DOE to provide up to 1,900 metric tons of interim storage of commercial spent fuel under certain restricted conditions.<sup>6</sup> Section 136, however, limited DOE’s authority to enter into contracts for such interim storage to the period between January 7, 1983, and January 1, 1990.<sup>7</sup> Accordingly, this authority expired in 1990.

Under Subtitle C of Title I of the NWPA, DOE has the authority to site, construct and operate a Monitored Retrievable Storage (“MRS”) facility.<sup>8</sup> The MRS facility could serve as the kind of consolidated interim storage facility contemplated by the BRC. It would accommodate spent fuel and HLW from civilian activities, but, in contrast to a permanent repository, the MRS facility would be designed to allow for continuous monitoring, management and retrieval of the materials pending further processing or disposal.<sup>9</sup> Authority to proceed with construction and expansion of the MRS facility is linked to progress on licensing and construction of a permanent repository.<sup>10</sup>

Pursuant to the 1987 amendments to the NWPA, following issuance of the Report of the MRS Review Commission described in the statute, DOE was authorized (but not required) to begin a site selection process for one MRS facility by conducting “a survey and evaluation of potentially suitable sites. . .”<sup>11</sup> As the BRC has noted, there are many activities that DOE could pursue in advance of site selection, including “performing the systems analyses and design studies needed to develop a conceptual design for a highly flexible, initial federal interim spent fuel storage facility, assembling information that would be helpful to the siting process for such a facility, and working with nuclear utilities, the nuclear industry, and other stakeholders to promote the standardization of dry cask storage systems. . .”<sup>12</sup>

<sup>4</sup>Draft Report, Sec. 5.2.2, pp. 41-42.

<sup>5</sup>Draft Report, Sec. 5.3, p. 48.

<sup>6</sup>NWPA § 135, 42 U.S.C. § 10155.

<sup>7</sup>NWPA § 136, 42 U.S.C. § 10156.

<sup>8</sup>Authority to site, construct and operate a MRS facility under Section 141 of the NWPA expired when, by June 1, 1985, the Secretary of Energy had not submitted a proposal to Congress. However, DOE still has authority to site an MRS facility under Sections 142-149 of the NWPA, 42 U.S.C. §§ 10162-69.

<sup>9</sup>NWPA § 141(b)(1)(A)-(D), 42 U.S.C. § 10161(b)(1)(A)-(D).

<sup>10</sup>NWPA § 148(d), 42 U.S.C. § 10168(d).

<sup>11</sup>NWPA § 144, 42 U.S.C. § 10164. The MRS Review Commission Report was issued on November 1, 1989.

<sup>12</sup>Draft Report, Sec. 5.3, p. 48.



However, there may be questions as to whether DOE can formally designate an MRS site without further legislation.<sup>13</sup> Under Subtitle C, DOE is barred from selecting a site for an MRS facility until the Secretary of Energy (“Secretary”) has made a recommendation to the President for a site for a permanent geologic repository.<sup>14</sup> Secretary Abraham recommended Yucca Mountain as the site to President Bush in 2002, and President Bush approved. However, in 2010, Secretary Chu announced the termination of the Yucca Mountain Project, and sought leave from the NRC to withdraw the Yucca Mountain Project license application. While DOE has been careful to insist its decision to stop work on the Yucca Mountain Project is not based on a finding that the site is not suitable, DOE’s termination of the Yucca Mountain Project raises the question of whether the Secretary’s 2002 recommendation that the President approved the Yucca Mountain site for development as a repository is still in effect. That question is likely to be litigated by opponents of whatever MRS site may be selected.

If DOE asserts, and the courts agree, that the 2002 DOE recommendation is still in effect, the Secretary could recommend to the President a site for one MRS facility. State and affected Tribes’ role in the siting and development the MRS facility is similar to that for siting and development of a permanent geologic repository.<sup>15</sup> Under Sections 143-149 of the NWPA, DOE is required to provide notice of at least six months to the Governor and legislature of a State in which an MRS facility is planned, or to the governing body of an affected Tribe where an MRS facility is planned and promptly notifying the appropriate State or Tribe when the site has been selected. The State or affected Tribe may submit a notice of disapproval to Congress regarding site selection, which Congress may override by Joint Resolution, as provided in Section 115(c) of the NWPA. In addition, the State or Tribe may enter into a benefits agreement with DOE pursuant to Section 170 of the NWPA.<sup>16</sup> If an MRS facility is selected by the President and the selection becomes effective, DOE is directed to apply to the Nuclear Regulatory Commission (“NRC”) for an MRS license.<sup>17</sup> However, any license issued by the NRC for a centralized interim storage facility under the MRS provisions must specify that construction of the facility cannot begin until after the NRC has issued a license for construction of a geologic repository.<sup>18</sup>

Thus, DOE has clear legislative authority under existing law to take initial steps in selecting a site for an MRS. Depending on the outcome of the current dispute over termination of the Yucca Mountain Project and judicial interpretation of the effect of the Secretary’s termination action, DOE could also be authorized to proceed to site selection and to take a number of further steps short of commencement of construction. Commencement of construction clearly requires further authorization.<sup>19</sup>

Finally, it is important to note that while the NWF is available to fund specific MRS activities,<sup>20</sup> use of the NWF for this or other purposes is subject to appropriations.

## II. MODIFICATION OF STANDARD CONTRACT QUEUE

### A. Introduction

This section addresses issues relating to the acceptance priority ranking (known as the “queue”) established by the Standard Contract between DOE and commercial nuclear reactor operators—in particular, whether DOE may deviate from the general principal under the Standard Contract that DOE accept the oldest fuel first

<sup>13</sup> Draft Report, Sec. 5.2.2, p. 43-44.

<sup>14</sup> NWPA § 145(b), 42 U.S.C. § 10165(b).

<sup>15</sup> NWPA § 142, 42 U.S.C. § 10162.

<sup>16</sup> NWPA §§ 145-47, 42 U.S.C. §§ 10165-67.

<sup>17</sup> NWPA § 148(c), 42 U.S.C. § 10168(c).

<sup>18</sup> The NWPA also limits the MRS facility in several other ways, some of which might warrant amendment prior to the construction phase. These include limits on number (only one MRS facility), location (specifically not allowed to be located in Nevada), size (maximum capacity of 15,000 MTHM), and site selection process (prescribed by the NWPA) for the MRS facility. See Sections 142-48 of the NWPA, 42 U.S.C. §§ 10162-68.

<sup>19</sup> Although the Commission does not refer to DOE’s authority under the Atomic Energy Act (“AEA”), Sections 53 and 55 of the AEA arguably provide authority for DOE to develop a consolidated interim storage facility, independent of the provisions of the NWPA. See Van Ness Feldman Memorandum to the BRC, “Authority for Interim and Monitored Retrievable Storage of Spent Nuclear Fuel” (Nov. 11, 2010). However, as explained in that memorandum, DOE has taken the position that the NWPA cabins DOE’s authority under the AEA to undertake storage of commercial used fuel. See, e.g., DOE, Report to Congress on the Demonstration of the Interim Storage of Spent Nuclear Fuel, DOE/RW-0596, at 6-7 (Dec. 2008).

<sup>20</sup> NWPA § 302(d), 42 U.S.C. § 10222(d).

(“OFF”) so as to give priority to: (1) spent fuel located at decommissioned reactors, and (2) spent fuel that has certain thermal characteristics.

#### *B. Priority for Spent Fuel at Decommissioned Reactor Sites*

##### 1. Recommendations of Draft Report

The BRC makes the following recommendations respecting to giving priority to acceptance of spent fuel at decommissioned nuclear reactors:

- “[T]he Commission recommends that spent fuel currently being stored at shutdown reactor sites be ‘first in line’ for transfer to a consolidated interim storage facility.”<sup>21</sup>
- “The magnitude of the cost savings that could be achieved by giving priority to shutdown sites appears to be large enough (i.e., in the billions of dollars) to warrant DOE exercising its right under the Standard Contract to move this fuel first. Although this action would disrupt the queue specified in the Standard Contract, as utilities continue to merge and a growing number of reactors reach the end of their operating licenses, every utility (or nearly every utility) will have one or more shutdown plants. In that context, giving priority to moving fuel from decommissioned sites is likely to be seen by all parties involved as being in everyone’s best interest.”<sup>22</sup>

##### 2. DOE Authority Under Standard Contract

The BRC recommends in Section 5.2.1 of the Draft Report that spent fuel located at decommissioned reactor sites receive first priority for disposal. A more detailed discussion in Section 5.4 makes similar statements regarding a change in priority for acceptance of fuel under the queue and notes that such a change is allowed by the Standard Contract. These statements are clearly consistent with the provisions of the Standard Contract. The Standard Contract requires DOE to determine the acceptance priority based on the OFF principle. However, Art. VI.B.1(b) of the Standard Contract provides an exception from the OFF priority for “[spent fuel] and/or HLW removed from a civilian nuclear power reactor that has reached the end of its useful life or has been shut down permanently for whatever reason.”

The BRC’s recommendation to give priority to fuel from decommissioned reactors is consistent with the provisions of the Standard Contract that incorporate the OFF principle while allowing DOE to deviate from the OFF acceptance priority in cases of emergencies or decommissioned reactors.<sup>23</sup>

#### *C. Priority Acceptance Based on Thermal Characteristics*

1. Recommendations of Draft Report The BRC makes the following recommendations respecting modification of acceptance priorities to take into account thermal characteristics of the spent fuel:

- “Consolidated storage also offers opportunities to simplify repository operations. For example, by accumulating a substantial inventory of spent fuel in one place, the storage facility could take over some of the thermal management activities that might be required for efficient repository operation (e.g. blending hot and cool fuel assemblies to create a uniform thermal load for waste packages). A consolidated storage facility could even offer the option of packaging the waste for disposal before it is shipped to the repository, further simplifying operations at the repository site.”<sup>24</sup>
- “[A] consolidated storage facility could provide flexible, safe, and cost-effective waste handling services (i.e., repackaging or sorting of fuel for final disposal) and could facilitate the standardization of cask systems.”<sup>25</sup>
- “The Commission recognizes that existing contracts have created a ‘queue’ in terms of federal commitments to accept spent fuel from specific utilities. Unfortunately, the existing queue was not set up to maximize efficiencies or to minimize the risks of fuel handling and transportation. Hence, we believe it would be appropriate for DOE to re-visit the current schedule as it is already authorized to do under certain circumstances, recognizing that any changes to the current queue may require the Department and utility contract holders to re-negotiate some existing commitments. There may also be circumstances where expedited removal of fuel from an operating reactor is warranted. The Commission believes a more flexible approach would benefit all parties involved.

