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NUCLEAR WASTE STORAGE AND DISPOSAL POLICY, AND HYDROELECTRIC LICENSE EXTENSION AND ENERGY EFFICIENCY LEGISLATION

HEARING

BEFORE THE

SUBCOMMITTEE ON ENERGY AND AIR QUALITY

OF THE

COMMITTEE ON ENERGY AND COMMERCE
HOUSE OF REPRESENTATIVES

ONE HUNDRED NINTH CONGRESS

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CONTENTS

Page

Testimony of:

Sproat, III, Hon. Edward F., Director, Office of Civilian Radioactive Waste Management, U.S. Department of Energy 16

Reyes, Luis A., Executive Director for Operations, U.S. Nuclear Regulatory Commission 20

Wise, Hon. Stan, Chairman, Georgia Public Service Commission, on behalf of National Association of Regulatory Utility Commissioners 44

Earley, Jr., Anthony F., Chairman and Chief Executive Officer, DTE Energy Company, on behalf of Nuclear Energy Institute 52

Boyd, Michele, Legislative Director, Public Citizen 63

Otter, Hon. C. L. "Butch", Member, U.S. House of Representatives 82

Mollohan, Hon. Alan B., Member, U.S. House of Representatives 214

Robinson, Mark J., Director, Office of Energy Projects, Federal Energy Regulatory Commission 238

Additional material submitted for the record:

Sproat III, Hon. Edward F., Director, Office of Civilian Radioactive Waste Management, U.S. Department of Energy, response for the record 247

Reyes, Luis A., Executive Director for Operations, U.S. Nuclear Regulatory Commission, response for the record 251

Wise, Hon. Stan, Chairman, Georgia Public Service Commission, on behalf of National Association of Regulatory Utility Commissioners, response for the record 254

Earley, Jr., Anthony F., Chairman and Chief Executive Officer, DTE Energy Company, on behalf of Nuclear Energy Institute, response for the record 258

NUCLEAR WASTE STORAGE AND DISPOSAL POLICY, AND HYDROELECTRIC LICENSE EXTENSION AND ENERGY EFFICIENCY LEGISLATION

WEDNESDAY, SEPTEMBER 13, 2006

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ENERGY AND COMMERCE,
SUBCOMMITTEE ON ENERGY AND AIR QUALITY,
Washington, DC.

The subcommittee met, pursuant to notice, at 2:00 p.m., in Room 2322 of the Rayburn House Office Building, Hon. Ralph M. Hall (Chairman) presiding.

Members present: Representatives Hall, Norwood, Shimkus, Otter, Murphy, Burgess, Barton (ex officio), Boucher, Markey, Green, and Dingell (ex officio).

Staff present: David McCarthy, Chief Counsel for Energy and the Environment; Kurt Bilas, Counsel; Annie Caputo, Professional Staff Member; Elizabeth Stack, Policy Coordinator; Peter Kielty, Legislative Clerk; Sue Sheridan, Minority Senior Counsel; and Bruce Harris, Minority Professional Staff Member.

MR. HALL. The committee will come to order. I would like to, of course, welcome all the witnesses to this committee with a particular warm welcome to fellow members, Congressman Otter and Congressman Mollohan. A warm welcome to all of them but to our associates, we always like to see them come before the committee. Without objection, the subcommittee will proceed pursuant to committee rule 4E, which allows members the opportunity to defer opening statements for extra questioning time. I recognize myself for an opening statement.

First, I want to thank Ranking Member Rick Boucher and Chairman Barton and Ranking Member Dingell of the full committee for their help in setting up this hearing. Nuclear and hydroelectric energy are the mainstays of our Nation's energy supply and resolving these issues before us today is just absolutely critical to insuring that our country continues to receive the benefits of these clean energy sources.

First, let me comment on nuclear waste. Yucca Mountain is a necessary solution for hazardous disposal of our Nation's nuclear waste. I have said before, and said it before and before and before, we owe it to our children and to our grandchildren to live up to the commitment to build a safe and secure repository. Today's hearing is an opportunity for us to hear from the stakeholders regarding their opinions on the various legislative proposals regarding nuclear waste storage and disposal, and any additional recommendations that they might have. I know many people are frustrated with the length of time we have been working on this issue and how much longer it will be until the repository opens.

I think that frustration leads people to question whether Yucca Mountain will ever open and to suggest that we proceed with interim storage instead. I have supported interim storage provisions in the past at Yucca Mountain. We should not allow the pursuit of interim storage to slow progress in the repository. After addressing nuclear issues, we will turn to five bills that provide for hydroelectric license extension. These bills address seven projects in five States and have been introduced by Republicans and Democrats.

Our first hydro panel will consist of two of our colleagues, Congressman Butch Otter from Idaho, and Congressman Alan Mollohan from West Virginia to discuss the bills that they have introduced to extend the licensing for projects in their States. We will also hear from Mark Robinson of the Federal Energy Regulatory Commission on FERC's view on these five bills. I encourage my colleagues to use this hearing to gain a better understanding of the issues before us in preparation for possible legislative action. I remind all members have the opportunity to submit questions for the record following the hearing. I ask the witnesses to please respond to these questions as soon as you can. I look forward to working with you and listening to your testimony today, so as we get underway I will recognize Mr. Boucher for an opening statement.

[The prepared statement of Hon. Ralph M. Hall follows:]

PREPARED STATEMENT OF THE HON. RALPH M. HALL, CHAIRMAN, SUBCOMMITTEE ON ENERGY AND AIR QUALITY

The Subcommittee will come to order. I would like to welcome all of the witnesses to this Committee with a particularly warm welcome to our fellow Members, Congressmen Otter and Mollohan. Without objection, the Subcommittee will proceed pursuant to Committee Rule 4(e), which allows Members the opportunity to defer opening statements for extra questioning time.

The Chair recognizes himself for an opening statement. First, I want to thank Ranking Member Rick Boucher, and Chairman Barton and Ranking Member Dingell of the Full Committee for their help in setting up this hearing. Nuclear and hydroelectric energy are mainstays of our nation's energy supply. Resolving the issues before us today

is critical to ensuring that our country continues to receive the benefits of these clean energy sources.

First, let me comment on nuclear waste. Yucca Mountain is a necessary solution for how to dispose of our nation's nuclear waste. As I've said before, we owe it to our children and grandchildren to live up to the commitment to build a safe and secure repository.

Today's hearing is an opportunity for us to hear from stakeholders regarding their opinions on the various legislative proposals regarding nuclear waste storage and disposal, and any additional recommendations they have.

I know many people are frustrated with the length of time we have been working on this issue and how much longer it will be until the repository opens. I think that frustration leads people to question whether Yucca Mountain will EVER open and to suggest that we proceed with interim storage instead. I've supported interim storage provisions in the past, at Yucca Mountain. However, a short term fix should not detratct from the focus and resources needed for the long-term solution – the pursuit of interim storage should not slow progress on the repository.

After addressing nuclear issues, we will turn to 5 bills that provide for hydroelectric license extensions. These bills address 7 projects in 5 States and have been introduced by Republicans and Democrats. Our first panel will consist of two of our colleagues, Congressman Butch Otter from Idaho and Congressman Allan Mollohan from West Virginia, to discuss the bills that they have introduced to extend the FERC licenses for projects in their States. We will also hear from Mark Robinson of the Federal Energy Regulatory Commission on FERC's views on these 5 bills.

I encourage my colleagues to use this hearing to gain a better understanding of the issue before us in preparation for possible legislative action. I remind all Members of the opportunity to submit questions for the record following the hearing. I ask the witnesses to please respond those questions as soon as you can. I look forward to working with you, and listening to your testimony today.

MR. BOUCHER. Thank you very much, Mr. Chairman, and I want to commend you for convening today's hearing on our nuclear waste disposal and storage policies, as well as on legislation providing for hydroelectric license extensions in several selected circumstances. I will focus my comments this afternoon on the nuclear waste portion of today's hearing. This is a matter of great concern to many stakeholders including the electricity consumers who are paying every year into the Nuclear Waste Fund.

I was pleased to learn during our hearing in July on the status of the Yucca Mountain program that the Department of Energy has developed a new schedule and plans to submit a license application in the year 2008 to the Nuclear Regulatory Commission with the opening of the repository expected to follow in the year 2017. While I am encouraged by the new schedule that DOE has put forward and even more encouraged by its apparent determination to meet that schedule, we are all still awaiting the receipt of an accompanying anticipated funding stream statement, and we hope we will be receiving that statement in the near future. That will be the schedule of money that will flow to DOE and to this program that would be required to meet the new schedule.

The longstanding matter of funding for the Yucca Mountain project continues to be of great concern. While the balance in the Nuclear Waste Fund is currently approximately $19 billion, annual appropriations for the Yucca Mountain program are only a fraction of the amount annually contributed by the ratepayers. This year, for example, the Administration has proposed $156 million for civilian nuclear waste disposal, but $750 million in rate payer contributions will go into the Nuclear Waste Fund during the current year. These monies are not walled off and protected and are therefore being spent for other purposes in order to fund the Federal government's general operations, and that was never the intent at the time that ratepayers were taxed with funding the nuclear waste disposal program.

Over the past several years several legislative proposals to address the funding mechanism have been debated by this committee but because of objections from other committees no resolution has been reached on ways to secure funding to this project. I would say again it is a matter of paramount importance. It is in my view essential to secure for the Yucca Mountain project not only future rate payer contributions into the Fund, but also the existing balance of approximately $19 billion which has been paid for the purpose of establishing the repository. And as we consider legislation to secure future contributions, I think it must have a component that assures that the Yucca Mountain project receives the full balance, approximately 19 billion, currently residing within the Fund.

A number of new proposals have surfaced in recent months including the establishment of possible interim storage facilities and also the global nuclear energy partnership, a program which would promote nuclear waste reprocessing. I am interested in hearing about the potential merits of both of these proposals, but let me say that I am somewhat skeptical about the ability of DOE simultaneously to fund and staff those new efforts while continuing to meet the new schedule for opening Yucca Mountain. And I hope that our witnesses today will offer some comments on how that might happen if either or both of these new programs are put into effect. Thank you again, Mr. Chairman, and I yield back.

MR. HALL. I thank the gentleman. The Chair recognizes Dr. Norwood, the gentleman from Georgia, for an opening statement.

MR. NORWOOD. Thank you, Mr. Chairman, and thank you for holding this hearing today on a very important energy issue including nuclear and hydroelectric power issues. I have been a strong supporter of these types of power since coming to Congress and would very much like to see their expansion in these areas to promote clean, renewable power and diversification in our Nation's energy portfolio. Unfortunately, I think that we keep seeing the same opposition from the

usual suspects. These folks who oppose the energy bill oppose offshore exploration, oppose domestic resources in Alaska, oppose expanding refineries, and even oppose wind power when it hurts their vacation home view.

Yet, they are the first to vilify oil companies when trying to bring my product to market first to make us beholding to international energy moguls and the first to cry when their winter heating bill goes up or their power blacks out because of lack of infrastructure. Now we have the expansion of nuclear power before us, and as we have for some time, and the delays continue. I for one come from a State that is ready, is willing, is able to expand our nuclear power infrastructure, but the industry and the expansion are hamstrung by the failure to achieve some certainty that a plan will be in place for proper safe disposal of nuclear waste, all the while power bills slowly are creeping up and waste piles up.

This is a security issue. It is a power issue. It is an infrastructure issue, and it is a jobs issue. I would have thought that we could have agreed on all of these things, but clearly we do not. I look forward to this hearing. I look forward to being reassured by Mr. Sproat that after my visit to Yucca Mountain in 1995 he might actually open it and hopefully before 2008. Finally, I would like to welcome my friend and fellow Georgian, Mr. Stan Wise, who serves our home State with both dedication and distinction. I appreciate his service to Georgia and our constituents appreciate his efforts on their behalf back home. I know that he will be an able and informative witness for us here on this second panel. Thank you for coming today, Stan, and I look forward to your testimony. Thank you, Mr. Chairman.

MR. HALL. Thank you, Dr. Norwood. The Chair recognizes Dr. Murphy, the gentleman from Pennsylvania, for an opening statement.

MR. MURPHY. Thank you, Mr. Chairman, and thank you for holding this important hearing. As you know, we are in the unfortunate and tragic position in the United States of funding both sides in this war we are immersed in, a war that has been going on for some 30 years, curiously as long as we have also not been building nuclear power plants, building oil refineries, exploring for oil and natural gas to a very limited extent. In the meantime, countries like Iran take our oil money that people pay for every time they fill their tank and they have recently given I believe it was about $100 million worth of aid to Hezbollah in their fight against Israel.

We have countries like Venezuela who openly embrace other terrorist supporting Nations saying that they also see the United States as their enemy, all the while taking money from our citizens to fund their hostile comments and their hostile activities. The only way we can combat this is to have a diverse source of energy in this Nation that

includes exploring for our own sources of oil off the Atlantic Coast, the Gulf Coast, the Pacific Coast, the Rocky Mountains in Alaska, and stop delaying this for the sake of politics and really see that we have to have some energy independence here, diversify our energy sources to include such things as clean coal technology which we have been funding but we need to move forward more aggressively on that, and also diversity with other sources, solar, hydroelectric, and nuclear being among them.

If we fail to do that, we are continuing to send money to people who use it against us to kill our citizens, people who are part of a network who have promised to kill some four million adults and two million children as part of their war against us. This is a serious undertaking. I am pleased that as a result of our energy bill, companies like Westinghouse Electric are now working actively to build nuclear power plants. But of course we can't move forward on that unless they have a place to put the nuclear waste. A large part of the solution to America's energy problem is American energy, and the more we see energy independence by diversifying our sources through such things as nuclear, clean coal, domestic source of oil, and other renewables, the better off we are as a Nation.

Like most Americans, I am tired, I am sick and tired of having hostile Nations dictate our economy while we sit back and here and argue politics instead of working on energy policy. This issue of Yucca Mountain is a major issue for our energy independence and the sooner we understand it is a major issue for our American peace the sooner we will move forward in doing the right thing. Thank you, Mr. Chairman.

MR. HALL. Thank you, sir. The Chair recognizes Honorable John Dingell for an opening statement. Mr. Dingell, welcome.

MR. DINGELL. Mr. Chairman, you are most courteous.

MR. HALL. You are worth waiting for.

MR. DINGELL. We will see after I finish this statement if you still want to hold that view.

MR. HALL. I may want to revise my statement.

MR. DINGELL. Mr. Chairman, thank you for this hearing. I applaud the attention which the subcommittee and the full committee have brought during this session to the Department of Energy's DOE Yucca Mountain waste repository program. This program is long delayed. It has undergone an internal review which I hope will get it back on track so the DOE can prepare and file the license application with the Nuclear Regulatory Commission in the near future. It is important that this committee and this subcommittee stay on top of these changes, and I commend you, Mr. Chairman, and the Chairman of the full committee for your doing this.

I am pleased to have Director Sproat before the subcommittee today. While past delays in the program are regrettable, it was good to learn at our last hearing in July that Mr. Sproat believes DOE will be in a position to file an application by 2008 and potentially to open the repository in 2017. I am pleased that Tony Earley, a personal friend, and the Chairman and CEO of DTE Energy Company in my home State of Michigan will be testifying today on behalf of the Nuclear Energy Institute.

The nuclear industry has upheld its end of the bargain in terms of channeling funds into the Nuclear Waste Fund. I appreciate the support that the industry gives on funding reform and on other things related to these matters. This is sorely needed to protect it and the ratepayers' investment. I hope that industry will support my efforts to find the means of halting the diversion of the $19 billion in the Fund, which sadly remains vulnerable to raids by the Budget and the Appropriations Committees, which is regularly diverted to other purposes for the reasons best understood by the Budget and Appropriations Committees.

Today's hearing may shed light on questions surrounding the issue of centralized interim storage. The idea surfaces from time to time and indeed the Nuclear Waste Policy Act included a very narrow and specifically drawn version which expired in 1990. Similarly, during the 106th Congress the committee referred the bill authorizing DOE to construct a strictly limited interim storage facility in Nevada. While interim storage may hold promise, we should not lose sight of the fundamental trade off that the Congress has waged in past debates that interim storage not grow so large as to undercut incentives for completing the repository.

Those who suggest the time has come to abandon this concern should be prepared to explain why ratepayers should be asked to pay for both the repository program and one or more interim storage facilities which will have substantial cost in addition to the cost of on-site storage. This brings me, Mr. Chairman, to my last observation. For years DOE has provided information to this committee projecting funding needs for the Yucca Mountain project for the following decade. This has enabled members to assess whether or not the program funding will be adequate and when DOE will need access to the corpus of the Nuclear Waste Funds to meet peak spending needs.

To date, DOE has not provided Congress with updated cost estimates that reflect the programmatic changes announced in July, and I hope that this hearing today will help us get some of that information. To be sure, I would rather that the Department take the time needed to get it right, rather than to hurry this information. The lack, however, of updated cost estimates precludes members from making an informed judgment about

legislative proposals for centralized Federal interim storage. DOE did not include interim storage in its legislative proposal, and I share the concerns that several of my colleagues from both sides of the aisle expressed about the effect of such a new initiative and the impact it could have on DOE's resources. In terms of process, a policy change of this magnitude is best considered by the regular order. If not, the product is likely to be disappointing and will make matters worse.

It would be a shame if the Congress saddled DOE with another layer of responsibilities that resulted in still more delay and still more litigation. With that, Mr. Chairman, I thank you for your kindness. I thank my colleagues for their attention, and I look forward to hearing from the witnesses, and I yield back the balance of my time.

MR. HALL. Thank you, Mr. Dingell. The Chair notes the presence of Mr. Barton, Chairman of the Energy and Commerce Committee. I recognize you, Mr. Chairman, for an opening statement.

CHAIRMAN BARTON. Thank you, Chairman Hall, for holding this hearing. Nuclear energy and hydropower both play crucial and growing roles in meeting our Nation's energy needs. Solving the nuclear waste issue and facilitating hydroelectric licensing are crucial steps to insuring that these clean energy sources continue to be available. Two months ago your subcommittee heard testimony from the Department of Energy on the new schedule at Yucca Mountain. Meeting that ambitious schedule will require legislative action and funding. Mr. Sproat is here today. I am going to let you know that I remain committed to helping you meet that schedule. I am going to go everything I can to help you be successful in meeting that schedule.

I realize that 2017 is a long way off, but there is a growing desire on the part of some to pursue interim storage. As Chairman Hall has commented, I have also supported interim storage in the past at Yucca Mountain. However, building interim storage facilities in as many as 31 States is not something that I support, and I don't think the House will support it. I think it is unrealistic. I think it depletes the Nuclear Waste Fund, and I think it does not meet our obligation to the ratepayers who have paid for Yucca Mountain. To the extent interim storage is appropriate, let us locate it at Yucca Mountain.

The ratepayers that have paid into the waste fund for all these years are counting on Congress to do our part by building the repository. We owe them the value of that facility. We also owe it to our future generations to take care of the spent fuel that we already have on hand. In the process we should not preclude future generations from applying advance technologies that almost certainly will be developed. You don't have to be a nuclear engineer to know with certainty that future generations will almost certainly discover more effective solutions to the

nuclear waste issue than we have today. As knowledge accumulates, new ideas will emerge and progress will happen. Therefore, I strongly believe that we should proceed with licensing and constructing the repository at Yucca Mountain in a way that maintains flexibility for future generations to incorporate the improvements that they devise.

The National Research Council has issued a report back in 2003 that was entitled one step at a time. It proposed a concept called adaptive staging. I am intrigued by the proposal and intend to study it further. Staged development of repositories is a concept that is gaining support internationally. It may provide a flexible framework for incorporating future innovations without delaying the current repository. As I have said before, I remain committed to doing everything I can as Chairman of the Energy and Commerce Committee to help the Department of Energy meet the 2017 time table for opening the Yucca Mountain repository.

There are legislative provisions that must be passed to accomplish that. I expect if there are other provisions that could be passed it would be helpful. In the coming months I hope to work with Mr. Dingell on a legislative package to put the Yucca Mountain program on a path to success. Support for Yucca Mountain has been bipartisan in this committee and in the House. It is my goal that the work we do on this issue will continue to be bipartisan. We should not let politics get in the way of addressing this important issue. The subcommittee today is also going to take up five bills, or review five bills, to extend their licenses to begin the construction of seven hydroelectric projects.

Last year's Energy Policy Act contained important provisions regarding hydroelectric project licensing to encourage more hydroelectric generation. I see that the first panel after this panel contains two Members of Congress, Representatives Otter of Idaho, who is a member of this committee, and Alan Mollohan of West Virginia. I look forward to their testimony. With that, Mr. Chairman, I yield back.

[The prepared statement of Hon. Joe Barton follows:]

PREPARED STATEMENT OF THE HON. JOE BARTON, CHAIRMAN, COMMITTEE ON ENERGY AND COMMERCE

Thank you, Chairman Hall for having this hearing. Nuclear energy and hydropower both play crucial and growing roles in meeting our nation's energy needs. Solving the nuclear waste issue and facilitating hydroelectric licensing are crucial steps to ensuring that these clean sources of energy will continue to be available.

Two months ago this Subcommittee heard testimony from the Department of Energy on the new schedule for Yucca Mountain. Meeting that ambitious schedule will require legislative action and funding. Mr. Sproat, I remain committed to helping you meet that schedule and will do everything I can to give you the tools you need to succeed.

I realize 2017 is a long way off and that there is growing desire on the part of some to pursue interim storage. As Chairman Hall already commented, I have also supported

interim storage in the past: at Yucca Mountain. However, building interim storage facilities in as many as 31 states in NOT something I support. It is unrealistic, depletes the Nuclear Waste Fund, and does not meet our obligation to the ratepayers who have paid for Yucca Mountain.

They're counting on Congress to do our part by finally building the repository. Not only do we owe THEM the value of the facility, we also owe it to future generations to take care of the spent nuclear fuel that our generation has benefited from. However, in the process we should not preclude future generations from applying advanced technologies that they will develop.

You don't have to be an engineer to know with certainty that future generations will discover more effective solutions to the nuclear waste issue. As knowledge accumulates, new ideas will emerge and progress will happen. Therefore, we should proceed with licensing and constructing the repository in a way that maintains flexibility for future generations to incorporate the improvements that they devise. The National Research Council issued a report in 2003 entitled, "One Step at a Time" which proposed a concept called, "Adaptive Staging." I am intrigued by the proposal and intend to study it further. Staged development of repositories is a concept that is gaining support internationally and may provide a flexible framework for incorporating future innovations, without delaying the repository.

As I've said before, I remain committed to doing everything I can to help DOE meet their 2017 opening date for the repository. There are legislative provisions that must be passed to accomplish that and I expect there are other provisions that would be helpful. In the coming months, I hope to work with Ranking Member Dingell on a legislative package to put the Yucca Mountain program on a path to success. Support for Yucca Mountain has been bipartisan on this Committee. It is my goal that the work we do on this issue will continue to be bipartisan. We should not let politics get in the way of addressing this important issue.

The Subcommittee will also take up 5 bills to extend the FERC licenses to begin the construction of 7 hydroelectric projects. Last year's Energy Policy Act contained important provisions regarding hydroelectric project licensing to encourage more hydroelectric generation. I see that the first hydro panel consists of 2 members of Congress – Representatives Butch Otter of Idaho and a member of the Energy and Commerce Committee, and Allan Mollohan of West Virginia. I look forward to their testimony. It is always encouraging to hear from people who want to see new energy facilities in their States.

MR. HALL. Mr. Chairman, I thank you. I recognize Mr. Shimkus, the gentleman from Illinois, for an opening statement.

MR. SHIMKUS. Thank you, Mr. Chairman, and I will be brief. I want to welcome our panel. This is an important hearing. I agree a lot obviously with the Chairman and even the Ranking Member. Divide and conquer is a strategy to delay, confuse, and stop the expansion of nuclear power in this country. That is why we were so excited, Mr. Sproat, when you gave your testimony and committing a time line. I want to join my Chairman in saying anything we can do to meet the 2008-2017 we want to do because the best signal we can send to the nuclear industry is that we are serious. We are serious about Yucca.

This interim proposal is just ridiculous. If we think that each State is going to not delay, confuse, obfuscate, I can't even say the word, this process and delay interim storage for decades like the attempts that have

been at Yucca Mountain, we haven't been in Washington very long, so I want us to move forward. You have got a lot of supporters here. You can count me as one of them, and I look forward to working with you to achieve that end so that we can diversify our energy portfolio for all the reasons that members have already mentioned before. We want a competitive, electricity generation market. That means coal. I am from a leading coal State. That means nuclear and natural gas and hydroelectric. You want them to compete, and you don't want to disenfranchise any of those competitors. I yield back, Mr. Chairman.

MR. HALL. Thank you. The Chair recognizes Mr. Otter, the gentleman from Idaho, for an opening statement.

MR. OTTER. Thank you, Mr. Chairman. I would to welcome the panel. Thank you for being here today. I would associate myself with the remarks of Mr. Shimkus and also our Chairman, and all those other remarks that says basically we are not much in favor of interim storage. The future of energy, I believe, in this country is nuclear. And the future of nuclear energy in this country is how we treat our waste. Can we clean up the messes that we have got? Can we take care of the messes that we would create? And to delay and to try to now establish an interim storage scheme which would actually delay the final resting place of the nuclear waste that we have, I think is a terrible mistake not only in terms of promises made and promises not yet kept, but I think it is also a terrible mistake in terms of how we are going to be able to view the role in which nuclear energy can play in the future in the United States.

I am aware and I am sure you too, sir, are aware of an agreement that we have in Idaho on the removal of nuclear waste, and there is a time line on that. And that time line since its inception of that contract is 12 years now and certainly that agreement between the Department of Defense and Energy and the State of Idaho did allow for some time lines to be stretched, but it is getting perilously close now to an irreversible trend. And so I would join the rest of my colleagues in total support of going forward with permanent storage and getting those projects underway so that we really do have a future for nuclear energy in this country. Thank you, Mr. Chairman, and I yield back.

[Additional statements submitted for the record follows:]

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

Thank you Mr. Chairman for holding our third Nuclear Waste hearing in the 109th Congress.

It's about that time when people start looking to pass all kinds of legislation in lame duck omnibus appropriations bills, so it is a good idea for our Committee to be paying close attention to this issue.

The scope of the challenge of nuclear waste has been well documented by this Committee and elsewhere, but the language in the Senate Energy and Water Appropriations bill is a new wrinkle we must confront.

Many on this Committee are very concerned with this language. By starting from scratch on new "interim" storage facilities at unknown locations, we are likely undercutting the Yucca Mountain project.

With DOE and Congress struggling so hard to get Yucca moving, it's hard to see how the federal government has the time and resources to set up any more nuclear storage facilities.

If we switch course and pursue an interim nuclear storage facility, we run the risk of eliminating all the momentum behind Yucca Mountain.

Some Yucca opponents support the Senate language, and they probably view this proposal as a strategy to delay Yucca Mountain indefinitely.

As a result, it is going to be very difficult to site an interim facility since any area that is chosen will suspect they're the new permanent facility.

An interim facility will likely be smaller than Yucca Mountain which likely means that some nuclear waste will remain at on-site storage facilities for even longer than expected.

Some facilities may be stuck with their waste because the interim facility won't be big enough to take care of everyone, but it will be big enough to take away Yucca's momentum.

DOE needs to take a leadership role in the appropriations negotiations this year and do what is best for the entire nation's safety and reliable electricity supply.

If DOE sits on its hand on the sidelines it will be much easier for anti-Yucca elements in the Senate to sneak in through the back door and kill the Yucca Mountain project which Congress approved overwhelmingly.

If that happens, the pro-nuclear Bush Administration may go down in history as the Administration that did the most damage to the future of nuclear power in America.

Thank you and I yield back.

PREPARED STATEMENT OF THE HON. MIKE ROGERS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MICHIGAN

Mr. Chairman:

Thank you for convening this important hearing on nuclear waste storage and disposal policy. First and foremost, I would like to welcome from Michigan Mr. Tony Earley, Chairman and Chief Executive Officer of DTE Energy to the Committee.

Mr. Earley, in your important role serving as Chairman of the Nuclear Energy Institute, the Committee welcomes your expertise on this important issue facing our region and the entire nation.

Mr. Chairman, my home state of Michigan has four nuclear waste storage sites. Yet Michigan is also the home of the Great Lakes which contain 20 percent of the world's fresh water. I can assure you that Michiganders are very interested in securing and opening the permanent nuclear waste storage facility at Yucca Mountain, Nevada to get this hazardous material off of the shores of our precious lakes.

Many of the provisions found in H.R. 5360 would take important steps to continue moving this process forward. This bill would go a long way toward providing certainty that the Yucca Mountain facility is progressing, ensure the funding stream already created goes toward Yucca as intended and by clarifying the licensing process.

Mr. Chairman, thank you again for convening this important hearing. I look forward to working with you going forward on this issue.

MR. HALL. Thank you. We are very fortunate to have two gentlemen who are very much in the mix of discussions who we have here today. We appreciate once again your coming to our aid and giving us the advice that you are going to give us. Edward F. Sproat, III, Director of Office of Civilian Radioactive Waste Management, U.S. Department of Energy, I recognize you at this time hopefully for 5 minutes but whatever it actually takes to summarize yours and then we will ask questions. I recognize you, Mr. Sproat.

STATEMENTS OF HON. EDWARD F. SPROAT, III, DIRECTOR, OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT, U.S. DEPARTMENT OF ENERGY; AND LUIS A. REYES, EXECUTIVE DIRECTOR FOR OPERATIONS, U.S. NUCLEAR REGULATORY COMMISSION

MR. SPROAT. Mr. Chairman, Congressman Boucher, members of the committee, thank you very much for the opportunity to appear before you today to talk about H.R. 5360, which is entitled the Nuclear Fuel Management and Disposal Act, and on behalf of the President and the Secretary, I would particularly like to thank Chairman Barton for his introduction of this important piece of legislation. Let me talk about--I am very encouraged by what the committee said this afternoon regarding your support for Yucca Mountain, and I want to talk specifically about what can we do for you to help make this happen, and that is what I want to talk about in 5 minutes or less.

Two months ago I came before this committee, and I laid out the new best achievable schedule for the Yucca Mountain project showing that we believed under optimum circumstances the best achievable date of opening Yucca Mountain is March of 2017. I got criticized in a number of quarters about how unrealistic that schedule was, and I want to make it very clear that the schedule is best achievable, not most probable, and there is a difference. And I want to make it very clear that the legislation that the Administration sent up here to Capitol Hill back in the spring and here in the House as H.R. 5360 is absolutely positively critical to making that March, 2017 date.

I can tell you unequivocally that if we don't get that legislation, I have a zero chance of making that March, 2017 date, and I am prepared to go into some of the details as to why that is the case, and so that is why I am here, to try and make that case to you about how important that piece of legislation is to allow us to open that repository by March of 2017. There have been a number of discussions about this legislation, and there are a number of misconceptions out there about what it is

asking for and what it is intending to do. I am going to hit the highlights very quickly and try and put it in plain English because there are a number of--it is very legalistic in a number of ways, and I want to try and keep it very simple and very straightforward.

Number one is around the waste fund; this legislation is not about taking Yucca Mountain off budget. It is not about taking away from Congress its right of appropriations for Yucca Mountain. This is about making the annual receipts in the Nuclear Waste Fund and characterizing them as discretionary. And what that allows the various appropriations committees to do is to take that money, the receipts as they come in, appropriate them for Yucca Mountain without impacting the committee's budget limits that they are given for the budget process. It does still maintain congressional control of the appropriations process over Yucca Mountain so that is very important to understand.

Just one last point on money before I move on. There have been a couple questions raised about the cash flows which you asked about when I was here 2 months ago. The cash flow estimates for the Yucca Mountain project are in the final stages of being put together through the entire construction period of the project. We are bringing in an outside, independent architect engineering firm to do an independent review of the methodology and the numbers that we have for that. I expect that independent review to be done in early October. Once that is done, we will present that to you in an appropriate forum so that you have those cash flows, but that is where we stand with that right now. I understand you would like to have those as soon as possible but we want to make sure they are right.

The second issue in the bill concerns land withdrawal, and to make it very simple, in order for the NRC to license the repository, DOE as the licensee needs to show that it has control of the repository area. I can't do that unless that land is withdrawn from public use and public access, and what the legislation allows us to do is give the Secretary of Energy control that way and make determinations how it is to be used. That is critical to the licensing process of Yucca Mountain.

The third area is removal of a 70,000 metric tons limit on the capacity of Yucca Mountain. Right now with the current fleet of nuclear plants and with the license extensions they have open, we will have Yucca Mountain totally committed within the next several years.

What this legislation is proposing is to remove that administrative limit that is in the Nuclear Waste Policy Act and allow the NRC to determine during the licensing process what the maximum allowable capacity of Yucca Mountain should be. What I can tell you is that the Nuclear Waste Policy Act also requires me to report to Congress between January 1, 2007, and 2010, if I believe, there is a need for a

second repository. If we do not remove this administrative cap, I can tell you I will present a report to the Congress certainly during my tenure that says we need a second repository, national repository, if that 70,000 metric ton limit is retained.

The next issue is around water, and this is about can we get the water we need to operate and construct Yucca Mountain, and we are not trying to usurp the State of Nevada's water rights here. What we are asking for is the Congress to declare Yucca Mountain in the public interest because right now the State of Nevada legislature has declared it not in the public interest and therefore the State water engineer cannot give us a permit to withdraw water. So all we are asking is that the Congress declare Yucca Mountain in the public interest, basically overriding the Nevada legislature's alternate determination and then allowing us to go in front of the State water engineer and present our case. That is all we are asking for. We are not trying to usurp Nevada's rights in terms of control of their water.

In terms of waste confidence, this is an issue that a number of people have talked about. This is about trying to make it very clear so that the NRC and the Congress believe that the disposal of spent nuclear fuel is an issue that the NRC does not need to consider in their environmental impact statements for new plants or for license extensions of existing plants. This is an issue of vital importance to the industry and to our ability to move forward with nuclear energy in this country.

The sixth area is around transportation, and there has been a lot of misinformation around this issue also. Very simply, the Department of Energy already has authority to transport spent nuclear fuel and high level waste under the Atomic Energy Act. What we are asking for is authority under that Atomic Energy Act to use an existing Department of Transportation pre-emption process so that, if we get to a locality that is obstinate and not willing to work with us in the planning process to allow us to plan the transportation routes, that we can use the existing Department of Transportation pre-emption process, which is very well developed and very complete. This gives us an alternative process to work around any obstructions we might get at a local level.

We are not asking for, nor do we have any plans not to work very directly with county, State, local, and tribal members in planning the transportation routes. That is what we have done in the past. That is what we plan on doing in the future. But we need this alternative pre-emption process that the Department of Transportation has in place so that we can apply it to our shipments. There is also a request to clarify our capability to build infrastructure for the rail line to Yucca Mountain. And just to be clear about that, we believe we already have the authority to do these things. What we are trying to be clear about is that these

actions are connected to Yucca Mountain, but we believe, and we are trying to clarify, that we have the authority to do these activities before receipt of a construction authorization from the NRC, without prejudicing the NRC decision-making process for the construction authorization.

That is the focus of this. It does not in any way affect NRC's authority over the nuclear safety aspects of licensing Yucca Mountain. This is strictly about the connected actions and allowing us to start activities like building the Nevada railroad spur prior to issuance of a construction authorization for Yucca Mountain by the NRC, and that is important to be able to meet our schedule. The last area that I just want to talk about very quickly is the several issues associated with trying to clarify Federal authority over duplicative regulatory review processes. One is around air quality. We are asking that the EPA be given authority to regulate our air quality permits for Yucca Mountain and not the State of Nevada.

Secondly, for the materials to be buried at Yucca Mountain, right now the Resource Conservation and Recovery Act, RCRA, applies. It is a law that is very focused on shallow burial of hazardous wastes. It is our contention and belief that NRC licensing of the materials that we are putting into a deep geological repository is a much more stringent set of regulations than what the RCRA law would require, and we are asking elimination of the duplicative reviews and regulatory frameworks that both RCRA and NRC regulations would require.

And then finally for those infrastructure improvements that I talked about before, we just want to clarify that EPA has authority over the environmental impact statement reviews of those connected actions. So in summary, Mr. Chairman, the President, the Secretary, and I all believe that this legislation is critical to achieving that schedule that I gave you 2 months ago for opening Yucca Mountain by March of 2017, and we respectfully request that the Congress act on this legislation.

[The prepared statement of Hon. Edward F. Sproat, III follows:]

PREPARED STATEMENT OF THE HON. EDWARD F. SPROAT, III, DIRECTOR, OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT, U.S. DEPARTMENT OF ENERGY

Mr. Chairman and Members of the Committee, thank you for the opportunity to appear before you today to discuss H.R. 5360 entitled the "Nuclear Fuel Management and Disposal Act." Enactment of this bill would significantly enhance the Nation's ability to manage and dispose of spent nuclear fuel and high-level radioactive waste. I thank Chairman Barton for taking up this critical issue and introducing the legislation.

Over the last 50 years, our country has benefited greatly from nuclear energy and the power of the atom. We need to ensure a strong and diversified energy mix to fuel our Nation's economy, and nuclear power is an important component of that mix. Currently more than 50,000 metric tons of spent nuclear fuel is located at more than 100 above-ground sites in 39 states, and every year reactors in the United States produce an

additional approximately 2,000 metric tons of spent fuel. In order to ensure the future viability of our nuclear generating capacity, we need a safe, permanent, geologic repository for spent nuclear fuel at Yucca Mountain.

Recently the Department announced its plans to submit a License Application for the repository to the Nuclear Regulatory Commission (NRC) by June 30, 2008, and to initiate repository operations in 2017. This opening date of 2017 is a "best-achievable schedule" and is predicated upon enactment of the pending legislation. This proposed legislation addresses many of the uncertainties, currently beyond the control of the Department, that have the potential to significantly delay the opening date for the repository. I would like to briefly summarize the bill's provisions for the Committee.

First, the most important factor in moving the Yucca Mountain Project forward is the ability of the Department to have access to the Nuclear Waste Fund to ensure adequate funding is available to meet the requirements necessary to construct and operate a repository. By making a technical budgetary scoring change, the proposed legislation would correct a structural budget problem by changing the budgetary treatment of the Nuclear Waste Fund fee, from mandatory receipts to discretionary offsetting collections equal to annual appropriations from the fund. Funding for the Program would still have to be requested by the President and Congressional appropriations from the Fund would still be required.

Second, to meet NRC licensing requirements it will also be necessary for Congress to approve the permanent withdrawal of the lands needed for the operational area of the repository. The bill would withdraw permanently from public use approximately 147,000 acres of land in Nye County, Nevada. The Department is confident that the permanent withdrawal of land would meet the NRC licensing requirement for the Yucca Mountain repository and would help assure protection of public health and the environment.

Third, to promote efficient management and disposal of the current and projected future inventories of commercial spent nuclear fuel located at reactors throughout the United States, the proposed legislation would eliminate the current statutory 70,000 metric ton cap on disposal capacity at Yucca Mountain and allow for maximum use of the mountain's true technical capacity. By eliminating an artificial statutory limit and allowing the NRC to evaluate the actual capacity at Yucca Mountain, this provision would help provide for safe isolation of the Nation's entire commercial spent nuclear fuel inventory from existing reactors, including life extensions, and may postpone the need for a second repository elsewhere until the next century.

In addition, the proposed legislation includes a number of provisions that would promote prompt consideration of issues associated with the Yucca Mountain repository or would address other matters that have the potential to cause delays in moving forward with the Yucca Mountain Project.

First, the proposed legislation contains provisions that would provide for a more streamlined NRC licensing process by amending the licensing process in several respects. In particular, the legislation would make clear that an application for construction authorization need not include information on surface facilities other than those facilities necessary for initial operations. The bill would also establish an expedited one-year schedule and a simplified, informal process for the NRC to consider the license amendment for the Department to receive and possess nuclear materials as well as for other future license amendment actions. The bill would also direct that the NRC, consistent with other provisions of the Nuclear Waste Policy Act of 1982, need not consider in its environmental review any actions taken outside of the geologic repository operations area; this will help focus the licensing process.