<sup>21</sup> Draft Report, Sec. 5.2.1, p. 47 (emphasis in original).

<sup>22</sup> Draft Report, Sec. 5.4, p. 47; see also Draft Report, Sec. 5.4, p. 46-48.

<sup>23</sup> Standard Contract, Arts. V.D, VI.B.1.

<sup>24</sup> Draft Report, Sec. 5.2.4, p. 43.

<sup>25</sup> Draft Report, Sec. 5.2.6, p. 44.

Under DOE's Standard Contract with utilities, priority for the acceptance of spent fuel is allocated to utilities according to the 'oldest fuel first' or 'OFF' principle. This does not mean that utilities would necessarily choose to ship their oldest fuel first since they would have a contractual right to decide each year (subject to DOE's approval) which fuel to ship from which reactor (with the overall amount being determined by the OFF allocation)."<sup>26</sup>

- "[T]he current approach may limit the ability to use at-reactor storage as part of an integrated thermal management strategy. . . . The ability to select which spent fuel is delivered for disposal at a permanent repository each year may avoid the need for additional storage to hold fuel that is too hot for immediate emplacement. However, since utilities can choose which fuel to deliver, they may prefer to send the hottest eligible fuel in their pools, assuming that the plants are still operating when waste acceptance begins. This may require more complex thermal management activities at the consolidated storage or disposal facility."<sup>27</sup>
- "As part of this effort the new organization should seek to renegotiate contracts as necessary to implement cost-saving and risk-reducing measures, while also recognizing the contractual rights of current waste owners as originally established under existing statutes, and as subsequently interpreted by the courts."<sup>28</sup>

## 2. DOE Authority Under Standard Contract

In Sections 5.2 and 5.4, the Draft Report discusses changing the acceptance priority for the queue to prioritize spent fuel based on its thermal characteristics. The discussion in Section 5.2 addresses the issue as a potential option for simplifying and streamlining the waste handling process, but does not address whether such a proposal is consistent with the Standard Contract. Section 5.4, however, recognizes "that any changes to the current queue may require the Department and utility contract holders to re-negotiate some existing commitments." With this qualification, the Draft Report's ensuing discussion regarding a possible change to the queue properly characterizes the legal requirements imposed on DOE by the Standard Contract.

### III. MODIFICATION OF TIMING AND METHOD OF PAYMENT OF NUCLEAR WASTE FEE

#### A. Introduction

This section addresses the question of whether DOE has authority to alter the current payment and collection process used to fund the Nuclear Waste Fund. We conclude that through administrative action and amendment to the Standard Contracts, the Secretary has the authority to alter the current collection process of the NWF.

#### B. Recommendations of Draft Report

- "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."<sup>29</sup>
- "The modified approach proposed here would require each utility to place the unused fee receipts in an irrevocable trust account at an approved, third-party financial institution, allowing the money to be withdrawn only for the purpose for which the trust account was created."<sup>30</sup>

#### C. Applicable Statutory and Regulatory Text

Section 302(a)(1) of the NWPA authorizes the Secretary to enter into contracts for disposal of spent fuel and provides that such contracts "shall provide payment to the Secretary of fees pursuant to paragraphs (2) and (3) sufficient to offset expenditures described in subsection (d)." Paragraph (2) provides that for civilian nuclear power sold after April 7, 1983, the licensee shall pay a fee equal to 1.0 mil per kw/h. The Secretary has the authority to adjust this, pursuant to paragraph (4). Paragraph (3) addresses spent fuel derived from nuclear power sold on or before April 7, 1983. Paragraph (3) sets a fee of 1 mil per kw/h and provides that "[s]uch fee shall be paid to the Treasury of the United States and shall be deposited in a sepa-

<sup>26</sup> Draft Report, Sec. 5.4, pp. 46-47.

<sup>27</sup> Id. at p. 50.

<sup>28</sup> Id. at p. 51.

<sup>29</sup> Draft Report, Exec. Summ., Sec. 3, p. ix.

<sup>30</sup> Draft Report, Section 8.3.1, p. 90.

rate fund . . .” Section 302(a)(4) provides that the Secretary “shall establish procedures for the collection and payment of the fees established by paragraph (2) and paragraph (3).” Section 302(c)(1) provides that the Nuclear Waste Fund shall consist of “all receipts, proceeds, and recoveries realized by the Secretary . . . which shall be deposited in the Waste Fund immediately upon their realization.”

Based on Section 302(a)(4)’s direction to establish procedures for the collection and payment of fees, DOE issued regulations on fees and terms of payment in 10 C.F.R. § 961.11 (Article VIII of the Standard Contract). Pursuant to Article VIII, DOE required that for nuclear electricity sold after April 7, 1983, the utility pay the fee on a quarterly basis. For spent fuel discharged prior to April 7, 1983, DOE provided three payment options. Under Option 1, the fee payments were prorated evenly over 40 quarters. Licensees were allowed to accelerate the fee payments, which included interest on the outstanding fee balance, by making full or partial lump sum payments. Option 2 enabled licensees to make a single payment consisting of the fee and interest on the outstanding balance at anytime prior to the date of first delivery to DOE of the spent fuel. Option 3 provided for a single payment that consisted of all outstanding fees without interest. The payment was required to be made prior to June 30, 1985, or two years after the execution of the contract, whichever was later.

#### *D. Analysis*

Section 302(a) does not prescribe a specific method of collection of the nuclear waste fee. Rather, it gives the Secretary authority “to establish procedures for the collection and the payment of the fees.”<sup>31</sup> This section gives the DOE broad discretion to select the method of collection and payment of the fee and a clear legal basis for prescribing a method that differs from the current methods, if DOE chooses to do so. There is nothing elsewhere in the NWPA that prohibits the Secretary from changing the current process of fee collection and payment, so long as contract-holders agree to the change. Moreover, there is long-standing administrative precedent under the Standard Contract for providing various options for structuring payment and collection of the fee.

As noted above, in its original Standard Contract regulations (adopted in 1983, a year after enactment of the NWPA), the DOE offered utilities three options for payment regarding pre-1983 spent fuel, including an option that permitted licensees to delay payment of the fee until delivery of the spent fuel to DOE. It is clear that the current quarterly payment requirement thus has never been regarded as the only method for payment of the nuclear waste fee.<sup>32</sup>

Thus, the broad statutory authority to set procedures for the collection and payment of fees and administrative precedent both support the argument that the Secretary could, through administrative action, amend the current regulations to change the timing of payments. However, any changes to future payments that modify the Standard Contract would be subject to the Standard Contract regulations codified at 10 C.F.R. Part 961. Art. XV of the Standard Contract provides that:

[T]he parties will negotiate and, to the extent mutually agreed, amend this contract as the parties may deem to be necessary or proper to reflect their respective interests; provided, however, that any such amendment shall be consistent with the DOE final rule published in the FEDERAL REGISTER on April 18, 1983 entitled, “Standard Contract for Disposal or SNF and/or HLW”, as the same may be amended from time to time.”

The legal effect of this provision is not entirely clear. It would appear that the changes to implement the proposed modifications are not consistent with the fee payment provisions of the final rule. However, the Standard Contract rule permits “deviations” from the Standard Contract, and through this procedure it may be possible to amend the Standard Contract without amending the rule.<sup>33</sup> In any case, the changes to individual standard contracts would be subject to negotiation and mutual agreement with the affected nuclear utilities.

Assuming the Secretary has authority under the NWPA to delay the date of payment of some portion of the nuclear waste fee, a further question arises as to whether DOE has the authority to direct the nuclear waste fee (or some portion thereof) to an irrevocable trust account to ensure the monies are actually paid into the

<sup>31</sup> NWPA, § 302(a)(4).

<sup>32</sup> In addition to the precedent for alternative payment terms for fees associated with Section 302(a)(3), it can be argued that the language in Section 302(a)(2) is even more flexible than Section 302(a)(3). Unlike paragraph (3), paragraph (2) does not provide that the fee “shall be paid to the Treasury . . .” 31 C.F.R. § 380 (2011), 31 U.S.C. § 3302(c)(1) (2006).

<sup>33</sup> 10 C.F.R. § 961.4 (2011).

Treasury when needed. Under the provisions of Section 3302 of Title 31, United States Code (the “Miscellaneous Receipts Act” or “MRA”), public funds received by an official or agent of the U.S. Government must be deposited in the Treasury as soon as practicable, except as provided by another law. We are of the view that if the Secretary has authority to delay receipt of the nuclear waste fee, as was done for the pre-April 1983 fuel, the Secretary also has authority to require safeguards, such as a trust account, to ensure the delayed payments are in fact collected and eventually paid into the Fund. Specifically, the Secretary’s broad authority to specify the method of payment and collection of the nuclear waste fee constitutes authority “provided by another law,”<sup>34</sup> making the MRA restrictions inapplicable in this case.

Moreover, the NWPA provides specific direction respecting deposit of nuclear waste fees in the NWF. The Secretary is required to deposit funds in the NWF only upon realization of those funds. “Realize” is not defined in the NWPA, and the definition under other laws varies. In the securities law context, “realization” has been held to mean “to convert an intangible right or property into real (tangible) property: hence to convert any kind of property into money. . . .”<sup>35</sup> The Internal Revenue Code (“Code”) defines “realized” as the “money received plus the fair market value of property (other than money) received.”<sup>36</sup> The Code’s constructive receipt rules amplify this concept to include income credited to, set apart for, or otherwise made available to the taxpayer, unless the taxpayer’s control is “subject to substantial limitations or restrictions.”<sup>37</sup> Black’s Law Dictionary defines “realize” as “conversion of non-cash assets into cash assets.”<sup>38</sup> Under any of these concepts, payment of nuclear waste fees into a third party trust account would not appear to constitute a “realization” by the Secretary. The Secretary has not received or taken possession of the funds, and the funds in the trust account are subject to a restriction that precludes their disbursement except for specified purposes. For these reasons, fees deposited directly into an irrevocable trust account under this proposal are not “realized” by the federal government unless and until they are drawn down in accordance with the trust instrument.