Second, the proposed legislation would permit early initiation of infrastructure and pre-construction activities at the Yucca Mountain site for utility, communications, and safety upgrades, and the construction of a rail line to connect the Yucca Mountain site

with the national rail network prior to receipt of an NRC construction authorization for the repository. Construction of repository surface and sub-surface nuclear facilities would still require a construction authorization from the NRC.

Third, the proposed legislation includes additional provisions that would simplify the regulatory framework for the repository. In particular, the legislation would designate the Environmental Protection Agency as the appropriate agency to issue, administer, and enforce any air quality permits required in connection with the Yucca Mountain repository. Material owned, transported and stored in NRC-licensed containers and NRC-licensed materials at Yucca Mountain would also be exempt from Federal, State, and local environmental requirements under the Resource Conservation and Recovery Act. The intent is to ensure that dual regulatory requirements do not apply to the same waste streams, once they are ready to be shipped to a repository for disposal. These provisions would simplify the regulatory framework for the repository without compromising environmental protection or safety.

Fourth, the proposed legislation would address the use of water needed to carry out the authorized functions under the Nuclear Waste Policy Act of 1982. This legislation would allow the Department to be treated like a private business in requesting water access, resulting in non-discriminatory treatment of the Department. The State of Nevada would still review and administer water allocation to the Department under this provision.

Fifth, the proposed legislation would address transportation and ensure the expedited movement of shipments to Yucca Mountain. In this regard, the legislation would provide the flexibility for the DOE to regulate the transport of spent nuclear fuel and high-level radioactive waste to the repository in the same manner that we currently conduct transportation of nuclear weapons. The Department has been transporting such nuclear materials safely for many years. In addressing this issue, we are not proposing to change in any way our route planning activities with State, Tribal and local authorities or how we work with them on emergency planning, training, and education. This provision would reflect our longstanding commitment to transporting nuclear material in a manner that meets or exceeds NRC and Department of Transportation requirements for transportation of comparable material. Likewise, it would permit continuing our longstanding practice of working with State, Tribal and local governments, transportation service providers, and other Federal agencies to utilize their resources and expertise to the maximum extent practicable.

Finally, the proposed legislation would promote the licensing of new nuclear facilities by addressing the need for a regulatory determination of waste confidence by the NRC in connection with proceedings for those new nuclear facilities. This provision directs the Commission to deem that sufficient capacity will be available to dispose of spent nuclear fuel in considering whether to permit the construction and operation of a nuclear reactor or a related facility.

Conclusion

Nuclear power has been demonstrated to be a safe, reliable, and efficient source of power. Enactment of the proposed legislation is necessary to allow the Yucca Mountain Project to move forward and to advance the Nation's energy independence, energy security, and national security objectives. Mr. Chairman, I look forward to working with you and the Members of this Committee on this legislation to facilitate the construction and operation of the repository and to ensure the continued development of safe, clean, and efficient nuclear power in this country. I would be pleased to answer any questions at this time.

MR. HALL. Thank you. Mr. Luis, Reyes, we recognize you, Executive Director for Operations, U.S. Nuclear Regulatory Commission, for an opening statement.

MR. REYES. Thank you, Mr. Chairman. Mr. Chairman and members of the committee, it is a pleasure to appear before you today on behalf of the Nuclear Regulatory Commission to discuss our capability to regulate the storage and disposal of spent nuclear fuel. Specifically, I plan to address some of the national spent fuel management strategies embodied in various legislative proposals currently under consideration by Congress. Since I plan to summarize my testimony, I will ask that my full statement be entered into the hearing record including an update for page six.

MR. HALL. Without objection.

MR. REYES. It is important to make clear at the outset that because of our role in the regulation of spent nuclear fuel and our potential role in considering an application for a high level radioactive waste repository at Yucca Mountain, Nevada, the Commission has not taken a position on most of the provisions in these legislative proposals. Therefore, I would like to focus on the impact certain of the proposals will have on the NRC. We have reviewed the language contained in the Senate appropriations bill and believe that the existing regulatory infrastructure could accommodate the alternative approaches to storing spent nuclear fuel.

We believe that we may be able to review and license concurrently the large number of facilities anticipated in the bill. However, in order to do so, we will need sufficient funding, the receipt of high-quality license applications, and considerably more time to review and adjudicate the applications. We have also reviewed S. 2610 and note that some provisions in the bill could affect the timing of our review of a Department of Energy application for authorization to receive and possess spent nuclear fuel and high level radioactive waste at Yucca Mountain.

Specifically, S. 2610 will require us to reach a final decision on receipt and possession within 1 year with the possibility of a 6-month extension. Such a requirement wouldn't allow us enough time to complete both our safety review and the required adjudicatory proceeding in 1 year. The changes to a national spent fuel management strategy that are being considered in the various bills involve shipping spent fuel. The provisions in the bills may affect the transportation roles of the Department of Energy and the Department of Transportation. They do not appear to affect our role with respect to certifying casks as specified in the Nuclear Waste Policy Act.

The NRC believes that the existing transportation regulatory infrastructure can accommodate the various legislative actions being considered. However, as with the other topics addressed in this testimony, our ability to complete this work will depend upon sufficient appropriations and submittal of complete high-quality applications. In conclusion, the Commission understands the importance of addressing the storage, transportation, and disposal of high level radioactive waste in a systematic and integrated manner that is safe, timely, and efficient.

We urge Congress to assure that sufficient appropriations be made available to adequately fund regulatory infrastructure activities and increased staffing prior to receipt of new license applications. Provided that we receive sufficient resources and staffing levels are maintained and appropriate time is given to the agency to conduct its technical reviews and adjudications, we believe we can reach decisions on the relevant applications in a timely fashion, assuming high-quality license applications are received.

On behalf of the Commission, I appreciate the opportunity to testify today, and I look forward to working with you on this legislation, and I will take any questions you may have now.

[The prepared statement of Luis A. Reyes follows:]

PREPARED STATEMENT OF LUIS A. REYES, EXECUTIVE DIRECTOR FOR OPERATIONS, U.S. NUCLEAR REGULATORY COMMISSION

Introduction

Mr. Chairman and Members of the Committee, it is a pleasure to appear before you today to discuss the U.S. Nuclear Regulatory Commission's (NRC's) capability to regulate long-term and short-term spent nuclear fuel storage and disposal. Specifically, I plan to address some of the national spent fuel management strategies that are being considered in S. 2589, the "Nuclear Fuel Management and Disposal Act;" S. 2610, a bill "to enhance the management and disposal of spent nuclear fuel and high level radioactive waste, and for other purposes;" and Section 313 of H.R. 5427, the "Energy and Water Development Appropriations Act, 2007."

It is important to make clear at the outset that, because of the NRC's role in the regulation of spent nuclear fuel and the potential application for a high-level radioactive waste repository at Yucca Mountain, Nevada, the Commission has not taken a position on most of the provisions in these legislative proposals. Therefore, I would like to focus on the impact the following proposals would have on the NRC.

Interim Storage

Spent fuel storage and transportation are and can be accomplished both safely and securely, consistent with the current regulatory framework, regardless of the number of sites and their locations. The NRC has stated in its Waste Confidence Decision that, if necessary, spent fuel generated in any reactor can be stored safely and without significant environmental impact in its spent fuel storage pool or at either on site or off site interim storage facilities for at least 30 years beyond the licensed operational life of the reactor. In general, the Commission concluded that, if stored properly, spent fuel presents a low risk to the public during normal operation or under potential credible accident conditions

and can be stored safely in either wet or dry storage systems without significant environmental impact for at least 100 years.

It is important to note that the threat of sabotage has always been a factor in the design and licensing of spent fuel storage facilities. Following the September 11, 2001 terrorist attacks, the NRC issued Orders to licensees to implement additional security measures, and undertook a comprehensive reassessment of the security of commercial nuclear facilities including those for spent fuel storage. Since 9/11, NRC has issued Orders to licensees to implement additional security measures. Dry spent fuel storage casks are robust structures, which are highly resistant to significant damage, and we are confident that storage of spent fuel in dry casks remains a safe and secure spent fuel management strategy. Spent fuel pools are strong structures constructed of very thick steel-reinforced concrete walls with stainless steel liners located inside protected areas. The NRC's domestic safeguards program is focused on physically protecting and controlling spent nuclear fuel against sabotage, theft, and diversion.

The NRC supports efforts to address interim storage issues in a timely manner. Nuclear power plants need to increase their spent fuel storage capacity to support plant operations. In order to maintain operational capability in the spent fuel pool, including full core off load capability, spent fuel must periodically be moved to dry cask storage. There are currently 43 licensed independent spent fuel storage installations (ISFSIs), and we expect in the next few years that this number will grow to over 50, as more power plants contend with filled spent fuel pools. The 43 current sites have successfully loaded and stored over 800 casks. An exceptional safety record has been achieved using dry cask storage technology.

Safety and security are the key elements in a comprehensive spent fuel management strategy. We must also be cognizant of the need for efficiency and effectiveness in every element of spent fuel handling, storage, and transport systems. The NRC believes that instituting canister and infrastructure standards will make storage and transportation both safer and easier, facilitating interoperability among handling and loading activities at different reactors and ISFSIs. Standards will also improve the ease with which these activities can be licensed. Canister and infrastructure standards should be developed with input from industry, taking advantage of lessons learned from previous designs.

The legislative proposal in H.R. 5427, as approved by the Senate Committee on Appropriations, includes new consolidation and preparation (CAP) facilities as part of a new national spent fuel management strategy. This proposal would significantly affect the NRC's spent fuel storage oversight program and resource needs. Specifically, H.R. 5427 calls for a high number of new storage facilities to be reviewed and licensed by NRC in a very short time span. Currently, the NRC has neither the monetary resources nor the necessary employee resources to support the technical review and adjudication of a large number of concurrent storage license applications as considered in H.R. 5427. Also, the time frames in the draft legislation, which must allow for license preparation by the applicant, environmental and safety reviews by NRC and completion of associated hearings before the Atomic Safety and Licensing Board Panel, are very short and likely not achievable.

The NRC has reviewed the proposed legislation and believes that the existing regulatory infrastructure could accommodate the alternative approaches outlined in H.R. 5427. Although the NRC believes that it may be able to review and license a large number of new facilities anticipated in H.R. 5427 concurrently, the following items would be necessary prerequisites for success: sufficient funding; receipt of complete, high-quality license applications; and considerably more time to review and adjudicate the applications. NRC believes that centralized storage or storage at multiple sites in different locations can be achieved safely, consistent with our regulatory system. One must approach spent fuel management as an integrated system, balancing the very small risks associated with storage and transportation components. The Commission is open to

working with our stakeholders in support of a systematic and integrated approach that is safe, timely, and efficient.

Transportation

The NRC believes that the current, well-established transportation regulatory system is protective of public health and safety. Spent nuclear fuel has been safely transported in the United States for more than 30 years. There has never been an accident involving the transportation of spent fuel resulting in a radiological release or death or injury from radiation. The National Academy of Sciences recently completed a three-year study that concluded that the radiological risks of spent fuel transportation are low and well understood and that the existing regulations are adequate to ensure safety.

Any of the changes to a national spent fuel management strategy that are being considered (such as in S. 2589, S. 2610, and H.R. 5427) will involve shipping spent fuel. Federal regulation of spent fuel transportation is shared by the U.S. Department of Transportation (DOT) and the NRC. Generally, NRC does not regulate the U.S. Department of Energy's (DOE's) shipments of radioactive material; however, the Nuclear Waste Policy Act requires DOE to utilize NRC-certified casks for spent fuel shipments to a repository and to follow NRC's advance notification requirements. The Commission has reviewed and certified a number of package designs which could be used to transport spent fuel. Provisions of S. 2589, S. 2610, and H.R. 5427 may affect the transportation roles of DOE and DOT, but do not appear to affect the NRC role to certify casks as specified in the Nuclear Waste Policy Act. Section 313(c) of H.R. 5427 calls for licensing of DOE's spent fuel shipments by NRC and DOT. This means that NRC's physical protection requirements would be applicable to all of the DOE's shipments of spent nuclear fuel, and to this extent H.R. 5427 will increase NRC's responsibilities.

The NRC believes that the existing transportation regulatory infrastructure can accommodate the various legislative actions being considered. The transportation aspects of the various options and facilities do not present new or inherently different technical challenges. New transportation packages will need to be designed and certified to address: DOE initiatives on transport, aging, and disposal canisters; new types of spent fuel; or existing spent fuel that is not covered by current designs. As with the other topics addressed in this testimony, the NRC's ability to complete this work will depend upon sufficient appropriations and the submittal of complete, high quality applications.

Disposal

The NRC understands the importance of addressing disposal of high-level radioactive waste in a manner that is both safe and timely. The NRC has a record of moving responsibly and promptly to meet its obligations under the Nuclear Waste Policy Act. To prepare for conducting an independent safety review of a Yucca Mountain application, the Commission continues to conduct pre-license application activities aimed at providing guidance so that DOE can provide a high quality application. NRC is confident that we will be ready to receive an application if submitted in 2008 as is currently proposed by DOE. We are also confident that we will reach a timely decision on the application provided that the application is complete and of high-quality.

The NRC offers the following comments on provisions in the proposed legislation, S. 2610, that could affect the timing of the NRC's review of a DOE application for an authorization to receive and possess spent nuclear fuel and high-level radioactive waste at Yucca Mountain. The proposed legislation would require the NRC to reach a final decision on receipt and possession within one year (with the possibility of a six-month extension). This proposed requirement does not give the NRC sufficient time to complete its necessary proceedings. First, the NRC cannot complete both its safety review and the adjudicatory proceeding in one year. In particular, NRC will need to

conduct a hearing. Even under the informal hearing process proposed in S. 2610, the NRC would need to adjudicate issues raised by participants that are admitted as contentions by the licensing board. It is difficult to predict the amount of time it will take to complete the review and adjudicate issues in controversy without knowing the scope and number of issues that will require adjudication as well as the number of parties involved. Second, the proposed legislation's provision regarding surface facilities could be read to provide for staged consideration of surface facilities. In this case, the NRC would review certain facilities during the construction authorization phase and other facilities during the later receipt and possession phase. Facilities that otherwise could have been reviewed in the construction authorization phase might be shifted to the receipt and possession phase, increasing the scope of review for that phase despite the reduced time allowed for that review.

S. 2589 and S. 2610 also contain a provision requiring the NRC, in deciding whether to permit the construction or operation of a nuclear reactor or any related facilities, to deem, without further consideration, that sufficient capacity will be available in a timely manner to dispose of spent nuclear fuel and high-level radioactive waste. H.R. 5427 contains a similar provision. The NRC does not object to these provisions of the legislation.

Conclusion

The NRC fully understands the importance of addressing the storage, transportation and disposal of high-level radioactive waste in a systematic and integrated manner that is safe, timely, and efficient. We would urge the Congress to assure that sufficient appropriations be made available to adequately fund regulatory infrastructure activities and increased staffing prior to the receipt of license applications initiating licensing activities. Provided sufficient resources and staffing levels are maintained and appropriate time is given to the Agency to conduct the necessary technical reviews and adjudications, we believe that we can reach decisions on the relevant applications in a timely fashion, assuming high-quality license applications are received.

We appreciate the opportunity to testify today and look forward to working with you on this legislation.

MR. HALL. We thank you, Mr. Reyes. Mr. Sproat, are you familiar with the concept called adaptive staging by the National Research Council?

MR. SPROAT. I haven't read the report, Mr. Chairman, but I am aware of the concept and have done some reading about how other countries have utilized or are thinking of utilizing a concept like that.

MR. HALL. Are you in position to maybe give us a good idea of how it could be applied to the Yucca Mountain program?

MR. SPROAT. It is interesting, Mr. Chairman. When I was in front of this committee about 5 years ago when I was still with Excelon, somebody asked me a question very similar to that in terms of how do you think the licensing process for Yucca Mountain should proceed, and my thoughts on that haven't really changed very much since then. The way the current licensing process for Yucca Mountain exists under 10 C.F.R. Part 63, it is a multi-step process that requires a construction authorization first, an operating license second, and then a decision that actually permanently closes the repository, third.

Unfortunately, the way Part 63 is written right now all of the requirements that the repository has to meet including how it needs to perform up to a million years into the future, depending how the EPA standard is resolved, all of that analysis has to be shown, reviewed, and verified prior to receipt of a construction authorization. As Chairman Barton, I believe, said earlier this afternoon, we are going to know a heck of a lot more about the mountain, how it reacts, about new technologies that we haven't even thought about 50 years from now, 75 years from now, than we do now.

So, it makes sense to me that we take a similar approach here. Unfortunately, as 10 C.F.R. Part 63 is written right now, it really is a very front-end loaded process. And just to give you an example, in Part 63 there are criteria along the different steps of the process that the Commission needs defined before they can make a decision. Unfortunately, in Part 63, for the decision to close the repository, there are actually no acceptance criteria for the Commission to find have been met before they make a decision to close, and so it is left undefined in the current regulatory process.

MR. HALL. What would it take for DOE to implement the concept if you have gone that far into it?

MR. SPROAT. Well, we couldn't implement a concept ourself. It really is the NRC's regulations under 10 C.F.R. and in this case it is 10 C.F.R. Part 63 as it is currently written. It is the regulatory construct for licensing Yucca Mountain, and that regulatory framework would have to be changed.

MR. HALL. And how would it impact the repository schedule and resources just in your opinion?

MR. SPROAT. I guess it is too early for me to be able to answer that question. It would really depend on how it would change.

MR. HALL. Mr. Reyes, in the industry's testimony they indicate that the interim storage could be licensed expeditiously. How many licenses has the NRC issued for away from reactor independent spent fuel storage installations?

MR. REYES. There has been only one facility that has been licensed away from reactors.

MR. HALL. How long did that take?

MR. REYES. It took us about 8 years from application to final issue of the license.

MR. HALL. What do we have to hope for and to look to in future issuances?

MR. REYES. We could expedite the process. This particular example, the application was changed by the applicant several times, so there were hearings that required a lot of work by the staff, so we hope

we could do it in a faster way but with only one example it is hard to know how long it will take us.

MR. HALL. What is a reasonable explanation for it taking that long?

MR. REYES. Well, I mentioned in my testimony emphasis on high-quality applications. That particular application, the design was changed through the process, and the hearings identified technical issues that needed to be pursued. We think a facility away from a reactor that has a good application, 2 years perhaps with an extension of 6 additional months would be sufficient.

MR. HALL. I think my time expired. I recognize Mr. Boucher.

MR. BOUCHER. Thank you very much, Mr. Chairman. I want to also thank both of our witnesses for their testimony today. And, Mr. Sproat, again let me say how much I admire your determination and confidence to move this program forward. Along with others who have spoken from this panel, I also strongly support the Yucca project and wish you well and offer you assistance as you move the project forward. When do you think you will have your funding schedule to be submitted to us?

MR. SPROAT. I believe it should be very close--no later than the beginning of November. It should be around the end of October because we have it basically built now, but we are bringing in an outside, experienced company to do an independent review of our construction schedule, the cash flows associated with it so when we give you something that is more than just DOE saying here are the numbers.

MR. BOUCHER. That is a timely submittal, and we will certainly look forward to receiving it and reviewing it, and then having further discussions with you. I noted your support in your testimony for the Administration's bill that has been put forward, and I also find most of the provisions in that measure to be constructive, but I want to ask you questions about two of the provisions of the bill. One thing the bill does not do is protect the $19 billion corpus that is currently in the Nuclear Waste Fund, monies that have been paid into the Fund to date and not appropriated for the Yucca Mountain project.

So my question to you is this. Can you build the Yucca Mountain project and have it open by 2017 only using the prospective payments of about $750 million annually that will be coming into the Fund? Over the 10-year period between now and 2017 that is about $7.5 billion. Is that going to be enough for you to build Yucca Mountain?

MR. SPROAT. Well, we don't have the final cash flows yet, but to maintain that best achievable schedule that we put out, where we would be both building the repository and building the transportation infrastructure, particularly the rail line, it is highly likely that we will exceed that amount in certain peak years of funding probably, but I

wouldn't expect to reach that peak funding profile for probably about another 10 to 11 years from where we are right now.

MR. BOUCHER. Well, you are supposed to have it open 10 years from next year and so at some point surely short of 10 years from now you would reach a peak funding profile.

MR. SPROAT. You are correct. I am wrong in that number. I got the math wrong. It is probably closer to 6 to 7 years out in terms of where that peak funding would occur.

MR. BOUCHER. Okay. So what you are saying is you are going to need some of this $19 billion that is within the corpus of the Fund itself. If the Administration's bill doesn't protect that money, what is your solution to that going to be?

MR. SPROAT. Well, I am not sure if it doesn't--I certainly can't address whether it protects it or not. I know there have been an awful lot of discussions and a lot of--at least within the Department we believe that there are a number of things that we can't use that fund for and so, from my perspective, I believe the Fund is protected.

MR. BOUCHER. Mr. Sproat, there is nothing in the legislation that would require that these monies be set aside and reserved exclusively for the Yucca Mountain program and therein lies the basic problem. And so based upon the testimony that I am hearing today, I think we can probably anticipate you coming to the Congress and asking not only for the $750 million that will flow prospectively into that fund for your Yucca Mountain project, but also general appropriations on top of that.

MR. SPROAT. For the next--between now and the time we reach submittal of the license application in the next 2 ½ years, the request that we proposed in the legislation for access to the annual receipts will be enough to get us through license application submittal for sure. At some point in time after that--and once I get the cash flows completed, I will be able to tell you with much more certainty exactly when--that amount of required funding would be exceeded.

MR. BOUCHER. All right. Well, fair enough, and this is a subject to be continued, but let me simply reiterate our concern that the legislation does not protect this $19 billion and assure that whatever portion of it you have to have you actually can get at the time that you need it. The second issue that I want to raise with you is that provision of the legislation that would essentially deem that there is sufficient capacity at Yucca Mountain to give waste confidence with respect to the opening of new nuclear plants in the United States.

I ask these questions from a perspective of one who supports the opening of new nuclear power plants. I think this has to be a part of our energy mix going forward, and additional nuclear power helps us with energy independence issues and with global warming concerns, and a

range of other policy objectives, and so I think it is necessary. I am a little bit concerned, however, that the legislation says that we as Congress will simply make what is a technical determination that there is sufficient capacity at Yucca to accommodate all of the waste that will flow from newly licensed facilities.

This is a decision that the NRC has the authority to make and has historically been making, and in fact has already, I am told, found from a technical standpoint that there is sufficient capacity up until the year 2025, and the NRC has continuing authority to adjust that estimate and make additional findings as events warrant. Why is not that ability of the NRC to make these determinations sufficient? Why are nuclear generating companies not likely to get through a licensing process in the absence of Congress actually making a factual determination that I frankly think we can't make with regard to deeming sufficient capacity?

MR. SPROAT. That is a very good question. I am not sure the concern is quite as limited to the issue of is there capacity in Yucca Mountain. I think it is a little bit broader issue in terms of do we as a country have reasonable assurance that we have a path to dispose of or otherwise utilize our spent nuclear fuel coming out of our nuclear fleet. One of the things that is different today than where we were a year ago, with this issue is that we have as an Administration policy, said we are going to move forward with GNEP and with closing the fuel cycle.

Now there are a lot of questions around exactly the time line for that, how long that is going to take to proceed. But what we are arguing is that given that we have made a decision that we are just not going to take all fuel and put it in the ground forever, and that given the progress we are making and the schedules we have set for moving Yucca Mountain forward, there is a reasonable amount of data there for the Congress to make a determination that, in terms of a national level determination on waste confidence, do we have a good idea--do we have confidence that we know what we are going to do with spent nuclear waste? We think the answer is yes. The question of capacity of Yucca Mountain is a little bit, at least the way I view it, is a little bit of a separate issue of the 70,000 metric ton limit and getting that lifted.

MR. BOUCHER. Okay. Well, let me turn to Mr. Reyes, and ask you a couple of questions about the idea of interim storage. In your statement you say that you support efforts to address interim storage generally. You also say that it could be accommodated within your regulatory structure, but you also say that you do not have the financial resources or the human resources with which to implement a regulatory program for interim storage, and so what you are basically saying is you can do it but you would have to have the money to do it with.

MR. REYES. That is correct.

MR. BOUCHER. Have you received any kind of assurance from shall we say the sponsors of this provision and the Senate appropriations bill that would mandate an interim storage program that you are going to be appropriated the money in order to carry this forward?

MR. REYES. We have had no discussions on that subject so we have no information regarding our budget, but we would have to receive appropriations or budget starting in fiscal year 2007 based on the proposed schedule.

MR. BOUCHER. So you would actually have to have money next year and we are now debating the FY 07 appropriations bills. We are in the season for doing that. Do you see anywhere in any of the various appropriations bills an appropriation that would give you the money you need to do this in FY 07?

MR. REYES. There is a discussion of a very modest amount, but let me give you how much of an impact this could be. If you end up with 30, some away from reactor facilities that have to be licensed in a short amount of time, you are talking in the order of $300 million and a couple hundred FTE, full-time equivalents, so that in that worst case scenario there is a very significant impact.

MR. BOUCHER. Is there anything in any of the appropriations bills that would even get you started with this?

MR. REYES. No.

MR. BOUCHER. No. All right. Thank you, Mr. Reyes. Thank you, Mr. Chairman.

MR. SHIMKUS. [Presiding] I always enjoy Mr. Boucher and his great questions. I would like to now recognize the doctor from Georgia, Dr. Norwood.

MR. NORWOOD. Thank you very much, Mr. Chairman. Mr. Sproat, I am glad to see you back. We had you, I think, in July.

MR. SPROAT. Yes, sir.

MR. NORWOOD. You had been on the job about 3 weeks at the time. I am wondering how you feel about it now.

MR. SPROAT. Even better.

MR. NORWOOD. Are you as positive now that you will be able to open Yucca Mountain by 2017?

MR. SPROAT. As I said in the beginning of my opening statement, if I can get this legislative package that we have sent up here to the Hill to address some of these key issues around some of the issues that we need to get fixed around Yucca Mountain, my answer is yes.

MR. NORWOOD. You heard Chairman Barton talk about the interim storage. You are going to have to put it at Yucca to get it through this committee. I just want you to know. We can probably go along with a lot of the stuff that you want to do in there, but I don't think you are

going to find us very willing to store it around the country on an interim basis.

MR. SPROAT. Well, just for clarification the Administration has not proposed that, sir.

MR. NORWOOD. Yeah, but I know who did. Let me ask you if I may, have you had any time to look back or ask any questions over at the Department of what they have been doing the last 10 years?

MR. SPROAT. Yes, I have, sir.

MR. NORWOOD. I mean it borders on criminal, I think. How much money have we spent on Yucca in the last 10 years, do you know that?

MR. SPROAT. I don't have the exact numbers.

MR. NORWOOD. When you all look it up, tell him, then he can tell me.

MR. SPROAT. Around $9 billion.

MR. NORWOOD. Nine billion dollars. Almost a billion a year.

MR. SPROAT. Yes.

MR. NORWOOD. And what have we gotten for that?

MR. SPROAT. We have a lot of scientific information and understanding of the mountain, of its geology, how it developed in the past and how we expect it to perform in the future, and we have a draft license application and a first cut at design of the surface facilities that quite frankly weren't adequate to docket the license application back in 2004. And so we are fixing the inadequacies in terms of that surface design and in terms of the further analysis of the mountain and how it is going to perform, or at least how we project it to perform out in the--not only beyond 10,000 years but out to a million years, which is what the current EPA draft standard requires us to do. So there is a lot of analysis still being done with that scientific data that has been collected over those years to put together that license application that I need to send to the NRC in 22 months.

MR. NORWOOD. My questions are based on a thought that keeps running through my head. The American people built the Pentagon in 16 months. We have spent $10 billion in 10 years and now we are saying we have got to have 10 more years to keep doing analysis. Does that bother you any or is it just me?

MR. SPROAT. No, no, it would certainly bother me, and let me just clarify we are certainly not going to spend the next 10 years doing analysis. What we are doing now is design and the actual completion of the license application based on the analyses that have been done. And then we are going to spend the next at least 4 years defending that license application through the NRC licensing process.

MR. NORWOOD. Four years, Mr. Reyes? He got to spend 4 years over there defending his application?

MR. REYES. I think the legislation called for 3 years, but you have to remember there will be a lot of hearings involved in this process so it is more than a technical review. We have to defend our decision that it is technically sound which we are ready to do upon the application but it does take time, sir.

MR. NORWOOD. So we could build two Pentagons by the time he defends his application. I mean something is wrong with this basically that we can't be a little more efficient. I have no idea what you do over there. I have no idea what the rules are. All I know is that that is an inordinate amount of time. Didn't you just say earlier that a year and a half--I am sorry I didn't hear all of it, but you said something to the effect that a year and a half wasn't going to be near enough time for you to do something.

MR. REYES. This is a license for a facility for interim storage away from a reactor.

MR. NORWOOD. So you want 2 ½ years to do that?

MR. REYES. Yes.

MR. NORWOOD. Mr. Chairman, I can't do anything. I yield back.

MR. SPROAT. Mr. Norwood, if I could just clarify.

MR. NORWOOD. Yes, sir, Mr. Sproat.

MR. SPROAT. The cost numbers, that was $10 billion over the life of the program, not $10 billion total cost over the last 9 or 10 years, so I just wanted to clarify that.

MR. NORWOOD. Thank you, Mr. Sproat.

MR. SPROAT. It doesn't make it any better.

MR. NORWOOD. No, it doesn't. And I am counting on you. You come from the real world. I am counting on you to get this done and I am sure you can get it done before 2017.

MR. SPROAT. I will do my best.

MR. NORWOOD. Thank you, sir.

MR. SHIMKUS. The gentleman yields back. The Chair recognizes Dr. Murphy from Pennsylvania.

MR. MURPHY. Thank you. Mr. Chairman, and thank you both for being here. I wanted to follow up on some of these aspects too in terms of these other sites because I recognize we are trying to balance our needs to build more nuclear power plants and also dealing with this spent fuel. For example, on these temporary sites will they all be the same size or different sizes, and how much would each one cost?

MR. REYES. Well, the States will have to decide where they will have to put the interim locations and you have a lot of combinations. You have States which have operating reactors and licensed storage facilities at the reactor. You have States that have no reactors but do have storage facilities because there used to be an operating reactor there.

So under the bill, as I understand it, the States will have to make a decision where to put the interim storage.

MR. MURPHY. But how much will each one of these facilities cost?

MR. REYES. I can only give you the review cost through the licensing process. I think the industry would be in a better position to talk about the cost of building it.

MR. SPROAT. I am probably the only one in the room that actually was involved with designing and constructing an interim spent fuel storage facility, but that was at a reactor so it was on land we owned and from the time we decided to do it to the time we actually completed construction was probably in the neighborhood of about between 5 and 6 years; but that was a relatively simple approach compared to what we are talking about here, where it is away from reactors. They have to do an environmental impact statement. You have to have control of the land. It is more than just designing it and licensing the interim storage facility itself, which is pretty straightforward. It would obviously depend on the size, but you are talking at least, at least, $15 million a piece and that may be low depending on the amount of litigation and licensing time and processing time to finally get approval to actually build it.

The cost to build these by themselves is not that significant. It is basically a concrete pad with a fence, multiple fences, security systems around it, and the infrastructure to bring the spent fuel casks to the pads so the construction itself of the facility is not that--

MR. MURPHY. The facility would have to be pretty secure in terms of bomb proof?

MR. SPROAT. The design bases for those facilities, at least the ones we built, I would not classify them as bomb proof but in terms of what the design basis threats are, I can't talk about those.

MR. MURPHY. Basically similar to what we have at nuclear power plants?

MR. SPROAT. Yes.

MR. MURPHY. But you are saying it would be $15 million. How many years would it take? You said 5 or 6 years?

MR. SPROAT. Actually the critical path on building a facility away from the reactor would be the siting process, both the environmental impact statement and whatever litigation would be associated with the environmental impact statement and the NRC licensing process. Once you have that, the actual construction itself assuming the transportation infrastructure, was relatively simple. You could probably do it in a year, a year and 18 months.

MR. MURPHY. Construction in a year and 18 months.

MR. SPROAT. Yes.

MR. MURPHY. And all the other processes could add another 5 or 6 years to that?

MR. SPROAT. Yes.

MR. MURPHY. If we have 5 or 6 years worth of helping attorneys and engineers and then a year and 18 months of actually building it, and yet the actual use of Yucca Mountain is 10, 11 years away, that seems pretty close, and we would spend several billion dollars along the way to build these interim facilities.

MR. SPROAT. That is the conclusion I drew. I think the last time I was here the committee asked me that exact same question, and that is what I said. It is pretty close time-wise, depending on how these interim storage facilities are sited and where they are sited, and the amount of time it takes to actually get a license to build them.

MR. MURPHY. So in closeness of time wise, and this is an issue I remember coming up before, and I am wondering if we have changed much, and that is it will cost us a lot of money. They will be ready just before Yucca Mountain will be opening anyway and so why are we doing this? I guess that we all--that is the question.

MR. SPROAT. That is a valid question.

MR. MURPHY. And do we have an answer? Will we have one today on that?

MR. SPROAT. I don't.

MR. MURPHY. Okay. On that point, I don't have any more questions either.

MR. SHIMKUS. The gentleman yields back his time. The Chair recognizes the gentleman from Texas, Mr. Green.

MR. GREEN. Thank you, Mr. Chairman. I want to follow up my colleague from Pennsylvania because that is my concern. And I have a district in Houston and we benefit from having a small portion of our electricity generated by nuclear power, and I think in our country we know that we have to have lots of ways to heat and cool our homes and nuclear power has to be an increasing use of it. My concern is that if we follow the path of Senate appropriations and we build this interim facility for nuclear waste, will that facility likely hold all the nuclear waste that is currently being stored at our own site power plants? Is that interim possibility, will it store what we have at South Texas or Glenrose in Texas or elsewhere?

MR. SPROAT. I am not sure, as I read the appropriations bill language from the Senate, I don't believe it is that specific in that it specifies sizes or locations. It gives a broad direction in terms of a number of potential, up to a certain maximum number, sites to be funded. It would depend on each State. As I understand the proposal, it would depend on each State to determine location and size of those

facilities. Now one of the things I would clarify is that even if interim storage facilities are built, they would be built to handle spent fuel that has already come out of spent fuel pools at reactors and put into casks so they would strictly be dry storage in cask facilities. We would still have spent fuel at the reactor sites in the spent fuel pools.

MR. GREEN. But that is--I understand that because that was stated anyway. Does your office have the resources and ability to begin work on new interim storage facilities without losing the focus on the progress on Yucca Mountain?

MR. SPROAT. Not at the current time.

MR. GREEN. So you would need more resources. Since it would be difficult to pursue two nuclear storage projects at once, do you believe the effort behind this recent interim storage legislation is an intentional effort to delay or kill Yucca Mountain?

MR. SPROAT. I really have no opinion on that. I can't speak to that, sir.

MR. GREEN. Mr. Reyes, if Congress and DOE go down the path of limiting the amount of interim storage capacity and progress on Yucca slows or halts, what will be the impact when you are reviewing applications for new reactors to new or existing nuclear power plants?

MR. REYES. The Commission has stated that we believe there is a confidence and solution to the waste would be obtained in this country so it would not have an immediate impact on the new license application but I think if you talk to the industry in their mind they want more confirmation than that before they invest money, so I think it is a decision from the private industry that it is looking for more confirmation that there is a final solution.

MR. GREEN. Both TXU and NRG Energy have announced plans to expand ours we have in Texas, and again we have to have lots of different ways to heat and cool our homes so both in South Texas and Comanche Peak. Can they go forward with their plans without Yucca Mountain on track?

MR. REYES. Yes. They can go forward. I think as a business decision you have to wonder if that is a good decision, but technically we can review and issue a license for new applications without having the issues that we are discussing fully resolved, but it raises a question with the industry as committing the resources, whether that is a good business decision.

MR. GREEN. Well, again, if we don't have nuclear then we are going to see even more coal-fired plants. That may be okay for some parts of the country but some folks in Texas would rather not have that type of coal, and nuclear is a non-polluting substitute although again in Texas we

like to use natural gas, but since we are still worried about our chemical industry we don't want to compete with that.

MR. MURPHY. We like coal in Pennsylvania. It is a nice thing.

MR. GREEN. I imagine you all like coal in Pennsylvania. We used to like natural gas until we almost were running out. Thank you, Mr. Chairman.

MR. SHIMKUS. Thank you. I recognize myself for a couple minutes. Mr. Sproat, how many of our nuclear facilities are almost at maximum capacity of their interim storage on site, do you know that? In the energy bill there was a couple that we were at risk of having to make that tough decision of closing because they had no place to then move because they are almost at max capacity. Do we know that number?

MR. SPROAT. Just so I am clear, Congressman. Is your question around maximum capacity in their spent fuel pool or their interim storage facilities?

MR. SHIMKUS. Well--

MR. SPROAT. Let me try and answer your question the best I can without--because I don't know the exact numbers. But, for example, the plant that I was directly involved with licensing, building, and running, Limerick is currently going through--its spent fuel pool is going to be full within the next 24 months. Limerick Unit One came on line in 1984 and Limerick number two came on line in 1987 or 1988. So that kind of gives you an idea after plants have been on line between 15 to 16 years is when their spent fuel pools are becoming full. At that point in time they need to have an interim spent fuel storage facility licensed on site and ready to start unloading their fuel pools and putting those fuel bundles in their casks.

MR. SHIMKUS. Let me ask, when was the last nuclear power plant built in this country because you are talking about 20 years so when was the last--

MR. REYES. The last one licensed was in 1996 but that plant took a long, long time to construct.

MR. SHIMKUS. So there are probably about 42 sites that have dry cask storage.

MR. REYES. The issue I think if I could form the issue a little different, there is no limit to dry cask storage at the site, but it is a large investment. If you are operating the facility and you don't see a final solution in the horizon you want to have the capability to unload the fuel from the reactor for maintenance and repairs, et cetera, et cetera. You want to keep that flexibility. So because there is no final solution on the horizon you could continue to invest in dry cask storage. It is a large investment. It has to be reviewed by the NRC. It takes several years to go through the environmental review process and the safety process so it

is a never-ending process where the industry pays to the Nuclear Waste Fund, and in addition to that they have to pay to--

MR. SHIMKUS. They are paying twice.

MR. REYES. They are paying twice. They pay for our--

MR. SHIMKUS. With no assurance of any final solution as to the promise the Federal government made years ago.

MR. REYES. That is correct.

MR. SHIMKUS. And that is what those of us who support moving sooner rather than later has tried to get additional risk off because we do believe that nuclear power ought to have a role. Again, I would say because I am from a coal State too, a diversified portfolio, that we are competitive, and it addresses a lot of the concerns. In the bill, not in the proposed changes, we have been talking about the 70,000 metric tons. That was established by the--

MR. SPROAT. Nuclear Waste Policy Act.

MR. SHIMKUS. By legislators.

MR. SPROAT. That is correct.

MR. SHIMKUS. We said that amount.

MR. SPROAT. Yes.

MR. SHIMKUS. And I think part of the problem that sometimes we have here is--again that was guys like me, a MVA military guy, former high school teacher, no real--there wasn't any--we didn't do any scientific analysis to say 70,000 metric tons, did we?

MR. SPROAT. Not that is apparent to any of us, no. When the environmental impact statement for Yucca Mountain was done, it was analyzed for 120,000 metric ton capacity; so we have already analyzed the environmental impact of storing up to that much in the mountain. What we are asking for in the legislation is that as part of the licensing process, let us do analysis presented to the NRC and let the NRC license--

MR. SHIMKUS. You are proposing that we actually use science to maybe make the debate of what should be stored t there?

MR. SPROAT. Well, that and engineering too.

MR. SHIMKUS. And engineering too. Good. And I would obviously agree with you. I think there is some outside analysis that says that there could be more than 70,000 metric tons. Obviously, there has to be a lot more research, but that would address this second debate which it is going to force your hand should we not do anything which then as Dr. Norwood said would be more money, more time. And I think one of the reasons why we dipped in to the Federal policy makers have used the funds, and it depends on how you talk about budgeting and trust funds and where are the dollars really going because we haven't set a secure policy to even convince ourselves that we are going to build Yucca

Mountain, hence, we can rob and use these other dollars or forestall the tough decisions on spending until we actually see some positive movement that we are going to have to spend these dollars.

I would say it is partly the fault of Federal legislators for not being aggressive and being committed because there is a delay aspect here that a lot of people would like to see to stop progress. So my time has expired. The Chair recognizes my colleague and friend from Massachusetts, Mr. Markey.

MR. MARKEY. I thank the gentleman very much. Mr. Reyes, a 2005 National Academy of Sciences report found that "Under some conditions a terrorist attack that partially or completely drained a spent fuel pool could lead to a propagating zirconium cladding fire and the release of large quantities of radioactive materials to the environment." We know that Al Qaida wants to do that if they can get away with it, hijack a plane, a small plane, and dive bomb into one of these facilities without a containment dome around it. The National Academy concluded that it would be feasible to reduce the risk of a spent fuel fire by rearranging the spent fuel in the pool so that hotter fuel assemblies weren't so densely packed together.

My understanding is that doing such rearranging would not take much time or cost much for the licensees to do. Has the NRC ordered its licensees to take this step or begun a rulemaking to require that it be done?

MR. REYES. All the fuel has been changed accordingly so instead of waiting for Federal processes the utilities understood the recommendation from the National Academy of Science and those pools today reflect that approach. It is called a checkerboard approach where you allow for the heat dissipation to be maximized.

MR. MARKEY. And that is now the policy of every single nuclear power plant in the United States?

MR. REYES. That is correct.

MR. MARKEY. Does that include all of the nuclear power plants that are retired as well?

MR. REYES. They have a different issue there. For example, if you think a facility that has been retired for over 10 years the cooling is at such a point that the academy did not address those because the heat dissipation is not relevant to the issue.

MR. MARKEY. Mr. Reyes, the National Academy also recommended other measures to better secure spent fuel pools from terrorist attacks. Those included, one, limiting the frequency of off loads of full reactor cores into spent fuel pools, two, requiring longer shut downs of the reactor before any fuel is off loaded, three, providing enhanced security when such off loads are made, and, four, development of a redundant and

diverse response system to mitigate loss of pool coolant events that would be capable of operation even if the pool or overlying building were severely damaged. Has the NRC fully implemented each of those recommendations as well?

MR. REYES. Most of those recommendations have been implemented. In fact, in some cases they have been enhanced.

MR. MARKEY. Which of these have you not implemented?

MR. REYES. The particular one about enhancing security during some of the transfers because the security is already there so I think when they wrote--the academy report is kind of dated. We have taken a lot of action since then, but if you take the essence of the recommendations, we have acted on all of them.

MR. MARKEY. Thank you. Thank you very much. Mr. Sproat, on August 16, 2006, the Department's Inspector General issued a report on the Office of the Civilian Radioactive Waste Management's corrective action program. This report found that your office has not been effectively managing and resolving conditions adverse to quality at the Yucca Mountain project, specifically the DOE Inspector General found "over 100 potential conditions were not being managed in the corrective action program which should have been. More than half of the significant planned corrective actions had not been implemented in a timely manner, and corrective actions were not always effective and that conditions continued to recur even after management reported that appropriate corrective actions had been taken."

This DOE IG report is a blistering indictment of your office's management and oversight over the Yucca Mountain project, and it is only the latest of a series of critical reports revealing real problems at the Yucca Mountain project. Just last January the NRC blasted Bechtel for measurements that they were making in corrosion. We could go down the list. In light of the ongoing problems with your existing program and the clear problems in the Department's management why should this committee enact the Administration's proposed bill to further weaken environmental and procedural protections aimed at protecting the environment and insuring a sound scientific and technical evaluation of the site and its ability to be licensed by the NRC?

MR. SPROAT. Congressman, first of all, I would say that I would disagree with your characterization of the proposed legislation as a weakening of the oversight. What we are trying to do is very clear about NRC's maintaining their oversight and control of the licensing process for Yucca Mountain.

MR. MARKEY. You want to exempt Yucca from RCRA, preempt State environmental and public safety laws, deem that waste confidence exists where it does not, and allow for construction to begin before all

licensing questions are addressed. Why should we grant you all of those additional authorities, exemptions, from a process that already apparently doesn't work and further weaken what little public safety and public participation already exist?

MR. SPROAT. Well, how I view the issue that you raise, Congressman, which is a very valid issue, around the effectiveness of the corrective action process and the quality processes within this project over its life, I acknowledge that those problems have existed in the past and still exist to some extent today. And what I am here to tell you is that I am personally invested and involved in fixing them. And the corrective action program, I have been on the job now for 10 weeks. I have been personally involved with meetings on that to get it fixed and fixed right.

MR. MARKEY. And that is good, and I think what you should do is honestly, and I appreciate the difficulty of your job after only 10 weeks, I think that we should have this hearing after you fixed all the problems. Then we should come back and talk about what additional legislative authority we are going to give you. But I think it would really be a mistake for this committee to know that there is an incredible boostering, scalding indictment of existing management of policies and then to give even further latitude to this agency.

And so that would be my point to you, sir. You didn't create the problems, but we have to see how good a job you do in cleaning up the mess.

MR. SPROAT. I understand.

MR. MARKEY. And you can't tell us right now that with 100 percent confidence you are going to be able to do that. So I think that we should wait to be honest with you. It would be the prudent way to go. And that we should deal with these issues in a way that reflects the seriousness of the problem that exists right now. The DOE corrective action program is akin to the Holy Roman Empire. It wasn't holy, it wasn't Roman, and it wasn't an empire, and you can say the same thing about a DOE corrective action program. They just don't exist as they have been examined by the Inspector General, and I think that we should take that into account before we move forward. And I thank you, Mr. Chairman, for your indulgence.

MR. HALL. The Chair recognizes Mr. Barton.

CHAIRMAN BARTON. I am certainly willing to yield to Mr. Otter, who has been here the entire time.

MR. OTTER. I just got back.

CHAIRMAN BARTON. Oh, you just got back too. I don't mind going ahead of you then.

MR. OTTER. I just wanted to say that it wasn't until the Government of Rome got so big that it was no longer an empire. I yield back.

CHAIRMAN BARTON. Mr. Hall, I just have one basic question. I have introduced at the Administration's request the Yucca Mountain bill, and I would like to ask Mr. Sproat how the Senate Energy and Water appropriations line on interim storage would impact their proposal for Yucca Mountain.

MR. SPROAT. At this stage of the game, Congressman, I don't see that proposal having a direct impact on this legislation. I was asked a question earlier as to whether or not if that legislation was passed as is, appropriations language was passed as is, do I have the resources available to me right now to execute that as well as Yucca Mountain. My answer is no. That is probably the best answer I can give you.

CHAIRMAN BARTON. Then it has to impact it. I don't see the House, Mr. Hobson on the appropriations process or myself as the authorizing Chairman saying we will take the money for Yucca and spend it on interim storage. I don't see that happening. We want to get Yucca done and then if we need to do some interim storage in the interim, fine.

MR. SPROAT. We are fully committed to making Yucca Mountain happen. I am fully committed to making it happen and the less distractions I have the better.

CHAIRMAN BARTON. And I assume you wouldn't say it if it is not a true statement, then we need to convince our friends in the Senate to work with us on getting a Yucca bill done as soon as possible.

MR. SPROAT. Yes, sir.

CHAIRMAN BARTON. Because there is a limited amount of money, and the sooner we get the permanent repository the better off we all are with the legislation that funds it and operates it.

MR. SPROAT. We agree.

CHAIRMAN BARTON. Mr. Chairman, that is all I have.

MR. HALL. Thank you, sir. Mr. Otter.

MR. OTTER. Thank you, Mr. Chairman. I want to reiterate in my earlier statement I am fully in support of going forward with Yucca Mountain with all due haste. There were a couple of things you said in your opening statement though that I find concerning. You indicated several things that had to happen and amongst those were the superseding the State's perhaps laws on environment and water and clean air, safety, and a few other things. Maybe my friend, Mr. Markey, threw in a few others that I haven't heard. And you said you thought you had the authority for that.

MR. SPROAT. No.

MR. OTTER. I am just trying to clarify.

MR. SPROAT. Obviously, there are different issues with each of those aspects. For example, on water, the issue there is the State, the legislature, the State of Nevada has declared the Yucca Mountain project not in the public interest, and therefore the State water engineer by law in Nevada cannot give us, the Department of Energy, any water withdrawal permits that we need to construct or operate Yucca Mountain.

MR. OTTER. Yes, and I am glad you brought water up because that was the one that concerned me more than anything else, and I am fully aware that sometimes States will engage in law making to simply stop something that they don't want to happen in their State.

MR. SPROAT. And that has happened in this case.

MR. OTTER. And I wish perhaps in Idaho's case we had done that in a few cases like with wolves. But anyway that is another subject. What does concern me though is have you tried to buy existing water rights from other water users that would have prior rights?

MR. SPROAT. We have been forced to do some temporary water buying from California. We have trucked water in but, as of right now, we have not attempted and we don't have access to other water rights in that area.

MR. OTTER. And you do know how much water you would need and for how long you would need it?

MR. SPROAT. Yes, we do. Yes, we do. The figures I have been told are that during the construction of Yucca Mountain we need the equivalent of 4 days of usage of water by Las Vegas. That is over the 8 to 10 year construction period. Now that equates to a certain number of acre feet, and I don't have that figure with me, but that just gives you some relative sense of the usage that we are anticipating needing during the construction period which is the peak period of water usage. After construction, water usage would drop way down.

MR. OTTER. Well, I am sure that you are familiar with that water in the west is extremely valuable.

MR. SPROAT. Yes, I am.

MR. OTTER. So then I go back when there are existing water rights and there would be existing water rights that either farmers or ranchers themselves would have that would seem to me to be fertile ground for establishing or at least buying temporarily a water right, and especially if it is only 4 days of usage during the construction period that Las Vegas would use, but Las Vegas uses a lot of water. I fully understand that. But on the total scheme of things holding up an entire project for that, especially one as important as this and one as needful as this, I just get a little concerned about giving any Federal agency the authority to take over water rights within a State.

MR. SPROAT. I totally agree. Just for clarification purposes, we are not asking to take over water rights. What we are asking is the Congress to say Yucca Mountain is in the public interest of the country, thereby overriding the State legislature's adverse determination. The legislation will allow us to go to the State water engineer, present our permitting requirements, explain what we need, and allow the State water engineer to make a determination within the State regulatory framework to allocate water to us. Right now we can't even get in the door because the State legislature said it is not in the public interest and the State water engineer can't even review the application.

MR. OTTER. Okay. Well, that is much different than the impression that I got from your opening statement, and I am glad we got that clarification. I have no more questions, Mr. Chairman.

MR. HALL. I think that covers the questions, and we do thank you two gentlemen for your very valuable information and your time. Thank you for your preparation and for attending.

MR. SPROAT. Thank you.

MR. HALL. And we assure you that we will see you again. You are excuse. We will have the second panel. Our second panel this afternoon on the nuclear waste disposal question is the Honorable Sam Wise, Chairman of the Georgia Public Service Commission, from Georgia representing the National Association of Regulatory Utility Commissioners. Also, Ms. Michele Boyd, Legislative Director, Public Citizen, Washington, D.C., Mr. Anthony F. Earley, Jr., Chairman and Chief Executive Officer at the DTE Energy Company, on behalf of the Nuclear Energy Institute. The Honorable Stan Wise, begin.

STATEMENTS OF HONORABLE STAN WISE, CHAIRMAN, GEORGIA PUBLIC SERVICE COMMISSION, ON BEHALF OF NATIONAL ASSOCIATION OF REGULATORY UTILITY COMMISSIONERS; ANTHONY F. EARLEY, JR., CHAIRMAN AND CHIEF EXECUTIVE OFFICER, DTE ENERGY COMPANY, ON BEHALF OF NUCLEAR ENERGY INSTITUTE; AND MICHELE BOYD, LEGISLATIVE DIRECTOR, PUBLIC CITIZEN

MR. WISE. Thank you, Mr. Chairman, Ranking Member, and, Dr. Norwood, thank you for your very kind comments in your opening remarks. I am Stan Wise. I am Chairman of the Georgia Public Service Commission, and I am here today on behalf of the National Association of Regulatory Utility Commissioners, most often referred to as NARUC. In addition, my testimony reflects the views of the Georgia Public

Service Commission. I very much appreciate the opportunity to appear with you this afternoon.

The issues that you are addressing in this oversight hearing are very important to NARUC's membership and to my State, and I am grateful to have this opportunity to present our point of view concerning the disposition of spent nuclear fuel at nuclear power plan sites that is intended for ultimate disposal at the Yucca Mountain geologic repository. I would like to summarize my testimony, and have the full statement entered into the record. We continue to be concerned with delays in progress on the repository program. It has been 4 years since Congress approved developing the Yucca Mountain site and the next major milestone was for Department of Energy to submit a license application to NRC to authorize construction.

And while we had hoped that the license application might occur in 2005 the latest schedule now shows that it will occur no later than June of 2008. That was not welcome news for the directors of the repository program and we must respect his assurance that additional time is needed to provide a defensible and dockable license application. NARUC's primary concern is the need to reform the matter in which the Nuclear Waste Fund is managed. We believe that the repository schedule cannot be met without greater financial resources, and although the Nuclear Waste Fund was well designed and nuclear waste policy as the mechanism for the commercial share of repository disposal cost to be rate payer financed that is not the way that the Fund is currently being used.

In the present fiscal year, $750 million in fees were expected to be paid by utilities from ratepayers into the Fund and yet Congress has appropriated only $99 million for the same period. That means that 87 percent of the fees that are collected are not being used for their intended purpose. We are told that the excess over appropriation is added to the balance on the Nuclear Waste Fund, and that it has grown to over $18 billion. We are concerned that the money is either gone or at best represents a collection of IOUs that future Congresses may or may not appropriate when it is needed to later fund the repository.

Congress has considered various legislative remedies that might make a more direct connection between annual revenue and appropriations. If not, the assurance of the purported balance will be available in the future, but those efforts have fallen short. The Administration now proposes to reform the process with the proposed Nuclear Fuel Management and Disposal Act and whether by this proposal or by some other means it achieves the same objectives we urge the Congress to enact that bill this year and bring greater financial stability to the repository program.

We were disappointed to learn that last week the bill will not be taken up by the Senate this year. There are two other aspects of spent fuel management that are before Congress, and I would like to comment on them. Totally contrary to the intent of the Nuclear Waste Policy Act and existing contracts with utilities to remove spent fuel from reactor sites is Senate 2099. That bill would authorize DOE to take title of spent fuel and dry cask storage and maintain it at reactor sites for unspecified period at a cost that is likely to be in the billions of dollars per year. Keeping the waste on site is not what the utilities and/or the ratepayers have paid over $25 billion for. That bill should be rejected.

Finally, there is a consideration of having the Government provide some form of interim storage away from reactor sites. NARUC has urged Congress and the DOE to consider interim storage for as long ago as it was evident that DOE was not going to meet the 1998 mandate of the waste acceptance set in statute and in contracts. We believe that it would have made more sense to provide the added storage capacity at one or a small number of storage sites ideally designed and built for that purpose rather than to have each utility retrofit additional storage at reactor sites. Since such storage was only made necessary by the continued failure of the Government to meet the disposal schedule we never envisioned that the Nuclear Waste Fund would be used for such expenses.

And when the House proposed last year an interim storage plan for DOE installations on a short schedule, we thought it would be worthwhile although we were concerned that the Nuclear Waste Fund would be used for initial planning. This year the House appropriations bill would provide $30 million, not from the Nuclear Waste Fund, but sought to make storage a part of a broader, integrated spent fuel recycling initiative pursued by DOE. And when the Senate Energy and Water Appropriations bills included the proposal to have DOE search for a site in each State with a commercial nuclear reactor for possible development of an interim storage facility for 25 years for regional facilities it took many States by surprise. I know it did in Georgia.

And as indicated in a letter to Chairman Barton in July, NARUC continues to believe that it might be better to move some spent fuel from the present storage sites to a central location selected and built for safe and secure interim storage, and we question whether that is needed in all 31 States that have reactors. As far as sites go, the Senate bill rules out the two locations that seem to make the most sense, Yucca Mountain and the already licensed private fuel storage facility in Utah.

We need to know more about the cost and benefits before we consider whether it is appropriate to use the Nuclear Waste Fund to pay for interim storage, and until H.R. 5360, or something like it reforms the

Nuclear Waste Fund appropriations process, a dollar spent for interim storage is a dollar not available for developing the repository. There was also a decision in 2002 in the 11th Circuit of the United States Court of Appeals that indicates that the Fund may only be used for disposal of interim storage, and it is not an act of disposal. So let me summarize what we are in favor of in the Nuclear Waste Program.

We urge reform of the Fund so that collected fees are available for their intended purpose as proposed in 5360. DOE needs to press on with the licensing of Yucca Mountain. Central interim storage away from reactor sites that does not interfere with developing a repository and meets as cost benefit test. Research and further study of all aspects of advanced reprocessing as proposed in the GNEP initiative. Infusing a sense of urgency in spent fuel repository development as the other provisions of H.R. 5360 support.

And just so there is no mistake, let me summarize what we are opposed to. The continued diversion of the Nuclear Waste Fund fee payments. Having DOE take title of spent fuel to be retained at reactor storage sites. Use of the Nuclear Waste Fund for interim storage, and certainly not as long as appropriations for interim storage means fewer appropriations for the repository. Putting as many as 31 States through a concurrent site search for interim storage before the cost and benefits of the proposed consolidation and preparation facilities have been determined. Thank you for the opportunity to testify before you today, and I look forward to your questions.

[The prepared statement of Hon. Stan Wise follows:]

PREPARED STATEMENT OF THE HON. STAN WISE, CHAIRMAN, GEORGIA PUBLIC SERVICE COMMISSION, ON BEHALF OF NATIONAL ASSOCIATION OF REGULATORY UTILITY COMMISSIONERS

NARUC supports:

1. Reform of the Nuclear Waste Fund so that collected fees are available for their intended purpose, as proposed in H.R. 5360.
2. DOE needs to press on with licensing the Yucca Mountain repository.
3. Central interim storage away from reactor sites that does not interfere with developing the repository.
4. Research of advanced reprocessing and further study of all aspects of the GNEP initiative.
5. Infusing a sense of urgency in spent fuel repository development.

NARUC strongly opposes:

1. Continued diversion of the Nuclear Waste Fund fee payments.
2. Having DOE take title of spent fuel at reactor storage sites and to retain it there.
3. Use of the Nuclear Waste Fund for interim storage, certainly not so long as appropriations for interim storage would come at the expense of adequate appropriations for the repository

4. Putting as many as 31 States through a concurrent site search for interim storage before the costs and benefits of the proposed "consolidation and preparation" facilities have been determined.

Good Afternoon Mr. Chairman, Ranking Member Boucher, and Members of the Subcommittee.

My name is Stan Wise. I am the Chairman of the Georgia Public Service Commission. I also am the immediate past president of the National Association of Regulatory Utility Commissioners (NARUC). I am testifying today on behalf of NARUC. I greatly appreciate the opportunity to appear before you this morning. The issues that you are addressing in this hearing are very important to NARUC's membership and my State, and I am grateful to have this opportunity to present our point of view concerning the disposition of spent nuclear fuel currently stored at nuclear power plant sites that is intended for ultimate disposal at the Yucca Mountain geologic repository.

I would like to summarize my testimony and have my full statement entered into the record as if fully read.

NARUC is a quasi-governmental, non-profit organization founded in 1889. Its membership includes the State public utility commissions serving all States and territories. NARUC's mission is to serve the public interest by improving the quality and effectiveness of public utility regulation. NARUC's members regulate the retail rates and services of electric, gas, water, and telephone utilities. We are obligated under the laws of our respective States to ensure the establishment and maintenance of such utility services as may be required by the public convenience and necessity and to ensure that such services are provided under rates and subject to terms and conditions of service that are just, reasonable, and non-discriminatory.

NARUC's goals in the nuclear waste area are well known and have been stated before this and other Congressional committees on a number of prior occasions. NARUC believes that the federal government needs to meet its obligation under the Nuclear Waste Policy Act of 1982, as amended, to accept spent nuclear fuel from utilities and other nuclear generators in a timely manner for safe disposal. NARUC further believes that the nation's ratepayers have upheld their end of the bargain struck in the Nuclear Waste Policy Act by providing, either directly or through income generated on prior payments, over $25 billion for use in constructing a nuclear waste repository. Finally, NARUC believes that the Nuclear Waste Fund should only be employed for its intended purpose and that the monies in the Nuclear Waste Fund should be utilized, along with appropriations from the Department of Defense budget, for the sole purpose of supporting the opening of the Yucca Mountain facility in a timely fashion. The basic principles underlying NARUC's approach to the nuclear waste issue provide a solid foundation for future policy decisions concerning the nuclear waste program.

Two years ago, the repository program seemed to be very close to having the repository license application completed for submittal to the Nuclear Regulatory Commission during 2004, but was further delayed due to the need for the Environmental Protection Agency to revise the radiation standard to be used in the license review. In addition, there were some difficulties between DOE and the NRC in meeting the documentation certification requirements of the Licensing Support Network (LSN) that many of us outside the government did not fully understand. And there was the revelation that there may have been some records falsification by some employees of the United States Geologic Survey who had worked on the project. Since then, EPA has issued their proposed revised radiation standard and has concluded the public comment period. We don't know the status of the LSN documentation but the USGS and DOE records investigations seemed to be concluded, with the program scientific work reaffirmed.

NARUC's primary concern with the civilian radioactive waste management program is for Congress to reform the way the Nuclear Waste Fund is managed and the way in which appropriations are made from the Fund. Reform of the Fund appropriations process is necessary to provide a stable financial footing so that the government can fulfill its statutory and contractual obligation to provide safe disposal of spent nuclear fuel and other high-level radioactive waste as was the intent of the Nuclear Waste Policy Act. Although the House Energy and Commerce Committee voted favorably on H.R. 3981 in the previous Congress, the bill never made it to a floor vote and no action was taken in the Senate. We did not consider that a perfect bill (it was only for a five year period) but it would have helped ensure that more of the fee revenue collected by the Fund would actually be appropriated for its intended use. While the FY 2006 budget referred to the Administration's remaining interested in pursuing a similar proposal for reclassification of NWF fees as offsetting collections and discussing it with Congress, no legislation was developed that year.

NARUC's and State utility regulator's prime concern for the repository program remains to reform the Nuclear Waste Fund appropriations process. It is difficult for us to see how the repository program can ever shift into an implementation phase when funding requirements would need to increase by orders of magnitude compared with the pre-licensing phase. Simply put, the repository cannot be built without a more stable financing arrangement. Without the repository, spent nuclear fuel continues to accumulate and be stored in places that were never designed or permitted for indefinite storage. Spent fuel would be stored at 72 locations along rivers and lakes in 34 States instead of in a more secure, well-designed repository. Although we see many favorable signs for investment in new nuclear power plants, including provisions of the Energy Policy Act of 2005, we also continue to hear that lack of a clear path towards disposal of spent nuclear fuel may hold back that investment.

We also need to reform the Nuclear Waste Fund because we owe it to the ratepayers who pay the fees in their electric bill. For the past five years, three quarters of the fees collected for nuclear waste disposal have gone to other unrelated federal purposes. In the current fiscal year, total fee payments into the Nuclear Waste Fund are expected to be $750 million. That compares with $99 million appropriated for the repository program. All that we as utility regulators can show ratepayers is a financial report from the Department of Energy that there is an account in the Treasury called the Nuclear Waste Fund that supposedly has $18 billion in it for the repository program. It is a cruel fact of life that for all practical purposes those funds are inaccessible or already spent. All the ratepayers want is for the government to remove the spent fuel for disposal as they were promised over 24 years ago would already have begun by now.

We are grateful for the leadership of the House Energy and Water Development Appropriations Subcommittee and its unwillingness to simply do nothing last year while the repository license application was delayed and no reform to the Nuclear Waste Fund was in the works. In the markup of the FY 2006 budget, Energy and Water Appropriations Subcommittee Chairman David Hobson sought to add $10 million to initiate an interim storage program using DOE sites that are presumed to already have the security and other support that could accommodate spent fuel from commercial reactors. DOE would take title to and ship utility waste to the unspecified locations that already store similar government radioactive waste. We had many questions about that approach, but it could have been a step in the right direction, especially for spent fuel now stored at 14 shutdown reactor sites. We doubt that any significant quantity could have been moved in FY 2006, as the Subcommittee report indicated, or that much could be done for the $20 million the bill would have appropriated. Of course, when the Senate did not include similar provisions or equal funding, the proposal did not survive in conference.

For FY 2007, the House again took up an interim storage proposal in the appropriations bill, this time adding $30 million, not from the Nuclear Waste Fund, for

development of some undetermined amount of interim storage of spent fuel at "integrated spent fuel recycling facilities" that could be serve as a vanguard for demonstration of spent fuel reprocessing under the Advanced Fuel Cycle Initiative being pursued within DOE as part of the broader Global Nuclear Energy Partnership (GNEP). There was a stipulation in the bill that authorization be obtained for interim storage, since DOE has maintained that it lacked authority to establish interim storage.

Then the Senate Appropriations Committee released its proposal, as Section 313 of the FY 2007 Energy and Water Appropriations Bill (Senate Report 109-274), calling for DOE to propose "consolidation and preparation facilities" for interim storage of spent fuel in each State with a commercial nuclear reactor or, alternatively, regional CAP facilities. We understood Chairman Domenici wanted to stimulate a dialogue on interim storage and to get States involved. A NARUC witness testified at a hearing of the Senate Energy and Natural Resources Committee on August 3rd. States are involved in nuclear waste storage at reactors. In my State, we have utilities expressing great interest in building new nuclear plants to provide emissions-free reliable baseload power for forecasted energy demand. Yet, the utilities indicate they may have difficulty raising capital without greater certainty on nuclear waste disposal. State utility commissioners are also involved in another way: those utilities making payments into the Nuclear Waste Fund pass those costs on to their ratepayers. Since 1983, close to $900 million has been paid into the Fund from Georgia.

We have many questions about the CAP proposal which were conveyed to Chairman Barton in a July 11th letter. Unless DOE is better staffed than I suspect they are, it would seem unlikely that DOE could undertake a delicate site search concurrently in 31 States within the 270 day timeline indicated in the bill. There are environmental impact considerations and the potential for litigation that could slow the process. Are we even sure that every State has a storage deficiency? It is my understanding that once it was apparent that DOE would not meet the 1998 waste acceptance mandate, many utilities resigned themselves to the necessity to develop dry cask storage on-site to supplement pool storage. There is litigation over recoupment of those expenses, but for the active reactors, there has been a steady increase (over 38 so far) of separately licensed dry cask facilities and more are planned.

Governors will want to know how the site search process within their States will proceed. Some States have restrictions on developing new nuclear facilities within the State and, although the factual record on nuclear waste transportation safety is superb, there is nonetheless public concern over transportation and unease over siting that is not likely assuaged by assurances in the bill that the CAP storage would only be for 25 years.

NARUC has supported interim storage away from reactor storage sites for some time, whether by the government or at private facilities provided by the utilities themselves such as proposed at Skull Valley, Utah. In our view, the Nuclear Waste Policy Act does not permit government interim storage to be financed by the Nuclear Waste Fund (Section 302.d.). Some of the expenses relating to waste shipping casks and transportation might be permitted since they could be interpreted as needed for the permanent repository. However, there is a broader question of equity: why should the Nuclear Waste Fund, which is supposed to be used to develop a permanent repository, be used for expenses that could have been avoided had DOE met its statutory and contractual obligations to begin spent fuel acceptance in 1998? This is at the heart of the ongoing litigation by numerous utilities against DOE and it is not anticipated that the Nuclear Waste Fund will be used to make damage payments that may be awarded in those cases.

Also relevant to the use of the Nuclear Waste Fund is the 2002 decision by the Eleventh Circuit of the United States Court of Appeals (*Alabama Power, Carolina Light and Power, et al. v. Department of Energy*) ruling that the Nuclear Waste Fund may only be used for disposal and that interim storage is not an act of disposal.

Last year, the House Appropriations Report (109-086) called for DOE to initiate a plan to begin spent fuel reprocessing (or re-cycling) in FY 2007. Members of the Committee are familiar with the history of reprocessing in this country and the experiences in other countries. We know the 2001 National Energy Plan recommended that the subject be re-visited, and that DOE has an Advanced Fuel Cycle Initiative as part of a research effort to look at what to many is an intuitively appealing goal of "recycling" used fuel. Yet technology, economics, environmental and proliferation concerns remain. Testimony by industry and academic experts before the House Science Committee last July also suggested there are many economic and other questions to be addressed. We will leave that for others to sort through, but I want make a single point here: There is no known reprocessing method in use today or likely to be developed in the future that does not result in some quantity of high-level radioactive waste that will require disposal in a repository. Therefore, whether we reprocess in this country or not, we will still need a repository like Yucca Mountain. Put another way, reprocessing is not an alternative to building a repository, as much as some might wish it to be. There may be less waste if we reprocess and it may be of different toxicity, but it still must be isolated from the human environment. All of the countries that reprocess know this and are planning long-term disposal.

Moreover, the repository design that is being proposed for Yucca Mountain does not preclude a future decision to retrieve any or all spent fuel emplaced in it for reprocessing (or other reasons) until the decision is made to seal the repository, which, according to DOE, could be anywhere from 50 to 300 years in the future. If spent nuclear fuel is indeed an energy asset, Yucca Mountain will be an ideal place to store it until needed.

With the FY 2007 Department of Energy Budget, Secretary of Energy Samuel Bodman announced the initiative called the Global Nuclear Energy Partnership (GNEP.) It has many dimensions and purposes, but one that we are interested in is the suggestion that if advanced forms of reprocessing and recycling of spent nuclear fuel were to be developed under the GNEP vision, that the amount of nuclear waste requiring disposal might be greatly reduced and its radiation characteristics would be hazardous over a much shorter period of time. We are interested in learning more about the proposal and its feasibility in terms of achievable technology, economics, environment and non-proliferation considerations. It is too new for us to take a position on the matter until we learn more, but our existing policy remains current. In 2000, we revised our Nuclear Waste Guiding Principles to include: "Reprocessing of spent fuel may be worthy of research, but, even if feasible, does not eliminate the need for a permanent repository." Accordingly, we support the research proposed for GNEP and the Advanced Fuel Cycle Initiative in the FY 2007 DOE budget request. It appears to be a worthwhile investment that could pay dividends down the road while investigating the feasibility of proliferation-resistant reprocessing.

We have been troubled by the legislative proposal to have the Department of Energy take title to spent nuclear fuel at commercial reactor sites and manage it there for some unspecified time, as in S. 2099. We see press reports that the scheme would be financed by the Nuclear Waste Fund and we also interpret the real objective is to somehow—with no clear terminating point—keep the spent fuel where it is instead of building the repository. Obviously, to abandon the repository would require amendment or possibly repeal of the Nuclear Waste Policy Act. Proponents of this proposal seem to disregard the finding in the Nuclear Waste Policy Act that "Federal efforts during the past 30 years to devise a permanent solution to the problems of civilian radioactive waste disposal have not been adequate." Instead, they would have us revert to that Square One posture.

We have been careful to avoid any suggestion that continued spent fuel storage at reactor sites is not as safe and secure as the Nuclear Regulatory Commission maintains that it is, but in our view, the proposal to have DOE take title and manage spent fuel at present reactor storage sites is not consistent with the "compelling national interests" that

former Secretary of Energy Spencer Abraham referred to when he recommended Yucca Mountain as a suitable repository site to the President and Congress in 2002. He said, and we agree, that the repository is important to homeland security.

We strongly oppose the suggestion that the government take title to spent fuel which would remain at 72 reactor sites instead of going to a repository. That is not what was promised in the Nuclear Waste Policy Act and reaffirmed by Congress in a joint resolution in 2002, and it is most certainly not what ratepayers have paid $25 billion in fees and interest over the past 22 years to achieve.

Before I conclude, there is one other item to discuss. We urge strong leadership on the part of the Department of Energy and its support contractors to keep this much-delayed repository program moving forward. We have expressed our frustrations in the past with the chronic underfunding and series of delays that have troubled the program. DOE needs to work its way through whatever else needs to be done to put the repository licensing back on course. We commend the positive spirit and determination of Mr. Edward Sproat, the new director of the Office of Civilian Radioactive Waste Management, when he announced the revised schedule in July and we wish him and the repository team well in meeting that schedule. We appreciate EPA for meeting the challenge of responding to the court remand with its proposed revised radiation standard. Although we disagreed with extending the regulatory period to one million years, EPA did meet the mandate of the court and it is time to issue the final rule. We have been aware that during the license application delay, DOE has been conducting a re-examination of repository plans. We saw some of the results of what is termed "program re-direction" in a press release last October. A change in approach was described as being "simpler, safer and more cost-effective," mostly as a result of a shift to standardized spent fuel canisters that will allow significant changes in fuel handling at the receipt facilities at Yucca Mountain. We certainly applaud cost savings, improved safety and the prospect of reducing the licensing complexity, but we have two concerns that we want to pursue:

1. Will these changes further delay the license application and how will that affect eventual repository operational dates? The revised schedule showing initial waste disposal in 2017 is predicated on a number of variables including adequate funding.
2. How will DOE and the utilities be able to ensure that all spent fuel presently stored at reactor sites (up to the current planned amount of 63,000 metric tons) will be able to be transferred into the standardized canisters? Spent fuel is increasingly being stored in sealed canisters in dry casks that will either have to be accepted as is or have the contents transferred to the standard canisters.

Finally, NARUC has not taken a position on the other elements of the proposed Nuclear Fuel Management and Disposal Act (H.R. 5360), aside from our support for the Nuclear Waste Fund reclassification proposal. In general, we find the other provisions to be helpful for the overall goal of licensing, building and operating the repository. We agree that the 70,000 metric ton statutory limit on the repository capacity is arbitrary and the proposal to have the capacity be among the elements of the license review by the Nuclear Regulatory Commission makes sense. We have always urged DOE to plan and eventually conduct the spent fuel transportation in cooperation with other federal, State, tribal and local governments and, to the best of our knowledge the Department is planning to do that as required by the NWPA and as has been done successfully in previous nuclear waste shipments. We were disappointed to hear that Senator Domenici indicated last week that the counterpart Yucca Mountain bill (S. 2589) will not be taken up in the Senate this year.

Let me summarize what we support:

1. Reform of the Nuclear Waste Fund so that collected fees are available for their intended purpose, as proposed in H.R. 5360.

2. DOE needs to press on with licensing the Yucca Mountain repository.
3. Central interim storage away from reactor sites that does not interfere with developing the repository.
4. Research of advanced reprocessing and further study of all aspects of the GNEP initiative.
5. Infusing a sense of urgency in spent fuel repository development.

And, let me summarize what we strongly oppose:

1. Continued diversion of the Nuclear Waste Fund fee payments.
2. Having DOE take title of spent fuel at reactor storage sites and to retain it there.
3. Use of the Nuclear Waste Fund for interim storage, certainly not so long as appropriations for interim storage would come at the expense of adequate appropriations for the repository
4. Putting as many as 31 States through a concurrent site search for interim storage before the costs and benefits of the proposed "consolidation and preparation" facilities have been determined.

Thank you for the opportunity to testify before you today. I look forward to your questions.

MR. HALL. The Chair recognizes Mr. Earley, Chairman and Chief Executive Officer of the DTE Energy Company for 5 minutes. Try to summarize and then we will question. Thank you.

MR. EARLEY. Mr. Chairman and members of the committee, thank you. My name is Tony Earley, and I am Chairman and CEO of the DTE Energy Company headquartered in Detroit. I am here today not only in my capacity as the owner of a nuclear power plant, but also as Chairman of the Nuclear Energy Institute, the trade association for the U.S. nuclear industry. I want to thank you for the opportunity to express our strong support for H.R. 5360, and I want to say that I agree with the priorities identified by Mr. Sproat in his remarks.

This legislation would be another step forward in the country's quest to manage and dispose of used nuclear fuel and high level waste. You all understand how vital nuclear power is to the energy policy of our country. You know that 20 percent of our electricity is produced from nuclear power plants. It is a safe, environmentally friendly, and economic source of power and it is critical that we expand the use of this technology. The United States has shown remarkable leadership in this field in the last half century since the passage of the Atomic Energy Act of 1954, but we are in danger of losing that leadership in nuclear technology. China, India, and other Pacific Rim countries race to build more nuclear plants.

As indicated earlier, it has been over a decade since the last U.S. nuclear plant came on line, but fortunately momentum is changing. Thanks to the visionary leaders in our industry and your work with the Energy Policy Act last year, NEI member companies have spent over $1.5 billion in planning the next generation of nuclear reactors over the

last several years. But that momentum will be lost unless we make progress on the nuclear waste front at a faster pace than we have seen in the last two and a half decades since the passage of the Waste Policy Act. That is why passage of H.R. 5360 is so important. I can tell you from conversations with my fellow CEOs, unless progress is made on nuclear waste issues, spending on plants will slow and could eventually grind to a halt.

On the other hand, if the Department of Energy makes visible and measurable progress implementing a national used fuel management strategy companies will be willing to move ahead. I can't emphasize enough that the nuclear industry believes that the Yucca Mountain repository is an essential component of any such strategy. Let me just mention three important provisions that we support. First, waste confidence. As responsible business leaders, CEOs of nuclear companies must have confidence that nuclear waste issues will be handled appropriately. It is not only socially responsible but it is legally required by the NRC.

Waste confidence, however, is a national policy determination, not an issue that ought to be litigated in each plant licensing proceeding. H.R. 5360 reiterates our country's commitment to do the right thing with respect to nuclear waste. Second, we need to reclassify the Nuclear Waste Fund. H.R. 5360 deals with the chronic funding problem that has plagued Yucca Mountain for years. Ironically, it is not a lack of cash as has been mentioned earlier. Customers of the nuclear utilities have paid $27 billion into the waste fund, only 9 billion has been spent.

H.R. 5360 has provisions to insure that funding for nuclear waste solution will not be held hostage to budgetary maneuvering. Finally, we need to clarify the licensing process. The bill includes important provisions that will give more certainty to licensing process for a nuclear waste repository. I will tell you I have first-hand experience on how the NRC licensing process can be used to thwart national energy policy. As a participant in the decades long, multi-billion dollar struggle to license the Shoreham nuclear plant in New York, I know that streamlined licensing processes are absolutely crucial.

These and other provisions are welcomed by the industry, but we also urge the committee to consider several other steps that would add to the value of H.R. 5360. I have discussed these in my written testimony, and I ask that they be included in the record, but I will highlight just a few. As Chairman of NEI and member of its executive committee for over 5 years, I can tell you our top priority is getting Yucca licensed and built but from a symbolic, legal, and policy standpoint having DOE take title and start to move fuel from reactor sites would be a huge step forward.

It would reaffirm the Government's commitment to meet the obligation of the Nuclear Waste Policy Act, halt the continued growth and monetary damages, and be consistent with both long-term storage plans at Yucca and potential developments in reprocessing. I have heard the committee's well-founded concerns, and I want to make it clear as my testimony indicates we do not support the proposal in H.R. 4538 for multiple sites, but we do know that Americans love common sense solutions, and a carefully crafted, tightly focused interim storage plan could address the very real concerns expressed by the committee members and yet continue to make progress on the nuclear waste front.