Accordingly, we believe that there is a sound legal basis for concluding that the Secretary’s broad statutory authority under the NWPA to prescribe procedures for the payment and collection of the nuclear waste fee permits him to postpone the time of collection of a portion of the fee. That authority, together with the Act’s specific direction respecting timing of deposit of fees in the Treasury, permits the Secretary to require use of an irrevocable trust account to safeguard the government’s interest in ultimately receiving the fees.<sup>39</sup>

#### IV. USE OF THE NUCEAR WASTE FUND

##### A. Introduction

Chapter 12 of the Draft Report recommends various near-term actions DOE could undertake to help fulfill its nuclear waste management responsibilities. Those recommendations that fit within the specified list of “Use of the Waste Fund” provided in Section 302(d) of the NWPA arguably can be implemented with the use of the NWF (subject to Congressional appropriations). In 2002, the Eleventh Circuit confirmed that DOE may make expenditures from the NWF only for disposal activities. The Court held:

First, the statute provides that the Secretary “may make expenditures from the Waste Fund . . . only for purposes of radioactive waste disposal activities under subchapters I and II of this chapter.” 42 U.S.C. § 10222(d). . . . The Act makes a list of things that might be considered acts of “disposal.” [footnote omitted] Although the list is not exhaustive, it is instructive of the kinds of activities that might be characterized as “disposal.” The items in the list all have one thing in common: they entail some sort of advancement or step toward permanent disposal, or else an incidental cost of

<sup>34</sup> 42 U.S.C. § 3302 (a).

<sup>35</sup> *Heli-Coil Corp. v. Webster*, 352 F.2d 156, 167 n.14 (3d Cir. 1965) (citing *McAvoy v. Schramme*, 264 N.Y.S. 181 238 App. Div. 225 (1933)).

<sup>36</sup> Internal Revenue Code of 1986, § 1001(b), 42 U.S.C. § 1001(b).

<sup>37</sup> 26 C.F.R. § 1.451.2(a) (2010).

<sup>38</sup> BLACK’S LAW DICTIONARY 1379 (9th ed. 2009).

<sup>39</sup> We would recommend that the Standard Contract amendments make clear that monies in the trust accounts are the property of the trustee until paid to or required to be paid to the NWF, and that the trustee acts as fiduciary, not as agent of the United States. The Standard Contract should also have to carefully set forth the terms and conditions of this trust account as well as the qualifications of the institutions holding the account.

maintaining a repository. None of them encompass the maintenance of the status quo.<sup>40</sup>  
 Section 302(d) of the NWPA provides:

(d) USE OF WASTE FUND.—The Secretary may make expenditures from the Waste Fund, subject to subsection (e), only for purposes of radioactive waste disposal activities under titles I and II, including—

- (1) the identification, development, licensing, construction, operation, decommissioning, and post-decommissioning maintenance and monitoring of any repository, monitored, retrievable storage facility or test and evaluation facility constructed under this Act;
- (2) the conducting of nongeneric research, development, and demonstration activities under this Act;
- (3) the administrative cost of the radioactive waste disposal program;
- (4) any costs that may be incurred by the Secretary in connection with the transportation, treating, or packaging of spent nuclear fuel or high-level radioactive waste to be disposed of in a repository, to be stored in a monitored, retrievable storage site or to be used in a test and evaluation facility;
- (5) the costs associated with acquisition, design, modification, replacement, operation, and construction of facilities at a repository site, a monitored, retrievable storage site or a test and evaluation facility site and necessary or incident to such repository, monitored, retrievable storage facility or test and evaluation facility; and
- (6) the provision of assistance to States, units of general local government, and Indian tribes under sections 116, 118, and 219.

No amount may be expended by the Secretary under this subtitle for the construction or expansion of any facility unless such construction or expansion is expressly authorized by this or subsequent legislation. The Secretary hereby is authorized to construct one repository and one test and evaluation facility.<sup>41</sup>

It is important to note that the “Secretary,” meaning the Secretary of Energy, is the only person authorized to expend funds in the NWF under the NWPA. Further, all such expenditures of the NWF can be made only after Congress has appropriated the funds in the NWF for such specific uses. Further, the NWPA provides that funds cannot be expended for the construction of facilities unless their construction is specifically authorized by Congress in the NWPA or elsewhere.

<sup>40</sup> Ala. Power Co. v. U.S. Dep’t of Energy, 307 F.3d 1300, 1313-14 (11th Cir. 2002).

<sup>41</sup> NWPA § 302(d), 42 U.S.C. § 10222(d).

*B. Analysis An examination of the Chapter 12 recommendations for near-term action by DOE, as well as Congress and other agencies, and how those recommendations fit or do not fit within the scope of Section 302(d) of the NWPA is provided in the following table:*

Recommendation	Availability of NWF
<p>Financing the Waste Program.—DOE should initiate a rulemaking to revise the Standard Contract to offer a new fee payment option in which payments to the Waste Fund each year would be based on actual appropriations from the Waste Fund, with the remainder of the one mil fee being placed in a third-party escrow account by the contract holder until needed. The rulemaking should also address other potential revisions discussed in this report, e.g. to allow reprioritization of spent fuel receipt to increase transportation efficiency and facilitate closure of shutdown reactor sites, and to incentivize actions by contract holders (e.g. use of standardized storage systems) that would reduce overall waste management system costs. When the rulemaking is complete, DOE should then offer to enter into negotiations with contract holders to revise current contracts to include the new provisions.</p>	<p>The NWF is available to DOE for these activities under Section 302(d)(3), as they could be considered an administrative cost of the waste disposal program.</p>
<p>Financing the Waste Program.—The Administration should work with the appropriate Congressional committees and the Congressional Budget Office to reclassify receipts from the nuclear waste fee as discretionary offsetting collections and allow them to be used to offset appropriations for the waste program.</p>	<p>This recommendation is outside the scope of Section 302(d).</p>
<p>Financing the Waste Program.—The Administration, DOE, and DOJ should work with nuclear utilities and other stakeholders toward a fair and expeditious resolution of outstanding litigation and damage claims.</p>	<p>The NWF is arguably not available to DOE for these activities because DOE's partial breach of its Standard Contract is not the kind of activity that advances disposal of the radioactive waste disposal program within the scope of Section 302(d). Courts have found that these judgments against DOE may not be paid out of the NWF but instead should be paid from the Treasury's Judgment Fund.<sup>42</sup></p>
<p>Establishment of a New Organization.—The appropriate Congressional committees should begin hearings on establishment of an independent waste management organization as soon as practicable. The Commission recognizes that there are many details that need to be worked out in creating a new institution, and believes that the sooner the process of obtaining the views of interested parties and developing a detailed legislative proposal can begin, the better.</p>	<p>This recommendation is outside the scope of Section 302(d).</p>

Recommendation	Availability of NWF
<p>Storage.—Using existing authority in the NWPA, DOE should begin laying the groundwork for implementing consolidated storage and for improving the overall integration of storage as a planned part of the waste management system without further delay. Specific steps that DOE could take in the near term include:</p> <ul style="list-style-type: none"> <li>• Performing the systems analyses and design studies needed to develop a conceptual design for a highly flexible, initial federal interim spent fuel storage facility.</li> <li>• Preparing to respond to requests for information from communities, states, or tribes that might be interested in learning more about hosting a consolidated storage facility.</li> <li>• Working with nuclear utilities, the nuclear industry, and other stakeholders to promote the better integration of storage into the waste management system, including standardization of dry cask storage systems. This effort should include development of the systems analyses needed to provide quantitative estimates of the system benefits of utility actions such as the use of standardized storage systems or agreements to deliver fuel outside the current OFF priority ranking. (These analyses would be needed to support the provision of incentives to utilities to undertake actions such as using standardized storage systems or renegotiating fuel acceptance contracts.)</li> </ul>	<p>The NWF is available to DOE for these activities under Sections 302(d)(1) and 302(d)(5).</p>
<p>Storage.—The Administration should request, and Congress should provide funding for, the National Academy of Sciences to conduct an independent investigation of the events at Fukushima and their implications for safety and security requirements at spent nuclear fuel and high-level waste storage sites in the United States.</p>	<p>This recommendation is outside the scope of Section 302(d).</p>
<p>Transportation.—DOE should complete the development of procedures and regulations for providing technical assistance and funds (pursuant to Section 180 (c) of the NWPA) for training local and tribal officials in areas traversed by spent fuel shipments, in preparation for movement of spent fuel from shutdown reactor sites to consolidated storage.</p>	<p>The NWF is available to DOE for these activities under Section 302(d)(4).</p>



Recommendation	Availability of NWF
<p>Transportation.—NRC should reassess its plans for the Package Performance without regard to the status of the Yucca Mountain project, and if it is found to have independent value, funding should be provided from the Nuclear Waste Fund so that the NRC can update these plans and proceed with those tests.</p>	<p>The NWF is arguably limited to expenditures of funds by the Secretary of Energy, not the NRC.</p>
<p>Disposal.—DOE should keep a repository program moving forward through valuable, non-site specific activities, including R&amp;D on geological media, work to design improved engineered barriers, and work on the disposal requirements for advanced fuel cycles. The work of the Used Fuel Disposition Campaign of DOE's Office of Used Nuclear Fuel Disposition Research &amp; Development in this area should be continued.</p>	<p>The NWF is available to DOE for these activities under Sections 302(d)(1) and 302(d)(2).</p>
<p>Disposal.—DOE should develop an RD&amp;D plan and roadmap for taking the borehole disposal concept to the point of a licensed demonstration.</p>	<p>The NWF is available to DOE for these activities under Section 302(d)(2).</p>
<p>Facility Siting.—To ensure that future siting efforts are informed by past experience, DOE should build a data base of the experience that has been gained and relevant documentation produced in efforts to site nuclear waste facilities, in the United States and abroad. This would include the storage facility and repository siting efforts under the NWPA by both DOE and the Nuclear Waste Negotiator.</p>	<p>The NWF is arguably available to DOE for these activities under Section 302(d)(3), as they could be considered an administrative cost of the program.</p>
<p>Regulatory Actions.—The Administration should identify an agency to take the lead in defining an appropriate process (with opportunity for public input) for developing a generic safety standard for geologic disposal sites. The same lead agency should coordinate the implementation of this standard-setting process with the aim of developing draft regulations for mined repositories and deep borehole facilities.</p>	<p>This recommendation is outside the scope of Section 302(d).</p>
<p>Regulatory Actions.—The NRC should continue efforts to review and potentially revise the existing waste classification system.</p>	<p>This recommendation is outside the scope of Section 302(d).</p>