We believe the program should have a very limited number of interim storage sites. We agree with Mr. Norwood's comments. One of them ought to be at Yucca. We also want to look at other sites that would be consistent with future proposals for reprocessing technology, and if we included incentives for voluntary participation, we believe that there are a small number of sites that would be willing to participate. We need to recognize that while the Nuclear Waste Fund could be used to pay for the small number of interim storage sites it should not be used to finance the developing of reprocessing or other technologies.

And finally we do need to provide the NRC with the necessary resources and appropriate management focus to get the job done. But I want to emphasize that this should not be done without losing focus on the ultimate goal, and that is the functioning repository at Yucca Mountain. Another provision we ask you to consider is nuclear waste disposal contract issues. Utilities are required to enter into a contract. Those contracts that were signed in the 1980s are outdated and Congress should direct that those new contracts consistent with the current realities be used.

So I want to end by thanking the committee for the opportunity to testify. I know you are faced with important decisions that will influence the role of nuclear power in the United States in the future, and I urge you to continue to insure that nuclear energy is a viable option for our country. Thank you.

[The prepared statement of Anthony F. Earley, Jr. follows:]

PREPARED STATEMENT OF ANTHONY F. EARLEY, JR., CHAIRMAN AND CHIEF EXECUTIVE OFFICER, DTE ENERGY COMPANY, ON BEHALF OF NUCLEAR ENERGY INSTITUTE

Mr. Chairman and members of the Committee, my name is Tony Earley.

I am Chairman and Chief Executive Officer of DTE Energy headquartered in Detroit. DTE Energy is a diversified energy holding company that owns, among other companies, the Detroit Edison Company, which serves over 2 million customers in southeast Michigan. One of our most important electric generating assets is the 1130 MW Fermi 2 nuclear power plant which has been a workhorse of our system since 1988.

As we look to the future, there is a growing need for baseload generation across the United States. In Michigan, our Fermi plant was the last baseload plant to come on line. Our state has identified a need to make significant generating additions in the next decade. At Detroit Edison, we are actively engaged in planning studies analyzing the possibility of building a second nuclear plant at our Fermi site. While there are many issues to consider before proceeding with a new nuclear plant, plans for the management and disposal of nuclear waste are critical to the decision making process.

I come here today not only in my capacity as the CEO of a company that owns a nuclear plant, but also as Chairman of the Nuclear Energy Institute (NEI). NEI is the trade association of the U.S. nuclear industry. Our membership includes the owners of all U.S. nuclear power plants, as well as a large majority of the firms that supply equipment and technical expertise to the industry.

Thank you for this opportunity to express the nuclear energy industry's strong support of H.R. 5360, the Nuclear Fuel Management and Disposal Act. I also will address additional provisions that we believe would strengthen the legislation's goal to enhance the management and disposal of used nuclear fuel and high-level radioactive waste, to ensure protection of public health and safety, and to ensure the territorial integrity and security of the repository at Yucca Mountain.

Summary

In keeping with the scope of this hearing, I will focus my testimony on these key issues:

- The Department of Energy (DOE) must make visible and measurable progress in implementing an integrated national used nuclear fuel management strategy. The Yucca Mountain, Nevada, repository is a critical component of any such integrated strategy. This progress will help ensure that the expanded use of nuclear energy will play a key role in our nation's strategy for meeting growing electricity demand.
- H.R. 5360 can play a key role in establishing a solid basis for making necessary progress toward addressing the challenges facing the Yucca Mountain project, as well as helping set the stage for new nuclear plants.
- Congress should add additional legislative provisions to H.R. 5360 to support the removal of used fuel from commercial nuclear plant sites as soon as possible, together with steps to accelerate development of new technological approaches that would substantially benefit approaches toward the disposal of used fuel.

Nuclear Energy Must Play a Key Role in Our Energy Future

In his 2006 State of the Union address, President Bush affirmed the nation's commitment to "safe, clean nuclear energy" as part of a diverse portfolio that will meet America's future electricity needs. A long-term commitment to nuclear energy will make the United States more energy independent and ensure diversity of energy sources. The Administration and Congress demonstrated strong leadership by enacting the Energy Policy Act of 2005. This legislation encourages diversity of energy sources, including emission-free sources of electricity, such as nuclear energy.

The United States has demonstrated remarkable leadership in advancing the commercial use of nuclear energy. Its 103 reactors have achieved record levels of safety, reliability and efficiency. I am convinced that nuclear energy offers a clean, reliable and cost-effective answer to many of our nation's current and future energy needs. Nuclear energy offers several unique advantages. It is the only expandable baseload energy source that does not emit carbon or other greenhouse gases into the atmosphere during operation. Nuclear energy safely and reliably provides price stability for electricity customers as the prices for fossil fuels fluctuate. It also provides exciting new

opportunities in areas such as hydrogen production. It is essential that nuclear energy maintain at least the current 20 percent contribution to U.S. electricity production. Maintaining that level of production will require construction of a significant number of new nuclear plants beginning in the next decade.

There is strong, bipartisan support for a continuing significant role for nuclear power. More than two-thirds of the public supports keeping nuclear energy as a key component of our energy portfolio. Many in the environmental community recognize and endorse the role that nuclear energy can play in controlling greenhouse gas emissions. The industry appreciates the recognition of nuclear energy's importance that Congress and the Administration demonstrated in last year's comprehensive Energy Policy Act of 2005.

Recently, a new coalition of diverse organizations and individuals has been formed to educate the public on nuclear energy and participate in policy discussions on U.S. energy issues. The Clean and Safe Energy Coalition, co-chaired by Greenpeace co-founder Patrick Moore and former Environmental Protection Agency Administrator and New Jersey Governor Christine Todd Whitman, includes business, environmental, labor, health and community leaders among its more than 430 members.

The Need for Legislative Action

To realize fully the benefits that nuclear power offers, however, the country must resolve outstanding issues related to the ultimate disposal of used nuclear fuel. Ratepayers across America have paid more $27 billion into the Nuclear Waste Fund, and continue to pay an additional $750 million each year. However, DOE has yet to move used fuel from reactor sites as required by the Nuclear Waste Policy Act. It is, in fact, eight years behind schedule in meeting its statutory obligation. Moreover, electricity customers have had to finance costly on-site storage facilities.

The causes for the failure of the federal used nuclear fuel program to date are well-documented. The fundamental problem, however, lies not with the authorizing legislation that Congress enacted 25 years ago. It is, rather, a failure to implement that legislation, as evidenced by a failure to appropriate sufficient funds for the repository and by a failure to follow-through on a consistent commitment to develop the repository. Although new legislation to amend the Nuclear Waste Policy Act is paramount, it is even more critical that the federal government commit itself to the implementation of existing law.

The nuclear energy industry is encouraged by the ambitious schedule announced by DOE on July 19, 2006, for submission of the license application by June 30, 2008, and the "best-achievable" construction schedule that could have the repository begin receiving used fuel in March 2017. The industry encourages DOE to submit the application as soon as possible so the Nuclear Regulatory Commission (NRC) review can begin.

Although DOE's announcement of a schedule for licensing the repository is a significant development, experience suggests that the schedule will be difficult to achieve without congressional action in a number of areas:

- Congress' providing appropriations consistent with Administration requests
- an NRC construction authorization decision consistent with the timelines contained in the Nuclear Waste Policy Act
- any necessary Federal or state authorizations or permits for the repository and the transportation system
- DOE's achieving a nuclear culture consistent with that needed to be a successful NRC licensee.

Enactment of the Nuclear Fuel Management Disposal Act, H.R. 5360, with the amendments we propose, as spelled out below, will help advance several of these important objectives.

H.R. 5360 Supports the Future Role for Nuclear Power in Our National Energy Strategy

Waste Confidence Is Affirmed

The nation must be confident that policies are in place to ensure the safe and secure storage and disposal of used nuclear fuel. This waste confidence determination is reflected in NRC rules requiring an NRC finding of "waste confidence" to support various licensing decisions. However, such an approach creates uncertainty because NRC regulations and licensing decisions are subject to litigation, and the issue is one of public policy, not regulatory or technical determination.

Section 9 of H.R. 5360 takes the very important step of codifying the waste confidence rule. This will help avoid potential contentions in individual plant licensing proceedings over the timing and certainty of DOE's performance with respect to its obligations. We strongly support this important step in creating certainty for major new investments by the nuclear industry in response to Congress' Energy Policy Act of 2005.

Managing the nation's used fuel is a firmly established federal obligation and, as such, is a matter of broad national policy under the purview of the elected representatives of our country's people. There is solid scientific and technical justification to affirm waste confidence. In 2001, the National Academy of Sciences confirmed four decades of international scientific consensus that geologic disposal is the best method for managing used nuclear fuel. Congress approved a geologic disposal site at Yucca Mountain in 2002.

In the Energy Policy Act, Congress included provisions that encourage the construction of new nuclear power plants, demonstrating public confidence in the nation's ability to manage used reactor fuel in the future. In addition, DOE has safely operated a geologic disposal site for transuranic radioactive waste near Carlsbad, New Mexico—the Waste Isolation Pilot Project.

Issues regarding the timing and certainty of DOE's performance toward meeting its statutory obligations should be resolved in repository proceedings, or in Congress. Litigation of such issues as part of individual plant licensing proceedings is neither efficient nor appropriate. The NRC has long recognized that individual plant licensing proceedings should not be burdened with debates over DOE's development of the repository. Congress should codify "waste confidence" as called for in H.R. 5360, so that the NRC need not address this broad public policy matter in routine licensing proceedings.

Artificial Constraints on Repository Operations Are Eliminated

Currently, a statutory limit of 70,000 metric tons (MT) exists on the amount of nuclear waste material that can be accepted at Yucca Mountain. The environmental impact statement for the project analyzed emplacement of up to 105,000 MT of commercial used fuel in the repository. Additional scientific analyses suggest significantly higher capacity could easily be achieved with changes in the repository configuration that use only geology that has already been characterized and do not deviate from existing design parameters. Advanced nuclear fuel cycle technologies could provide significant additional capacity for disposing of waste products in Yucca Mountain.

Decisions on licensing and operations of a deep geologic repository at Yucca Mountain should be based on scientific and engineering considerations through DOE technical analyses and the NRC licensing process, not on artificial constraints. Given the

decades of study and the billions of dollars invested in Yucca Mountain, it makes sense that we fully and safely utilize its full potential capacity, rather than developing multiple repositories when there is no technical reason to do so. H.R. 5360 will allow the nation to do just that by lifting the artificial 70,000 MT capacity limit.

H.R. 5360 Includes Key Provisions for Yucca Mountain Progress

Offsetting Collections Reclassification Will Enhance Funding Predictability

Congress established the Nuclear Waste Fund to cover costs associated with disposal of commercial used nuclear fuel. This fund is paid for by a one-tenth-of-a-cent-per-kilowatt-hour fee on electricity used by consumers of nuclear energy. Congress has routinely failed to appropriate to the repository program the total fees paid into the Nuclear Waste Fund in that year. Further, restrictions on the federal budget have prevented fees collected, but not appropriated, in one year from being appropriated in subsequent years.

As a result, Yucca Mountain budget requests have been cut by more than $1 billion over the past decade. Program funding requirements are forecast to increase substantially over the next few years. If overall spending totals remain flat, even more significant delays could result, not because nuclear power consumers have not provided the funds necessary to support the program, but because of inappropriate federal budget accounting.

To date, consumers of nuclear power have committed more than $27 billion in fees and accrued interest into the fund. They continue to pay at a rate of $750 million each year. However, only some $9 billion has been spent on the project, leaving a balance in excess of $18 billion. In recent years, fee income has significantly exceeded the annual spending from the fund.

H.R. 5360 would reclassify prospective annual fees so that appropriations up to the full amount of fee revenues for any year would not be limited by discretionary spending caps. Although this approach would be a major step forward, we believe that Congress also should reaffirm the compact with ratepayers in the Nuclear Waste Policy Act and provide that any appropriation for the program could be offset by balances in the Nuclear Waste Fund, whether derived from prospective fees or past fees and interest. This approach has been advocated consistently by the leadership of this Committee from both sides of the aisle.

In addition, we believe it is important for the Congress to act to maintain the integrity of the Nuclear Waste Fund. We support amending H.R. 5360 to define clearly that only activities directly contributing to meeting the federal government's obligation under the Nuclear Waste Policy Act can be supported from the Nuclear Waste Fund. This includes expenditures related to transportation, storage and disposal of used fuel and high-level waste.

Advanced research on energy technologies has consistently been funded through general revenues, and there is no reason research on advanced technologies in processing used nuclear fuel—such as those contemplated under the President's Global Nuclear Energy Partnership (GNEP) program—should be financed any differently. The nuclear industry is deeply appreciative of the amendment successfully offered by Chairman Barton to the fiscal 2007 Energy and Water Development appropriations bill in the House. This amendment prohibits funding from the Nuclear Waste Fund to support GNEP. We believe this should be incorporated into permanent law.

Additionally, Congress should reaffirm its authority over any changes in the Nuclear Waste Fund fee by requiring such changes be made by statutory amendment.

H.R. 5360 Will Enhance Clarity and Stability in the Licensing Process

The NRC repository licensing process should be restructured to ensure that the proceedings are prioritized properly. First, a reasonable, but finite, schedule for review of the authority to "receive and possess" fuel is needed following approval of the construction license. This would be consistent with an established schedule for the initial review of the construction license application and could avoid dilatory procedural challenges that would undermine the government's ability to meet its contractual obligations and avoid the significant costs of delay.

Second, clarification must be provided as to what activities are authorized to develop used fuel management infrastructure prior to the NRC granting a construction license, including the construction of a rail line to connect the Yucca Mountain site with the national rail network. Regulatory authority for the transportation system needs to be clarified as well.

Third, the hearing process for the authorization to receive and possess fuel should be simplified to provide for clear and concise decision-making.

Finally, several key areas need clarification. These include land management and regulations that apply to repository construction and operations. In addition, there is a need to clarify which agencies will administer those regulations.

H.R. 5360 addresses each of these issues to increase the prospect that the "best-achievable" schedule announced by DOE can be met.

Congress Should Consider Additional Steps to Promote Comprehensive Used Nuclear Fuel Management

While industry fully supports H.R. 5360 and believes its enactment would be a major milestone in implementing our national strategy for managing used nuclear fuel, we believe Congress should include a number of additional provisions in comprehensive legislation.

DOE Should Move Used Nuclear Fuel From Reactor Sites as Soon as Possible

The industry's top priority is for the federal government to meet its statutory and contractual obligation to move used fuel from operating and decommissioned reactor sites. The government already is eight years delayed in meeting this obligation, and it will be at least another decade before the repository is completed. That failure is the subject of more than 60 lawsuits. These lawsuits potentially expose the federal government to billions of dollars in judgments and settlements.

Further delays in federal receipt and movement of used nuclear fuel and defense waste products will only add to utility damage claims. According to DOE, these delays will increase taxpayer liability for defense waste site life-cycle costs and Yucca Mountain fixed costs.

While DOE moves forward to license, construct and operate the Yucca Mountain repository, the government must take title to used fuel and move it to secure federal facilities as soon as practicable. A number of proposals have been made to address the issue of "interim or temporary storage."

The best approach would be for the federal government to begin to move fuel in proximity to the planned repository at the Nevada Test Site.

We urge the Congress to evaluate alternative interim storage proposals. We recommend the following principles:

- Minimize the number of interim storage sites to reduce costs and maximize efficiencies of consolidation.
- Provide host site benefits ideally linking interim storage to recycling and reprocessing technology development as an incentive for voluntary participation.

- Recognize that, while the Nuclear Waste Fund could be used to pay for this interim storage, it should not be used to develop the complementary technology.
- NRC must be provided with the necessary resources and appropriate management focus.

It appears that one or two temporary storage sites that provide benefits desired by the host state and community are the appropriate approach. Industry experience demonstrates that such facilities can be sited, licensed and constructed on an expedited schedule. We are encouraged that DOE has advised Congress, in its solicitation for prospective sites for nuclear fuel recycling facilities, that there will be, of necessity, some temporary storage of used nuclear fuel involved. Several communities have expressed initial interest in participating in such a project. We believe Congress should work with DOE, industry and potential host sites to determine what steps will best facilitate the movement of used fuel from utility sites, including appropriation mitigation benefits, and incorporate appropriate provisions into H.R. 5360.

Both House and Senate Energy and Water Development appropriations bills for fiscal 2007 have provided direction on this issue. Although clear interest exists in looking at options for early movement of fuel, no option has demonstrated that it is politically and technically workable and could be accomplished in a timely manner. We believe a cooperative and supportive host site is critical to meeting these criteria.

The industry does not believe that the "take title" approach suggested in H.R. 4538 by any measure either meets the government's statutory obligation or provides any benefit. The requirement in that legislation that all used fuel at reactor sites be moved immediately into dry cask storage could add up to $800 million a year over five years to the costs of producing nuclear energy. Regardless of the temporary storage strategy chosen, it is critical that those activities not divert attention and resources from repository development.

New Reactor Waste Disposal Contract Issues Need to Be Addressed

As utilities prepare to license and construct new nuclear power plants, it is important that appropriate changes be made in the Standard Contract for Disposal of Spent Nuclear Fuel and/or High-Level Radioactive Waste originally established by rulemaking (10 CFR, Part 961) to reflect developments since these contracts were originally drafted in the 1980s. While the language in both the Nuclear Waste Policy Act and disposal contracts allows an existing contract to be amended adding new plants, DOE's failure to perform, and the subsequent litigation, has created a situation where this option may be difficult to execute. Instead, the preferred path forward would be to enact legislation directing DOE to enter into new disposal contracts for new nuclear plants that are consistent in form and substance with the existing disposal contracts, but which take into account the schedule for the operation of new plants. In particular, the 1998 deadline in the existing contracts should be revised in contracts executed for new plants.

Congress also should consider steps that could facilitate early resolution of future claims by utilities against the federal government for its continuing failure to meet its obligations under the Nuclear Waste Policy Act.

Yucca Mountain Licensing Process Should Provide Flexibility to Address Future Developments

As provided by existing regulations, Congress should direct DOE to incorporate features into its repository development plans that maintain flexibility for future generations to make informed decisions based on operational experience, changing energy economics and technological developments. It should be made clear that it was

always the intent that the repository design retains the ability to monitor and, if needed or desired, retrieve the used fuel.

The nuclear energy industry supports enhancements to the Yucca Mountain repository that would provide greater long-term assurance of safety and permit DOE to apply innovative technology at the repository as it is developed. These enhancements include:

- extensive monitoring of the used nuclear fuel placed in the repository and its effects on the surrounding geology for 300 or more years
- the ability to retrieve the used nuclear fuel from the facility for an extended period
- periodic review of updates to the repository license that take into account monitoring results and ensures that the facility is operating as designed.

DOE already has committed to facilitate the use of these elements in its repository planning. According to DOE's final environmental impact statement, for a period of 50 to 300 years, the federal government will "collect, evaluate and report on data" to assess the performance of the repository and the ability to retrieve the used fuel within the facility, if desired. In addition to monitoring material within the facility, DOE will conduct tests and analyses to ensure that the repository is constructed and operated according to strict guidelines. Although DOE is pursuing these elements, Congressional direction on the proposed enhancements would provide greater certainty on the scientific and regulatory oversight of long-term repository operation and the condition of the material stored there.

Doing so would require no modification to the existing federal statutory or regulatory framework. DOE could include these enhancements as part of its "receive and possess" application and the commitment to complete them should be incorporated as a condition of the NRC license.

This direction will offer greater assurance to the public that long-term stewardship of used fuel at Yucca Mountain will be carefully monitored throughout repository operation. It also would allow DOE to take advantage of future technological innovations to improve the repository or provide for the potential reuse of the energy that remains in the fuel.

Yucca Mountain's Public Health, Safety Standard Should Be Consistent With Regulatory Precedents

We believe that the revised 1 million-year radiation standard proposed by the Environmental Protection Agency would be fully protective of public health and the environment, and that the repository design could meet such a standard. Nonetheless, we are deeply concerned that the potential for an extended rulemaking review process and subsequent litigation could result in yet more costly, unnecessary delays in the Yucca Mountain project. In addition, given the significance of the issue, we believe it is important for Congress to address the matter directly.

Congress should carefully consider the inherent uncertainties in establishing regulations extended over such an unprecedented period. This approach could have unintended effects on regulatory standards for other non-radioactive and radioactive hazardous materials. We advocate incorporating a 10,000-year regulatory standard in legislation. Such a compliance period is consistent with that prescribed for all radioactive waste requiring disposal in other geologic repositories. The million-year standard applies only to Yucca Mountain.

The 10,000-year standard, for example, applies to long-lived waste, such as transuranic waste at the Waste Isolation Pilot Plant. The 10,000-year standard also applies to land disposal of non-radioactive hazardous waste by means of underground injection. In fact, the 10,000-year standard is considerably greater than other, analogous

regulatory compliance periods. These include 500 years for the land disposal of low-radioactive waste; and 1,000 years for the decommissioning of NRC licensed nuclear facilities.

Adaptive Staging

The 2003 report of the National Research Council of the National Academy of Science, "One Step at a Time." recommended the use of adaptive staging for repository development. While there are elements of this concept that appear attractive, we have significant concerns that the specific processes recommended in the report could unduly complicate and delay repository licensing and operations due to lack of certainty in decision making.

Used Nuclear Fuel Recycling

The nuclear energy industry has shown consistent and strong support for research and development of advanced fuel-cycle technologies incorporated in the Advanced Fuel Cycle Initiative (AFCI). In anticipation of a major expansion of nuclear power in the United States and globally, it is appropriate to accelerate activities in this program. The resurgence in development of nuclear energy is expected to require advanced fuel cycles. However, regardless of the success of AFCI technology, a repository will be necessary to handle defense waste, as well as commercial used nuclear fuel and its byproducts, regardless of any fuel cycle that is ultimately developed.

President Bush has presented a compelling vision for a global nuclear renaissance through the GNEP. This initiative provides an important framework to satisfy U.S. and world needs for an abundant source of clean, safe nuclear energy while addressing challenges related to fuel supply, long-term radioactive waste management, and proliferation concerns. As recently introduced by DOE, it may be possible that currently available technologies could be used creatively to jump-start the development of the needed advanced nuclear fuel cycle technologies.

We appreciate the steps that DOE has taken to solicit industry views on the timing, direction and defining roles of interested parties in the Global Nuclear Energy Partnership. The extensive response the Department received to its Expression of Interest last week, and additional input it will receive in the coming months, will help DOE and Congress make more-informed decisions on the best way to proceed with research and development of these technologies.

We recognize that Congress has important questions regarding this program. DOE's near-term focus for GNEP is to determine, by 2008, how to proceed with the demonstration of advanced recycling technologies and other technological challenges. We also recognize that special attention must be given to how facilities would be licensed and the potential impact this could have on NRC resources for major licensing actions on new plants and Yucca Mountain in parallel periods. Consequently, the industry fully supports increased funding for AFCI in fiscal 2007. However, neither AFCI nor GNEP reduces the near-term imperative to develop the Yucca Mountain repository.

A Constructive Role for Nevadans

The nuclear energy industry supports an active and constructive role for Nevada in the development of Yucca Mountain to help ensure the safety of its citizens. The industry also supports compensation for the State to account for the program's socioeconomic impact, as called for in the Nuclear Waste Policy Act. This model is consistent with the siting and operation of the Waste Isolation Pilot Plant.

The industry is encouraged by the steps DOE has taken to work with affected local governments in the State, and we further encourage DOE to expand its interactions with Nevadans interested in constructive engagement in the project. The industry urges the Congress to include provisions in H.R. 5360 to foster these developments.

Conclusion

We must never lose sight of the federal government's statutory responsibility for civilian used nuclear fuel disposal, as stated by Congress in the Atomic Energy Act of 1954 and the Nuclear Waste Policy Act of 1982. The industry fully supports the fundamental need for a repository so used nuclear fuel and the byproducts of the nation's nuclear weapons program are managed safely and securely in a specially designed, underground facility. World-class science has demonstrated that Yucca Mountain is an eminently suitable site for such a facility.

A viable used fuel management strategy is necessary to retain long-term public confidence in operating existing nuclear power plants and in building new nuclear power plants to meet our nation's growing electricity needs, and to fuel our economic growth. The public confidence necessary to support construction of new nuclear plants is linked to successful implementation of an integrated national used fuel policy, which includes a continued commitment for the long-term disposition of used nuclear fuel. This requires a commitment from the Administration, Congress and other stakeholders to ensure that DOE makes an effective transition from a scientific program to a licensing and construction program, with the same commitment to safety. New waste management approaches, including temporary storage and nuclear fuel recycling, are consistent with timely development of Yucca Mountain.

Enactment of H.R. 5360, with the amendments we have advocated, is the critical prerequisite to implementing our national policy for used fuel management.

MR. HALL. Thank you very much. The Chair recognizes Ms. Boyd, Legislative Director, Public Citizen, for 5 minutes, please. Thank you.

MS. BOYD. I would like to thank the Chairman and the members of the subcommittee for the opportunity to testify on issues related to nuclear waste storage and disposal. My name is Michele Boyd, and I am the Legislative Director of Public Citizen's Energy Program. Public Citizen is a 35-year-old public interest organization with over 100,000 members nationwide. We represent consumer interests through research, public education, and grassroots organizing.

Five years after the September 11 attacks, Congress has yet to implement safeguards that address our must vulnerable and dangerous security threat, the storage of highly radioactive spent fuel from commercial nuclear reactors. If any of the many spent fuel pools in the United States were breached through a terrorist attack or any other action, the health, environmental, and economic consequences could be catastrophic. National focus should be on addressing the immediate threats from vulnerable spent fuel storage, not on wasting resources on a failed repository program, a dangerous reprocessing plan, or interim away from reactor storage of waste. The most sensible action in the near-term is to require hardened on-site storage.

Clearly, the United States does not have a near-term solution for the permanent storage of spent fuel. DOE's flawed scientific and quality assurance practices have repeatedly cast serious doubt on the validity of the work performed at Yucca Mountain. The Administration's proposed Nuclear Fuel Management and Disposal Act fails to address any of the

project's fundamental problems. Instead, this bill overrides public health and safety laws and eliminates the role of science in determining whether or not Yucca Mountain can safely isolate nuclear waste for hundreds of thousands of years, as is required under the law.

This bill should not be enacted as it would be another failed attempt to prop up this deeply flawed project. In February the U.S. Department of Energy announced the Global Nuclear Energy Partnership as a research and development program to develop advanced recycling technologies that would in theory postpone the need to license additional geological repositories until the next century. International and U.S. experience, however, clearly shows that reprocessing at fast reactors are not going to solve our Nation's radioactive waste problem. Rather, reprocessing would dramatically increase the threat from and complexity of dealing with our nuclear waste.

Reprocessing would also undermine U.S. global nonproliferation efforts and cost U.S. taxpayers at least $100 billion. For the foreseeable future reprocessing and plutonium fuel use simply does not make sense economically, environmentally, or from a national security perspective. With no permanent repository for nuclear waste, attention has turned to dry cask interim storage. According to a 2006 study by the National Research Council, dry casks were designed to store waste, not to resist terrorist attacks. The NRC has granted interim storage licenses at 42 sites but it has not considered the environmental impacts of an attack at any of those sites.

Significantly, a recent 9th Circuit Court decision rejected the NRC's claim that the National Environmental Policy Act does not require terrorism considerations. The current interim fuel storage proposals in the Senate and House fiscal year 2007 Energy and Water Appropriations bills also fail to address the security threats posed by dry cask storage. Away from reactor interim storage would not meaningfully reduce the number of locations where spent fuel is located and it would increase the transportation risk to the public. Instead of interim away from reactor storage the focus should be on improving the security of spent fuel at the sites.

The Bush Administration and Congress have urged Americans to pay greater attention to and take more responsibility for our national security. It is with that in mind that citizens and public interest groups have developed what we are calling the principles for safeguarding nuclear waste at reactors, which are being release today for the first time. I would like to submit for the record the list of 94 national and grassroots groups from 37 States that have signed on to these principles thus far.

The key elements of the principles are to, first, require a low-density, open-frame layout for spent fuel pools, which could allow enough air

circulation to keep the fuel from catching fire in the event of a water loss in the pools due to an attack or an accident. Establish hardened on-site storage or HOSS for the waste removed from the pools. The overall objective of HOSS should be that the amount of releases projected in even severe attacks should be low enough that the storage system would be unattractive as a terrorist target.

Protect fuel pools to withstand an attack by air, land, or water from a force at least equal in size and coordination to the 9/11 attacks. Require periodic review of HOSS facilities and fuel pools and dedicate funding to local and State governments to independently monitor the site. And, finally, prohibit reprocessing. The Spent Nuclear Fuel On-Site Storage Security Act of 2005, which was introduced in both the House and the Senate by the Nevada and Utah delegations would be a good basis for incorporating these principles into law. I thank you again for the opportunity to testify in front of this committee.

[The prepared statement of Michele Boyd follows:]

PREPARED STATEMENT OF MICHELE BOYD, LEGISLATIVE DIRECTOR, PUBLIC CITIZEN

I would like to thank the Chairman and members of the Subcommittee on Energy and Air Quality for the opportunity to testify on issues related to nuclear waste storage and disposal. My name is Michele Boyd and I am the Legislative Director of Public Citizen's Energy Program. Public Citizen is a 35-year old public interest organization with over 150,000 members nationwide. We represent consumer interests through research, public education and grassroots organizing.

Five years after the September 11 attacks, Congress has yet to implement safeguards that address our most vulnerable and dangerous security threat – the storage of highly radioactive spent fuel from commercial nuclear reactors in fuel pools. If any of the many spent fuel pools in the United States were breached through terrorist attack or any other action, the health, environmental, and economic consequences could be catastrophic. National focus should be on addressing the threats from this waste, not on wasting resources on a failed repository program, a dangerous reprocessing program, or interim away-from-reactor storage. The most sensible action in the near-term is to require hardened on-site storage.

I am going to start with a discussion of the proposed geologic repository at Yucca Mountain in Nevada, followed by the Global Nuclear Energy Partnership (GNEP) and the proposal for interim storage. I will conclude with a plan developed by national and grassroots public interest groups to address the urgent need to protect the public from the threats posed by the current vulnerable storage of commercial spent fuel. Unlike the other proposed "solutions," this proposal could be implemented in the near-term and would dramatically increase the safety of spent fuel for decades to come.

Yucca Mountain

Clearly, the United States does not have a near-term solution for the permanent storage of high-level nuclear waste. The U.S. Department of Energy's (DOE) recent estimate of when Yucca Mountain will begin accepting waste is overly optimistic, because it does not factor in delays due to funding limitations or litigation and ignores the scientific problems with the site. Nor does DOE have a current estimate of how much the

Project will cost. Energy Secretary Bodman stated in February that DOE "may never have an accurate prediction of the cost."[1]

Even under DOE's optimistic scenario, the proposed geologic repository at Yucca Mountain is not predicted to begin receiving waste until at least 2017. Transporting all of the waste to the site then would take more than 30 years. Meanwhile, spent fuel at reactor sites remains vulnerable to accidents and attacks for decades.

DOE's flawed scientific and quality assurance practices have cast serious doubt on the validity of the work performed at Yucca Mountain. Quality assurance (QA) is crucial to sound science and engineering, especially for a project employing thousands and spanning several decades. QA is used to verify methods and results, and is the very backbone of scientific research and engineering design. Since 1988, the Government Accountability Office has issued eight reports repeatedly criticizing DOE's quality assurance and model validation programs. An August 2006 report by the DOE's Office of Inspector General concluded that DOE's Corrective Action Program to identify and resolve the ongoing QA problems "was not effectively managing and resolving conditions adverse to quality at the Yucca Mountain Project," including omitting problems from the Corrective Action Program, failing to implement the corrective actions in a timely manner, and failing to solve the underlying problem even when implemented.[2]

New cases of scientific misconduct continue to surface. Some of the more recent revelations include:

- In January 2006, the NRC staff released a critical report of a Bechtel SAIC LLC (BSC) audit made last fall at Lawrence Livermore National Laboratory. The Bechtel audit was on research related to corrosion rates of the metals to be used to construct the waste packages and drip shields. The NRC found that researchers incorrectly measured the amount of corrosion on the metals, and overestimated the ability of the metals to isolate nuclear waste in engineered packages. The NRC also found that researchers failed to calibrate equipment, used equipment beyond its verifiable accuracy range, and referenced cancelled documents. According to the NRC's audit report, "the NRC observers questioned whether the corrosion data could be considered technically sound and defensible."[3] Because of the problems NRC discovered, DOE issued a stop work order on all cask research.
- In December 2005, DOE instructed BSC, its main contractor, to cease engineering work and safety assessment on key areas of design, including the redesign of the surface facility. This order was the result of QA and design control deficiencies, which were revealed by a whistleblower.[4] Despite Bechtel's failings, DOE nevertheless extended its contract for another year, with an option for a second year.
- In March 2005, it was revealed that U.S. Geologic Survey (USGS) scientists studying water infiltration and climate at Yucca Mountain in Nevada altered and omitted various data related to QA of the modeling of water flow through the ground at Yucca Mountain. Faster water movement will cause increased amounts of radioactive waste to migrate more rapidly through the ground to the

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[1] Matthew L. Wald, "Big Question Marks on Nuclear Waste Facility," *New York Times*, February 14, 2006.

[2] U.S. Department of Energy, Office of Inspector General, "Audit Report: Office of Civilian Radioactive Waste Management's Corrective Action Program," August 2006, DOE/IG-0736, http://www.ig.doe.gov/pdf/IG-0736.pdf.

[3] U.S. Nuclear Regulatory Commission, "U.S. Nuclear Regulatory Commission Observation Audit Report No. OAR-05-05, Observation Audit Of Bechtel SAIC Company, LLC Internal Audit BQAP-BSC-05-07," January 9, 2006.

[4] Jeff Beattie, "Quality Control Issues: DOE Stops Work On Key Parts of Yucca Mountain," *The Energy Daily*, Volume 34, Number 6, January 10, 2006.

aquifer. DOE hired Sandia National Laboratory to create new infiltration models redo all of the infiltration analyses that were a primary basis for its 2002 Yucca Mountain Site Recommendation.

The Administration's proposed "Nuclear Fuel Management and Disposal Act" (H.R. 5360 and S. 2589) has the goal to "facilitate the licensing, construction and operation" of Yucca Mountain, but in fact it fails to address any of the project's fundamental problems. Rather, this bill is about overriding public health and safety laws and eliminating the role of science in determining whether Yucca Mountain can safely isolate nuclear waste for hundreds of thousands of years, as is required under the law. This bill is fundamentally contrary to the findings and purposes of the Nuclear Waste Policy Act (section 111), including a finding "to ensure that such waste and spent fuel do not adversely affect public health and safety and the environment for this or future generations." Specifically, the bill:

- Weakens Public Health and Environmental Laws: If enacted, the bill would waive state and local air quality laws at the site, and preempt states' traditional authority to manage its waters, setting an alarming precedent for other DOE projects and sites. The bill would undermine the National Environmental Policy Act (NEPA) by exempting DOE from having to consider the need for the action, alternative actions, or a no-action alternative—the key analyses of an environmental impact statement—and legislating that any action related to the site is "beneficial" *before* an analysis of the action has been done under NEPA.
- Preempts State and Tribal Rights: All authority over the transportation of radioactive waste would be given to DOE, contrary to the National Academy of Sciences' recommendation that state, local, and tribal governments must play a central role in waste transportation.[5] The bill would pre-empt *all states'* authority over the management of hazardous, mixed, low-level, and transuranic wastes under the Resource Control and Recovery Act (RCRA) if that waste is stored or transported in NRC-certified containers, as is the waste transported to and stored at the Waste Isolation Pilot Plant (WIPP) in New Mexico.
- Politicizes Scientific and Technical Decisions: The bill would codify NRC's Waste Confidence Rule that there will be permanent disposal available for spent fuel "in a timely manner," thereby bypassing what should be a scientific and technical determination. This sets up the federal government for additional lawsuits by the nuclear industry for failing to meet its commitments. It also rewards DOE's mismanagement of the Yucca Mountain project with direct access to future revenue into the Nuclear Waste Fund, and allows an unlimited amount of waste to be dumped at the site, despite the lack of scientific site characterization information necessary to support such a decision.

This bill should not be enacted, as it would be another failed attempt to prop up this failed project.

Reprocessing

When the Global Nuclear Energy Partnership (GNEP) was first announced in February of this year, the U.S. Department of Energy presented it as "a comprehensive strategy to increase U.S. and global security, encourage clean development around the world, reduce the risk of nuclear proliferation, and improve the environment."[6] The

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[5] National Research Council of the National Academies, *Going the Distance? The Safe Transport of Spent Nuclear Fuel and High-Level Radioactive Waste in the United States*, 2006.

[6] U.S. Department of Energy, *The Global Nuclear Energy Partnership: Greater Energy Security in a Cleaner, Safer World*, http://www.gnep.energy.gov/pdfs/06-GA50035b.pdf.

program was presented to Congress largely as a research and development program to develop "advanced recycling technologies" that would postpone the need to license additional geologic repositories for the nation's high-level waste until the next century. The key components of a reprocessing and reuse program include reprocessing plants, fuel fabrication facilities, and fast reactors, none of which have proven to be commercially successful technologies in the United States or abroad.

Since then, the program has morphed several times. In the most recent reincarnation announced in August, DOE is now proposing to two tracks:

1. Building a commercial-scale reprocessing plant and a fast neutron reactor that uses plutonium fuel with existing or soon-to-be-developed technologies.
2. Researching and developing transmutation fuel and its use in fast reactors.

In other words, DOE is proposing to jettison most of its research on "advanced recycling technologies" and to skip demonstration facilities using what DOE claimed would be cleaner and "proliferation-resistant" technologies.

U.S. and international experience clearly shows that reprocessing is not going to solve our nation's radioactive waste problem. Rather, reprocessing would dramatically increase the threat from, and complexity of dealing with, nuclear waste from power plants; undermine U.S. global nonproliferation efforts; and cost U.S. taxpayers at least $100 billion.

Reprocessing was first used in the United States in the 1940s, as part of the government's program to separate plutonium for nuclear weapons. The U.S. Department of Energy estimates that it will cost over $100 billion to clean up the reprocessing waste at three nuclear weapons sites in the states of Washington, Idaho, and South Carolina.[7] This waste threatens to contaminate the Columbia River and the Savannah River, two of the most important water resources in the country. The only U.S. commercial reprocessing facility was located in West Valley, N.Y. It was an economic and environmental failure, closing in 1972 after taking six years to reprocess spent fuel that was initially expected to take one year. It left behind a $5.2 billion cleanup project that is still on-going more than 30 years later.[8]

International experience is no better. France, England, Russia, India, and soon Japan are the only countries in the world that have commercial reprocessing facilities. China is in the design phase of a pilot facility. All of these programs are heavily subsidized by their governments. A July 2000 report commissioned by the French government concluded that reprocessing and plutonium fuel are uneconomical, costing nearly $1 billion more each year for plutonium fuel use (in 20 of its 58 reactors) compared to a "once-through" fuel cycle.[9] Last year, 20 tons of uranium and plutonium leaked from a pipe at the U.K. government-owned THORP reprocessing plant. The plant, which was losing money even when operational, remains closed and its future is uncertain. Meanwhile, the Japanese company, Japan Nuclear Fuel Ltd., recently started up its Rokkasho reprocessing plant, which took 15 years to build and cost US $20 billion, three times more than initially estimated.

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[7] United States General Accounting Office, Report to the Chairman, Subcommittee on Oversight and Investigations, Committee on Energy and Commerce, House of Representatives, Nuclear Waste: Challenges to Achieving Potential Savings in DOE's High-Level Waste Cleanup Program, GAO-03-593, June 2003.

[8] U.S. Department of Energy, West Valley Demonstration Project Draft Waste Management Environmental Impact Statement, May 2003.

[9] Annie Makhijani, "French Report Doubts Merits of Reprocessing and MOX," *Science for Democratic Action Vol.9 No.2*, February 2001, http://www.ieer.org/sdafiles/vol_9/9-2/charpin.html.

Commercial reprocessing worldwide has resulted in about 250 metric tons of separated plutonium, which is vulnerable to theft.[10] This is equivalent to more than 30,000 nuclear bombs. When GNEP was first proposed in February 2006, DOE stated that it did not want to use reprocessing technology that results in separated plutonium. According to Clay Sell, Deputy Secretary of Energy, on February 16, 2006:

It is our goal to develop a technology that allows us to recycle in a way that is proliferation resistant. And when I say proliferation resistant, what I mean is pure plutonium is not separated as part of the recycling process; *it is bound together with the other long-life actinides which makes the material of a sufficient quantity and of a sufficient heat load that concerns about diversion as a proliferation matter are greatly reduced*, so that is a key technology that we seek to develop in partnership with our international partners -- advanced recycling.[11] [Emphasis added]

The two reprocessing technologies (UREX+ and pyroprocessing) that DOE is researching are not "proliferation-resistant," because the resulting plutonium mixes from these technologies are not sufficient to prevent theft. Moreover, both technologies can easily be undone to obtain pure plutonium using the old, 1940s technology (PUREX). Now, however, DOE is proposing to use a technology that results in a mix of plutonium with uranium, which is even less proliferation-resistant than UREX+. According to the International Atomic Energy Agency, plutonium-uranium mixtures are "direct use materials" and must be secured like separated plutonium.[12]

According to a 1996 report by the National Research Council, costs of reprocessing and transmutation of spent fuel that has already been discharged by existing U.S. reactors "easily could be more than $100 billion" (1996 dollars).[13] The French reprocessing firm Areva hired The Boston Consulting Group to issue a report on the cost of reprocessing and plutonium fuel use in light-water reactors. The report concludes that reprocessing is economically comparable to the once-through cycle, but it relies on unrealistic assumptions that do not reflect real-world experience, such as assuming that the facility will continuously operate at full capacity with no technical problems or other delays and that its capacity can be increased significantly without a large increase in capital or operating costs.[14] Notably, the Boston report contains the following disclaimer:

This report was prepared by The Boston Consulting Group at the request of AREVA. BCG reviewed publicly available information and proprietary data provided by AREVA, but did not undertake any independent verification of the facts contained in those source materials. Changes in these facts or underlying assumptions could change the results reported in this study. *Any other party using this report for any purpose, or relying on this report in any way, does so at their own risk. No representation or warranty, express or implied, is made in relation to the accuracy or completeness of the*

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[10] Steve Fetter and Frank N. von Hippel, "Is U.S. Reprocessing Worth the Risk?", *Arms Control Today*, September 2005, p. 6-12. Irradiated fuel is extremely radioactive, which acts as a protective barrier to theft of plutonium. Separated commercial plutonium can be used to make nuclear weapons and so-called "dirty bombs."

[11] Clay Sell and Robert Joseph, Presentation on the Global Nuclear Energy Partnership (GNEP) at the Foreign Press Center Briefing, Washington, DC, February 16, 2006, http://fpc.state.gov/fpc/61808.htm.

[12] IAEA Safeguards Glossary 2001 Edition, http://www-pub.iaea.org/MTCD/publications/PDF/nvs-3-cd/PDF/NVS3_prn.pdf.

[13] U.S. National Research Council, Committee on Separations Technology and Transmutation Systems, *Nuclear Wastes: Technologies for Separations and Transmutation*, National Academy Press, Washington DC (1996), http://newton.nap.edu/catalog/4912.html

[14] *Economic Assessment Of Used Nuclear Fuel Management In The United States*, Prepared by the Boston Consulting Group for AREVA, July 2006, http://www.bcg.com/publications/files/2116202EconomicAssessmentReport24Jul0SR.pdf

information presented herein or its suitability for any particular purpose. [Emphasis added.]

DOE is proposing to use fast reactors to convert long-lived waste into shorter-lived waste in order to reduce the amount of time that the radioactive waste is dangerous and must be stored in a geologic repository. But this process, called transmutation, is plagued by serious technical problems, such as low rates of conversion from long- to short-lived waste, unproven fuel fabrication systems, and dangers to workers making the fuel.

Countries, including the US, have been trying to develop fast reactors for 50 years and the results have all been technical and economic failures. Over twenty fast reactors have been built since 1951 in seven countries, all of which have been funded through government programs. Eleven of the reactors were large-scale designs (over 100 megawatt-thermal), eight of which have been shut down as of 2006. Only three reactors still operate: the French Phènix reactor, the Russian BN-600 reactor, and the small experimental Joyo reactor in Japan.

Fast reactors are more prone to accidents than light water reactors because they operate with faster-moving neutrons than light water reactors, making them more difficult to control. In the United States, the Fermi 1 fast reactor near Detroit had a partial nuclear meltdown in October 1966 and a sodium explosion in 1970. The reactor was closed in 1972. The French and Russian reactors also have had safety problems, such as leaking highly flammable sodium. A serious accident at the fuel fabrication facility for the Japanese plant resulted in the death of two workers in 1999. Except for the Russian reactor, fast reactors have operated less than 50 percent of the time as a result of the ongoing safety problems.

More than $100 billion has been spent globally in the past 50 years on fast reactor construction, reprocessing and other efforts to make plutonium a viable reactor fuel.[15] More than $25 billion of that has been spent in building fast reactors.[16] Due to the materials and the complexity of the design, the cost of building fast reactors is significantly higher than the cost of light water reactors. The Superphénix reactor in France cost $9.1 billion to construct; the smaller Monju reactor in Japan cost $5.9 billion.

To achieve GNEP's goal to reduce the volume of waste that must be stored in a geologic repository, the U.S. would need approximately one fast reactor to every three light water reactors. This would cost an additional $80 to $100 billion for 20 to 25 fast reactors to transmute the waste from the current 103 operating reactors.[17] Given the $12 billion in subsidies and tax breaks, along with other incentives, that it has taken to convince U.S. utilities to build new reactors (and not a single utility has fully committed at this point), these fast reactors would require massive taxpayer subsidies.

I would like to thank the House of Representatives for cutting $130 million for GNEP in the FY2007 Energy and Water Development Appropriations Act (H.R. 5427). Existing technology and our current level of knowledge do not provide direct paths to nuclear recycling. For the foreseeable future, GNEP is not a program that will reduce amounts of high-level nuclear waste. Rather than being a part of the nuclear waste disposal solution, GNEP will be a costly new problem for the future.

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[15] Arjun Makhijani, *Plutonium End GameManaging Global Stocks of Separated Weapons-Usable Commercial and Surplus Nuclear Weapons Plutonium*, Institute for Energy and Environmental Research, January 2001, p.27, http://www.ieer.org/reports/pu/index.html.

[16] Ibid., p.21.

[17] Thomas Cochran and Christopher Paine, Peddling Plutonium: Nuclear Energy Plan Would Make the World More Dangerous, Natural Resources Defense Council, March 2006.

Private Fuel Storage

Without a permanent repository available in the near-term, there has been interest in away-from-reactor dry cask interim storage of spent fuel. The only site to be licensed by the Nuclear Regulatory Commission for away-from-reactor interim storage is Private Fuel Storage (PFS) located on the Reservation land of the Skull Valley Band of Goshutes in Utah, which now appears unlikely to open. On September 7, 2006, the Bureau of Land Management denied a right-of-way for a rail line to the site and a proposal to transport the waste with heavy-haul trucks. More than 4,500 letters, primarily from people from Utah opposed to the facility, were sent to the BLM.

The Bureau of Indian Affairs also denied approval of the PFS lease of the tribal land, listing among other concerns:

- inadequate law enforcement support for the site,
- the lack of a transportation alternative,
- uncertainty about the availability of a permanent repository, and
- the lack of an analysis on the environmental impacts of a terrorist attack.

In a recent federal court decision, *San Luis Obispo Mothers for Peace, et al. v. United States*, the Ninth Circuit Court rejected the NRC's claim that the National Environmental Policy Act (NEPA) does not require consideration of the environmental effects of potential terrorist attacks. The four grounds that the NRC used to justify its claim were based on factors it used in rejecting the State of Utah's contention that the environmental impacts of terrorism should be analysed in the PFS EIS. The NRC had ruled that (1) the possibility of a terrorist attack is far too removed from the natural or expected consequences of agency action; (2) because the risk of a terrorist attack cannot be determined, the analysis is likely to be meaningless; (3) NEPA does not require a "worst-case" analysis; and (4) NEPA's public process is not an appropriate forum for sensitive security issues. The Ninth Circuit Court concluded:

In sum, none of the four factors upon which the NRC relies to eschew consideration of the environmental effects of a terrorist attack satisfies the standard of reasonableness.

In its decision on the PFS lease, the BIA reviewed the Ninth Circuit Court decision and concluded that "the court's sweeping rejection of the same factors NRC relied on in rejecting the State of Utah's contention in the PFS licensing proceedings leaves us distinctly unsatisfied at best that the effects of a terrorist-initiated event have been given adequate consideration."[18]

Interim storage proposals in the FY2007 Energy and Water Appropriations Bills

According to a 2006 study on spent nuclear fuel storage by the National Research Council, "dry casks were designed to ensure safe storage of spent fuel, not to resist terrorist attacks."[19] The NRC has not analyzed the environmental impacts of a terrorist attack for any of the 42 sites for which it has granted dry cask storage licenses. The current proposals in the Senate and House FY2007 Energy and Water Appropriations bills also fail to address the security threats posed by dry cask storage.

The Senate version of the FY2007 Energy and Water Appropriations bill (H.R. 5427) contains an authorizing provision that requires states with nuclear reactors to designate at least one site in that state for 25-year interim waste storage, called a Consolidation and Preparation (CAP) facility. The House FY2007 Energy and Water Appropriations bill (H.R. 5427) requires DOE to "conduct a voluntary, competitive

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[18] Bureau of Indian Affairs, *Record of Decision for the Construction and Operation of an Independent Spent Fuel Storage Installation (ISFSI) on the Reservation of the Skull Valley Band of Goshute Indians (Band) in Tooele County, Utah*, September 7, 2006, page 22.

[19] National Research Council of the National Academies, Safety and Security of Commercial Spent Nuclear Fuel Storage: Public Report, 2006, page 64.

process to select one or more interim storage sites" by either re-issuing Request for Expressions of Interest for GNEP (interim storage at the "integrated recycling facilities") or issuing a new Request for Proposals for interim storage alone.

There are numerous reasons why away-from-reactor storage is not even a temporary waste solution. First, creating away-from-reactor surface storage sites would not meaningfully reduce the number of locations where high-level radioactive waste is stored, as long as most commercial nuclear power plants remain in operation for decades to come. Nuclear waste generated at nuclear power plants must be stored on site for at least five years to thermally cool and radioactively decay before it can be transported off site. Thus, any operating reactor will inevitably have at least five years' worth of irradiated nuclear fuel – approximately 100 tons – stored on site.

Second, rather than reduce risks, centralized interim storage would increase transport risks to public health, safety, and security. Centralized interim storage would double the number of waste shipments required, and greatly increase the number of shipment miles to be driven, because the waste would eventually need to be transported from the interim site to a permanent site. According to a February 2006 National Academy of Sciences study on the transport of nuclear waste, "an independent examination of the security of spent fuel and high-level waste" needs to be performed "*prior to* the commencement of large-quantity shipments."[20] [Emphasis added] The NAS report also concluded that "extreme accident conditions involving very-long-duration fires could compromise" waste shipping containers and advised that the U.S. Nuclear Regulatory Commission (NRC) do additional analyses of such accident scenarios.

Third, interim storage at DOE sites would be contrary to legal agreements made with States and tribes. DOE has committed to cleaning up these sites, not adding more pollution to them. In addition, DOE sites are not licensed by the NRC for commercial nuclear waste storage. The only exception is at the Idaho National Engineering Laboratory, which has a storage license limited to nuclear fuel debris from the Three Mile Island nuclear reactor accident.

Fourth, given the extreme difficulty faced in opening this country's first permanent repository, it is unlikely that additional or alternative repository space will be available soon. Thus, "interim" storage sites would become long-term "overflow parking" for high-level radioactive wastes with nowhere else to go. In its decision to reject the lease for PFS, the Bureau of Indian Affairs concluded that the "uncertainty concerning when the SNF [Spent Nuclear Fuel] might *leave* trust land, combined with the [Interior] Secretary's practical inability to remove or compel its removal once deposited on the reservation, counsel disapproval of the proposed lease."[21]

Tucked into a large appropriations bill, the Senate's CAP provision would result in a sweeping change to the country's nuclear waste policy without hearings or public debate. It also provides an unreasonably short timeline: only 9 months to choose sites, potentially in all 31 states with nuclear power reactors, and a total of only 3½ years for siting and licensing of those sites. The bill also limits the scope of NEPA review to the 25-year license period, which is contrary to 35 years of NEPA practice and does not represent the actual long-term effects that could occur.

The bill also codifies the NRC's Waste Confidence Rule by concluding that a permanent disposal for the waste would be available "in a timely manner." As described in the section on the Administration's proposed Yucca legislation, codifying Waste Confidence would not change the reality that we do not have a viable, permanent solution

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[20] National Research Council of the National Academies, *Going the Distance? The Safe Transport of Spent Nuclear Fuel and High-Level Radioactive Waste in the United States*, 2006.

[21] Bureau of Indian Affairs, *Record of Decision for the Construction and Operation of an Independent Spent Fuel Storage Installation (ISFSI) on the Reservation of the Skull Valley Band of Goshute Indians (Band) in Tooele County, Utah*, September 7, 2006, page 29.

for nuclear waste. In its decision on PFS, the BIA found that "The Commission's 1999 Waste Confidence Decision restated the 1990 prediction that a permanent facility might be available sometime within the first quarter of the 21st Century, but cited no compelling additional support for that contention."[22]

Thus far, at least four Governors, the Coalition of Northeastern Governors, and 10 Attorneys General have sent letters in opposition to the Senate provision. The National Conference of State Legislators, the National Association of Counties, the National League of Cities, and the U.S. Conference of Mayors have also urged that the Senate CAP provision be removed from the final bill.

Moving commercial irradiated nuclear fuel to indefinite "interim" surface storage at DOE or other sites would simply create the illusion of a waste solution. Instead, the safety and security of waste storage at reactor sites across the U.S. should be improved. Away-from-reactor storage of spent fuel, as proposed in both the House and Senate versions of the FY2007 Energy and Water Appropriations bill, should be rejected.

So what should be done to protect the public from the threats posed by the current vulnerable storage of commercial spent fuel? Public interest groups from around the country have developed *Principles for Safeguarding Nuclear Waste at Reactors*, which are being released for the first time today. The Spent Nuclear Fuel On-Site Storage Security Act of 2005, introduced in both the House (H.R. 4538) and Senate (S. 2099) by the Nevada and Utah delegations, is a good basis for incorporating these principles into law.

Principles for Safeguarding Nuclear Waste at Reactors

The following principles are based on the urgent need to protect the public from the threats posed by the current vulnerable storage of commercial irradiated fuel. The United States does not have a near-term solution for the permanent storage of high-level nuclear waste. The proposed Yucca Mountain site is unsafe for geologic storage of nuclear waste and the program remains mired in bad science, mismanagement, and yet another design overhaul. Even if licensed, Yucca Mountain could not legally contain all of the waste produced by existing reactors. Under the U.S. Department of Energy's unrealistically optimistic scenario, Yucca Mountain is not predicted to begin receiving waste until at least 2017 and transporting waste to the site would take more than 30 years. Meanwhile, irradiated fuel at reactor sites remains vulnerable to accidents and attacks.

The undersigned organizations' support for improving the protection of radioactive waste stored at reactor sites is a matter of security and is in no way an indication that we support nuclear power and the generation of more nuclear waste.

- **Require a low-density, open-frame layout for fuel pools:** Fuel pools were originally designed for temporary storage of a limited number of irradiated fuel assemblies in a low density, open frame configuration. As the amount of waste generated has increased beyond the designed capacity, the pools have been reorganized so that the concentration of fuel in the pools is nearly the same as that in operating reactor cores. If water is lost from a densely packed pool as the result of an attack or an accident, cooling by ambient air would likely be insufficient to prevent a fire, resulting in the release of large quantities of radioactivity to the environment. A low-density, open-frame arrangement within fuel pools could allow enough air circulation to keep the fuel from catching fire. In order to achieve and maintain this arrangement within the pools, irradiated fuel must be transferred from the pools to dry storage within five years of being discharged from the reactor.

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[22] Bureau of Indian Affairs, *Record of Decision for the Construction and Operation of an Independent Spent Fuel Storage Installation (ISFSI) on the Reservation of the Skull Valley Band of Goshute Indians (Band) in Tooele County, Utah*, September 7, 2006, page 28.

- **Establish hardened on-site storage (HOSS):** Irradiated fuel must be stored as safely as possible as close to the site of generation as possible. Waste moved from fuel pools must be safeguarded in hardened, on-site storage (HOSS) facilities. Transporting waste to
  interim away-from-reactor storage should not be done unless the reactor site is unsuitable for a HOSS facility and the move increases the safety and security of the waste. HOSS facilities must not be regarded as a permanent waste solution, and thus should not be constructed deep underground. The waste must be retrievable, and real-time radiation and heat monitoring at the HOSS facility must be implemented for early detection of radiation releases and overheating. The overall objective of HOSS should be that the amount of releases projected in even severe attacks should be low enough that the storage system would be unattractive as a terrorist target. Design criteria that would correspond to the overall objective must include:
  - Resistance to severe attacks, such as a direct hit by high-explosive or deeply penetrating weapons and munitions or a direct hit by a large aircraft loaded with fuel or a small aircraft loaded with fuel and/or explosives, without major releases.
  - Placement of individual canisters that makes detection difficult from outside the site boundary.
- **Protect fuel pools:** Irradiated fuel must be kept in pools for several years before it can be stored in a dry facility. The pools must be protected to withstand an attack by air, land, or water from a force at least equal in size and coordination to the 9/11 attacks. The security improvements must be approved by a panel of experts independent of the nuclear industry and the Nuclear Regulatory Commission.
- **Require periodic review of HOSS facilities and fuel pools:** An annual report consisting of the review of each HOSS facility and fuel pool should be prepared with meaningful participation from public stakeholders, regulators, and utility managers at each site. The report must be made publicly available and may include recommendations for actions to be taken.
- **Dedicate funding to local and state governments to independently monitor the sites:** Funding for monitoring the HOSS facilities at each site must be provided to affected local and state governments. The affected public must have the right to fully participate.
- **Prohibit reprocessing:** The reprocessing of irradiated fuel has not solved the nuclear waste problem in any country, and actually exacerbates it by creating numerous additional waste streams that must be managed. In addition to being expensive and polluting, reprocessing also increases nuclear weapons proliferation threats.

MR. HALL. All right. We thank you for that.

We will start, Mr. Wise, to ask you a question. I understand that the Southern Company has indicated their interest in building new nuclear plants in Georgia, and as Chairman of the Georgia Public Service Commission, what do you think needs to happen with regard to the spent fuel issue in order for the commission to support any new nuclear construction?

MR. WISE. Well, there are two things, Mr. Chairman. I thank you for the question. And we have been supportive of the early plans for the company to start the process. In fact, we have authorized some accounting order where the company can input their expenses, and if in fact prudently incurred will be able to recover them from the rate payer. But then to the issue of storage, we think it is vital and Georgians have paid close to $1 billion with paying into the Fund and the value of the Fund and the life of with the expectation that we would have a national fuel repository with the idea in mind that it was Yucca Mountain. And so we think it is vital that Yucca Mountain is opened and that Georgians get what they paid for.

MR. HALL. I thank you. Mr. Earley, among the additional actions that you urged Congress to take is incorporation of features in the repository development plan to maintain flexibility for the future generations. Why don't you just expound on that a little why you think that is important.

MR. EARLEY. Certainly, Mr. Chairman. We believe that technology will change substantially over time. If we look at the time frame between the passage of the Atomic Energy Act in 1954 and today, technology has changed tremendously, and we expect to see tremendous changes in the future. And we should have a repository that has the flexibility to take advantage of those technology changes to either improve the technology for storage or when we wake up at some point and say there is huge value in this fuel to pull it out and reprocess it, we need to have the flexibility to do that.

MR. HALL. I thank you. I recognize Mr. Boucher.

MR. BOUCHER. Thank you, Mr. Chairman. And let me thank the witnesses also for their testimony here. Mr. Wise, let me just confirm your view that if we are to have interim storage at one or more facilities across the United States that the funding for that should not derive from the Nuclear Waste Fund, but should derive from other appropriations particularly devoted toward that purpose. Is that your view?

MR. WISE. Yes, sir, that is exactly correct.

MR. BOUCHER. If we are to have interim storage, what role do you see the governors of the various States playing in helping to select sites or to comment on proposals that are made with regard to where the sites should be?

MR. WISE. Well, one of the things that we would expect was that the governors would play an active role in it. I am not sure that they would be looking to help you select a site, but might in fact be opposed to additional interim sites. Some would say that because of the failure to open the national repository that we paid for is that we have a form of interim storage in our State today at our nuclear sites.

MR. BOUCHER. We do indeed. Let me get you to react to Mr. Earley's recommendation that if we are to have interim storage the number of sites be few, that Yucca Mountain be one, and that perhaps the sites be chosen through an incentive-based process with the idea being that interim storage would occur at the same places where reprocessing might occur under the global reprocessing initiative. That is not the exact term. But that there be incentives put forward based upon the location of these reprocessing sites in conjunction with interim storage. Do you think that recommendation has value, and what would NARUC's view of that be?

MR. WISE. Yes, sir. And, in fact, NARUC does take the position that it should be--if there are interim sites Yucca should be one of them, that there should be very few, and I don't believe that we have spoken as a group to the incentive based concept that you talked about on reprocessing.

MR. BOUCHER. What is your personal opinion?

MR. WISE. Personally, I am a big believer in incentive-based regulation and compensation to encourage the right thing to happen.

MR. BOUCHER. Mr. Earley, let me ask a couple of questions to you. You have stated in your testimony that you would favor offsetting collections legislation. This would be a means to assure the integrity for the Nuclear Waste Fund, future contributions into the Fund to assure that those monies are dedicated to the purpose for which they are intended. That is the waste storage program. What is your view with respect, and what is NEI's view, with respect to the $19 billion that is the corpus of the Fund today based upon rate payer contributions that have been made since the Fund's inception? Should we take steps to protect that also?

MR. EARLEY. Absolutely, and that has been our position that we should take steps to protect that and make sure that it goes for its intended purpose, which was for the development of a waste storage facility. My comments reflected the current bill that has been proposed. We certainly support that as a first step, but we also would support initiatives to make sure that we protect that corpus.

MR. BOUCHER. Should we while we are considering the Administration's bill amend it to have the protection for the $19 billion to make sure that that money goes to its intended purpose?

MR. EARLEY. We certainly would support that if we thought that that was something that was feasible to be able to do.

MR. BOUCHER. Would you like to recommend some language to us that might help achieve that?

MR. EARLEY. We certainly will be prepared to do that.

MR. BOUCHER. Thank you, Mr. Earley. Let me ask you also the question about interim storage. I noted your support for the idea of

interim storage, and with respect to funding for interim storage, do you believe that the funding should derive from the Nuclear Waste Fund or should we require special appropriations in order to finance that program?

MR. EARLEY. We would support using the Nuclear Waste Fund for interim storage on this very narrowly focused, and we think incremental approach that supports a move towards Yucca Mountain. As I said, we support a repository at or certainly near Yucca Mountain which would be an obvious first step to take fuel there on an interim basis until the facility is ready to take the fuel. And then the other piece, it would be no more than two or three sites that would be obvious candidates for reprocessing technologies where you are going to have to have interim storage anyway before you reprocess that they would be candidates. So if we are talking about two or three sites, and I agree with Ms. Sproat's estimates that the cost of a facility, particularly at a facility that already will have security and other infrastructure is not large. You could pay for it with a couple days accrued interest on the corpus of the Nuclear Waste Fund. But we don't support the broad proposals that would have 30 or more facilities that really would have a potential for depleting the waste fund.

MR. BOUCHER. So I gather from those comments, you are not particularly concerned about funding interim storage from the Nuclear Waste Fund detracting from the larger Yucca Mountain program for permanence.

MR. EARLEY. With the narrowly focused program that we would suggest, no, we wouldn't be concerned.

MR. BOUCHER. Thank you, Mr. Earley. Thank you, Mr. Chairman.

MR. HALL. The Chair recognizes Mr. Otter for 5 minutes.

MR. OTTER. Thank you, Mr. Chairman. Mr. Earley, I noticed in your testimony that the industry urges Congress to consider this interim storage. Would the State of Michigan be willing to entertain a site for one of these interim storages?

MR. EARLEY. Well, as Mr. Wise said, Michigan already has interim storage. We have four locations, three operating reactor sites, and one decommissioned reactor site that has interim storage. I can't speak for the State of Michigan but I certainly would be supportive, but I don't think it fits in with our proposal. There are no facilities in Michigan that are obvious candidates for reprocessing. We don't have a national lab. We don't have a DOE facility. So consistent with our proposal, Michigan would not be an obvious candidate but if we had a national lab, if we had an existing DOE nuclear fuel facility then I would say, yes, we ought to be considering that.

MR. OTTER. So then your group would be in favor of reprocessing enrichment?

MR. EARLEY. Yes, and we have gone on record as favoring reprocessing as a long-term option, but again I want to make it clear not as a replacement for Yucca Mountain but as a smart long-term policy in addition to Yucca Mountain.

MR. OTTER. In your response to me you just indicated that you already have several interim storages. How long are those good for?

MR. EARLEY. Well, I am not sure of the exact dates. My own firm nuclear plant, we run out of spent fuel pool storage capacity in the 2009-2010 time frame. We are currently in the design phase for a dry cask storage facility. There are dry cask storage facilities at other nuclear plants including the decommissioned Big Rock Point plant. Those facilities can be easily expanded at the existing facilities.

MR. OTTER. And have you requested a license then from--

MR. EARLEY. Not for our facility yet, but we will be doing that fairly shortly. Given the history about two-thirds of existing nuclear plants have dry cask storage. The NRC has gotten the licensing process down so that they move that process along fairly expeditiously.

MR. OTTER. Mr. Wise, the same question about Georgia.

MR. WISE. That is outside my jurisdiction on whether they apply for licenses or the extent that they will reach capacity. I am aware of the fact and the jurisdiction falls back to the NRC and others, and so I am not aware of how much capacity they have left.

MR. OTTER. I see. Ms. Boyd, I noticed in your testimony that your group did not represent at least any ideas for solving the problem, providing a solution. What is the Public Citizen's recommendation for a permanent solution?

MS. BOYD. What we are recommending is a solution for the security concerns that we have right today. All of the proposals that are on the table right now, Yucca Mountain reprocessing, interim storage, are all 10, 20 years away. In terms of actually filling Yucca Mountain would be 41 years away. So what we are talking about today is the security concerns we have about the waste sitting at the sites today. To answer your question specifically, there is no good solution at this point for long-term permanent storage of nuclear waste. We very well may need a geological repository, and, in fact, personally I do think we need a geological repository, but Yucca Mountain is not the site.

The Department of Energy has had to change the parameters so many times to try to make the square peg fit into the round hole. And it is very clear that we will be here in another 10 or 20 years arguing about Yucca Mountain if we do not stop and pull out and stop funding Yucca

Mountain and look and do a real legitimate scientific research project whereby we will look for another solution.

MR. OTTER. But as long as we continue to produce power with nuclear plants, we are going to continue to create the waste.

MS. BOYD. That is very true.

MR. OTTER. So what is the solution? We know what you don't like. Can you give us an idea of what you would like?

MS. BOYD. I came with a positive proactive proposal for dealing with the waste that we are creating today.

MR. OTTER. Look for another site.

MS. BOYD. Well, no, the positive proactive solution I came with today is to deal with the security concerns of the waste sitting at the sites that is going to remain at the sites for at least another couple of decades if not much longer.

MR. OTTER. And is your analysis then of Yucca Mountain already seen some security breaches or potential breaches?

MS. BOYD. Yucca Mountain is not licensed yet so we haven't--

MR. OTTER. If it were to be licensed under that which we now know, have you analyzed it well enough to know that there are going to be some security breaches?

MS. BOYD. That is immaterial to the question about whether or not the waste stays--

MR. OTTER. Well, it is still my question. It may be immaterial to the question but if you are going to suggest Yucca Mountain isn't the answer and that we really should be focusing on security then what security problems do you see with Yucca Mountain?

MS. BOYD. The question isn't the security question. The question is that Yucca Mountain is an environmentally unsound site so the question is not about the security concerns about a geological repository. The concerns are about dealing with the waste, the problem that we actually have on our hands today, which is waste sitting at all 103 and more sites. We have to deal with that problem today, and so that is what the proposal I am coming with to talk to you about is.

MR. OTTER. Well, I guess I still don't quite understand because it is not unusual for us as technology advances for us to employ that technology in ongoing construction no matter what the project is. And Yucca Mountain has been a long time coming and a long time in process, and as our technology advances for the storage of waste, for the handling of waste, it doesn't seem to me to be inconsistent with our desire to be as environmentally safe as possible, and as safe as possible from a national security standpoint, to make those changes. And so I don't see that necessarily as a suggestion that Yucca Mountain is unsafe simply

because we have been able to accommodate and update our plans as the technology advances.

MS. BOYD. The reason that Yucca Mountain is unsafe is because it is scientifically shown that it cannot hold the waste for as long as it needs to hold. That is a separate question, and the question of the waste that is at the very best case scenario as Mr. Sproat said today is going to be sitting in vulnerable spent fuel pools and in dry casks open to the air for at least, at least 11 years from now.

MR. OTTER. Well, as we know--I guess my time is up. Thank you, Mr. Chairman.

MR. HALL. The Chair recognizes Dr. Burgess.

MR. BURGESS. I will be happy to yield to the gentleman from Idaho.

MR. OTTER. Well, I guess the last question that I would have of the Public Citizen's representative here is how does the Public Citizens feel then about reprocessing?

MS. BOYD. As I said in my statement, we oppose reprocessing. We should learn from past experience. International and U.S. experience has shown us that reprocessing is polluting, expensive, and a proliferation risk.

MR. OTTER. We do know, if I may, if the gentleman will yield further, yet we do know that about 97 percent of those fuel rods that come out of the reactors is still good fuel and with reprocessing we would be able to reduce the amount of actually good fuel that we are burying. And if we could reprocess down to where we use maybe say 50 or 60 percent of the available fuel in a fuel rod, we would never have to worry about finding another Yucca Mountain because we wouldn't be burying all that good fuel.

MS. BOYD. Actually about 3 percent of the spent fuel rod is plutonium so that is what you would be taking out and reusing. The fact is that we do not have the technology or the economics right at this point that reprocessing makes sense, and we have seen that in other countries and the examples that they have. Japan just completed a reprocessing plant. It took them $20 billion and 15 years to build a plant that is about half the size of what we would need in the United States to deal with just our annual output of waste.

MR. OTTER. Thank you, Mr. Chairman. Thank you, Mr. Burgess.

MR. HALL. The Chair now recognizes Dr. Burgess.

MR. BURGESS. I thank the Chairman. Mr. Earley, if we could, we were talking about reprocessing. Does it make any sense to stall the development of Yucca Mountain in order to allow time for reprocessing?

MR. EARLEY. Absolutely not. We should move ahead with the Yucca Mountain as fast as we can, but as a country we ought to continue to develop reprocessing technologies because the spent fuel has

significant value as fuel in the future. And as fossil and other resources become less and less available to us, we can't afford to waste that kind of fuel value.

MR. BURGESS. I am from Texas, and we got a lot of people moving to Texas. Whether we like it or not, they are going to come and they are going to need roads and they are going to need hospitals, and they are going to need electricity to run their air conditioners in the summer time in a big way. So we have had proposals from well-thinking people who say they are going to build 16 new coal plants, and that has got people upset because what about the carbon dioxide, what about the global warming. We have had lots of hearings on that here. And not to belabor that point, we are going to have increasing resistance to producing electricity that results in increased carbon in the environment.

Texas has a lot of wind and indeed we are working to capture that but still under the best projections it is still single digit percentages that we are going to be able to develop as far as wind energy to provide air conditioning for all of those Yankees that are moving to Texas over the next 50 years. So to what extent has the development of new nuclear plants--does it depend upon solving the spent fuel issue? It is really a critical issue where I live. We got three companies now that are asking for licensing for new plants. Are they going to be able to get those licenses while we develop the or deal with the spent fuel issue?

MR. EARLEY. Progress on spent fuel is absolutely vital for continued progress towards new nuclear plants. As I said before, as I speak with my colleagues and from my own experience that we have been willing to move forward and invest because we through progress was being made. The work that this committee did last year on the Energy Policy Act was a tremendous step forward removing some of the barriers to new nuclear plants, but nuclear waste continues to be that one barrier that we need to deal with. And it doesn't have to be dealt with tomorrow, but it has to be confidence that as a policy this country is going to move forward and deal with this waste problem.

That is why passage of this bill in either this form or the expanded form that we have recommended would continue to give leaders in the utility industry confidence that the Government is working through these issues and therefore we ought to be investing our customers' money in more nuclear plants. But you are absolutely right. As a company, 70 percent of our generation is coal, about 10 percent of our generation is nuclear, and then we have hydro and natural gas generation. But we have a team working on looking at new nuclear technology because we can't put all our eggs in the coal basket. This country needs a diversified mix of energy sources and coal is going to be a part of it, but nuclear ought to be a big part of it going forward.

MR. BURGESS. Mr. Wise, if I could just ask you under what circumstances would it be appropriate for the Nuclear Waste Fund to be used to fund interim storage activities?

MR. WISE. Okay. We firmly disagree with using the Fund for interim storage.

MR. BURGESS. What is happening in other countries as far as interim storage?

MR. WISE. Again, you are out of my league. I am sorry.

MR. BURGESS. Mr. Earley, do you have any thoughts on that?

MR. EARLEY. It is a mix, but of course there is reprocessing in Europe and Japan. Of course, you have to have interim storage before you put it through the reprocessing so it doesn't seem to be the issue that it is here. People have recognized that nuclear waste has to be dealt with.

MR. BURGESS. I was with the Chairman on a trip to Sweden not too long ago and their interim storage is measured in centuries so they have apparently dealt with it in a different manner. They kicked the can down the field significantly. Thank you, Mr. Chairman. I will yield back.

MR. HALL. Thank you, Doctor. I think that takes care of this very capable panel. We will ask you to accept our thanks for your preparation and for your participation here, and appreciate your answers and your input. You are doing a lot of service to your country on a very, very important issue. I might ask you if they have Public Citizen over in Europe. Maybe that is the reason they are getting along so easy.

[Recess]

MR. BURGESS. [Presiding] With a change in panel and change in chair, we will call the hearing back to order and recognize the Honorable Butch Otter.

STATEMENTS OF HONORABLE C.L. "BUTCH" OTTER, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF IDAHO; AND HONORABLE ALAN B. MOLLOHAN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF WEST VIRGINIA

MR. OTTER. Thank you very much, Mr. Chairman, and thank you for holding this important hearing today, and thank you also, Mr. Chairman, for allowing me to testify. The committee is considering H.R. 4377, legislation to extend the time required for construction of the Arrowrock Hydroelectric Project in Idaho. You are going to hear opposition to this legislation when the Federal Energy Regulatory Commission testified on my bill because of the length of time since the original license was issued. I am going to take the time of this

committee to help them understand the need for this legislation and why this project should receive an extension.

Let me start with a little background on the project. It originally was licensed in 1989. The licensees are small, not for-profit, Idaho and Oregon irrigation districts. Revenues from the project were to be used to offset operational costs for thousands of water users. For a variety of reasons construction did not begin on the project within the original 6-year deadline period, so the irrigation districts received a legislative extension. After that extension, bull trout were then listed as a threatened species under the Endangered Species Act. The project was unable to meet the March 20, 2005, deadline for the start of construction because the Fish and Wildlife Service would not begin the consultation on the project until after it completed consultation on all the Bureau of Reclamation projects in the Upper Snake River Basin. That Upper Snake consultation was a direct outgrowth of the requirements of the Snake River Water Rights Act of 2004.

The Fish and Wildlife Service advised FERC in 2005 and 2006 that informal consultation with the licensees was complete, and that the Service had received the necessary information from the districts to complete consultation in a short period of time. The Fish and Game and Wildlife Service then requested that FERC initiate formal consultation. However, FERC did not approve or respond. The irrigation districts finally had everything in place and were on schedule to start construction last December, but the license once again had expired. All they needed was a little more time from FERC.

The Arrowrock Hydroelectric Project will be built at the existing dam and will use existing flows from the dam. The project has received certification of compliance with State water quality standards and an Idaho water rights permit. The project has been modified to reduce the impacts. Rather than tunneling through the Arrowrock Dam, it will use the Bureau of Reclamation's new valves, there will be a smaller powerhouse footprint, and 10 miles of transmission lines have since been eliminated. The irrigation districts have finalized a power sales agreement with public utilities district to take all the power from the plant. They have engaged an engineer of national reputation to design and build the project. Lastly, they have financing lined up and they are ready to go.

The Energy Policy Act of 2005 contains several provisions that encourage development of projects which meet both the requirements of being a hydropower project built at an existing dam and a hydropower project that is a conduit. In Idaho, this is exactly what we are trying to do with the Arrowrock Hydroelectric Project. This project has been given an extension in the past and another is needed because of the

circumstances out of the licensees' control. Without this amendment, the irrigation districts would have to completely start the FERC licensing process over again. That would be a waste of resources by the agencies involved as well as the irrigation districts because all of the required collaboration and consultation is complete and the project is now ready to move forward.

Mr. Chairman, I have supporting documentation that I have made available to the committee and the committee staff to make part of this permanent record. Thank you very much, Mr. Chairman.

[The prepared statement of Hon. C.L. "Butch" Otter follows:]

PREPARED STATEMENT OF THE HON. C. L. "BUTCH" OTTER, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF IDAHO

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The irrigation districts have finalized a power sales agreement with the Clatskanie PUD to take all the power from the plant. They have engaged an engineer of national reputation to design and build the project. Lastly, they have financing lined up and ready to go.

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Mr. Chairman, I have supporting documentation that I would like to ask unanimous consent to have entered into the record to better detail the facts I have outlined.

Thank you again Mr. Chairman and I hope that the committee will look favorably on this small but important piece of legislation.

MR. BURGESS. Without objection, so ordered. It will be made part of the record.

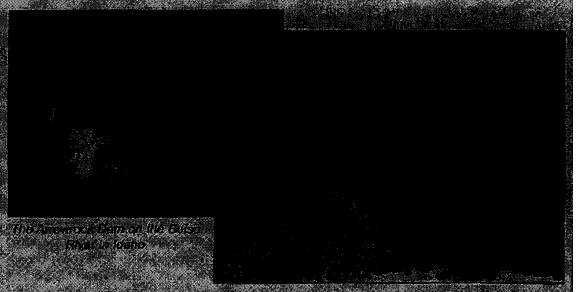
[The information follows:]

Arrowrock Hydroelectric Project

by Gail Rakitnich

The Arrowrock Dam, owned by the U.S. Bureau of Reclamation, was built in 1915 and is 350 feet high. When built, it was the highest dam in the world. Water is currently released from Arrowrock Dam with a series of outlet valves and a spillway.

Earlier this year, the Clatskanie People's Utility District (PUD) and five Idaho and Oregon irrigation districts agreed on a concept to jointly develop the 3.5 megawatt Arrowrock Hydroelectric Project on the Boise River, northeast of Boise, Idaho. Pending extension of the federal license by Congress, construction could get underway as soon as November of this year and be completed by 2008.