Recommendation	Availability of NWF
<p>Nuclear Workforce Development.—DOE, in cooperation with the U.S. Department of Labor and the Bureau of Labor Statistics, should lead a public-private initiative to develop ongoing labor demand projections and forecast capacity for the nuclear workforce, including the workforce for science, technology, engineering and mathematics (STEM); crafts; and emergency response and HAZMAT. This capacity will help inform expanded federal, joint labor-management, and university-based support for critical high-skill, high-performance nuclear workforce development needs, including special attention to the expansion of the emergency response and HAZMAT-trained workforce.</p>	<p>These recommendations are outside the scope of Section 302(d) because they do not directly relate to DOE's administrative obligations under the waste disposal program.</p>
<p>International.—DOE should identify any legislative changes needed to authorize and direct the U.S. waste management program to support countries that pursue nuclear technologies in developing capacity for the safe management of the associated radioactive wastes and to encourage broad adherence to strengthened international norms for safety, security, and non-proliferation for all nuclear infrastructure and materials.</p>	<p>The NWF is arguably not available to DOE for these activities because it is not clear that international safety, security, and non-proliferation for all nuclear infrastructure and materials are within the scope of DOE's administrative obligations under the waste disposal program.</p>

<sup>42</sup> Ala. Power Co. v. U.S. Dep't of Energy, 307 F.3d 1300 (11th Cir. 2002).

#### V. IMPORTS FROM FOREIGN COMMERCIAL REACTORS

##### A. Introduction

This section addresses the issue of the ability of the federal government to accept spent fuel from foreign commercial reactors. Specifically, the section focuses on the authority of DOE to import foreign commercial spent fuel, as limited by Section 131(f) of the AEA, a provision added to the AEA as part of the Nuclear Non-Proliferation Act of 1978 ("NNPA").<sup>43</sup>

##### B. Recommendations of Draft Report

In the Draft Report, the BRC recommends the following respecting the import of spent fuel from foreign commercial reactors:

- "A similar capability to accept spent fuel from foreign commercial reactors, in cases where the President would choose to authorize such imports for reasons of U.S. national security, would be desirable within a larger policy framework that creates a clear path for the safe and permanent disposition of U.S. spent fuel."<sup>44</sup>

##### C. Applicable Statutory and Regulatory Text

The AEA, first enacted in 1946 and significantly amended in 1954, was enacted for general purposes related to international cooperation and nuclear nonproliferation; encouragement of the development and utilization of atomic energy for peaceful purposes; support of research and development in nuclear power and medical uses; and management of the U.S. nuclear defense programs.<sup>45</sup> To promote these purposes, the AEA regulates civilian ownership and use of "special nuclear material." Special nuclear material is defined as "plutonium, uranium enriched in the isotope

<sup>43</sup> Atomic Energy Act of 1954, Pub. L. 83-703, as amended, § 131(f), 42 U.S.C. § 2160(f) (added by Section 303(a) of the Nuclear Non-Proliferation Act of 1978, Pub. L. No. 95-242, 92 Stat. 120 (22 U.S.C.A. § 3201) (1978)).

<sup>44</sup> Draft Report, Section 11.2.2, p. 131.

<sup>45</sup> AEA § 3, 42 U.S.C. § 2013. For additional statements of purpose within the statute, see, e.g., AEA §§ 31(a), 81-82, 122, 42 U.S.C. §§ 2051(a), 2111-12, 2152.

233 or in the isotope 235,” but does not include source material.<sup>46</sup> Commercial spent fuel is regulated under the AEA as a special nuclear material because of its uranium-233, uranium-235, or plutonium-239 content. The AEA authorizes DOE to acquire special nuclear material, which includes foreign and domestic spent fuel if DOE deems such action “necessary to effectuate the provisions of [the AEA].”<sup>47</sup> The NRC is authorized to issue a license to DOE to hold spent fuel from NRC-licensed reactors,<sup>48</sup> but foreign fuel held by DOE does not appear to be subject to a licensing requirement.<sup>49</sup>

The AEA authorizes DOE to enter into cooperation agreements (known as “Section 123 Agreements”) with other nations or groups of nations.<sup>50</sup> These agreements can be for a variety of purposes and can cover a range of materials.<sup>51</sup> Section 131 of the AEA provides for “subsequent agreements” with these nations or groups of nations that can provide for the import of the irradiated fuel into the United States.

Subsequent arrangements can be for a variety of purposes, including “arrangements for the storage or disposition of irradiated fuel elements” or “any other arrangement which the President finds to be important from the standpoint of preventing proliferation.”<sup>52</sup> For subsequent arrangements involving the direct or indirect commitment of the United States for storage or other disposition, interim or permanent, of any foreign spent nuclear fuel in the United States, Section 131(f)(1) imposes three conditions, described below.

For purposes of Section 131(f), “[f]oreign spent nuclear fuel” is “any nuclear fuel irradiated in any nuclear power reactor located outside of the United States and operated by any foreign legal entity, government or nongovernment, regardless of the legal ownership or other control of the fuel or the reactor and regardless of the origin or licensing of the fuel or reactor, but not including fuel irradiated in a research reactor.”<sup>53</sup>

The first condition imposed by Section 131(f)(1)(A)(i) states that DOE may not enter into such an arrangement unless the commitment “has been submitted to the Congress for a period of sixty days of continuous session and been referred to the Committee on Foreign Affairs of the House of representatives and the Committee on Foreign Relations of the Senate;” or the plan is subject to the terms of an approved “detailed generic plan for disposition or storage in the United States” that has already been subject to Congressional review. The statutory text provides that the Congress may prevent the agreement from becoming effective if it passes during the sixty-day period a concurrent resolution “stating in substance that it does not favor the commitment . . . .” This disapproval authority is, however, ineffective under *Consumers Union v. FTC*, which held that provisions permitting the two Houses to disapprove Executive action by concurrent resolution violate the Presentment Clause of the Constitution.<sup>54</sup> However, based on section 281 of the AEA, which addresses separability, and precedent in *INS v. Chadha*,<sup>55</sup> it appears that the legislative veto provision could be successfully severed from the rest of Section 131(f)(1)(a).<sup>56</sup> Accordingly, DOE can go forward with an arrangement to which Section 131(f)(1) applies after the requisite 60-day notice to the relevant Committees.

The second condition, provided in Section 131(f)(1)(B), requires the Secretary to comply with Section 131(a). This requirement mandates that the Secretary “obtain the concurrence of the Secretary of State, and consult with the Nuclear Regulatory Commission, and the Secretary of Defense.”<sup>57</sup>

The third condition, provided in Section 131(f)(1)(C), requires the Secretary to comply with “all other statutory requirements of th[e] AEA], under sections 54 and 55 and any other applicable sections, and any other requirements of law.”<sup>58</sup> Section 54 generally authorizes the Secretary to distribute special nuclear materials to foreign nations or groups of nations pursuant to the terms of a cooperation agreement

<sup>46</sup> AEA § 11(aa), 42 U.S.C. § 2014(aa).

<sup>47</sup> AEA § 55, 42 U.S.C. § 2075.

<sup>48</sup> Energy Reorganization Act of 1974 § 202, as amended, Pub. L. 93-438, 88 Stat. 1232 (42 U.S.C. § 5801) (1974).

<sup>49</sup> *Id.*

<sup>50</sup> AEA § 123, 42 U.S.C. § 2153.

<sup>51</sup> See, e.g., AEA §§ 53, 54a, 57, 64, 82, 91, 103, 104, or 144.

<sup>52</sup> AEA § 131(a)(2)(e), 42 U.S.C. § 2160(a)(2)(e) and (g).

<sup>53</sup> AEA § 131(f)(4), 42 U.S.C. § 2160(f)(4).

<sup>54</sup> *Consumers Union of U.S., Inc., et al v. FTC, et al*, 691 F.2d 575 (D.C. Cir. 1982) *aff’d* sub nom. *Process Gas Consumers Group v. Consumer Energy Council*, 463 U.S. 1216 (1983).

<sup>55</sup> 462 U.S. 919, 932 (1983).

<sup>56</sup> See Appendix A for further analysis regarding the severability of the Congressional concurrent resolution requirement.

<sup>57</sup> AEA § 131(f)(1)(B), 42 U.S.C. § 2160(f)(1)(B).

<sup>58</sup> AEA § 131(f)(1)(C), 42 U.S.C. § 2160(f)(1)(C).

and subject to certain restrictions related to compensation, and to license others to make similar distributions. Section 54 also provides that DOE may sign an agreement to repurchase any of the special nuclear material distributed under a sale arrangement under Section 54, or uranium remaining after irradiation of such special nuclear material, or nuclear material produced in a nuclear reactor located outside the United States through the use of special nuclear material which was leased or sold pursuant to Section 54.

Section 55 of the AEA provides that DOE is authorized “to the extent it deems necessary to effectuate the provisions of [the AEA]” to “take, requisition, condemn or otherwise acquire any special nuclear material or interest therein.”<sup>59</sup> This authority could arguably be read broadly in light of the stated purposes of the AEA, which include development and utilization of atomic energy for peaceful purposes to the maximum extent consistent with common defense and security and public health and safety. Sections 161 and 171 of the AEA authorize DOE to enter into contracts to acquire materials, to lease or purchase real property, and to pay just compensation for any property or interests taken by DOE. These three sections—Sections 55, 161, and 171—could be read to provide authority for DOE to take title to or custody of commercial spent fuel.<sup>60</sup>

The part of the third condition that requires the Secretary to comply with “any other requirements of law” would make any arrangement for the import of the spent fuel from foreign commercial reactors subject to statutory and regulatory requirements governing issues such as, but not limited to, the packaging and transportation of spent fuel, public health and safety, and the environmental impacts of the program. For example, any subsequent arrangement entered into by DOE would be required to comply with the National Environmental Policy Act.<sup>61</sup> To the extent that a subsequent arrangement is inconsistent with other applicable laws, further legislation may be necessary to carry it out.<sup>62</sup>

In emergency situations, Section 131(f)(2) provides an exemption from the conditions in Section 131(f)(1).<sup>63</sup> This exemption applies where the President determines that a commitment under AEA Sections 54 or 55 for storage or other disposition is required by “an emergency situation,” that such an action is in the national interest, and notifies certain Congressional committees of the determination and action.

#### SCENARIO EXAMPLE

In a scenario where the Secretary seeks to implement a program to import spent fuel from foreign commercial reactors under Section 131(a)(2)(E), the Secretary would need to ensure that the program complies with the three conditions imposed by Section 131(f)(1). As discussed above, these conditions incorporate by reference Sections 131(a), 54, and 55, as well as any additional requirements of relevant sections of the AEA or other law. Thus, before entering into a proposed subsequent arrangement, the Secretary must: (i) obtain the concurrence of the Secretary of State and consult with the NRC and Secretary of Defense; (ii) publish in the Federal Register at least 15 days before the proposed arrangement is to go into effect a notice of the proposed arrangement, together with a written determination by the Secretary that the arrangement “will not be inimical to the common defense and security;”<sup>64</sup> and (iii) submit the proposed arrangement to the Congress for a period of 60 days of continuous session. The Secretary must also ensure compliance with any other requirements of the AEA and other law.

During the consultation process required by (i) above, if “in the view” of the Secretary, the Secretary of State, the Secretary of Defense or the NRC the proposed arrangement “might significantly contribute to proliferation,” the Secretary of State must prepare a Nuclear Proliferation Assessment Statement (“NPAS”).<sup>65</sup> The NPAS describes the safeguards, mechanisms, and peaceful use assurances that will ensure that the assistance provided

<sup>59</sup> AEA § 55, 42 U.S.C. § 2075. Section 55 further provides that any contract of purchase may be made without regard to general government contracting laws upon certification by the Secretary that such action is necessary for the common defense or otherwise not practical.

<sup>60</sup> AEA §§ 161(e), (g), 171, 42 U.S.C. §§ 2201(e), (g), 2221.

<sup>61</sup> 42 U.S.C. § 4321, et seq.

<sup>62</sup> Several other provisions of Federal law specifically relate to import and storage of commercial reactor spent fuel, but in our opinion they do not impose substantive limitations on DOE's authority under Section 131 of the AEA. The provisions are described in Appendix B.

<sup>63</sup> AEA § 131(f)(2), 42 U.S.C. § 2160(f)(2).

<sup>64</sup> AEA § 131(a)(1), 42 U.S.C. § 2160(a)(1).

<sup>65</sup> AEA § 131(a)(2), 42 U.S.C. § 2160(a)(2).

pursuant to the arrangement will not be used to further any military or nuclear explosive purpose.<sup>66</sup> When a NPAS is required, the Secretary may not publish the notice and determination (see (ii) above) in the Federal Register until either the Secretary receives the NPAS from the Secretary of State or the time authorized under Section 131(c) for the Secretary of State's preparation of the NPAS expires.<sup>67</sup> Under Section 131(c), the Secretary of State has 60 days to prepare the NPAS. However, that 60 day time period may be extended if, upon request by the Secretary of State, the President waives the time restriction and provides notice and justification to certain Congressional committees.

#### *D. Analysis*

Based on the definition provided in Section 131(f)(4), any foreign spent fuel (other than from research reactors, which is specifically excluded) under consideration for disposal in the U.S. would require an arrangement with DOE that was reviewed by Congress and that met the other requirements of Section 131 of the AEA. These requirements apply to spent fuel irradiated abroad, regardless of who holds title to the spent fuel. If Congress takes no action during its review period, the arrangement becomes effective. However, the two-House disapproval procedure provided in the statute is ineffective and severable from the AEA, as explained above.

To the extent the Draft Report's recommendation about the import of spent fuel from foreign commercial reactors anticipates an emergency situation where such imports were required for national security reasons, the exemption in Section 131(f)(2) would authorize the storage or other disposal of limited quantities of foreign spent fuel in emergency situations without Congressional review.<sup>68</sup>

#### VI. CONCLUSION

Based on our analysis of the NWPA, AEA and other relevant statutory and regulatory authorities, we conclude that the BRC's near-term recommendations addressed in this Memorandum respecting consolidated interim storage, the Standard Contract queue, and program funding can be implemented under the existing provisions of the NWPA. We also conclude that the BRC's recommendation respecting modifying the queue for spent fuel from decommissioned reactors is consistent with the provisions of the Standard Contract.

We conclude that the near-term action recommendations that are directed at DOE can be implemented with the use of funds from the NWF, as long as the recommendations fit within the scope of Section 302(d) of the NWPA and there is a requisite appropriation from Congress. Those near-term actions outside the scope of NWPA Section 302(d) would require legislative changes.

We conclude that the DOE has authority under the AEA to accept spent fuel from foreign commercial reactors, as long as the procedures and criteria set forth in Section 131 of the AEA are met, including requirements to comply with other provisions of the AEA and other Federal statutes.

#### APPENDIX A

##### SEVERABILITY OF LEGISLATIVE VETO PROVISION IN THE ATOMIC ENERGY ACT

Section 131(f)(1)(a) of the Atomic Energy Act,<sup>69</sup> which may be employed to bring spent nuclear fuel into the United States, contains a legislative veto that is almost certainly unconstitutional according to current Supreme Court jurisprudence.<sup>70</sup> The question presented is whether such legislative veto could be successfully severed from the rest of section 131(f)(1)(a), and thus whether the executive agency is able to employ the rest of the process outlined in section 131(f)(1)(a) to import spent nuclear fuel. If such a process were followed, the Secretary of Energy would provide notice to Congress, wait the requisite 60 days, and then begin to import the spent nuclear fuel, even though the House and Senate would be barred from stopping this process through a legislative veto.

Several tenets of statutory construction affect severability. The first is the rule which holds that statutes should be construed to maintain their constitutionality

<sup>66</sup> AEA § 131(a)(1)-(2), 42 U.S.C. § 2160(a)(1)-(2). Additional requirements related to the preparation of a NPAS are provided in Section 123(a).

<sup>67</sup> AEA § 131(a)(1), 42 U.S.C. § 2160(a)(1).

<sup>68</sup> AEA § 131(f)(2), 42 U.S.C. § 2160(f)(2).

<sup>69</sup> Atomic Energy Act of 1954, P.L. 83-703.

<sup>70</sup> See, e.g., *INS v. Chadha*, 462 U.S. 919 (1983) and *Consumers Union v. FTC*, 691 F.2d 575 (D.C. Cir. 1982), *aff'd sub. nom. Process Gas Consumers Group v. Consumer Energy Council*, 463 U.S. 1216 (1983).

whenever possible.<sup>71</sup> Further, there is a presumption in favor of severability because the legislature is assumed not to have intended to pass an invalid act<sup>72</sup> and a broader than necessarily invalidation of a statute due to unconstitutionality frustrates the intent of elected representatives.<sup>73</sup> Thus, courts have an obligation to uphold parts of a statute that can be separated from the unconstitutional provisions,<sup>74</sup> especially when Congressional intent to allow such severability is clear.

It appears that the unconstitutional legislative veto clause in the Atomic Energy Act could be successfully severed from the rest of the Act because the legislative intent to allow such severability is made explicit in the Act. Section 281 “Separability,” states: “If any provision of this Act or the application of such provision to any person or circumstances, is held invalid, the remainder of this Act or the application of such provision to persons or circumstances other than those as to which it is held invalid, shall not be affected thereby.” In *INS v. Chadha*,<sup>75</sup> the Court upheld the severability of a legislative veto provision from the rest of the statute under similar circumstances. There the Court states:

Only recently this Court reaffirmed that the invalid portions of a statute are to be severed “[unless] it is evident that the Legislature would not have enacted those provisions which are within its power, independently of that which is not.” *Buckley v. Valeo*, 424 U.S. 1, 108 (1976), quoting *Champlin Refining Co. v. Corporation Comm’n of Oklahoma*, 286 U.S. 210, 234 (1932). Here, however, we need not embark on that elusive inquiry since Congress itself has provided the answer to the question of severability in § 406 of the Immigration and Nationality Act, note following 8 U. S. C. § 1101, which provides: “If any particular provision of this Act, or the application thereof to any person or circumstance, is held invalid, the remainder of the Act and the application of such provision to other persons or circumstances shall not be affected thereby.” (Emphasis added.)

This language is unambiguous and gives rise to a presumption that Congress did not intend the validity of the Act as a whole, or of any part of the Act, to depend upon whether the veto clause of § 244(c)(2) was invalid. The one-House veto provision in § 244(c)(2) is clearly a “particular provision” of the Act as that language is used in the severability clause. Congress clearly intended “the remainder of the Act” to stand if “any particular provision” were held invalid. Congress could not have more plainly authorized the presumption that the provision for a one-House veto in § 244(c)(2) is severable from the remainder of § 244 and the Act of which it is a part. See *Electric Bond & Share Co. v. SEC*, 303 U.S. 419, 434 (1938).

The presumption as to the severability of the one-House veto provision in § 244(c)(2) is supported by the legislative history of § 244. That section and its precursors supplanted the long-established pattern of dealing with deportations like *Chadha*’s on a case-by-case basis through private bills. Although it may be that Congress was reluctant to delegate final authority over cancellation of deportations, such reluctance is not sufficient to overcome the presumption of severability raised by § 406.