The Arrowrock Dam on the Boise River in Idaho

History of the Efforts to Construct Powerhouse

In 1989 the Federal Energy Regulatory Commission (FERC) issued the original 40-year license to construct a 60 megawatt hydroelectric power plant at the dam. The license is issued to five irrigation districts:

- Boise Kuna Irrigation District (Idaho)
- Nampa & Meridian Irrigation District (Idaho)
- New York Irrigation District (Idaho)
- Wilder Irrigation District (Idaho)
- Tri-Bend Irrigation District (Oregon)

Prior to the license expiring in 1999, Congress directed FERC to extend the commencement of the construction deadline by six years, to March 26, 2005.

Clatskanie PUD became operational in 1947 and was Oregon's first operating PUD. The irrigation districts are also public entities. They own the storage rights to the water behind Arrowrock Dam. The irrigation districts supply water to irrigate 167,000 acres in the Boise River Valley and most of the land is farmed in small parcels of less than 160 acres. The irrigation districts currently own and operate the 101 megawatt Lucky Peak Hydro-Electric Power Plant located on the Boise River just a few miles downstream from the Arrowrock Dam. The Lucky Peak powerhouse has been operating since 1988 and the output is sold to Seattle City Light.

The Dam and the Project Today

In early 1994, Clatskanie PUD became involved in the project as the time, the irrigation districts requested the United States Fish & Wildlife Service to evaluate the project based upon a much lower impact design (15 megawatt maximum).

Following contract negotiations, Clatskanie PUD and the irrigation districts filed a request to extend the license so that the U.S. Fish and Wildlife Service to complete the required consultation process. FERC denied that request and denied the appeal that followed. The current FERC license has lapsed but has not been terminated.

Approval of S. 2045 and H.R. 4377 was needed to extend the license period allowing the districts three years to complete consultation and commence construction of the project. At the end of May, the Senate Energy and Natural Resources Committee reviewed and approved S. 2045, the Bell-Helgerson project extension, moving it out of committee.

The cost, to be financed by the above five irrigation districts, for the project is expected to be \$[illegible]. It will produce an average of 8,000 megawatt-hours of electricity per year, which will be purchased by Clatskanie PUD. Two 7.5 megawatt turbines will be placed on two existing dam outlets, and a 5.5 mile power line will be reconstructed to a nearby substation.

The project has no significant fishery impacts and will have no [illegible] impact on the environment. "This clean, renewable energy project will produce enough electricity to power 4,000 average homes," said Alan Galt, general manager of Clatskanie PUD's current energy needs [illegible] "This project will be a win-win-win for Clatskanie PUD and the irrigation districts with minimal environmental impact [illegible] great as a bonus."

"The voters of the irrigation districts were [illegible] approved the agreement with Clatskanie PUD," said Steve Stone, the Arrowrock Hydroelectric Project is very important to the farmers and landowners of the District," said Mike Kulick, a director of the Boise-Kuna District and member of the Irrigation Districts Power Committee. "It will provide a tremendous benefit to the landowners at no cost to the federal government."

Gail Rakitnich is the Customer Relations manager at Clatskanie People's Utility District in Oregon. She can be reached by phone at (503) 728-2163 or via e-mail at gailr@clatskanieland.com.

TESTIMONY OF THE BOISE-KUNA IRRIGATION DISTRICT, BIG BEND IRRIGATION DISTRICT, NAMPA & MERIDIAN IRRIGATION DISTRICT, NEW YORK IRRIGATION DISTRICT, AND WILDER IRRIGATION DISTRICT IN SUPPORT OF S-2035 TO EXTEND THE TIME REQUIRED FOR CONSTRUCTION OF A HYDROELECTRIC PROJECT IN THE STATE OF IDAHO AND FURTHER PURPOSES

Short Statement of Need for Legislation

In the last eighteen months, the Irrigation Districts have twice been poised to begin construction on the Arrowrock Hydroelectric Project. Twice, they have been stymied by the inaction and refusal to act by federal agencies. This legislation is needed so the Districts can salvage the hundreds of thousands of dollars and countless hours of time and energy invested in the Project. Without the legislation, the Project will be lost, along with the opportunity to supply clean, renewable energy from an existing dam, and the opportunity help offset water delivery costs to the farmers of the Boise River Valley. In 2005, Congress passed a landmark Energy Bill designed to encourage development of these clean, renewable power sources. Congress should not permit the agencies' bureaucratic process to thwart this benign Project. The Districts can and will deliver a final Project that meets the highest environmental standards and that coexists with all existing uses of the Boise River reservoir system, including fish and wildlife. They just need the time extension this legislation offers. The Districts are not seeking any federal appropriations for the Project. The Project is supported by a broad range of Idaho and Oregon interests, including an Oregon public power entity which has contracted to purchase the output from this plant. The time is now for this Project.

The Interagency Conflicts

Five Idaho and Oregon Irrigation Districts hold the FERC license to develop a hydroelectric powerplant at Arrowrock Dam. FERC License No. 4656. In the last eighteen months, their efforts to build this Project have been stymied, not by any lack of diligence or effort on their part, but because of the interactions of two federal agencies—the Fish & Wildlife Service and the Federal Energy Regulatory Commission. The Districts first received word in January of 2004 that the licensed start of construction deadline for this Project would be March of 2005. They immediately went to work and selected a contractor to design and build the Project. A plan was developed over the course of summer of 2004 to reduce the size of the Project and presented to FERC staff in submissions and in a meeting in FERC's offices in August of 2004. Based on this consultation with FERC staff, the Districts planned to meet the start of construction date by beginning manufacture of the component parts as permitted by Commission precedent and regulations. There was sufficient time in the schedule to meet the deadline.

The Fish & Wildlife Service had been insisting for some time that FERC consult with the Service on this Project under Section 7 of the Endangered Species Act because of the presence of bull trout in Arrowrock Reservoir.[1] FERC had taken the position that there was no new discretionary federal action that required consultation.[2] In 2004, the Service again requested that FERC engage in consultation.[3]

After the Districts' meeting with FERC staff in August of 2004 to discuss the scope of the Project, FERC responded to the Service's request for consultation with a letter requesting the Service's concurrence that the Licensees' proposed modification will not affect or is not likely to adversely affect bull trout or any listed species.[4] The

Commission concluded that using of the existing intake structure and existing operations of the dam, the fact that no reservoir draw-down was required and that the Districts' proposed elimination of some transmission lines were all positive benefits and unlikely to affect any listed species. The Commission also noted that Arrowrock Reservoir was no longer under consideration as critical habitat for bull trout. Finally, FERC requested that the Service engage in informal discussions with the Districts to resolve any issues the Service might have.

With the understandings reached with the staff concerning development of the Project to meet the March 2005 start of construction date, the Districts worked diligently with their contractor and had a feasibility study completed by December of 2004, which contemplated the start of construction by fabrication of component parts in March of 2005.[5] The Districts' representative previously met with the Service and provided them with all the information provided to FERC. However, the Service did not act on the FERC's letter until three months had passed. At the end of December 2004, the Fish & Wildlife Service advised FERC and Licensees that it disagreed with the Commission's determination of no affect or not likely to adversely affect bull trout, and insisted on formal consultation, but stated that it would not be in a position to begin consultation on the Project until the end of March 2005, after the deadline for start of construction.[6] The Service was engaged in a comprehensive consultation which covered multiple species at all Reclamation projects on the Upper Snake River Basin, including Arrowrock Reservoir and wanted to complete that consultation before engaging on this smaller consultation.

Faced with the inability to start construction to meet the deadline because of the Service's stance, the Districts filed a request with FERC to stay the license deadline. The

Commission has authority to stay deadlines where the delay is caused by action or inaction of another federal agency. In response to the request for stay, the Service wrote to FERC ***supporting*** the stay.[7] The Service advised FERC that the Upper Snake River Basin consultation had recently been completed and that Reclamation's operations would not jeopardize any threatened or endangered species. The Service advised FERC that they had been engaged in informal consultation with the Districts, were cooperating in developing the necessary information, and requested that FERC request formal consultation by June 15, 2005. They anticipated completing formal consultation in sixty (60) days. The Districts continued to consult with the Service, the contractor, and Reclamation to provide the necessary information for a Biological Opinion.

Despite's the Service's willingness to resolve the ESA issues, the Commission denied the request for stay. 111 FERC ¶ 61, 271 (May 27, 2005). In denying the request for stay, the Commission took the position that the changes proposed by the Districts required a preconstruction amendment to the license. The Commission also expressed its skepticism that the Fish & Wildlife Service could complete the consultation in the timeframe it suggested. These conclusions came as a complete surprise to the Districts. They had been operating under the working assumption that, as a result of the meetings with the staff, no preconstruction license amendment was necessary. They were also quite surprised that the Commission had directed the Districts to work with the Service to satisfy the needs to the Service and then the Commission would reject the stay request because it did not believe that the Service would engage in a timely consultation with the Districts as the Service indicated.

Accordingly, the Districts filed a timely motion for rehearing, supplying the Commission with additional evidence of the work that the Service, the contractor, and the Districts had done in moving the Project forward. The Districts also provided significant information about the status of the power sales agreement for the output of this Project. In July of 2005, the Districts filed a supplemental memorandum in support of its petition for rehearing and reconsideration. Later, in July, the Districts advised FERC staff that the informal consultation was completed and that the Service was requesting again that FERC engage in formal consultation. The response of the staff was that they could not even discuss the matter with the Districts because of the motion for rehearing.[8]

The Commission, on September 1, 2005, entered an order denying the motion for rehearing. 112 FERC ¶ 61, 240 (Sept. 1, 2005). The Commission made a number of factual errors in doing so. First, the Commission contended that the staff "clearly informed" the Districts that a preconstruction license amendment was essential for this Project. This is not correct. After meeting with the staff, the Districts[9] and Licensees[10] both understood that no preconstruction amendment was necessary. Indeed, the Commission issued its no affect letter to the Service which would have allowed construction to begin in 2005 (if the Service had concurred) and provided information to the Districts and their contractor about how to meet the existing deadline by construction of major component parts. The Districts followed up the August 25, 2004 meeting with a memo to staff in which the Districts stated their understanding that no license amendments would be necessary.[11] The Commission's Order, however, claimed that the Districts were not entitled to rely upon either their meeting with the staff or the previous experience with the Commission in determining whether a license amendment was

necessary. *See* 56 FERC ¶ 62, 061 (October 24, 1991)(Districts' Lucky Peak Power Plant Project did not require preconstruction amendments). The Commission's Order contended that the Districts had made no progress towards a power sales agreement. In reaching this conclusion, the Commission ignored information supplied to the Commission that, at the time the Commission made its final ruling, the power sales agreement had been finalized. Yet, the Commission's Order claimed that no progress had been made and that all the Districts had was a draft of a letter of intent. Finally, the Commission contended that the Fish & Wildlife Service was not able to carry out its agreement to consult with the agency and Districts. The Commission's Order ignored the extensive informal consultation between the Licensees and the Service since April 2005 and ignored the fact that the agency was prepared to complete this consultation expeditiously, as soon as the Commission requested formal consultation. The Service even wrote to the Commission on September 1, 2005 again requesting formal consultation and advising that they had everything they needed to complete consultation.[12] In other words, everything was ready, but the Commission chose to believe that the Districts and the Service were not committed to the consultation.

These egregious bureaucratic errors will deprive the Districts of the opportunity to build this Project. If allowed to stand, it will deprive the Districts of hundreds of thousands of dollars in investments over the years and will deprive them of the opportunity to provide services to the landowners in the Irrigation Districts. It will deprive Clatskanie PUD of an independent source of power. The Districts urge Congress to pass this legislation. The construction of the Project will provide significant benefits to the nation's energy supply, to the local economy, to the Irrigation Districts and

thousands of their patrons, and to a small, publicly owned Oregon Public Utility District, who will utilize the power to supply its customers.

Brief Description of the Project

The Arrowrock Hydroelectric Project is proposed as a 15 megawatt powerplant built at an existing Bureau of Reclamation dam. The dam is located just east of Boise, Idaho, on the Boise River. The dam was completed in 1918, and the Districts are the major spaceholders for the irrigation water stored behind the dam. No new impoundments will be built. No reservoir draw-downs are required. Existing transmission routes will be utilized. Detailed construction and operation summaries were developed for consultation with and provided to the Service and other agencies.[13a & 13b]

The Districts are experienced in building and operating hydroelectric facilities, as they also own, and under contract with the Seattle City Light, operate the Lucky Peak Power Plant Project (FERC Project 2832) immediately downstream of the Arrowrock Hydroelectric Project.

General Background

The Boise-Kuna, Big Bend, Nampa & Meridian, New York and Wilder Irrigation Districts are all public entities formed under the laws of the State of Idaho, and, Big Bend Irrigation District, is formed under the laws of State of Oregon. These Districts hold storage rights to the water held behind the reservoirs on the Boise River, including the Arrowrock Reservoir. The Districts serve 167,000 acres of irrigated farm land in the Boise Valley. Most of the land in these Irrigation Districts is in small farms, with an average size of less than of 100 acres.

The Districts have been diligently trying to develop the hydroelectric resource at Arrowrock Dam for many years. They are the logical entities to develop that resource, since, as the spaceholders of the irrigation water, they control the vast majority of the water stored behind Arrowrock Dam. The Districts pay the Bureau of Reclamation a significant portion of the Bureau's cost of operation and maintenance of that Dam. Development of the Project over the years has been difficult and beset with problems from the very beginning. Shortly after the license was originally issued in 1989, a severe drought hit the Northwest, including Boise River, making any hydroelectric development of major concern. In the mid-1990s, a listing of anadorous fish downstream in the Columbia and Snake Rivers caused greater uncertainty about the uses to which water would be put in the tributaries above, including on the Boise. Even though there are no anadorous fish in the vicinity of the Arrowrock Dam, or even in the Boise River, the uncertainty about the uses of stored water cause greater uncertainties in the viability of any hydroelectric facility, even one not within the habitat of the listed anadorous species. In 2001, the energy crisis and accompanying volatility of energy prices made a long-term power purchase agreement difficult or impossible to obtain for a hydroelectric facility with its inherent variability in output. Operational issues concerning the location of the Lucky Peak Reservoir and the Arrowrock Dam, as the Bureau of Reclamation operates the Arrowrock Reservoir and the Lucky Peak Reservoir so as to cause difficulty in maintaining sufficient head between the two reservoirs to insure adequate generation.

In dealing with these various obstacles, the Districts have examined a number of variations on this Project. The Project was originally licensed as a 60 megawatt facility, which would be supplied by drilling large tunnels through the Arrowrock Dam, a

concrete structure almost 100 years old. Later, the Districts evaluated a 30 megawatt project. They had a power purchaser willing to purchase the output of a 30 megawatt project but ran into problems when the former developer was not able to deliver the Project for the price that was quoted. Since the spring of 2004, the Districts have been working with Shaw/Stone & Webster, an engineering and construction firm of national prominence in the hydroelectric industry, to develop a project of 15 megawatts. Recent modifications to the Arrowrock outlet works downstream of the dam by the Bureau of Reclamation have created the configuration where the Districts will be able to tie the powerplant into the modified outlet works and use the water that is otherwise being released through the dam by the Bureau of Reclamation without having to drill additional tunnels through the dam. Shaw/Stone & Webster has consulted with Reclamation[14]and completed a feasibility study[6] and updated the study in September 2005[15] The Project is constructible, financeable, and will generate sufficient revenues in power sales to pay for itself over the remaining course of the FERC license. The Districts have entered into a power purchase and sales agreement with an Oregon public power entity, the Clatskanie People's Utilities District, to develop the Project, and for Clatskanie to purchase all of the output of the facility.[16]

Clatskanie PUD sells 1.2 million megawatt hours of electricity yearly to retail customers in northern Columbia County and eastern Clatsop County and to industrial facilities in Bellingham, Washington, and Halsey, Oregon. The output of a 15 megawatt project is, in the view of Clatskanie PUD, a perfect fit for their system, which is otherwise heavily dependent on the Bonneville Power Administration. Clatskanie PUD is a strong supporter of this Project and this legislation.[17] [18]

Power Sales Agreement

The Districts and Clatskanie People's Utility District have executed a Power Purchase and Sale Agreement for all of the output of this Project.[15] In 2005, the Districts negotiated a memorandum of understanding with Clatskanie PUD for the development of the Project.[19] By July, the Irrigation Districts and Clatskanie PUD had completed extensive negotiations on a power purchase agreement. The power purchase and sale agreement was put in final form and approved by the Boards of each of the Irrigation Districts for a vote of the electors of the Irrigation District. The final form was also approved by Clatskanie. In an election held in August of 2005, the voters of the Irrigation Districts overwhelmingly approved the power sales contract with Clatskanie PUD.[20] A two-thirds majority vote was required, and the lowest approval rate of any of the Irrigation Districts was in excess of 75%. One District's (New York) electors unanimously approved the agreement. The Irrigation Districts and Clatskanie were prepared to execute the final agreement in September of 2005, when FERC untimely denied the petition for rehearing. Even though FERC has refused to permit construction to begin, the Irrigation Districts and Clatskanie PUD believe in this Project so strongly that they recently executed the final agreement approved in the summer of 2005 by the Irrigation Districts' voters and by Clatskanie.[16] A formal signing ceremony of this agreement was held at Arrowrock Dam March 10, 2006 by the parties.[18 21] Clatskanie PUD and the Irrigation Districts have held their first Steering Committee Meeting and will continue to hold regular Steering Committee meetings through the course of the development and construction of the Project.

Expenditures

The Districts and Clatskanie have agreed to share in the future development cost of the Project on a 50/50 basis. Over the years, the Districts have expended in excess of $900,000.00 on this Project.[22] The only way the Districts will recover these expenditures is for the Project to be constructed and begin generating electricity.

Financing

The Districts have been working with Lehman Brothers as a bond underwriter for several years in trying to bring this Project online. Lehman Brothers has carefully scrutinized the power sales agreement and determined that the agreement is financeable with Clatskanie as a power purchaser.[23] The Districts have the ability as public entities to issue bonds for the development of this Project. The Districts have the authority under Idaho Code § 43-2301 to sell bonds for the development of a hydroelectric Project as long as the bonds are approved by the voters. Overwhelming voter approval of the bond issuances was obtained in the August 2005.

EPC Contractor

In 2004, the Districts issued requests for proposals for design and construction of the Arrowrock Project. As a result of a rigorous selection process, Shaw/Stone & Webster was determined to offer the best proposal. Shaw/Stone & Webster has prepared two feasibility studies—one in December of 2004,[6] and an amended feasibility study in September 2005.[15] The feasibility studies demonstrate that the Project will generate sufficient electricity to pay the cost of the Project on a project financing basis. Shaw/Stone & Webster remains solidly committed to this Project.[10]

Other Consultations

Idaho Power conducted an updated system interconnection study of the reduced project generation capacity to 15 megawatts in 2004. This alternative will minimize impact from the Project by significantly reducing power line construction from that authorized by the License. The License authorizes 15 miles of transmission lines. This current plan approved by Idaho Power will allow a tie-in to existing lines at a location only 5 miles from Project No. 4656. Idaho Power confirmed the tie-in and described the interconnection facilities on October 28, 2004.[24] In addition, the transmission line route will upgrade an existing Reclamation line to Arrowrock Dam at no additional cost to Reclamation, so no new power line routes will be required. Line specifications and easement information have been provided to SSW and the Bureau of Reclamation, and are incorporated in the Project plans developed by SSW. In addition to the interconnection studies, Clatskanie has conducted negotiations with Idaho Power on wheeling the output across Idaho Power's transmission system. Idaho Power has also determined there is system capacity for the wheeling to meet Clatskanie's needs.

The Districts also have a valid water license from the Idaho Department of Water Resources for use and generation of electricity.[25] Representatives of the Districts have engaged in consultations with various other agencies, including the Corps of Engineers—the operator of Lucky Peak Reservoir just downstream of the Arrowrock Dam where the powerhouse will be located. The Corps has advised the Districts that no additional consultation will be necessary for placement of the powerhouse, other than a 404 permit.[26] The Districts have engaged in extensive consultation with all of the other

agencies and are prepared to complete that consultation as required by the terms of the existing FERC license.

Finally, it should be noted that this Project enjoys extensive support. Of course, the Districts' landowners overwhelmingly approved the contract with Clatskanie PUD.[19] Clatskanie is a strong supporter. The Bureau of Reclamation worked with the Districts and the contractor and is committed to finalizing an agreement with the Districts to review and approve the Districts' construction activities as required by the FERC license. The Project is supported by the Idaho Water Users Association, a statewide organization.[27] In addition, the Boise Metro Chamber of Commerce has expressed its support of the Project, and the Chamber's Board unanimously voted to support the Project because of the energy and economic development benefits that the Project will bring.[28]

The Districts have put forth an extensive effort to develop this Project. They have the ability to bring the Project online, with all of the support from the regulatory agencies, the contractor, the power purchaser, and the community at large. The Districts urge Congress to pass this legislation and to allow this clean, renewable hydro project to come online.

Exhibits to Testimony

1. FWS Letter April 27, 2001
2. FERC Letter August 16, 2001
3. FWS Letter February 25, 2004
4. FERC Letter September 29, 2004
5. SSW Feasibility Study December 2004 (excerpts)
6. FWS Letter December 21, 2004
7. FWS Letter April 29, 2005
8. FERC Email July 29, 2005
9. Kukla Testimony
10. SSW Letter March 20, 2006
11. Email to FERC staff September 1, 2004
12. FWS Letter September 1, 2005

13 a. Reservoir Operations
13 b. Construction Approach

14. SSW email to Reclamation August 26, 2005
15. SSW Amended Feasibility Study September 2005
16. Power Purchase & Sale Agreement (executed)
17. Clatskanie PUD Brochure
18. Clatskanie PUD Press Release
19. Clatskanie – Districts MOU
20. Canvassing Resolutions
21. Photographs (separate file)
22. Arrowrock Expenditures
23. Lehman Bros Letter March 16, 2006
24. IPCo Interconnection Approval
25. IDWR Permit
26. COE Email
27. IWUA Letter March 6, 2006
28. Boise Metro Chamber of Commerce Letter March 15, 2006

Tab 1

ORIGINAL

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Snake River Basin Office, Columbia River Basin Ecoregion
1387 South Vinnell Way, Room 368
Boise, Idaho 83709

FILED
OFFICE OF THE SECRETARY
01 MAY -2 PM 3:45
FEDERAL ENERGY
REGULATORY COMMISSION

APR 2 7 2001

David P. Boergers
Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, DC 20426

Subject: Arrowrock Dam Hydroelectric Project (FERC No. 4656-015)

Dear Mr. Boergers:

The U. S. Fish and Wildlife Service (Service) is writing to you to invite the Federal Energy Regulatory Commission (Commission) to participate in informal discussions with us regarding the effects on listed species of the licensing, construction, and operation of the Arrowrock Dam Hydroelectric Project (Project). Recently the Commission issued a Notice of Amendment of License on January 29, 2001, in which the licensee requests once again that further time extensions be granted to commence and complete the construction of this project. As recently as May, 1999, the Commission was prepared to terminate the license for this project due to the project proponents' lack of diligence in complying with the time lines for commencement of construction. In its May 3, 1999 Order Denying Request for Stay, the Commission denied the licensee's request for further time extensions in their effort to seek Congressional relief from the requirements of their license. We assume from this most recent action on the part of the Commission to consider extending the construction period for this project, that Congress did in fact exempt the licensee from Section 13 of the Federal Power Act. If this is not the case, the Service is concerned about the status of this license and would appreciate your clarifying the issue.

The Service is concerned about the potential construction and operation of Project No. 4656 because of the fact that we just completed formal consultation under Section 7 of the Endangered Species Act (Act) with the Bureau of Reclamation (Reclamation) on their Arrowrock Dam Valve Replacement Project. We delivered a Biological Opinion to them on March 19, 2001 (copy enclosed). The species considered in that consultation included gray wolf (*Canus lupus*), bull trout (*Salvelinus confluentus*), Ute-ladies' tresses (*Spiranthes diluvialis*), and bald eagle (*Haliaeetus leucocephalus*). However, the Service did not consult with Reclamation on the effects of the hydropower project on bull trout and other listed species. Rather, our consultation with Reclamation dealt only with the construction activity during the replacement of the outlet valve-works at Arrowrock Dam.

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MAY - 2 2001

The Service's perusal of the file for Project No. 4656 indicates that the last contact that the Commission had with this office regarding endangered species was prior to issuance of the license in 1989. Since that time, bull trout have been listed as threatened in the Columbia River Basin and is the Service's primary species of concern with this project. It is extremely important that the Commission and the licensee begin discussions with the Service pursuant to Section 7 of the Act. It is the Service's position that the hydropower project proposed for Arrowrock Dam has a high likelihood of taking bull trout. At present, the Commission and the licensee have no protection from the prohibitions on take of listed species contained in the Act. Sections 4(d) and 9 of the Act, as amended, prohibit taking (harass, harm, pursue, hunt, shoot, wound, kill, trap capture or collect, or attempt to engage in any such conduct) of listed species of fish or wildlife without a special exemption. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns which include, but are not limited to; breeding, feeding, or sheltering. Incidental take is take of any listed animal species that results from, but is not the purpose of, carrying out an otherwise lawful activity conducted by the Federal agency or the applicant. Only by completing consultation with the Service pursuant to Section 7 of the Act can these prohibitions be removed.

When this license was issued, bull trout, now a listed species, were lumped into a general grouping with all trout in Arrowrock Reservoir, whose fishery is largely supported by stocking of hatchery trout and is supplemented by other introduced and exotic species. Bull trout and some rainbow trout which spawn in the Middle Fork Boise River Basin are the only native fishes that are self sustained in the project area. The continued existence and restoration of bull trout in the Arrowrock Reservoir population is important to the overall recovery of bull trout in the Columbia River distinct population segment and delisting in the future.

The Service is also extremely concerned that almost all of the many license articles contained in the license issued by the Commission in 1989 have not been executed in preparation of constructing this facility. You should contact this office as soon as possible to initiate discussions pursuant to both the Endangered Species Act and the Fish and Wildlife Coordination Act. We suggest that Reclamation be a participant in the discussions. We are anxious to discuss a proposed schedule with your staff and the licensee for completing license requirements that must be complied with prior to the start of construction, as well as consultation under Section 7 of the Act.

Contact Jim Esch at 208 378-5099 to schedule a meeting and to raise any questions you have about this letter.

Sincerely,

Robert D. Ruesink

Supervisor, Snake River Basin Office

cc: FERC, DC (Ann Miles)
IDFG, HQ (Scott Grunder)
USBR, RO
USBR, Project Office (Steve Dunn)
USFWS, Portland (Estyn Mead)

Tab 2

FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON, D.C. 20426

AUG 16 2001

OFFICE OF ENERGY PROJECTS

Project No. 4656–Idaho
Arrowrock Project
Boise-Kuna Irrigation District et. al.

Robert G. Ruesink
Supervisor, Snake River Basin Office
U.S. Fish and Wildlife Service
1387 South Vinnell Way, Room 368
Boise, ID 83709

Reference: Endangered Species Act and Start of Construction

Dear Mr. Ruesink:

By letter dated April 27, 2001, you asked the Commission to informally discuss how the licensing, construction, and operation of the Arrowrock Hydroelectric Project may affect species listed under the Endangered Species Act (ESA). The U.S. Fish and Wildlife Service just completed formal consultation for the Bureau of Reclamation's (Reclamation) valve replacement project at Arrowrock Dam. This consultation did not consider the Commission's licensed hydroelectric project. Further, you asked us to clarify the hydroelectric project start of construction deadline and are concerned that many license articles have not been fulfilled.

Endangered Species Act

Thank you for notifying us of your recent consultation under the ESA for Reclamation's valve replacement project at Arrowrock Dam. The information in your biological opinion will be helpful for any needed ESA consultation on the hydroelectric project.

As you know, the Commission's licensees are considering making changes to the licensed hydroelectric project. They are evaluating different options and have not yet finalized any new designs. Once we know what the proposed changes are, if any, we will be in good position to determine any needed consultation under the ESA. We have asked the licensees to finalize any changes and notify the Commission as soon as possible. We will keep you informed about the licensees' progress in this regard.

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DOCKETED
BL

Status - Start of Construction

Public Law 106-343 enacted on October 19, 2000, and section 13 of the Federal Power Act, authorizes the Commission to extend the start of construction deadline for the Arrowrock Hydroelectric Project for up to three consecutive 2-year periods. The start of construction deadline for this project, as previously extended, was March 26, 1999. After Public Law 106-343 was enacted, the licensees filed an application with the Commission to extend the start of construction deadline to March 26, 2003 (using two of the three consecutive 2-year periods) and to extend the deadline to complete construction to March 26, 2005. In their application, they also requested an extension of time until 90 days before the start of construction to comply with license articles 101 to 110, 112 to 115, 117 and 304.

The Commission public noticed the licensees' application on January 29, 2001. Pioneer Irrigation District and Settlers Irrigation District jointly filed a timely motion to intervene. An untimely motion to intervene was filed by the U.S. Forest Service. Idaho Rivers United filed timely comments. The Commission will issue a separate order on the licensees' application.

I hope this letter answers your questions on the current status of the Arrowrock Hydroelectric Project. If you have any further questions, please call Steve Hocking at (202) 219-2656.

Sincerely,

for

Ann Miles
Hydro West Group 1

cc. Service List
Public Files

Albert P. Barker
Barker, Rosholt & Simpson
1221 W. Idaho Street, Suite 600
Boise, ID 83701-2139

Steve Dunn
Bureau of Reclamation
Snake River Area Office
214 Broadway Ave
Boise, ID 83702

John Tiedman
Bureau of Reclamation
Pacific Northwest Region
1150 N. Curtis Rd., Suite 100
Boise, ID 83706-1234

Lt. Col. Richard P. Wagenaar
U.S. Army Corps of Engineers
Walla Walla District
210 N. 3th Ave
Walla Walla, WA 99362

Dave Brownell
U.S. Army Corps of Engineers
Luck Peak Project Office
9723 E. Hwy. 21
Boise, ID 83716

Scott Grunder
Idaho Fish and Game
600 S. Walnut
Boise, ID 83707

Tab 3

Unofficial FERC-Generated PDF of 20040227-0013 Received by FERC OSEC 02/26/2004 in Docket#: P-4656-000

ORIGINAL

[redacted]

United States D[redacted]t of the Interior
FISH AND WILDLIFE SERVICE
Snake[redacted]
1387 S [redacted]
Boise, Idaho 83709
[redacted]

TAKE PRIDE IN AMERICA

Magalie R. Salas
Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

FEB 25 2004

Subject: Arrowrock Dam Hydroelectric Project, Boise County, Idaho – Section 7 Consultation for Listed Species
FERC #4656 OALS #04-235

2004 FEB 26 AM 8:42
FEDERAL ENERGY REGULATORY COMMISSION
FILED
OFFICE OF THE SECRETARY

Dear Secretary Salas:

The Fish and Wildlife Service (Service) is writing to recommend that the Federal Energy Regulatory Commission (Commission) initiate informal consultation under section 7 of the Endangered Species Act of 1973, as amended (Act) for listed species and proposed critical habitat at the Arrowrock Dam hydroelectric project (project). We received your order granting an extension of time to commence construction and to comply with license articles for the project on February 10, 2004. The original license for this project was issued on March 27, 1989, and has since been granted several extensions.

Because there are several changes proposed to the design that was analyzed in the original license for the project, the Commission's decision to grant an extension of time for the existing license represents a discretionary Federal action under the Act. Since the original license for the project was issued, a species that occurs in the project area has been listed under the Act, critical habitat for a listed species in the project area has been proposed, the project design has been substantially changed, and environmental conditions in the project area have changed. Given these factors, the Service recommends that the Commission reinitiate consultation under section 7 of the Act to address potential project impacts to listed species. We have enclosed a current species list for the project area.

If you have questions regarding this letter or our recommendations, please contact Kendra Womack at (208) 685-6955 or Michael Morse at (208) 378-5261.

Sincerely,

Jeffery L. Foss, Supervisor
Snake River Fish and Wildlife Office

Unofficial FERC-Generated PDF of 20040227-0013 Received by FERC OSEC 02/26/2004 in Docket#: P-4656-000

cc: IDFG-HQ, Boise (Grunder)
FWS-RO, Portland (Mead)
USBR-Project Office, Boise (Dunn)

Tab 4

FEDERAL ENERGY REGULATORY COMMISSION
Washington, D. C. 20426

OFFICE OF ENERGY PROJECTS

Project No. 4656--Idaho
Arrowrock Dam Hydroelectric Project
Boise-Kuna Irrigation District, et. al.

Jeffrey L. Foss
Supervisor
U.S. Fish and Wildlife Service
1387 Vinnell Way, Suite 368
Boise, ID 83709

SEP 2 9 2004

Subject: Consultation under section 7 of the ESA for the Arrowrock Project

Dear Mr. Foss:

Thank you for your letter dated February 25, 2004, regarding informal consultation under section 7 of the Endangered Species Act of 1973, as amended. In your letter, you recommended that the Commission initiate informal consultation regarding the Arrowrock Dam Hydroelectric Project. You stated that because there are several changes proposed to the project design that differ from those analyzed in the original license, the Commission should reinitiate consultation to address potential impacts to listed species. Your letter indicated that the gray wolf, bald eagle and bull trout are listed species and the bull trout as having proposed critical habitat.

As you are aware, the licensees[1] are proposing modifications to the design and construction of the project. The project license permits the licensees to install two tunnels through the dam to deliver water to the power plant site below the dam. Rather than install new tunnels and outlet works in the Arrowrock dam, at an elevation above Reclamation's replacement valves, the licensees propose to tap into U.S. Bureau or Reclamation's (Reclamation) existing outlet works downstream of Arrowrock dam. This approach has two important consequences. First, the releases to the power plant will occur through the outlet works leading to Reclamation's valves, and those releases have already been evaluated by the U.S. Fish and Wildlife Service (FWS) in your previous consultations on Reclamation's valve project and dam operations. No longer will the Arrowrock Dam Project use a different and higher intake structure. Second, the construction of the project will not require any construction work on the upstream side of Arrowrock Dam, therefore, no drawdown of

[1] The licensees for the project are: Boise-Kuna Irrigation District, Nampa & Meridian Irrigation District, Wilder Irrigation District, and Big Bend Irrigation District.

Arrowrock reservoir for construction would occur. Further, construction on the Lucky Peak side of the Dam will take place during normal Lucky Peak drawdowns. The licensees will not alter Reclamation's operation of Arrowrock reservoir for construction or operation of the hydroelectric project. The hydroelectric project will require no change in the operations of the Reclamation facility which has completed consultation.

The licensees also propose to eliminate about 10 miles of transmission line from what was originally licensed. The licensees will tie into the existing Idaho Power transmission line near the Moores Creek Crossing on Idaho 21, by utilizing the existing Reclamation power line from Arrowrock dam to Idaho Power's lines along Highway 21. No transmission line construction would be required from that point to Idaho Power's Boise Bench Substation as currently permitted by the license. The transmission lines necessary for this project will be reduced and those that remain will simply be rebuilt utilizing the existing Reclamation rights-of-way.

The Biological Opinion for Reclamation's Arrowrock Dam Outlet Works Rehabilitation Project states that the proposed clamshell gates would operate at a much greater hydraulic head than the existing Ensign valves thereby resulting in decreased entrainment rates for bull trout and provide long term benefits when compared to historical operation of the dam and the No Action Alternative. In the licensees' original license, the licensees are authorized to install two tunnels through the dam at a higher elevation than the clamshell gates. The licensees no longer propose that design, but rather would tap into Reclamation's low-level outlet works thus having the same long-term benefits to bull trout over the original license design. Additionally, there would be no need to draw down Arrowrock reservoir for construction purposes.

Further, on September 22, 2004, the FWS announced critical habitat designations for bull trout. There was an approximate 90 percent reduction from the proposed designation areas to the final designation. Dave Allen, Regional Director for the Pacific Region, stated that it was determined that many areas already had conservation efforts in place and did not need to be designated. One of those non-designated areas includes the Arrowrock Project area which was not listed as critical habitat for bull trout. At the time of your February 25, 2004 letter, it was a proposed critical habitat area.

Therefore, given the circumstances of the licensees' proposed modifications and the FWS's non-designation of critical habitat at the Arrowrock Project, the Commission requests the FWS's concurrence that the licensees' proposed modifications, as described above, will not affect or is not likely to adversely affect any listed species referenced in your letter of February 25, 2004.

Please provide any comments regarding this issue within 30 days of the date of this letter with:

The Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, DC 20426

Please reference any response with the docket number P-4656.

Lastly, please note that Article 406 of the license requires the licensees to develop a plan for monitoring turbine-induced mortality, in consultation with the FWS and Idaho Fish & Game (IDFG), and submit the plan to the Commission 90 days before starting operation. The licensees are required to monitor mortality for a 5-year period, review the mortality results with the FWS and IDFG, obtain any comments from the agencies and submit them to the Commission. The FWS will have the opportunity to recommend changes in project operation or structures based upon the results of the licensees' studies.

We understand that you may need to discuss the details of the modifications or obtain further information from the licensees. Accordingly, the Commission designates the licensees, Boise-Kuna Irrigation District, et al., (who have agreed) to act as the Commission's non-Federal representative to conduct informal consultation with the FWS for the project.

Thank you for your cooperation and if you have any questions regarding this letter, please contact Mr. T.J. LoVullo at (202) 502-8900.

Sincerely,

George H. Taylor
Chief, Biological Resources Branch
Division of Hydropower Administration
and Compliance

c. Albert P. Barker
Barker Rosholt & Simpson LLP
205 N. 10th Street, Suite 520
Boise, ID 83702

Dave Brownell
U.S. Army Corps of Engineers
Lucky Peak Project Office
9723 E. Hwy 21
Boise, ID 83716

Steve Dunn
Bureau of Reclamation
Snake River Area Office
230 Collins Road
Boise, ID 83702-4520

Scott Grunder
Idaho Department of Fish and Game
600 S. Walnut
Boise, ID 83707

John Tiedman
Bureau of Reclamation
Pacific Northwest Region
1150 N. Curtis Road, Suite 100
Boise, ID 83706

Lt. Col. Richard P. Wagenaar
U.S. Army Corps of Engineers
Walla Walla District
210 N. 3rd Ave.
Walla Walla, WA 99362

OEP/DHAC LoVullo, TJ:tjl September 28, 2004 K01
bc: DHAC PRO DOCKETS LOVULLO

Tab 5

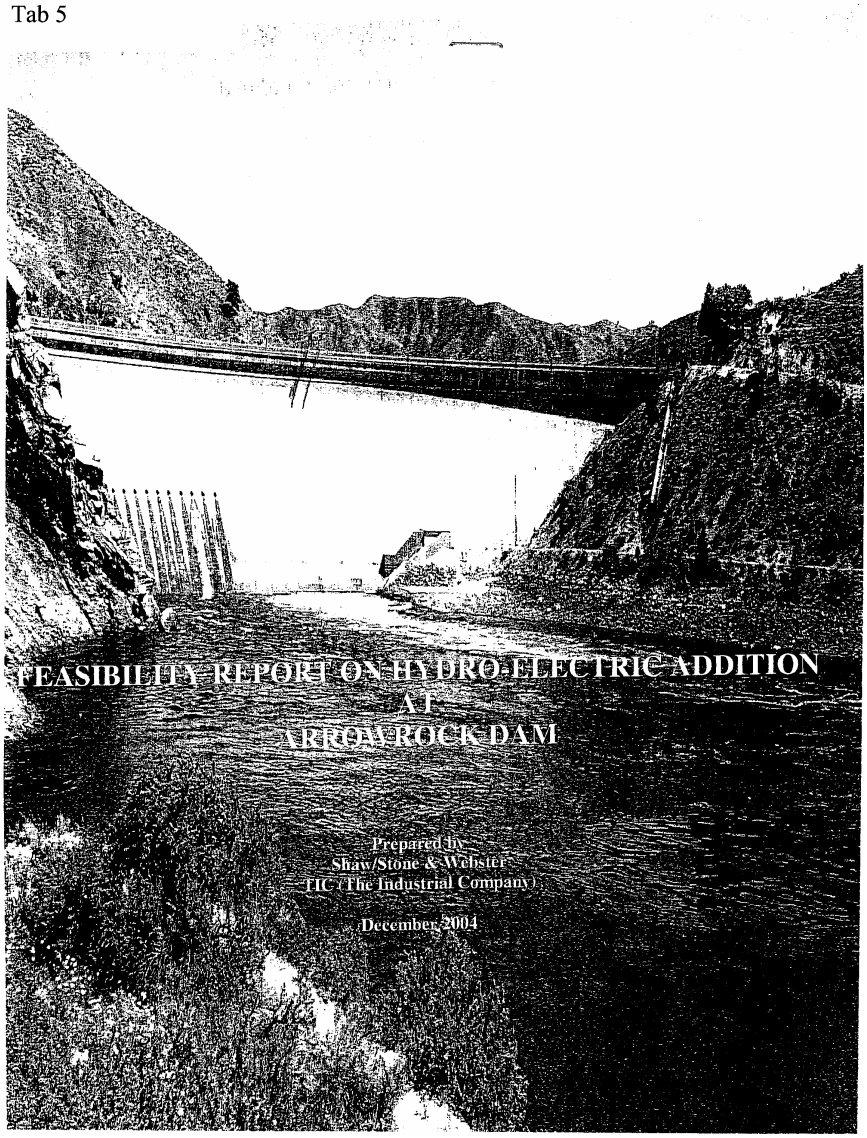

FEASIBILITY REPORT ON HYDRO-ELECTRIC ADDITION
AT
ARROW ROCK DAM
Prepared by
Shaw/Stone & Webster
TIC (The Industrial Company)
December 2004

TABLE OF CONTENTS

Section	Title	Page
1.	**EXECUTIVE SUMMARY**	
1.1	DESCRIPTION	1-1
1.2	ENERGY OUTPUT	1-2
1.3	CONSTRUCTION PLANNING AND SCHEDULE	1-3
1.4	ESTIMATED PROJECT CONSTRUCTION COST	1-4
1.5	ESTIMATED POWER COSTS	1-5
2.	**FERC LICENSE**	
2.1	INTRODUCTION	2-1
2.2	APPLICATION FOR FERC LICENSE	2-1
2.3	FERC ORDER ISSUING LICENSE	2-2
2.4	1990 AMENDMENT TO FERC LICENSE	2-3
2.5	M-K'S NOVEMBER 1991 STUDY REPORT	2-4
2.6	FERC 2004 EXTENSION	2-4
3.	**BOISE RIVER SYSTEM DESCRIPTION**	
3.1	BOISE RIVER WATER CONTROL STRUCTURES	3-2
3.2	ARROWROCK DAM AND RESERVOIR	3-3
3.3	BOISE RIVER SYSTEM WATER CONTROL PLAN	3-4
3.4	ARROWROCK RESERVOIR OPERATION	3-9
3.5	CONSIDERATION F BIOLOGICAL ASSESSMENT MODEL DATA	
4.	**ARROWROCK HYDROPOWER EVALUATION**	
4.1	ALTERNATES	4-1
4.2	METHODOLOGY	4-1
4.3	FRANCIS UNITS ALTERNATIVE RESULTS	4-6
4.4	KAPLAN UNITS ALTERNATIVE RESULTS	4-11
	APPENDIX	
Appendix 1	Hydropower Monthly Results for Power Plant VA Tech 15 MW Alternative	A4-1
Appendix 1.1	Arrowrock Turbine Flow (cfs)	A4-2
Appendix 1.2	Arrowrock Spilled Flow (cfs)	A4-3
Appendix 1.3	Arrowrock Tailwater Elevation (feet)	A4-4
Appendix 1.4	Arrowrock Net Head (feet)	A4-5
Appendix 1.5	Arrowrock Power Plant (MW)	A4-6

TABLE OF CONTENTS

Section	Title	Page
	Appendix 1.6 Arrowrock Power Plant Energy (GWh)	A4-7
	Appendix 2 Hydropower Monthly Results for Power Plant Voith Siemens 15 MW Alternative	A4-8
	Appendix 2.1 Arrowrock Turbined Flow (cfs)	A4-9
	Appendix 2.2 Arrowrock Spilled Flow (cfs)	A4-10
	Appendix 2.3 Arrowrock Tailwater Elevation (feet)	A4-11
	Appendix 2.4 Arrowrock Net Head (feet)	A4-12
	Appendix 2.5 Arrowrock Power Plant (MW)	A4-13
	Appendix 2.6 Arrowrock Power Plant Energy (GWh)	A4-14
5.	**THE DEVELOPMENT PLAN**	
5.1	THE DEVELOPMENT PLAN	5-1
5.1.1	The Installed Capacity and Overall Consideration	5-1
5.1.2	Powerhouse Location and the Tailrace Channel	5-1
5.1.3	Conveyance of Flow to the Turbines and the Bifurcations	5-2
5.2	THE POWERHOUSE ARRANGEMENT	5-5
5.2.1	Important Note	5-5
5.2.2	General Considerations	5-5
5.2.3	The Powerhouse Arrangement	5-6
5.2.4	Safety Against High Uplift Pressures	5-7
6.	**TURBINE-GENERATOR EQUIPMENT SELECTION**	
6.1	BASIC PARAMETERS AND WATER LEVELS	6-1
6.2	TURBINE-GENERATOR MANUFACTURERS RECOMMENDATIONS	6-2
6.3	OTHER ARRANGEMENTS AND EQUIPMENT CONSIDERED	6-4
6.3.1	Units of Different Speed and Size	6-4
6.3.2	Use of Two Speed or Variable Speed Units	6-4
6.4	TURBINE-GENERATOR EQUIPMENT SELECTED	6-4
6.5	CONSIDERATIONS OF BIDS RECEIVED FOR THE EQUIPMENT	6-5
7.	**POWERPLANT MAJOR EQUIPMENT**	
7.1	HYDRAULIC TURBINES	7-1
7.2	TURBINE GOVERNORS	7-2
7.3	TURBINE INLET VALVES	7-2

TABLE OF CONTENTS

Section	Title	Page
7.4	HYDRO GENERATORS	7-3
7.5	MAIN TRANSFORMER	7-4
7.6	DRAFT TUBE GATES AND HOISTING EQUIPMENT	7-4
7.7	DIESEL GENERATOR SET	7-5
7.8	AUXILIARY ELECTRICAL EQUIPMENT	7-5
7.9	AUXILIARY MECHANICAL AND BUILDING SERVICE SYSTEMS	7-5
7.10	STATION BRIDGE CRANE AND ELEVATOR	7-6
8.	**TRANSMISSION LINES AND INTERCONNECTION**	
8.1	EXISTING TRANSMISSION LINE	8-1
8.1.1	Background	8-1
8.1.2	Details of the Existing 23 kV Line	8-1
8.2	PROPOSED NEW TRANSMISSION LINE	8-2
8.2.1	Background	8-2
8.2.2	Selected Approach	8-3
8.3	INTERCONNECTION TO IDAHO POWER	8-3
8.3.1	Background	8-3
8.3.2	IPC Requirements	8-4
8.3.3	Current Status	8-5
8.4	COSTS	8-5
9.	**CONSTRUCTION PLANNING AND SCHEDULE**	
9.1	CONSTRUCTION PLANNING	9-1
9.2	CONSTRUCTION SCHEDULE	9-3
10.	**COST ESTIMATES**	
10.1	INTRODUCTION	10-1
10.2	APPROACH	10-1
10.3	DISCUSSIONS OF THE MAJOR ITEMS	10-2
10.3.1	Rock Excavation	10-2
10.3.2	Required Backfill and Associated Items	10-2
10.3.3	Concrete	10-3
10.3.4	Powerhouse Equipment	10-3
10.3.5	Powerhouse Auxiliary Systems	10-4
10.3.6	Engineering and Design Effort	10-5

TABLE OF CONTENTS

Section	Title	Page
10.3.7	Transmission Line and Interconnection	10-5
10.4	SUMMARY OF THE ESTIMATE	10-5
11.	**FINANCIAL PERFORMANCE ANALYSIS**	
11.1	PURPOSE	11-1
11.2	APPROACH	11-1
11.3	ANNUAL COSTS	11-2
11.3.1	Operation and Maintenance	11-2
11.3.2	Insurance	11-3
11.3.3	Property Tax	11-3
11.3.4	FERC Charges	11-3
11.3.5	Idaho Power Company Interconnection Facilities Maintenance	11-3
11.3.6	Other Miscellaneous Items	11-4
11.3.7	Total First Year Annual Costs	11-4
11.4	OTHER FINANCIAL ANALYSIS PARAMETERS	11-4
11.5	ESTIMATED POWER COSTS	11-5
11.6	SEQUENTIAL CASH FLOW ANALYSIS	11-5
12.	**DRAWINGS**	
	SK-01 General Plan and Unit Profile	
	SK-02 Roof Plan and Section	
	SK-03 Powerhouse Plan Views	
	SK-04 Powerhouse Longitudinal Sections	
	SK-05 Conduit Bifurcation Plans and Sections	
	SK-06 Penstock Plan and Profiles	
	SK-E1 One Line Diagram	

Tab 6

United States Department of the Interior
FISH AND WILDLIFE SERVICE
Snake River Fish and Wildlife Office
1387 S Vinnell Way, Suite 368
Boise, Idaho 83709
http://idahoes.fws.gov

TAKE PRIDE IN AMERICA

DEC 2 1 2004

Magalie Salas, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Subject: Arrowrock Dam Hydroelectric Project (FERC No. 4656) Boise River, Idaho. Consultation pursuant to Section 7 of the Endangered Species Act. OALS # 05-0149

Dear Secretary Salas:

The Fish and Wildlife Service is in receipt of your September 29, 2004 letter regarding Endangered Species Act (ESA) consultation on the Arrowrock Dam Project (Project), to be located at an existing Bureau of Reclamation (Reclamation) structure in Elmore County, Idaho. Based on your letter and a meeting between the Licensee and my staff that took place in Boise on December 7, 2004, the Service is providing you with these comments and recommendations.

Your letter requests that the Service concur with your determination that the project will not affect or is not likely to adversely affect any listed species that may occur at the Arrowrock Dam facility. The Service cannot concur with this determination for several reasons. First, the Service is currently engaged with Reclamation in formal section 7 consultation on the operation and maintenance of all of their facilities upstream of Lower Granite Dam on the Snake River, including Arrowrock Dam. This consultation must and will be completed by March 31, 2005 per a commitment made by Interior Secretary Norton as part of the Settlement for the Snake River Basin Adjudication and Nez Perce Tribal water rights. Arrowrock Dam is an integral part of this ongoing consultation and its effects on bull trout and other listed species over the next 30 years are now being analyzed by the Service. As part of this consultation, the Service must consider the fact that based on continuing research by Reclamation scientists, bull trout entrainment through the outlet works continues to occur at Arrowrock Dam, particularly when reservoir elevation is decreased to certain levels. Secondarily, Service staff indicated to the licensee at their recent meeting that as entrainment occurs through the Arrowrock Dam outlet works, bull trout mortality will likely be much higher for fish that pass through the generating turbine anticipated in the license than it would be for fish that merely pass through a regulating valve.

The Service recommends the following approach to move forward on this consultation. The Federal Energy Regulatory Commission (FERC) should designate the Licensee as its non-Federal representative in this consultation so that we may work with them locally on this project. The Service must complete the current formal consultation with Reclamation before we can

engage the Licensee in a consultation on their project. Concurrently, the Licensee should continue to refine its design proposal in terms of its operating criteria and generating equipment and keep the Service apprised of any developments with respect to issues that may affect bull trout entrainment or mortality. When the Service has finished its formal consultation with Reclamation, we will then be able to move on to completion of our evaluation of the addition of FERC licensed generating facilities at Arrowrock Dam in a timely fashion.

Please let us know if this approach meets with your approval. You may contact either Alison Beck Haas (208 378-5384) or Michael Morse (208 378-5261) of my staff if you have any questions on this matter.

Sincerely,

for Alison Beck Haas

Jeffery L. Foss, Supervisor
Snake River Fish and Wildlife Office

cc: BOR, Boise (John Tiedman)
IDFG, Boise (Scott Grunder)
Licensee, (Albert P. Barker)
Corps of Engineers, Lucky Peak Dam (Dave Brownell)

Tab 7

United States Department of the Interior
FISH AND WILDLIFE SERVICE
Snake River Fish and Wildlife Office
1387 S. Vinnell Way, Room 368
Boise, Idaho 83709
Telephone (208) 378-5243
http://IdahoES.fws.gov

APR 29 2005

Magalie Salas
Secretary
Federal Energy Regulatory Commission
888 First Street NE
Washington, D.C. 20426

Subject: Arrowrock Dam Hydroelectric Project, Boise River, Idaho—Licensee Request for Stay and Endangered Species Act Section 7 Consultation FERC #4656 OALS #1-4-05-I-523

Dear Secretary Salas:

The Fish and Wildlife Service (Service) is in support of the licensee's request for a stay, and 120 day backdate of that stay, for the Arrowrock hydroelectric project on the Boise River in Elmore and Ada Counties, Idaho. In 1989, the Commission issued a license to several irrigation districts to construct and operate a hydroelectric generating facility on the existing Arrowrock Dam. In a March 21, 2005 filing with the Federal Energy Regulatory Commission (Commission), the licensee's representative requested a stay and 120 day backdate for all license conditions and construction for the project. As your non-Federal representative, the licensee is in informal consultation with the Fish and Wildlife Service pursuant to section 7 of the Endangered Species Act (Act). Granting the request for stay will provide us time to complete informal and formal consultation on potential effects of the project on species listed under the Act and will give the licensee time to determine what actions are necessary for its construction and operations in light of our consultation.

In a December 21, 2004 letter to the Commission, the Service advised that formal consultation for the license was needed. We also informed you that consultation for the hydroelectric license could not proceed until we completed our Biological Opinion for the Bureau of Reclamation's (Reclamation) projects in the upper Snake River basin. This is because our consultation with Reclamation included operation of the Arrowrock dam and reservoir and effects of construction and operation of the hydroelectric facility could not be fully understood or analyzed until we completed our analysis of Reclamation's operation. This is particularly true here, where the licensee is bound to operate within the scope of Reclamation's operations of the reservoir. We completed that consultation with issuance of a Biological Opinion to Reclamation on March 31, 2005. The Service concluded that Reclamation's operations would not jeopardize the continued existence of any species listed threatened or endangered under the Act.

TAKE PRIDE IN AMERICA

We have been engaged in informal consultation under section 7 with the licensee's representative, Albert Barker of Barker, Rosholt, and Simpson law firm. At an April 22, 2005 meeting, the Service and Mr. Barker agreed tentatively to work toward a goal of completing consultation for the hydroelectric project by August 15, 2005. The licensee and Service intend to cooperate to develop a project description sufficient for our section 7(a)(2) analysis for the project, and to generate and document information about all potential effects of the action on two species, bull trout and bald eagle. We anticipate that formal consultation will be needed. In support of our efforts to complete consultation in August, we ask that the Commission provide a written request for formal consultation to the Service on or about June 15, 2005. The licensee will provide Commission staff with all necessary information to make the consultation request, including a detailed project description, information about the relationship between the hydroelectric project and Reclamation operations, and potential effects of the action on bull trout and eagles. We anticipate that the Service will have agreed in advance of the submittal to the Commission that the information is sufficient to initiate formal consultation.

The 60 day time period we are anticipating is considerably shorter than the 135 day period for completing a Biological Opinion anticipated by regulations implementing section 7. Based on what we know now, including the strategy agreed to by the licensee, the August 15 completion date is feasible. If the situation changes, we will inform both the Commission and the licensee.

Please contact Alison Beck Haas of my staff at (208)378-5384 if you have questions or concerns.

Sincerely,

for Jeffery L. Foss, Supervisor
Snake River Fish and Wildlife Office

cc: Licensees, Boise (Albert Barker)
BoR-Snake River Area Office, Boise (Jerry Gregg)

Tab 8

Albert Barker

From: Thomas Lovullo [Thomas.Lovullo@ferc.gov]
Sent: Friday, July 29, 2005 12:04 PM
To: Albert Barker
Subject: RE: Arrowrock No.4656

Al, Given that there is currently a rehearing pending before the commission concerning this very matter, I am precluded from responding. Regards, tj

-----Original Message-----
From: Albert Barker [mailto:apb@idahowaters.com]
Sent: Thursday, July 28, 2005 11:50 AM
To: Thomas Lovullo
Subject: Arrowrock No.4656

TJ-

The Irrigation Districts have filed a motion to reconsider the Commission's Order denying the request to Stay the license conditions, and the Commission's decided to grant the motion, at least long enough to take a look at the basis for our motion.

We have been working with the Fish & Wildlife Service to describe the project and its impacts on bull trout so they can complete the consultation they promised to do for this project. We have a draft of a description of the construction project and a separate document describing the operations. The construction draft is done. The operations draft will be finalized on Tuesday, when I meet with the Service again. The Service has what they need to complete consultation and are on schedule. The Service has all the baseline information and status of the species information in their 2005 BiOp on the operations of the Upper Snake projects (which includes the Boise River and Arrowrock). That information is not included in the descriptions, but will be used in the consultation. The project descriptions we have developed are attached.

Two areas of questions. - First, do you have any comments on either description? Are there additional items from the Commission's perspective that need to be or ought to be included in the descriptions? [We will wrap all permits - 404, etc. into the consultation and the Service is on board with that over-arching consultation approach].

Second, the Districts were designated as non-federal representative for consultation with the Service. In light of that designation, the Service wants to know if the Commission will take some formal action requesting formal consultation or if it sufficient that the Districts do so? If there is some FERC procedure that we need to follow to get this consultation done with the Districts as non-federal representative, please let me know.

Thank you for your help.

Albert P. Barker
Barker Rosholt & Simpson LLP
(208) 336-0700

Tab 9

TESTIMONY OF
MIKE D. KUKLA

I am a director of the Boise-Kuna Irrigation District. I was first elected to the Board of Directors of the Boise-Kuna Irrigation District in 1998. I have served continuously since that time. I have farmed ground in the Boise-Kuna Irrigation District for most of my adult life.

Shortly after my election to the Board of Directors of Boise-Kuna Irrigation District, I was appointed to the Steering Committee for the Lucky Peak Power Plant Project and for the Power Committee which oversees the Arrowrock Hydroelectric Project. The revenues from the Lucky Peak Hydroelectric Project are critical to our District's ability to deliver water to the District's landowners, as the revenues are used to help offset the costs of delivery. The goal of the Irrigation Districts with the Arrowrock Hydroelectric Project would be to provide a similar source of income to help pay costs of the operation of the irrigation delivery system. The Boise-Kuna Irrigation District is a non-profit, governmental entity. All revenues are used for operation and maintenance of the system.

Boise-Kuna Irrigation System is one of five Irrigation District that make up the Boise Project Board of Control. Collectively, these Districts irrigate 167,000 acres of land in the Boise Valley. As fuel costs grow and commodity prices drop, farming is a very difficult business with small margins. Using the power revenues to help keep the costs of delivery of water under control is critical to many of the farmers in our Irrigation District and throughout the Boise Project.

As part of my responsibilities with the Power Committee, I have attended all the Power Committee meetings. The Districts have been working very hard over the last several years to build a project at Arrowrock Dam. Many of the difficulties we have experienced have been due to bureaucratic delays in various governmental agencies, particularly with the Fish & Wildlife Service and with the Federal Energy Regulatory Commission.

In March of 2003, we submitted to FERC an application for an extension of time to start construction of the project. FERC did not rule on that request for extension of time until January of 2004, at which time we had a little more than one year left to actually get the project under construction. The Power Committee met several times a month during 2004 to issue requests for proposals, evaluate and select a new contractor for the project, and to reconfigure the project so that it was economically viable. We also met on a regular basis with potential power purchasers. Of course, those power purchasers needed to be assured that the project could be built and that the regulatory agencies had approved the project.

The Districts selected Shaw Stone & Webster to help them redesign the project to meet the needs of the power purchasers. We worked closely with Shaw Stone & Webster over the course of the summer of 2004 and came up with a project that would significantly reduce the impact of the powerplant by eliminating tunnels through the Arrowrock Dam and to connect into the newly refurbished outlet works on the downstream face of the Dam. Realizing that FERC approval of what we were trying to accomplish was critical and that the deadline for start of construction of March of 2005 was quickly approaching, we scheduled a meeting with the staff of FERC. That meeting

took place on August 25, 2004, with approximately six members of the FERC staff. I was present at this meeting, along with our attorney and representatives from Shaw Stone & Webster. We explained the proposal for the project, and had drawings available for review of the new configuration. The new configuration involved placing the powerhouse in the exact same location as the powerhouse for the licensed project. The only significant differences were a reduction in the generation capacity and elimination of a penetration through the Dam. The powerline would follow the licensed route using the existing Bureau of Reclamation powerline right of way, but would not require extension to a substation in Boise because of the reduction output from the smaller facility.

At this meeting, the initial reaction to the proposal from members of the staff was that these changes would require a license amendment, and that a license amendment would require a significant processing time. We discussed at length the schedule for building the project. It did not appear that we could meet the start of construction date for the proposal if a license application would have to have been processed as originally suggested by FERC staff. Accordingly, we began discussing alternatives. From my perspective, I thought we had reached consensus by the time we left the meeting that a license amendment would not be required and that we could meet the start of construction date by start of manufacturing of component parts or "bending of metal." In fact, when we left, the staff agreed to provide the contractor, Shaw Stone & Webster, with information on "bending of metal" as meeting the deadline for start of construction.

The other significant issue related to a potential license amendment was the question of bull trout. Between the time the license was originally issued and the time of the meeting with FERC in August 2004, the Fish & Wildlife Service had listed bull trout

as a threatened species. The Fish & Wildlife Service had advised us and FERC that the Service insisted on consultation over the operations of the Arrowrock hydroelectric facility. With the modifications to the project eliminating the tunnels through the Dam, it was clear to us at this meeting that the potential for impact to the bull trout in Arrowrock Reservoir from the hydroplant was limited or nonexistent. This was so because the Arrowrock powerplant can only use water that is released for irrigation purposes and has no independent authority to demand water releases. No longer would the releases all go through the powerplant and a separate tunnel, but would go through the existing outlet works. The decision was reached at that meeting by FERC staff that FERC would send a letter to the Fish & Wildlife Service advising the Service that, with the revised configuration of the facility, there would be no effect on the species. A determination that the hydroelectric plant would not affect the species would allow the project to start construction by the March 2005 start of construction date. Therefore, no amendment to the license would be necessary to trigger a Section 7 consultation with the Fish & Wildlife Service because the Service should concur in the no effect determination.

Ultimately, the Fish & Wildlife Service did not agree with the no effect determination, although it took three months for the Service to make that decision. At that time, the Service advised us that it would not even begin consultation on the project until after the deadline for start of construction because of other consultation the Service was conducting. Without approval of the project from the Fish & Wildlife Service, there was no way that the Districts would have been able to issue bonds to fund the project, and the start of construction date was doomed.

The Districts then asked FERC for a stay of the license conditions just to give us sufficient time to complete the consultation with Fish & Wildlife Service, because Fish & Wildlife Service was willing to initiate consultation after March of 2005. FERC turned us down on the stay request asserting that the staff had told us that we were required to amend the license, and, because we had not sought a license amendment, we could not even hope to start construction. This conclusion in the FERC order was a shock to me because it directly contradicted what I understood the direction of FERC staff to have been when we left the meeting in August of 2004. We then sought rehearing, and FERC again turned us down. This time, they also asserted we had no hopes of getting Fish & Wildlife Service approval, and that we did not have a real power sales contract in place. Both of these assertions are false. We worked with Fish & Wildlife Service over the course the spring and summer of 2005, and the Fish & Wildlife Service was prepared to, and in fact advised us that they could have issued a biological opinion within as little as thirty days once formal consultation began because of the consultations that we had been engaged with them in advance and because of the previous work that Fish & Wildlife Service had done on Arrowrock Reservoir operations. In addition, FERC totally ignored the fact that we finalized a power sales contract with Clatskanie People's Utility District, and that the Irrigation Districts' voters overwhelmingly approved this contract in elections held in August of 2005. Under our state law, the voters are required to approve any power sales agreements and borrowing money for financing of hydroelectric facilities. A two-thirds majority is required, and each of the Districts approved that by far more than two-thirds majority. In fact, in Boise-Kuna, the voters approved the contract by an excess of 90% approval.

This vote shows that the Arrowrock Hydroelectric Project is very important to the farmers and landowners of the District. It will provide a tremendous benefit to the landowners at no cost to the federal government. We will provide significant employment in building the project, and we will do our small part in helping to reduce this country's reliance on foreign oil and natural gas and other fossil fuels. On behalf of the people of the Boise-Kuna Irrigation District and all of the farmers and landowners throughout the Boise Project, I strongly urge Congress to pass this legislation.

Tab 10

Stone & Webster, Inc.
100 Technology Center Drive
Stoughton, MA 02072-4705
617-589-5111
FAX: 617-589-5892

Shaw® Stone & Webster, Inc.

March 20, 2006

Barker, Rosholt & Simpson, LLP
205 North 10th Street, Suite 502
Post Office Box 2139
Boise, ID 83701-2139

Attention: Mr. Albert P. Barker

Subject: Arrowrock Hydroelectric Project

Dear Mr. Barker:

I am writing this letter to confirm that, upon a positive outcome from Congress, Shaw/Stone & Webster Inc. is ready to resume engineering and design activities in support of the start of construction of the Arrowrock Hydroelectric Project. We are prepared to restart the tasks that were suspended last fall upon FERC's decision not to grant the stay of license conditions that would have allowed the Districts to commence construction.

Based upon the results of the discussions with FERC staff during the August 25, 2004 meeting held in Washington DC, we understood that a license amendment would not be required in advance of the start of construction and that the commencement of fabrication of component parts of the turbines (bending of metal) would constitute the start of construction.

We look forward to working with the Districts on the Arrowrock Hydroelectric Project.

Very truly yours,

A. Stanley Lucks

A. Stanley Lucks
Senior Vice President

Tab 11

Albert Barker

From: Albert Barker [apb@idahowaters.com]
Sent: Wednesday, September 01, 2004 11:06 AM
To: william.gueylee@ferc.gov
Subject: Arrowrock No.4656

Draft FERC etter1.doc (32 KB)..

Bill-

Thank you for seting up the meeting. I thought it was useful for us to explain where we have been, where we are and where we are going. I am attaching a brief recap of the meeting setting out our perspective. I will try to call you later this week to discuss the various pathways that might be available.

Albert P. Barker
Barker Rosholt & Simpson LLP
(208) 336-0700

Mr. William Guey-Lee

Arrowrock Hydroelectric Project
FERC License No. 46565
Meeting with FERC Staff August 25, 2004

Dear Bill:

Thank you for arranging the meeting with FERC staff on August 25, 2004 to allow the Licensees and our engineers, Shaw Stone & Webster, to discuss the current status of the Arrowrock Hydroelectric Project. We are at an opportune moment to enter into long-term agreements with potential purchasers of the electricity to be generated by the project. The revised design for the project is economically and technically more appropriate and more attractive to prospective purchasers. We are also at a critical time for the project to meet the licensed schedule. The project is located at an existing Bureau of Reclamation dam and reservoir. No new impoundments and no changes to the operation of the dam are required. In our view it is the type of environmentally benign project that the Commission and resource agencies should look upon with favor. This letter summarizes the information that we shared with the FERC staff at the meeting with respect to the development of the project design and the status of compliance with the Articles that are included in the FERC License.

Design Developments

During 2002, we had developed and discussed with FERC staff a different, 30 MW configuration. Further evaluation and refinement of the design has lead to some significant break-throughs. The Project design has been further refined to better reflect the current market for the sale of power within the region. This has resulted in the design

of a power facility housing two Francis units with a combined capacity of 15 MW. This design significantly increases the plant capacity factor, which, when combined with the reduced plant capital cost, results in a project that is much more attractive to power purchasers. The powerhouse will remain within the boundaries of the arrangement that was previously submitted to and approved by the Commission. Yet, it will occupy a smaller footprint, is not as tall as the originally proposed powerhouse, and requires a much shallower excavation of the bench in the right abutment. The tailrace channel is also shallower but is configured in a similar manner and in the same location as the original concept.

The reduction in the capacity to 15 MW has allowed the deletion of the proposed power tunnels/conduits through the Arrowrock Dam. In their place the design will tap into two of the existing outlet pipes and new penstocks recently installed by the Bureau of Reclamation. A bifurcation from these penstocks will be on the downstream face of the dam and will be used to conduct water to the turbines. The Bureau has recently refurbished, replaced the valves and began operating ten of these low-level outlet pipes for discharge of the flow from Arrowrock into Lucky Peak. We will consult with the Bureau of Reclamation on this design configuration, as required by Article 117, to ensure compatibility with and protection of Reclamation facilities.

These design developments significantly reduce the impact of the project. Lowering the elevation of the intake of the water from the proposed power tunnels to the existing low-level outlets will be beneficial for Arrowrock fisheries. The Bureau of

Reclamation has completed extensive environmental studies, including an EIS and a Section 7 consultation with Fish & Wildlife Service, on this valve installation and new dam operations. The Fish & Wildlife Service found that the long-term impacts of the valve project and operations would be beneficial to bull trout when compared with historical operations. B.O., p. 21. The water flow conditions through the revised power plant will match the existing flow conditions at the project. No drawdown of Arrowrock will be required for construction, as no work will be necessary on the upstream face of the dam.

There have also been positive developments with respect to the transmission line required for the project. Idaho Power Company has informed us that, with the 15 MW project, the length of the transmission line can be significantly reduced. Tie in to the existing Idaho Power system would occur at a voltage regulating facility where the existing Bureau of Reclamation line from Arrowrock dam currently ties into the Idaho Power system, approximately five miles downstream of Arrowrock. We will use the existing Bureau of Reclamation right of way. This will eliminate the need to bring transmission lines 15.2 miles to the Boise Bench substation, as contemplated by the License. This development would eliminate the need to reroute any portion of the line and the need to update the EA for the rerouted line as we discussed with staff in 2002. There will be no impact on the area downstream of the tie-in point. As the transmission lines would follow the existing Bureau of Reclamation lines and merely repair or upgrade as necessary, there will be no visual impacts from the transmission lines.

A set of preliminary design drawings for the revised powerhouse was left with staff during our meeting. When we receive documents from Idaho Power Company confirming the new tie-in location I will forward those as well.

Compliance with Articles Included in FERC License

The question was raised as to which license articles we would amend. The Licensees intend to fully comply with all articles in the current License. These articles require the Licensees to prepare plans for uses of and impacts to federal lands and resources during construction and operation. No amendment to any of the articles is required. We also believe that this less intrusive design will make it easier to meet any concerns that the Forest Service, Bureau of Reclamation, Corps of Engineers, and other agencies might have in reviewing the plans required to be submitted under those various articles. As we discussed, the substance of Article 410 has been completed, but we will submit the necessary plan required by this article and do not perceive any amendment to that article to be necessary.

Start of Construction

We are working hard towards achieving the start of construction prior to March 26, 2005. To assist us in preparing a schedule to complete the design of the project, achieve a Power Purchase Agreement, and start construction, we would greatly appreciate any guidance you can supply with respect to the Commission's view on what constitutes "start of construction". We understand that mere mobilization is insufficient; however, fabrication of component parts has been held to constitute start of construction.

In particular, we are interested in a schedule for placing of the contract and beginning work on the fabrication of the penstock and bifurcation. We understand that this particular work may not have been before the Commission for its decision, but other similar work may have been.

We appreciate your assistance and consideration of the necessary steps to allow us to move to completion, and look forward to your continued support in achieving a successful project.

Very truly yours,

Albert P. Barker

cc: Shaw Stone & Webster
Boise-Kuna Irrigation District (*et al*) Power Committee

Tab 12

United States Department of the Interior
FISH AND WILDLIFE SERVICE
Snake River Fish and Wildlife Office
1387 S. Vinnell Way, Room 368
Boise, Idaho 83709
Telephone (208) 378-5243
http://IdahoES.fws.gov

SEP 0 1 2005

Magalie Salas, Secretary
Federal Energy Regulatory Commission
888 First Street N.E.
Washington, DC 20426

Subject: Arrowrock Hydroelectric--Boise River, Ada and Elmore Counties, Idaho--Endangered Species Act Consultation
FERC #4656 OALS #05-0808

Dear Secretary Salas:

The Fish and Wildlife Service (Service) is writing to suggest that the Federal Energy Regulatory Commission (Commission) request formal consultation under section 7 of the Endangered Species Act for the Arrowrock Hydroelectric project. In a September 29, 2004 letter to the Service you designated the project licensees as your non-Federal representative in consultation for this project. We have been working directly with the licensees' representative and we have reached agreement that constructing and operating the project may adversely affect bull trout. The Service and licensees' representative have worked in close cooperation, and we now have sufficient information to proceed with formal consultation and development of a Biological Opinion. Pursuant to regulation (50 CFR 402.08), the non-Federal representative may conduct *informal* consultation. The Federal action agency must initiate formal consultation, and we suggest you do.

As noted in our December 21, 2004 letter to you on this project, we were in consultation at that time with the Bureau of Reclamation (Reclamation) on operation of all their projects in the Upper Snake River Basin, including Arrowrock Dam. That consultation was completed when we provided a Biological Opinion to Reclamation on March 31, 2005. We also noted in our December letter that we anticipated that installation and operation of the hydroelectric project would have adverse effects on bull trout that were over and above those that would occur at Arrowrock Dam without the project. In our work with the licensees' representative, the potential for some increased effects has been identified—increased mortality of fish may result from their being entrained through the proposed turbines. Also, under some operations where flows out of Arrowrock would be shaped over a period of hours in a given day, there may be some increased risk of entrainment occurring. As such, formal consultation on the license is appropriate.

We are aware that the Commission is considering issues associated with this license and time frames. Please be advised that we do not anticipate that competing formal

consultation for this license needs to represent a significant time delay. Because of the amount and quality of existing information associated with the Reclamation consultation, and having necessary information already provided to us by the licensees' representative during informal consultation during the last several months, the Service expects that we can complete a Biological Opinion for the hydroelectric project in considerably less time than the 135 days anticipated by regulation. An Opinion will be issued as soon as possible after we receive your request to initiate formal consultation.

We look forward to receiving your request for formal consultation at your earliest convenience. Please contact Alison Beck Haas of my staff at (208)378-5384 if you have questions or need assistance.

Sincerely,

Alison Beck Haas

for Jeffery L. Foss, Supervisor
Snake River Fish and Wildlife Office

cc: Barker Rosholt Simpson, Boise (Albert Barker)
Bureau of Reclamation--Snake River Area Office, Boise (John Tiedeman)
FWS-RO, Portland (Estyn Mead)

Tab 13a

RESERVOIR OPERATION
ARROWROCK PROJECT

The Boise River Basin is operated as a system for irrigation and flood control as primary purposes, and in accordance with the Water Control Manual Boise River Reservoirs revised in 1985. Since hydropower is a secondary purpose of Boise Reservoir System, the addition of a power plant at Arrowrock must not interfere with the primary purposes listed above. Thus, the Arrowrock power plant will generate power using flows released from Arrowrock for primary purposes, without interfering with those primary purposes. In addition, the FERC license requires that the power generation shall not interfere with water delivery. As a consequence, operations of the power plant depend upon the operations of the Arrowrock and Lucky Peak reservoirs by the Bureau of Reclamation.

Arrowrock reservoir operation has been evaluated on a monthly average discharge basis. Arrowrock reservoir operation monthly data were presented for average conditions in Figure 3.3 of the Feasibility Report. In comparison to Arrowrock inflow, lower discharges occur during the months of April, May, and June, reflecting flood control regulation. Arrowrock's discharge is greater than inflow in the months of July and August, to maintain Lucky Peak as near full supply level as possible for recreation purposes. Arrowrock reservoir elevation decreases faster than Lucky Peak elevation as a result of this purpose.

The Bureau of Reclamation's Proposed Action for Operation of the Upper Snake Projects modifies the historic operations to increase water storage in Arrowrock. Under the proposed operations approved by the Service in its 2005 Biological Opinion, the minimum elevation is 3044, but elevations would only rarely drop below elevation 3078. Reclamation has established an administrative conservation pool of 28,700 acre-feet in Arrowrock. That pool corresponded to an elevation of 3078.32 ft, but Reclamation's sedimentation survey has since determined that the administrative conservation pool corresponds to an elevation of 3090. Under Reclamation's Proposed Action approved by the Service, Arrowrock is near maximum storage (elevation 3215) from April through July in mean and maximum water years. Arrowrock hydro operations are evaluated based upon this same Proposed Action.

Lucky Peak monthly reservoir elevation variations are encountered with a minimum monthly value of 2907.45 ft to a maximum of 3055 ft. On a daily time step, it can be expected to sometimes reach the minimum pool elevation of 2905 ft in November and/or December. Higher reservoir elevations in Lucky Peak of 3040 to 3055 are met during the May to August period, for recreational purposes.

At maximum pool elevation (3055), Lucky Peak operation causes the water to rise about 90 ft on the downstream face of the Arrowrock Dam. The backwater from Lucky Peak Dam reduces the effective net head for the projected Arrowrock power plant, thus reducing generator output. Recreational constraints on Lucky Peak Reservoir dictate that Lucky Peak be kept as full as possible from Memorial Day to Labor Day. This practice forces

Arrowrock Reservoir to be drawn down first, which further reduces power plant generation output. Also, there are some months where Arrowrock flow discharge is null, thus no generation will be possible. This occurs mainly in October.

A. Operations

Under the proposed operations of the Arrowrock hydroelectric project, the weir downstream of the plant will be set at elevation 3022. Minimum operating head is 70 ft at preliminary design stage on the turbines, plus line losses and flow over the weir, yields total minimum head of 75 feet. With Lucky Peak Reservoir drawn down below 3022 such that the weir elevation of 3022 is governing and with one unit running at a minimum flow of 300 cfs allowing for the minimum head water elevation in Arrowrock Reservoir is 3097 feet. As design progresses, some improvements in head operations are possible, so minimum operating elevations should be considered from 3092 to 3097. Below elevations 3092 – 3097, the hydroelectric plant would not operate, and any water released would be released through the Bureau of Reclamation's valves rather than through the turbines in the power plant. In July and August the mean water levels in Lucky Peak are 3051 and 3042, respectively. During mean water years, the minimum operating conditions for the power plant in July and August would be 70 to 70 feet above Lucky Peak elevations, at elevations 3121-3126 and 3112-3117. Considering this minimum operating head, minimum operating conditions for the power plant in July and August are above the 3111 elevation in Arrowrock where entrainment occurs through the valves. See FWS 2005 Biological Opinion on Bureau of Reclamation's Upper Snake Projects (USFWS 2005). Flow velocity near the surface from generation is expected to be imperceptible. It is anticipated that entrainment of fish could result only if the fish are moving deep under the surface. When Lucky Peak elevations drop to 3022 or below and, if the level in Arrowrock Reservoir is below elevation 3092 to 3097, the turbines would not be running. Any fish entrained at the dam under those conditions would pass through Reclamation's Clamshell discharge valves into Lucky Peak Reservoir.