Later in *INS v. Chadha* the Court also stated:

A provision is further presumed severable if what remains after severance “is fully operative as a law.” *Champlin Refining Co. v. Corp. Comm’n*, supra, at 234. There can be no doubt that § 244 is “fully operative” and workable administrative machinery without the veto provision in § 244(c)(2). Entirely independent of the one-House veto, the administrative process enacted by Congress authorizes the Attorney General to suspend an alien’s deportation under § 244(a). Congress’ oversight of the exercise of this delegated authority is preserved since all such suspensions will continue to be reported to it under § 244(c)(1). Absent the passage of a bill to the contrary, deportation proceedings will be canceled when the period specified in § 244(c)(2) has expired. Clearly, § 244 survives as a workable administrative mechanism without the one-House veto.<sup>76</sup>

As can be seen from the way the court addressed the issue in *Chadha*, issues of statutory severability are usually fact-specific undertakings that include asking

<sup>71</sup> See, e.g. *El Paso & N.e. Ry. Co. v. Gutierrez*, 215 U.S. 87 (1909).

<sup>72</sup> See, e.g. *Lidas, Inc. v. U.S.*, 238 F.3d 1076 (9th Cir. 2001).

<sup>73</sup> *U.S. v. Ameline*, 376 F.3d 967 (9th Cir. 2004).

<sup>74</sup> See, e.g. *El Paso & N.e. Ry Co.*, 215 U.S. at 87.

<sup>75</sup> *Chadha*, 462 U.S. at 931-32.

<sup>76</sup> *Id.* at 934-35.

whether Congress would have passed the section of a bill without the unconstitutional provision or section of a provision. This is largely a matter of the text of the act, legislative intent,<sup>77</sup> and legislative history. When there is a severability clause in the statute itself, as in the case of the Atomic Energy Act, the legislative intent is clear. Therefore, the provision allowing for a legislative veto will very likely be able to be successfully severed from the rest of the Act based on the intent of Congress.

## APPENDIX B

## ANCILLARY PROVISIONS RELATING TO FOREIGN COMMERCIAL SNF

## 1. Section 107 of the Department Energy Act of 1978—Civilian Applications.

This section, enacted prior to the NNPA, imposes limitations on use of appropriated funds to store foreign spent nuclear fuel unless the use is “expressly authorized by legislation hereafter enacted” or the President submits a plan for such storage and neither House disapproves within 30 days of continuous session.<sup>78</sup> The relationship between Section 107 and AEA Section 131 is unclear. There is some question regarding the continued applicability of Section 107 to the storage of foreign commercial fuel to which Section 131 of the AEA applies; however, there is no question that the one-House veto provisions in both statutes are unconstitutional under Chadha.<sup>79</sup>

## 2. Section 104(a) of the NNPA.

Section 104(a) of the NNPA authorizes the President to “negotiate . . . binding international undertakings providing for” inter alia, “the establishment of repositories for the storage of spent nuclear reactor fuel under effective international auspices and inspection.”<sup>80</sup> In addition, Section 104(f)(1) of the NNPA prohibits the President from entering into any binding international undertaking (other than a treaty) negotiated under Section 104(a) until the President submits the undertaking to Congress and Congress approves it by concurrent resolution. The two-House veto is unconstitutional under Chadha and following cases, but because the NNPA lacks a severability clause, it is unclear what the President’s authority would be in this case. However, since the limitation in Section 104(f)(1) applies only to “undertakings” under NNPA Section 104(a), DOE’s authority under Section 131 of the AEA respecting foreign commercial SNF would appear to be unaffected.

## ATTACHMENT

THE SECRETARY OF ENERGY,  
Washington, DC, May 18, 1998.

MR. ALFRED WILLIAM DAHLBERG,  
*Chairman, President, and Chief Executive Officer, Southern Company, 270 Peachtree Street, NW, Atlanta, GA.*

DEAR MR. DAHLBERG:

In April of last year, I met with a group of nuclear industry executives to initiate a discussion of options available to the Department for addressing our delay in accepting spent nuclear fuel by January 31, 1998. Although no agreement was reached during that meeting, I offered to continue those discussions. Over the past year the Department has had a number of such discussions with individual Standard Contract holders in an effort to resolve these issues. Recently, the United States Court of Appeals for the District of Columbia Circuit reiterated its view that utilities should seek any relief warranted through the process set forth in the Standard Contract.

Building upon these discussions and in light of the Court’s recent ruling, I would like to propose a modification to your company’s waste disposal contract with the Department that would provide immediate and continuing financial relief to your company. In return for the settlement of pending and potential claims relating to the Department’s delay, I am offering to modify your company’s contract with the Department to postpone the payment of a portion of the fee your company pays into the Nuclear Waste Fund, thereby making available to your company a substantial amount of money that could be utilized to offset any costs that you may experience

<sup>77</sup> See, e.g., *Carter v. Carter Coal Co.*, 298 U.S. 238 (1936).

<sup>78</sup> Pub. L. No. 95-238, § 107 (22 U.S.C. § 3224a) (Feb. 25, 1978).

<sup>79</sup> 462 U.S. at 932.

<sup>80</sup> 22 U.S.C. § 3223(a)(4) (2006).

as a result of the Department's delay. The attachment to this letter provides further details of this proposal.

I believe that the proposal, which the Department can accomplish promptly within its current authority and in a manner that does not jeopardize the long-term viability of our geologic disposal program, demonstrates the Department's willingness to deal in good faith in addressing the ramifications of our delay, and presents an attractive alternative to what could potentially be years of protracted litigation on this matter. I would appreciate it if you would advise the Department whether or not you would be interested in pursuing this settlement offer by June 15, 1998. Please contact Mr. David Zabransky of the Office of Civilian Radioactive Waste Management at (202) 586-9198 with your views on this proposal or to arrange for a meeting with my representatives.

Sincerely,

FEDERICO PEÑA.

*Attachment.*

#### SETTLEMENT PROPOSAL DETAILS

Amend individual contracts to allow a settling utility to retain a portion of the fees it is paying into the Nuclear Waste Fund until the Department is prepared to begin accepting that utility's spent fuel.

The fees to be paid into the Nuclear Waste Fund by each utility for any given year would be limited to its share of the funds appropriated by Congress from the Nuclear Waste Fund to support the Civilian Radioactive Waste Management program for that year. The utility would retain the balance of its fees.

Utilities would be allowed to invest the funds they retain, earning market rates of return. Any return on the investment which is above the interest due the government could be used by the utilities to cover their delay costs.

When the Department is ready to begin the acceptance of spent fuel from a utility, that utility's deferred fees, plus interest at the Treasury rate, would be due and payable in full.

Utilities would have to provide the Department with adequate assurance that the obligation to pay the deferred funds when due would be met.

In return, settling utilities would agree not to file claims or seek damages from the Department due to its delay in waste acceptance.

#### IMPACTS OF SETTLEMENT

The proposed settlement could provide between \$2.8 to \$5.0 billion dollars in financial relief to utilities, beginning immediately.

The settlement proposal avoids any further dispute or debate about whether delay costs must be paid out of the Nuclear Waste Fund.

Our proposed settlement terms create a strong incentive for the Department to meet its obligation to accept spent fuel as quickly as possible.

If adopted, the settlement would eliminate the costly and lengthy individual claims process, which would involve the Department's contracting officer, the Board of Contract Appeals and the Court of Federal Claims.



ESTIMATE OF CURRENT PAYMENT FACTOR - TO BE USED IN ASSESSING VALUE OF SETTLEMENT OFFER

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
TOTAL MWh FEES	\$632	\$632	\$632	\$632	\$632	\$632	\$632	\$632	\$632	\$626	\$622	\$622	\$611
APPROPRIATIONS FROM NUCLEAR WASTE FUND	\$156	\$190	\$180	\$170	\$170	\$200	\$46	\$242	\$467	\$314	\$767	\$828	\$688
CURRENT PAYMENT FACTOR	0.25	0.30	0.28	0.27	0.27	0.32	0.07	0.38	0.74	0.50	1.00	1.00	1.00
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020			
TOTAL MWh FEES	\$596	\$581	\$553	\$496	\$427	\$415	\$374	\$356	\$339	\$339			
APPROPRIATIONS FROM NUCLEAR WASTE FUND	\$445	\$553	\$705	\$656	\$680	\$711	\$877	\$716	\$769	\$728			
CURRENT PAYMENT FACTOR	0.75	0.94	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			

Each Contract holder would multiply the current fee obligation by the current payment factor to determine the amount of fee to be paid on a current basis. These values are projections only. The Department cannot guarantee the actual values in any given year will be the same as these estimates.

*Question 5.* Is the Commission's proposal consistent with the express requirements of the Nuclear Waste Policy Act?

Answer. Based on the legal analysis we received, the BRC is confident that our recommendations are consistent with the requirements of the Nuclear Waste Policy Act.

RECLASSIFICATION OF WASTE FEES

*Question 6.* At the hearing, Rep. Hamilton stated that he and General Scowcroft had written to the Administration, requesting that appropriations language be included in the FY 2013 budget to offset the fees collected against funds appropriated to the waste program. Please provide the Committee with a copy of the letter.

Answer. A copy of this letter has been provided to the Committee. (see below)

ATTACHMENT

BLUE RIBBON COMMISSION,  
*December 12, 2011.*

Hon. PRESIDENT BARACK OBAMA,  
*The White House, 1600 Pennsylvania Avenue, NW, Washington, DC.*

DEAR MR. PRESIDENT:

At your direction, the Secretary of Energy established the Blue Ribbon Commission on America's Nuclear Future to review policies for managing the back end of the nuclear fuel cycle and recommend a new strategy. We are pleased to be serving as Co-Chairmen of the Commission, and we are writing to you to highlight an important action we strongly believe should be reflected in your Fiscal Year 2013 baseline budget projections.

In our draft report to the Secretary, issued in July of this year, the Commission recommends several actions that should be taken to get the nuclear waste management program back on track. High on our list of recommendations are actions that can and should be taken soon to provide assured access to utility waste disposal fees for their intended purpose. Unless action is taken in the near-term to fix the way these fees are treated in the federal budget, the nuclear waste strategy we recommend cannot succeed.

Funds for the disposal of spent nuclear fuel from commercial power reactors are collected regularly through the assessment of a nuclear waste fee on nuclear-generated electricity as a quid pro quo payment in exchange for the federal government's contractual commitment to begin accepting commercial spent fuel for disposal beginning by January 31, 1998. These fee payments, which total approximately \$750 million per year, 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.

As we have learned through our investigation, the Nuclear Waste Fund does not work as intended. A series of Executive Branch and Congressional actions has made annual fee revenues and the unspent \$26 billion balance in the Fund effectively inaccessible to the nuclear waste management 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 meantime, with the federal government having failed to meet its contractual obligation to begin receiving spent fuel beginning in 1998, nuclear utilities have successfully sued the government for failure to perform and are receiving damage payments from the federal Judgment Fund. The government estimates its liability will grow to \$16 billion by 2020 and will increase by several hundred million dollars per year thereafter until it begins accepting spent fuel for disposal.

We have recommended that your Administration offer to amend the standard nuclear waste contract with nuclear utilities, which you are authorized to do under current law, so that utilities remit only the portion of the annual nuclear waste fee that is appropriated for waste management each year. The rest of the funding would be placed in a trust account, held by a qualified third-party institution, to be available when needed. At the same time, we have recommended that the Office of Management and Budget 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 vital to enabling key subsequent actions the Commission recommends. Therefore, we respectfully request that you act promptly to implement these changes in your Fiscal Year 2013 budget proposal. We have heard repeatedly

from those following our work that they expect our recommendations to lead to prompt action on the nuclear waste issue; we firmly believe that implementing our funding recommendations is an essential first step.

We recognize that our recommendations, if adopted, would mean the nuclear waste fee receipts could no longer be counted against the federal budget deficit and that the result will be a negative impact of approximately \$750 million on annual budget calculations. We appreciate that any budgetary actions that increase the size of the deficit are especially difficult to take in the present fiscal climate. However, it is clear that the federal government is contractually bound to use these funds to provide for ultimate disposal of spent nuclear fuel. In our view, a 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.

In preparing our draft proposal we consulted with former Office of Management and Budget and Congressional budget staff, and our proposal enjoys the support of both the National Association of Regulatory Utility Commissioners, representing the ratepayers, and the Nuclear Energy Institute, representing the nuclear utilities. We should note that the federal government's failure to deliver on its statutory obligations with respect to commercial spent fuel disposal has prompted these organizations to pursue legal action against the government aimed at suspending entirely the collection of fees until such time as a new waste management plan for the country has been finalized.

We believe our recommended actions are essential to the future success of the nuclear waste management program and we urge you to reflect our recommendations in your Fiscal Year 2013 budget proposal.

With best regards,

LEE H. HAMILTON,  
*Co-Chairman.*

BRENT SCOWCROFT,  
*Co-Chairman.*

#### CONGRESSIONAL OVERSIGHT

The Committee recommends that the unspent balance of the Nuclear Waste Fund, which is estimated to be nearly \$27 billion, be transferred to the new nuclear waste management organization "so that it can carry out its civilian nuclear waste obligations independent of annual appropriations (but with congressional oversight)." It recommends that Congress transfer the entire balance of the Fund to the new organization on "a defined schedule ... over a reasonable future time period," and yet still maintain rigorous oversight over the program.

*Question 7.* Specifically, how does the Commission envision that Congress should exercise control over the new organization's use of the Fund if the Fund is no longer subject to appropriation?

*Answer.* If responsibility for implementing the program is transferred to a new government corporation, along with greater budget control and assured access to the NWF, the new organization must also be subject to independent financial oversight to ensure that public resources are being used appropriately in support of waste program objectives. Beyond a board of directors, most proposals provide for additional oversight in the form of independent audits of the new organization's finances along with reviews by the Government Accountability Office (GAO). The NWPA already requires an annual GAO audit of the activities of DOE's OCRWM, as well as a comprehensive annual report by OCRWM on its activities and expenditures and an annual report to Congress from the Secretary of the Treasury (after consultation with the Secretary of Energy) on the financial condition and operations of the NWF. These requirements could simply be extended to the new organization (except that the organization would not report to Treasury through DOE). A mechanism for Congress to review regular updates of the organization's mission plan and budget would provide an additional vehicle for overseeing the organization's use of funds.

If desired, legislation establishing the new organization could include an expedited process similar to that provided by the Congressional Review Act through which Congress could veto a proposed mission plan revision by passing a joint resolution, subject to presidential veto. This approach would allow substantial congressional control over changes in program direction and funding without requiring that legislation be passed to approve such changes whenever they are needed (or requiring approval to expend funds or otherwise proceed on a year to year basis).

## SITE SELECTION PROCESS

The original Nuclear Waste Policy Act required the Secretary of Energy and the President to consider “regional distribution of repositories” in selecting repository sites and prohibited siting an interim storage facility in any state being considered for a repository, so that a single state would not have to host multiple disposal facilities.

*Question 8.* Should the new waste management organization be required to consider “regional distribution”?

Answer. Consideration of “regional distribution” would likely make sense for the new waste management organization, since a regional distribution of facilities could potentially optimize the operation of the waste management enterprise. However the BRC does not believe that regional distribution of facilities should be mandated nor that any state should be prohibited from choosing to host multiple facilities—provided that the consent-based process has been used in siting those facilities.

RESPONSES OF THE BLUE RIBBON COMMISSION TO QUESTIONS FROM SENATOR  
CANTWELL

ABILITY OF THE YUCCA MOUNTAIN FACILITY TO ACCEPT NUCLEAR DEFENSE WASTE  
FROM HANFORD

As the Blue Ribbon Commission Report mentions, the Hanford site currently is storing 2,480 metric tons of spent nuclear fuel and approximately 53 million gallons of high level waste—approximately 90 percent of the nation’s total high level defense waste. Some of this waste was expected to be transferred to the Yucca Mountain facility for geological disposal when it was completed.

*Question 1a.* Can you please provide an approximate estimate of how much of Hanford’s low-level waste and high-level waste at Hanford could be disposed at the Yucca Mountain facility if it were ever completed? Please take into consideration the national need to find disposal sites for both military waste and commercial spent fuel waste and any other relevant factors such as varying levels of radiation, safety risk, and storage requirements.

Answer. The Nuclear Waste Policy Act, as amended, prohibits the U.S. Nuclear Regulatory Commission from approving the emplacement of more than 70,000 MTHM (metric tons of heavy metal) into the first national repository until a second repository is in operation [Section 114(d)].

In 1985, the DOE published a report that required the Secretary of Energy to recommend to the President whether defense high-level radioactive waste should be disposed of in a geologic repository along with commercial spent nuclear fuel. That report provided the basis, in part, for the President’s determination that defense high-level radioactive waste should be disposed of in a geologic repository. Given that determination, DOE decided to allocate 10 percent of the capacity of the first repository (or 7,000 MTHM) for the disposal of DOE spent nuclear fuel (2,333 MTHM) and high-level radioactive waste (4,667 MTHM).

The DOE’s 2008 report to Congress on the need for a second repository concluded that the “inventories of commercial and Federal Government SNF and HLW in the United States are projected to exceed 70,000 MTHM by 2010, therefore additional repository capacity is needed.” Based on a range of alternative configurations for a repository at Yucca Mountain, the report concluded that “those studies provide confidence that a repository at Yucca Mountain has the capacity to handle all of the DOE SNF and HLW and the projected inventory of commercial SNF assuming operating life extensions for all of the existing commercial nuclear power reactors.”

Some lower-level wastes such as Greater-Than-Class-C waste and Special-Performance-Assessment-Required wastes were included in an addendum (Inventory Module 2) of the final environmental impact statement for Yucca Mountain (DOE/EIS-0250; Final Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada February 2002, Appendix A—Inventory and Characteristics of Spent Nuclear Fuel, High-Level Radioactive Waste, and Other Materials), but are not part of the initial 70,000 MTHM plans. Low-level wastes, suitable for surface and/or shallow land burial are not to be emplaced at Yucca Mountain.

*Question 1b.* Can you please help us understand how the 56 million gallons of radioactive and chemical waste that is expected to be vitrified at Hanford’s Waste Treatment Plant beginning in 2019 compares in volume to the commercial spent fuel that was planned to be disposed at the Yucca Mountain facility? Can Hanford’s vitrified waste be stored in the same way and proximity as commercial spent fuel? Are there additional safety, engineering, and licensing concerns for storing Han-

ford's defense waste as compared to commercial spent fuel in the context of the Yucca Mountain Facility?

Answer. The BRC did not perform any detailed analysis of the defense wastes, and cannot provide insights about the technical differences affecting disposal of the defense wastes versus the commercial wastes. In submitting a license application to the U.S. Nuclear Regulatory Commission for Yucca Mountain, the DOE presumably believed there were no technical barriers for safely placing the contemplated quantities and types of defense and commercial wastes together in Yucca Mountain. However, the NRC would ultimately need to determine whether or not the DOE's design would comply with regulatory standards.

ABILITY OF THE WASTE ISOLATION PILOT PLANT (WIPP) TO ACCEPT NUCLEAR DEFENSE WASTE FROM HANFORD

Waste retrievability and reversibility have historically been major limiting factors in the siting and cost of proposed waste disposal facilities. Yet the high level waste at the Hanford site is scheduled to be vitrified in the Waste Treatment Plant beginning in 2019, a process that will render materials in high level waste both stable and unrecoverable for future commercial or nuclear purposes. In addition, the Waste Isolation Pilot Plant (WIPP) seems to have high potential storage capacity and considerable geologic advantages over other sites. In the light of these facts, I would appreciate your thoughts on the following questions:

*Question 2a.* Given that 5,106 cubic meters of Hanford waste have already been shipped to WIPP for geologic disposal, is there any technical barrier to disposal of additional volumes of vitrified high level waste, spent nuclear fuel, and other wastes from Hanford at the WIPP facility? Could the facility potentially accommodate higher levels of both contact-handled and remote-handled wastes?

Answer. The BRC was directed not to investigate any specific locations or sites for geologic disposal or other nuclear facilities and therefore cannot comment on the barriers to additional disposal at the WIPP facility.

*Question 2b.* Considering that WIPP has now been operated successfully for over a decade now, what barriers prevent the facility from being expanded beyond its current maximum of 175,500 cubic meters of defense-generated transuranic (TRU) waste?

Answer. The BRC was directed not to investigate any specific locations or sites for geologic disposal or other nuclear facilities and therefore cannot comment on the barriers to additional disposal at the WIPP facility.

*Question 2c.* What advantages or disadvantages do you see in using WIPP to dispose of Hanford waste in terms of cost, safety, and timing?

Answer. Because the BRC did not evaluate any specific sites for waste disposal, we are unable to discuss the advantages or disadvantages of using WIPP to dispose of Hanford waste.

*Question 2d.* Under the Land Withdrawal Act, does the Department of Energy have the authority to transfer larger quantities of defense wastes, including spent nuclear fuel and vitrified high level wastes, from Hanford to WIPP within the current limits of WIPP's license? If not, what authority would be necessary?

Answer. Section 12 of the Waste Isolation Pilot Plant Land Withdrawal Act states that, "The Secretary shall not transport high-level radioactive waste or spent nuclear fuel to WIPP or emplace or dispose of such waste or fuel at WIPP."

HANFORD WASTE CHARACTERIZATION

There seems to be significant confusion and apparent inconsistencies about the classification of nuclear waste at Hanford. There are a number of different units and categories to characterize the waste.

The BRC report states that the Hanford Reservation stores "by far the largest quantity of DOE's SNF inventory" as well as most of the 90 million gallons of DOE's high-level waste. The report characterizes the Hanford nuclear waste inventory in the following manner:

	Spent Nuclear Fuel	High-Level Waste
Defense	~2,172 MTHM	
Non-Defense	~309 MTHM	

	Spent Nuclear Fuel	High-Level Waste
Total DOE Canisters	~3,500	~9,700

*Question 3a.* Could you provide more details about what each category includes and how to characterize the waste at Hanford?

Answer. The values in the above chart are for the DOE total—and not for the Hanford site. The Hanford values for spent nuclear fuel for defense and non-defense purposes are ~2,102 MTHM and ~27 MTHM respectively. Defense related spent fuel includes fuels used to generate plutonium and other useful materials for weapons production, while non-defense spent fuel includes fuels utilized for research, commercial or other civilian applications. Wastes at Hanford that require, or might require, deep geologic disposal fit into five general categories: DOE spent nuclear fuel, high-level radioactive waste, surplus weapons-usable plutonium, commercial Greater-Than-Class-C waste, and DOE Special-Performance-Assessment-Required waste.

We have included a paper that was written for us by Savannah River National Laboratory entitled, “U.S. Radioactive Waste Inventory and Characteristics Related to Potential Future Nuclear Energy Systems”,\* which may prove helpful. Any additional inventory information should be obtained from the Department of Energy’s Office of Environmental Management.

*Question 3b.* Can the BRC also please provide a breakout of the quantities and types of spent nuclear fuel, high-level wastes, and other defense and non-defense nuclear wastes found at Hanford?

Answer. The most up-to-date information regarding the inventories of high-level waste across the DOE complex can be found at the Department of Energy’s Office of Environmental Management.

RESPONSE OF THE BLUE RIBBON COMMISSION TO QUESTION FROM SENATOR  
MURKOWSKI

We have heard a fair amount about Sweden’s consent-based approach in developing its nuclear waste repository. My understanding, however, is that the two municipalities that competed to host the repository have existing nuclear facilities within their jurisdiction and as a result the local population was already supportive of nuclear in general, while other municipalities in Sweden that did not have nuclear facilities were not supportive of hosting a waste repository. This poses the question of whether we are more likely to achieve consent-based acceptance from a state and local unit of government that has existing nuclear facilities.

*Question 1a.* Did you run into similar public sentiment in the other countries you looked at?

Answer. Similar public sentiment around existing nuclear facilities did exist in Finland and Sweden—and did contribute to successful siting of geologic repositories in those countries. However, other consent-based programs in Canada, France, and Spain, which all are in various stages of the siting process, have yet to show that pre-existing public sentiment regarding existing nuclear facilities factors into the success of their respective programs. In general, all of the countries the BRC visited stressed that several other elements were critical in establishing a foundation for public trust and support for siting nuclear facilities, including:

- A clear and understandable legal framework
- An opt-out option for the local affected community, up to a certain point in the process
- The availability of financing for local governments and citizen organizations for conducting their own analyses of the site and siting issues
- Compensation for allowing the investigation and characterization of the proposed site
- A concerted effort to promote knowledge and awareness of the nuclear waste issue and plans for addressing it through mechanisms such as:
  - Seminars, study visits, and reviews conducted by the local government
  - Information to and consultation with local inhabitants
  - Socioeconomic studies and evaluations of impacts on local businesses

\*Web site access: <http://www.brc.gov/sites/default/files/documents/brc—inventory—whitepaper—rev—2.pdf>. Document also has been retained in committee files.

- Openness and transparency among and within the implementing organization, the national government, local governments, and the public.

*Question 1b.* Are there potentially viable geologic sites in the United States near existing nuclear facilities where a repository would have public support?

Answer. Since 1954, when the Atomic Energy Commission (AEC) initiated the search for a deep geologic repository, more than 60 regions, areas, or sites involving nine different rock types have been investigated. Given there are 104 operating reactors and several DOE nuclear facilities spread across the country, it is likely that favorable geology does indeed overlap existing nuclear facilities. However, because the BRC was instructed not to examine the suitability of specific sites, we cannot comment on which sites offer suitable geology for disposal and have a potential for public support based on their proximity to existing facilities.

#### RESPONSES OF THE BLUE RIBBON COMMISSION TO QUESTIONS FROM SENATOR RISCH

*Question 1.* Idaho is among a number of states with high level waste that was created on-site by the federal government and we also house spent nuclear fuel from Three-Mile Island and West Valley in New York. You recommend creating a new entity to manage waste and disposal repositories, but the report does not provide details for how defense waste at sites like INL should be handled. How should defense wastes be treated and what entity should be responsible for it?

Answer. The BRC heard comments from several states that host DOE defense waste in support of leaving responsibility for defense waste disposal with DOE. These states generally agreed with the proposal in the Commission's draft report to establish a new organization to manage civilian wastes, but believe the government can more effectively meet its national security obligations and cleanup commitments if responsibility for defense waste disposal remains with DOE. The Commission also heard from interested parties, such as NEI, who provided credible arguments for why the original commingling decision should be sustained. Whatever one's view of the pros and cons of the current policy, a decision to move responsibility for defense wastes to a new organization (versus leaving that responsibility with DOE) would have major implications for the scope of responsibility for the new organization, as well as for key questions of funding, governance, and Congressional oversight.

The BRC was 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 urged 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. This review should include an assessment of issues associated with the disposition of DOE-owned wastes from non-defense sources (e.g. a portion of the high-level waste now stored at West Valley, New York, and a variety of wastes now in storage at INL such as damaged fuel from the Three Mile Island Unit 2 reactor). The implementation of other BRC recommendations, however, should not wait for the commingling issue to be resolved.

*Question 2.* What path forward do you see for development of new nuclear power in the United States? Without Yucca moving forward, it will certainly be decades before another site is selected and vetted and without a plan for a repository where does that leave new nuclear projects?

Answer. The BRC believes a range of 15 to 20 years is appropriate for the waste management organization to accomplish new site identification and characterization and to conduct the licensing process for a geologic repository. While the BRC made no recommendations about the appropriate role of nuclear power in the nation's (or the world's) future energy supply mix, their final report does note that the successful management of spent nuclear fuel has long been viewed as necessary if nuclear power is going to remain a viable energy option. Laws in several states that put a moratorium on new nuclear plant construction until certain waste management conditions have been met, together with the NRC's Waste Confidence findings, create the most direct linkage between progress on nuclear waste disposal and the future prospects of the domestic nuclear power industry.

In 2010 the NRC issued revisions to the agency's waste confidence findings. The revisions expressed the NRC's confidence that: (1) the nation's SNF can be safely stored for at least 60 years beyond the licensed life of any reactor and (2) that sufficient repository capacity will be available when necessary (though the NRC did not specify an anticipated timeframe). The NRC also made clear, however, that by revis-

ing its earlier waste confidence findings it did not intend to signal that it was endorsing the indefinite storage of spent fuel at reactor sites.

On February 17, 2011, the Natural Resources Defense Council filed a petition for review with the United States Court of Appeals for the DC Circuit challenging the NRC's most recent waste confidence rule. The states of New Jersey, New York, Vermont, and Connecticut have also challenged the rule.

*Question 3.* In your report, you suggest a number of incentives that communities could be eligible for if they were willing to be a site for a deep geological repository or a consolidated storage facility. How do you define "community"?

Answer. A community could be a village, town, city, county, or some collection of those—depending on local circumstances.

*Question 4.* The \$15 billion that has been spent on Yucca Mountain is money that ratepayers and taxpayers will never get back. In addition, counties surrounding the project have repeatedly said that they want the project to move forward. Do you think the licensing process for Yucca Mountain should move forward so that the project can begin receiving waste so we can prove to the American people that the process can be completed and move our country's nuclear future forward?

Answer. Because the BRC was directed by the Secretary of Energy not to consider Yucca Mountain, the Commission has no official position on that site. The BRC has not passed judgment on whether the Yucca Mountain project should or should not be abandoned. What the BRC has recommended is a strategy that can succeed regardless of the fate of the Yucca Mountain project.

As you have noted, the Yucca Mountain project may indeed have support from several surrounding counties. However, it does not have support from a majority of its state or federal delegations. The BRC describes a consent-based process as one in which all affected levels of government must have, at a minimum, a meaningful consultative role in important decisions, and 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.