When the power plant is operating, a significant amount of water would continue to be released through the Clamshell gates, reducing fish exposure to the turbines. The power plant at 15 MW capacity would not pass through the turbines all the water released from Arrowrock. A comparison of Arrowrock turbined flow (Appendix 3) with Arrowrock spilled flow (Appendix 4) shows that, in July and August, the mean flows turbined are 1339 cfs and 1336 cfs, respectively, while the spilled flows are 2420 cfs and 1857 cfs, respectively. In this timeframe, on average most of the flow is released through the valves and not through to the power plant. In the non-irrigation season, October through April, roughly 62% of the mean flows are turbined and 38% are spilled, or sent through the Clamshell valves. For the months October – December, the turbined flows are substantially higher, on average, in excess of 90%. This calculation of "spilled flow" refers to all flow that is not released through the power plant, including all flow that is released through the Clamshell discharge valves. The term as used here does not refer only to water spilled over the spillway on the right abutment of the Arrowrock dam during high flow conditions.

The impact of these operational restrictions is that the power plant generally will not be operating at the lowest elevations of Arrowrock when entrainment is most likely to occur and that even when operating at levels where entrainment might occur, not all of the flow will be released through the turbines.

B. Entrainment Conditions

To demonstrate the impact of these restrictions on Arrowrock reservoir operation as it relates to fish entrainment potential, Arrowrock monthly outflow and turbined flow are compared here for different ranges of flows and reservoir elevations. Arrowrock reservoir operation statistics were computed using monthly data of a 73-year period (October 1927 to September 2001) from computer modeling based on the November 2004 "Proposed Action Scenario" of the Bureau of Reclamation. Reclamation has stated that its proposed operation for the next thirty years of its Biological Opinion is based upon the modeling of this historic data over this 73-year period. This data represents the range of conditions Reclamation will operate under during the term of its Biological Opinion.

Table 1 lists for each range of reservoir elevation the number of months that reservoir outflow occurred in each of the tabulated flow ranges under the Proposed Action. "Arrowrock" or "reservoir" outflow are flow releases to be made based on downstream requirements and reservoir operational parameters, i.e., "available flow." Related to the specific conditions where fish entrainment is most likely to occur (outflow greater than 695 cfs and reservoir elevation below 3111 ft) (USFWS 2005), we observe that 25 months (light gray area) over the 876 months included in the period correspond to these conditions (less than 3% of the months).

Using monthly reservoir elevation, we also observe that Arrowrock reservoir drops below 3111 ft in at least one month for 16 years over 73-year period (~22%). This occurs mainly in September and October. Winter discharges from October through April will exceed 695 cfs and the reservoir's elevation will be near or below 3111 in 65% of the years over the 30-year term of the Biological Opinion, although conditions would not be suitable for entrainment 100% of the time in those 65% of years (USFWS 2005). The difference between these figures represents daily data used by the Service in the Biological Opinion compared to average monthly data used in the hydrological evaluations for the power plant. For generation analysis over a 34-year period, monthly data is considered more representative of conditions and therefore has been relied upon in the hydroelectric plant generation analysis. Monthly data likely do not fully represent these drawdowns, which can be of short duration and/or smoothed on a monthly basis. Nevertheless, this monthly analysis should provide a realistic estimate of drawdown events of meaningful duration.

C. Shaping

The Arrowrock proposed power plant will have two Kaplan units, each one having a 700 cfs rated flow and an installed capacity of 7.5 MW. To simulate operation of the power plant within the Arrowrock reservoir operation scheme, similar statistics were computed for instantaneous turbined flow; i.e., flow releases through the turbines, based on machine capability, available

flow, and shaping operations to effectively increase overall energy production.

Distribution of turbined outflow for a specific reservoir elevation range can be different than those for reservoir outflows. These changes are caused by parameters used to represent realistic power plant operation near optimum efficiency, which depend on characteristics of the proposed turbines and may lead to shaping periods at Arrowrock. For Arrowrock, Table 2 provided herein and Appendices 3 and 4 represent the flows of the hydro project, after shaping is considered. The monthly flow rates in this analysis do not necessarily correspond to the Reclamation flow rates because the hydro flow rates are adjusted for shaping. Shaping will not affect the elevation of either Arrowrock or Lucky Peak Reservoir on a daily or monthly basis, but will increase velocities under certain conditions, as described below.

For the power plant operation simulation, when monthly outflow was less than turbine minimum flow capability, the license allows the power plant could operate a part of a day at a different, higher, "shaped" flow and the power plant shut down the remainder of the day. Thus, to account for these flow changes on a given monthly basis, flow releases in this hydrologic analysis have been time-shifted to achieve minimum reasonable turbine generation for a portion of the month, instead of considering no generation at all in the month. No daily analysis has been performed, but again monthly data is considered representative. If monthly reservoir outflow were less than or equal to 500 cfs, turbined flow was set to 500 cfs, which is near optimum efficiency of 1-unit operation. If monthly reservoir outflow were between 500 cfs and 1000 cfs, turbined flow was set to 1000 cfs, which is near optimum efficiency of 2 units. These flows are illustrated on Appendices 3 and 4. The consequence of this adjustment is to show greater likelihood of exceeding the entrainment velocity of 695 cfs in a given month than the Bureau of Reclamation will show, when the flows would have been in the 500 to 1000 cfs range.

For reservoir outflow greater than 1000 cfs, turbined flow was set equal to reservoir outflow and we assume that there is no shaping during such months. Maximum power plant flow rate was also considered in setting turbined flow; it was the lesser of 1) the maximum flow allowed for the net head, or 2) the flow value corresponding to maximum generation of 15 MW.

Table 2 lists for each range of reservoir elevation the number of months that modeled turbine outflow occurred in each of the tabulated flow ranges. We observe that there are 17 months (light gray area) over the 876 months of the period wherein monthly turbined flows correspond to potential conditions for fish entrainment (2% of the months).

For the entire range of reservoir elevations, for turbined outflow compared with reservoir outflow, we observe a greater number of months with flow conditions in the 1000 cfs - 1100 cfs range. As indicated previously, this is caused by operation of the Arrowrock turbines preferably near optimum efficiency (2 units at about 500 cfs each). These shaping periods occur mainly with higher reservoir elevations. Likewise, a shift in the outflows from the 0 cfs - 500 cfs range in Table 1 to the 500 cfs - 600 cfs range in Table 2 reflects power plant operation near the optimum 1-unit condition.

To further evaluate the effects of shaping, one can examine the actual daily releases from Arrowrock over the period of 1994 to 2004. This is the same time period used in the 2005 Biological Opinion, and it provides more detailed information concerning potential entrainment due to shaping operations. Table 3 displays the number of days in each month that the actual releases were between 500 and 1000 cfs.[1] Those conditions mark the potential to shape flows from 500 up to 1000 cfs in a particular day. This table likely overestimates the potential increased velocities in this shaping scenario for several reasons. First, it includes flows as low as 500 cfs, which is the optimum efficiency of a single turbine. It also includes flows as high as 997 cfs. Actually shaping from 997 cfs to 1000 cfs would not likely be undertaken, but, even it were, the velocity differential in the reservoir would be imperceptible.

This data shows that, for the months of April, May, June, and July, there is no shaping between the 500 to 1000 cfs range. A few shaping opportunities occur in a few years during August, but the elevation of Lucky Peak makes entrainment through the turbines unlikely in August because the operational limitations on the turbines listed above. September and October offer greater opportunities for increasing velocity for shaping from 500 to 1000 cfs, but, in those months, the bull trout are just returning to the reservoir and are found mostly in the upper reaches of Arrowrock Reservoir, rather than closer to the dam (USFWS 2005). In November, 41 of 300 days show potential to shape from 500 to 1000 cfs, December 33 of 310 days, January 10 of 310 days, February 30 of 310 days, and March 35 of 310 days. Thus, the overall potential to shape in the winter from 500 cfs up to 1000 cfs appears to occur about 10% of the time.

However, not all of these releases will occur at elevations which are conducive to entrainment. Table 4 shows the days in the same time period as Table 3 when Arrowrock Reservoir is below elevation 3111. In January and February, the reservoir is not below 3111 in any year (excluding the 2003 to 2004 valve repair drawdown). The only years in March when there was an opportunity to shape between 500 to 1000 cfs, the reservoir was above 3111 elevation, and the only March dates (1997) when the elevation was below 3111 elevation, there was no shaping opportunity between 500 to 1000 cfs. Thus, there is no impact to entrainment from shaping from 500 to 1000 cfs in the January through October time period.

In the November 2002 timeframes when shaping would occur, the elevations were 3110 and 3109.96 and velocities were 992.7 and 966.3 cfs, conditions that are not likely to perceptively increase entrainment. For November 2000 conditions, there are 12 days when shaping would increase velocity during entrainment conditions. In those 12 days, the elevations were 3101 through 3102, and velocities were 788 through 883 cfs.

In December, there are four days in this timeframe when shaping operations would take place at elevations below 3111. Those four days occurred in 2002 when elevations were 3109.32 through 3109.66. Velocities were 936.9 through 987.1 cfs. These conditions are not likely to perceptively increase entrainment due to shaping.

[1] The 2003 to 2004 water data is not useful information, as it involves the drawdown of Arrowrock for Reclamation's valve project, which will not be repeated, and that data is not included in this discussion below.

One additional factor to consider is that there is zero risk of entrainment during the portion of the day that the flows are shut down to accommodate shaping.

Based on the actual daily data from Arrowrock, it appears that shaping will not increase the risk of entrainment, except in September and October when few bull trout are near the dam, and in very infrequent circumstances during November and to an even lesser degree in December.

D. Fish Mortality

For fish that are entrained by turbine generation, initial estimates indicate a survival rate in the range of 80%, based on fish mortality studies for Kaplan units ("Evaluation of Fish Mortality through the Chute-Bell Hydroelectric Generating Station," Hydro-Quebec, 2000; and "Fish Entrainment and Turbine Mortality Review and Guidelines," Electric Power Research Institute, 1992, Figure 4-11). Kaplan turbines have been shown to have significantly lower rates of mortality than Francis turbines under similar conditions PRI Table 4-8, p. 4-41; Abstract, p. iii. Kaplan turbines also have decreased mortality at higher heads when compared to Francis turbines. Compare Figure 4-10 with Figure 4-7. Hatchery raised fish experience higher mortality than wild fish (10-30%). Handling fish in these turbines experiments is believed to increase mortality risk as well, and the tests may overestimate actual mortality, as a result. Mortality rate appears to increase as fish size increases.

The Biological Assessment and Biological Opinion for the operation of the Bureau of Reclamation projects (FWS 2005) does not provide sufficient information about the size of fish entrained to compare the data against the existing studies. Bull trout in Arrowrock Reservoir tend to be juveniles or sub-adults and adults. One would expect mortality to be on the upper ranges of mortality through Kaplan turbines because of the larger size of the sub-adult and adult bull trout. As bull trout are native fish, one would not expect the hatchery fish mortality rates to be predictive of bull trout mortality. Based on the available information, it would seem that mortality by way of entrainment through the turbines would be less than 50%. This result is consistent with the prediction of the Service's Incidental Take Statement that a majority of bull trout entrained through the valves would be harassed.

Consequently, mortality of bull trout entrained in the turbines may be slightly higher than mortality through the valves but not sufficient to affect the population in Arrowrock Reservoir.

Table 1 - Number of Months for Different Ranges of Arrowrock Reservoir Outflow and Reservoir Elevation

Reservoir Outflow (cfs)	< 3100 ft	3100 ft - 3111 ft	3111 ft - 3131 ft	3131 ft - 3151 ft	3151 ft - 3216 ft
0	0	0	1	2	0
0 - 500	8	2	18	22	133
500 - 600	0	4	3	14	23
600 - 700	0	0	4	13	13
700 - 800	1	2	1	8	12
800 - 900	1	1	3	18	11
900 - 1000	2	1	1	9	7
1000 - 1100	2	0	1	6	9
1100 - 1200	2	1	1	4	11
1200 - 1300	0	0	2	2	16
1300 - 1400	0	1	4	7	12
> 1400	4	7	14	32	400
All flows	20	19	53	137	647

Table 2 - Number of Months for Different Ranges of Arrowrock Turbined Outflow and Reservoir Elevation

Turbined Outflow (cfs)	< 3100 ft	3100 ft - 3111 ft	3111 ft - 3131 ft	3131 ft - 3151 ft	3151 ft - 3216 ft
0	20	0	1	2	0
500 - 600	0	2	18	22	133
600 - 700	0	0	0	0	0
700 - 800	0	0	0	0	0
800 - 900	0	0	0	0	0
900 - 1000	0	1	0	0	0
1000 - 1100	0	9	13	68	75
1100 - 1200	0	4	1	4	16
1200 - 1300	0	3	4	2	61
1300 - 1400	0	0	16	39	362
0 - 1400	20	19	53	137	647

Table 3

Daily Discharges From 500 to 1000 cfs

Discharge Data from Hydromet

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
January	4	0	6	0	0	0	0	0	0	0	19
February	6	0	1	0	1	0	7	0	15	0	17
March	0	1	0	0	0	0	3	26	4	1	1
April	0	0	0	0	0	0	0	0	0	0	1
May	0	0	0	0	0	0	0	0	0	0	0
June	0	0	0	0	0	0	0	0	0	0	0
July	0	0	0	0	0	0	0	0	0	0	0
August	2	0	0	0	0	0	0	17	0	0	4
September	27	0	2	9	1	0	17	9	14	3	8
October	3	0	12	0	2	20	29	0	0	25	0
November	0	0	0	0	0	0	12	0	3	16	26
December	0	0	0	0	0	0	0	0	4	27	29

Shaded area represents 2003 - 2004 one-time valve project draw down

Table 4

Daily Arrowrock Reservoir Elevations <3111 Feet

Elevation Data from Hydromet

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
January	0	0	0	0	0	0	0	0	0	0	31
February	0	0	0	0	0	0	0	0	0	0	29
March	0	0	0	21	0	0	0	0	0	0	16
April	0	0	0	16	0	0	0	0	0	0	0
May	0	0	0	0	0	0	0	0	0	0	0
June	0	0	0	0	0	0	0	0	0	0	0
July	0	0	0	0	0	0	0	7	7	0	0
August	0	0	2	1	0	2	8	31	31	24	21
September	0	24	30	30	22	26	30	11	9	30	15
October	0	9	15	20	0	6	31	0	0	31	9
November	0	0	0	0	0	0	20	0	3	30	0
December	0	0		0	0	0	0	0	6	31	0

Shaded area represents 2003 - 2004 one-time valve project draw down

Tab 13b

CONSTRUCTION APPROACH
ARROWROCK PROJECT

Arrowrock Dam is constructed on granite bedrock that underlies the project area. The proposed powerhouse would be built on a basalt bench that extends along the south side of the Boise River Canyon. The basalt rises from 50 to 80 feet above the underlying granite. Most of the basalt formation is hard to very hard and varies from dense to vesicular (containing cavities) to locally very vesicular. The basalt has columnar jointing, and typically erodes in large block fragments. The proposed powerplant access road and proposed road improvements would be a slope wash characterized as silty or silty sand. See Arrowrock Project License.

The construction of the powerhouse addition to the Arrowrock Dam is anticipated to commence in the fall of 2005. At this time of the year after Labor Day and the close of recreation season in Lucky Peak, the Lucky Peak Reservoir is drawn down according to existing operational protocol. This existing protocol is continued in the proposed action of the Bureau of Reclamation for Operation of Upper Snake River Projects. November 2004 Biological Assessment, Appendix D, Table D-2. See also Boise River Water Control Manual, 1985, US Army Corps of Engineers. This draw down of Lucky Peak Reservoir allows access to the basalt bench areas that will need to be excavated. The construction effort commencing in the fall of 2005 will focus on the excavation for the foundations for the powerhouse, tailrace channel and the penstocks, locations of which are shown on Arrowrock Dam, General Plan, sketches SK-01 and 02. The location of the powerhouse, tailrace channel and penstocks is in the same location described in the original license drawings.

The excavation will extend approximately 45 feet below the natural basalt bench that exists along the left abutment just downstream of the Arrowrock Dam. The excavation will be addressed in a manner fully meeting the Bureau of Reclamation's requirements. Controlled blasting techniques will be used for the rock excavation and the peak particle velocities generated by the blasting will be carefully controlled and will be monitored. The blasting charges and arrangements will be modified as necessary to meet the Bureau of Reclamation's requirements. The blasting plan will be structured so as to limit the energy transfer to the adjacent rock and will be kept below the level that would have negative impact to the adjacent fisheries or the dam structure.

The Bureau of Reclamation's requirements for protection of Arrowrock Dam will be stringent enough to ensure no impacts in the water at either Arrowrock or Lucky Peak Reservoirs. It is expected that this blasting operation and civil work will take place during the period from the fall of 2005 though early spring of 2006. No blasting will take place during the eagle nesting season (March through July). Blasting will occur when Lucky Peak Reservoir is drawn down such that the excavation area, as shown on SK-01, is dry. It is expected that the blasting would be done from December 2005 through February 2006, concrete work in March and April of 2006 and then the construction operation would demobilize until the fall of 2006 when construction would resume. Blasting is not anticipated during the second year of construction, the fall of 2006 to spring 2007 construction period.

The excavation will be initiated at a distance away from the dam near the downstream end of the

tailrace channel. The excavation is shallow in this area. The excavation procedure will be monitored and tested in this area, as it progresses upstream toward the powerhouse. It is currently planned to excavate a ramp in the tailrace area to be used for hauling out the excavated material from the powerhouse area. Sediment control will be provided in the area being excavated. The excavated material will either be stored on site for future use as backfill during construction (ref. SK-02, Section 1-1) or hauled off site to a disposal area near the project that is agreed to by the Bureau of Reclamation and/or other regulatory agencies. It is not anticipated that there will be any more than the normal drawdown of the Arrowrock Reservoir required for this construction effort in 2005 and 2006 or for the follow-on efforts in 2006 and 2007.

With the construction schedule currently envisioned, the initial period of construction between the Lucky Peak draw down in the fall of 2005, extending to the high water period in the spring of 2006 will be important. During that time it will be necessary to substantially complete much of the civil works necessary to excavate and start to place powerhouse foundations. Not all excavation may be completed, but priority will be given to items necessary to start placing the powerhouse concrete floor mat and then bringing up the powerhouse walls as much as practical at that time. If possible, the penstocks entering the powerhouse will be installed and encased in concrete.

It is anticipated that the remainder of civil work will be completed during the dry period from the fall of 2006 to the spring of 2007. During this period the walls of the powerhouse will be completed up to elevation 3060; then work will continue inside the powerhouse, even as water level rises in Lucky Peak Reservoir. This will include the installation of the embedded parts of the turbine and placement of the second stage concrete, and construction of the intermediate floors, work on the gate structure, the bifurcations, penstocks, turbine shutoff valves, electrical equipment, electrical substation, etc. The discharge gate structure, bifurcations, penstock and valving will have to be worked on during low water period, when Lucky Peak Reservoir is drawn down below these elevations during its normal draw-down cycle.

As discussed above, a major consideration is locating suitable spoil areas within proximity of and downstream of Arrowrock Dam for disposal of excess material from the required excavation that will not be used as backfill material. Some of the material may be used to reshape the area downstream of the tailrace channel, subject to approval by the Bureau of Reclamation. Also, it is planned to extend the lower level road to the tailrace excavation area, which will utilize some of the excess excavation material. The spoil material is expected to be all rock with no dirt or soil that could flow into the Lucky Peak Reservoir. As required by the FERC license, Article 401, a detailed spoil disposal plan will be submitted to the Service prior to construction showing exact locations of spoil and the monitoring plan to protect sedimentation of Lucky Peak Reservoir.

It is anticipated that concrete removal on the downstream face of the dam for installation of the bifurcations will be done by hand tools and small construction equipment, subject to approval by the Bureau of Reclamation. The Clamshell gate structure modifications requiring removal of existing concrete are likely to be done by saw cutting and jack hammers, subject to approval of the Bureau of Reclamation. No blasting is planned. It is anticipated that this work will commence in the fall of 2006. No work will be done on the

upstream face of Arrowrock Dam. It is not anticipated that drawdown of the Arrowrock Reservoir will be required. Work on the bifurcations, penstocks and valves which connect to the Bureau of Reclamation outlet works will be done in the winter. As shown on SK-5 and SK-6, connections will be made only to the two outlet works nearest to the left bank. This work will be done from the bank by crane and temporary platforms. No work will be done in the water or bed of the channel. As work will only be done on two outlet works, the other eight valves remain available for use by Reclamation while work is done on the two outlets connecting to the powerhouse. There is more than sufficient capacity in the other eight valves to handle all the wintertime flows from Arrowrock to Lucky Peak Reservoir. Therefore, the connections to the Bureau of Reclamation outlets will not affect the flows from Arrowrock to Lucky Peak. See Biological Opinion on Arrowrock Valve Rehabilitation Project.

The seasonal submergence of the powerhouse site presents many construction challenges that must be addressed. The work on excavation and concrete placement, once the site is available, must be planned and executed effectively to achieve the established goals and milestones before the Lucky Peak water level rises again. This requires a concentration of effort when the site is available for work. No work will take place in the water. Once the rising waters of Lucky Peak are approaching, precautions must be made to protect the completed work and to remove equipment from the areas subject to flooding. Because of the construction schedule requirements, powerhouse structural components placed in the first season will be exposed to uplift loads before the balance of the structure is constructed. Depending upon the extent of this early construction effort, rock anchors may be required to resist uplift forces. Bringing the exterior walls up to elevation 3060, without the intermediate floors, if this is possible in the first season, may also require internal temporary bracing to provide structural support. These rock anchors and internal bracing, if required, will have no affect on any aquatic species that might enter the area in rising water conditions.

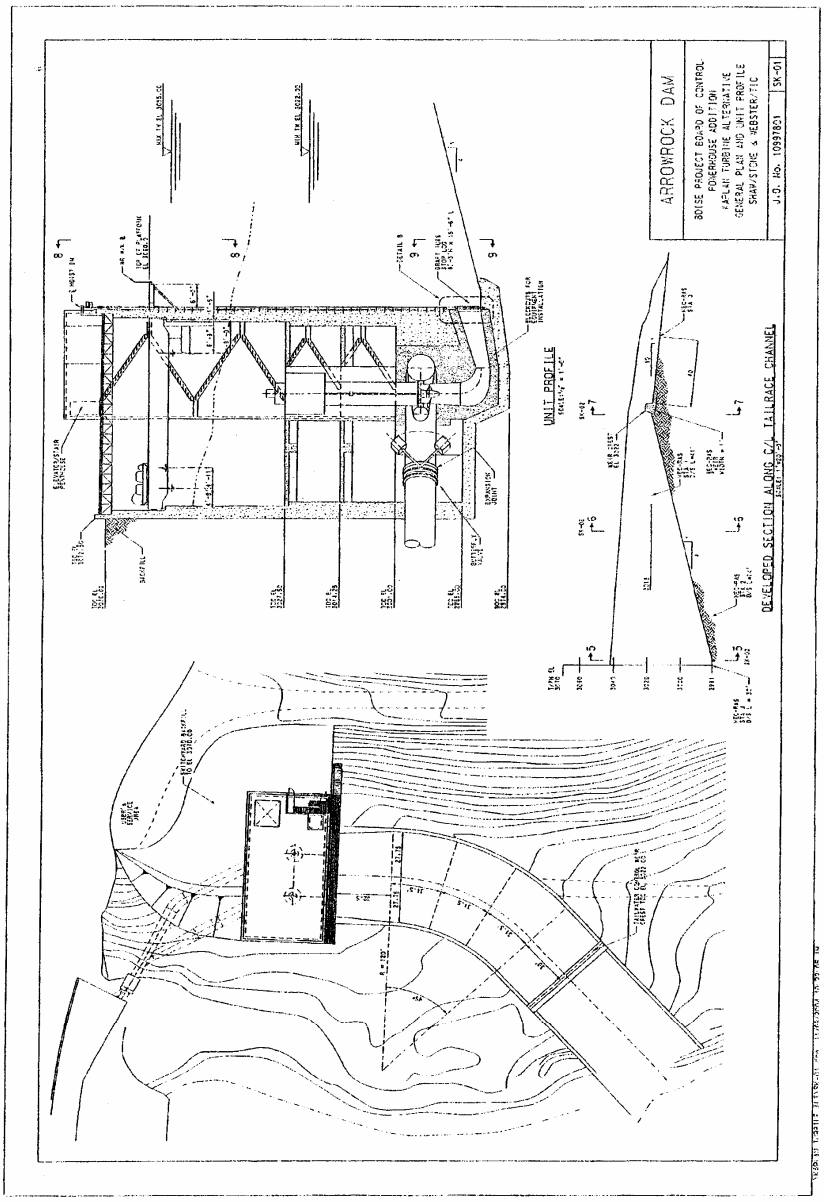
One other item that enters the construction planning is shipment of material, construction equipment, and permanent equipment to the site. It is our understanding from discussions with the Bureau of Reclamation that the existing gantry crane, with the rails along the deck of the dam, cannot be pulled away to clear the roadway on top of the dam. The construction approach (subject to approval of the Bureau of Reclamation) is to partially disassemble the gantry crane, allowing for the passage of the temporary construction crane that will be used during construction of the powerhouse. Once the temporary construction crane has passed, the permanent gantry crane will be immediately reassembled so that it is available for dam operation and maintenance as required. Material delivered to the powerhouse construction site during construction will be of such a size that it can pass through the reassembled gantry crane.

At the completion of construction of the powerhouse, the gantry crane will again be disassembled, allowing the temporary construction crane to be removed from the site. The gantry will then be reassembled so that it is available for operation. This approach imposes restrictions on the type of construction crane that can be mobilized and may possibly require double handling of large shipments of the permanent powerhouse equipment.

The disassembly and assembly of the gantry crane will have no affect on bull trout or any aquatic species and will have no affect on eagles. The construction activities will have no affect on bull trout in Arrowrock Reservoir. The construction activities have the potential to cause sedimentation to Lucky Peak Reservoir and the potential to affect entrained bull trout in Lucky Peak. However, with sedimentation control methods required by the FERC License, the construction will have no effect on any bull trout in Lucky Peak Reservoir.

Once the necessary permit approvals have been obtained and arrangements made, construction of the transmission lines and the interconnection to the Idaho Power Company (IPC) grid can proceed at a prudently flexible pace, as it is not dependent on other activities, except that it will need to be coordinated with the Bureau and IPC and completed prior to the start-up and testing of the units. At this time it is anticipated that repair and upgrade of the transmission line will take approximately twelve months. Work is planned to commence in May 2006 ending in May 2007. The line runs from the powerhouse at the Arrowrock Dam to the interconnect point with IPC on Highway 21 near Mores Creek Bridge, approximately five (5) miles away. (See Figure 8.1.) The line will be constructed using the existing BOR's right-of-way and installing new wood poles. The new poles will be located within the existing right-of-way using the same pole locations where possible. The design of the new line will incorporate raptor protection. The design will meet or exceed the requirements of Article 413 of the FERC license. The installation of the transmission line will not involve any work in the reservoir. Sediment traps will be provided as necessary to prevent runoff from the transmission line construction. The transmission line construction will therefore have no effect on eagles and no effect on bull trout.

There are two known eagle nests near Arrowrock Reservoir and none near Lucky Peak. U.S. Fish & Wildlife Service, March 2005 Biological Opinion on Bureau of Reclamation Projects, Table 16, page 75. The former Grouse Creek nest near the Arrowrock Dam is no longer occupied, as the tree blew over in 2001. The nearest nest to Arrowrock Dam or to the transmission line work is the Arrowrock nest, located some five miles upriver from the Arrowrock Dam. The powerhouse and transmission line construction work is far enough away that it will not affect the nesting eagles. It is possible that some wintering eagles might avoid the construction areas at the dam and the transmission line work areas. There are no good eagle perching location near the dam or the transmission line that would be harmed by the construction work. There is sufficient habitat throughout the Boise River Basin that these temporary disturbances will have no long-term effect on the eagle population.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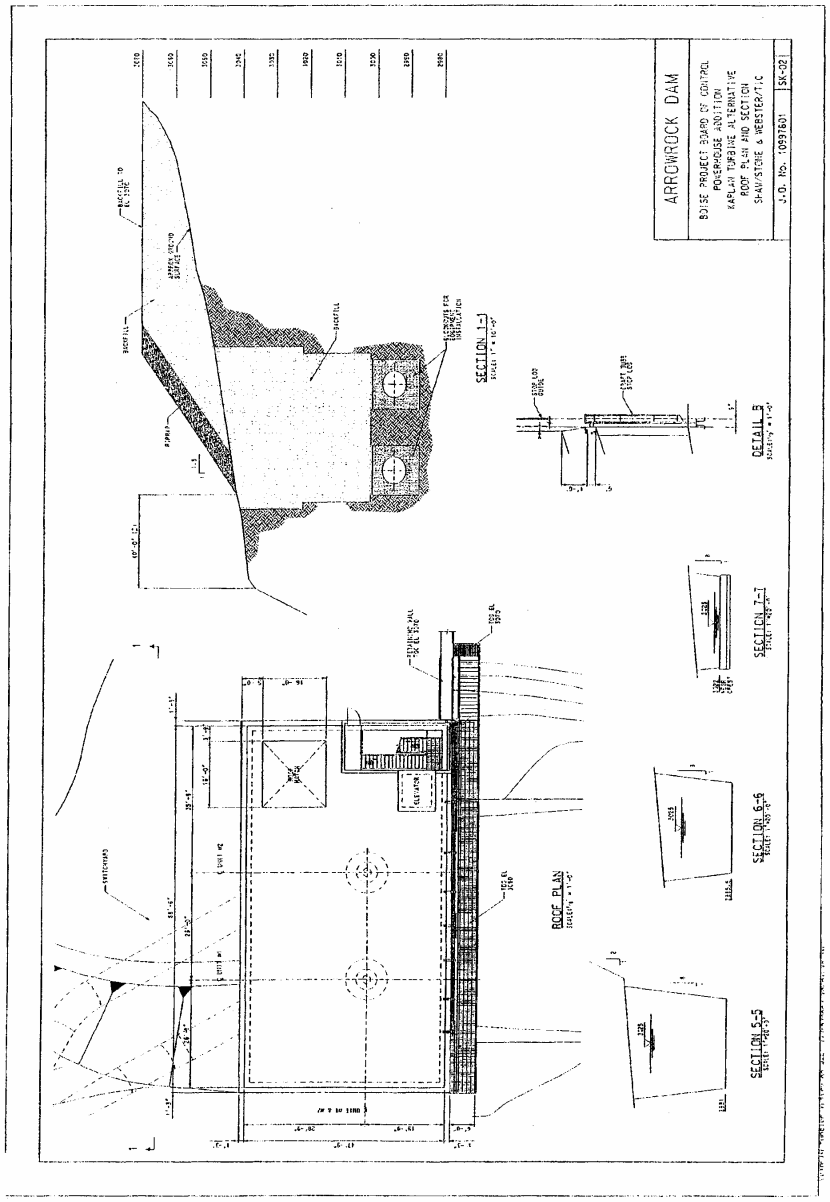
POWERHOUSE ADDITION
KAPLAN TURBINE ALTERNATIVE
GENERAL PLAN AND UNIT PROFILE
SHAW/STONE & WEBSTER/TIC
J.O. NO. 10931801
SK-01
UNIT PROFILE
DEVELOPED SECTION ALONG C/L TAILRACE CHANNEL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SHAW/STONE & WEBSTER/T.C
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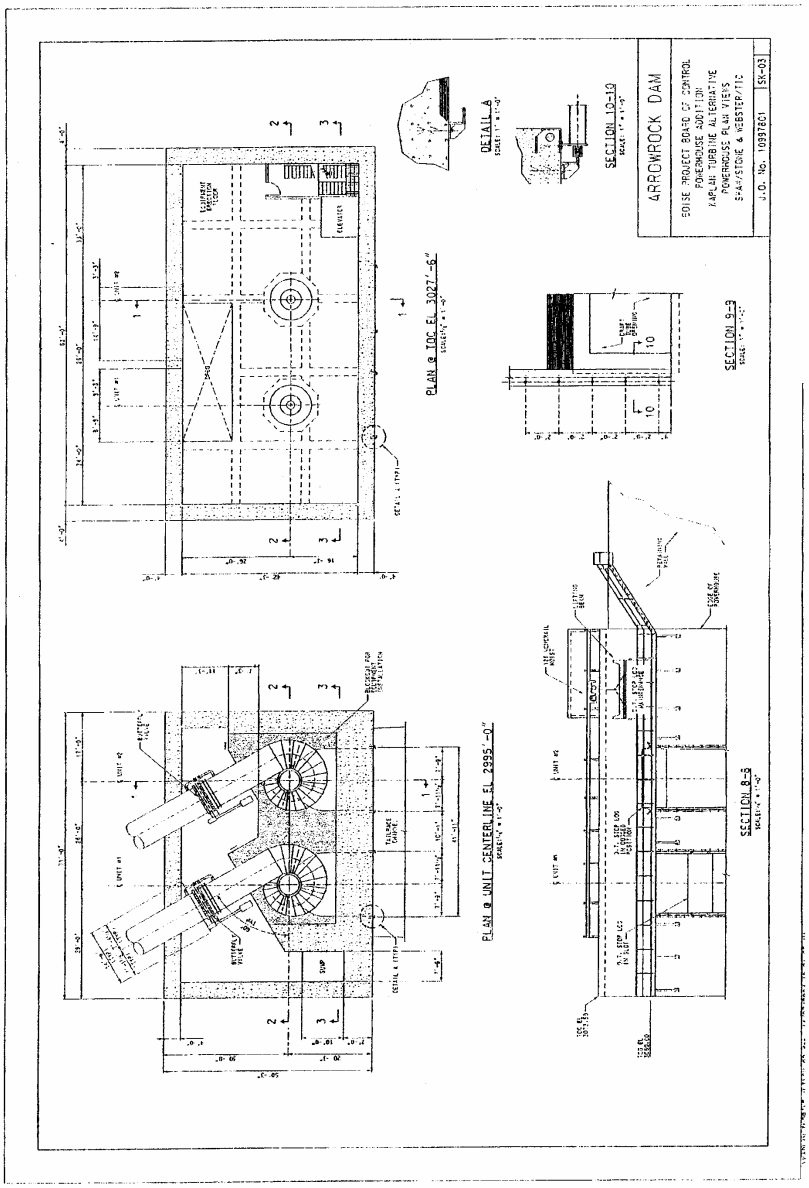
SECTION 1-1
DETAIL B
SECTION 7-7
SECTION 6-6
SECTION 5-5
ROOF PLAN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POWERHOUSE PLAN VIEWS
STEARNS-ROGER & WEBSTER/TIC
J.O. No. 10397801
SK-03
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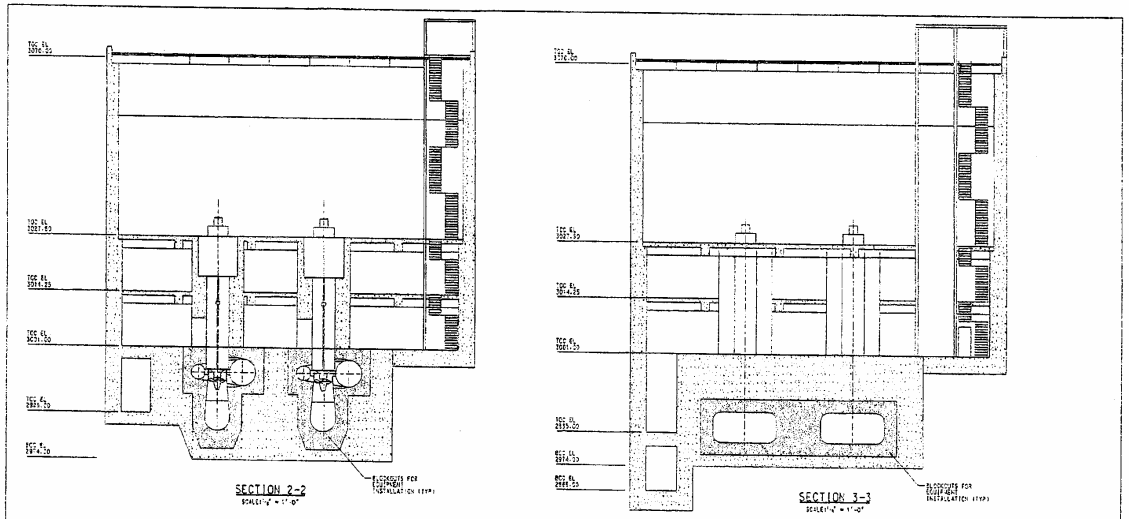
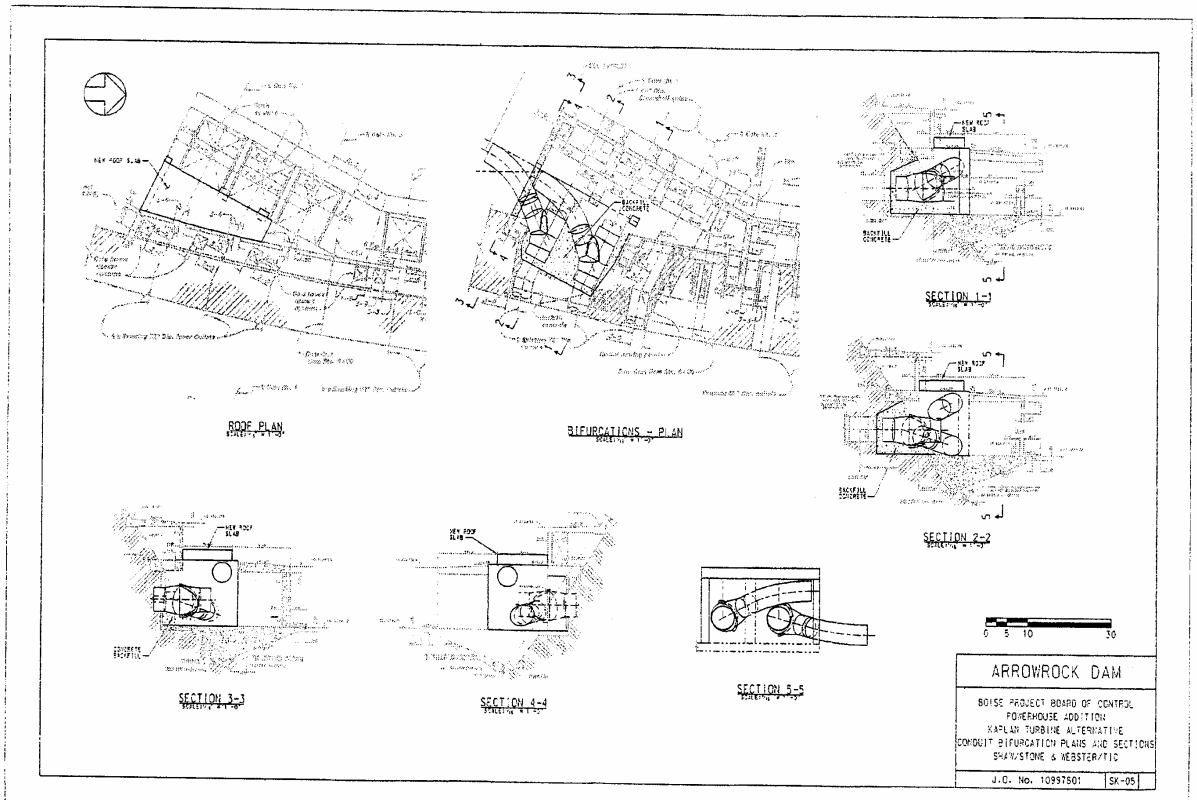
PLAN @ UNIT CENTERLINE EL 2895'-0"
DETAIL A
SECTION 10-10
SECTION 9-9
SECTION 8-8



ARROWROCK DAM

BOISE PROJECT BOARD OF CONTROL
POWERHOUSE ADDITION
KAPLAN TURBINE ALTERNATIVE
POWERHOUSE LONGITUDINAL SECTIONS
SHAW/STONE & WEBSTER/TIC

J.O. No. 10997801 | SX-04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ROOF PLAN
BIFURCATIONS - PLAN
BACKFILL CONCRETE
SECTION 1-1
SECTION 2-2
SECTION 3-3
SECTION 4-4
SECTION 5-5
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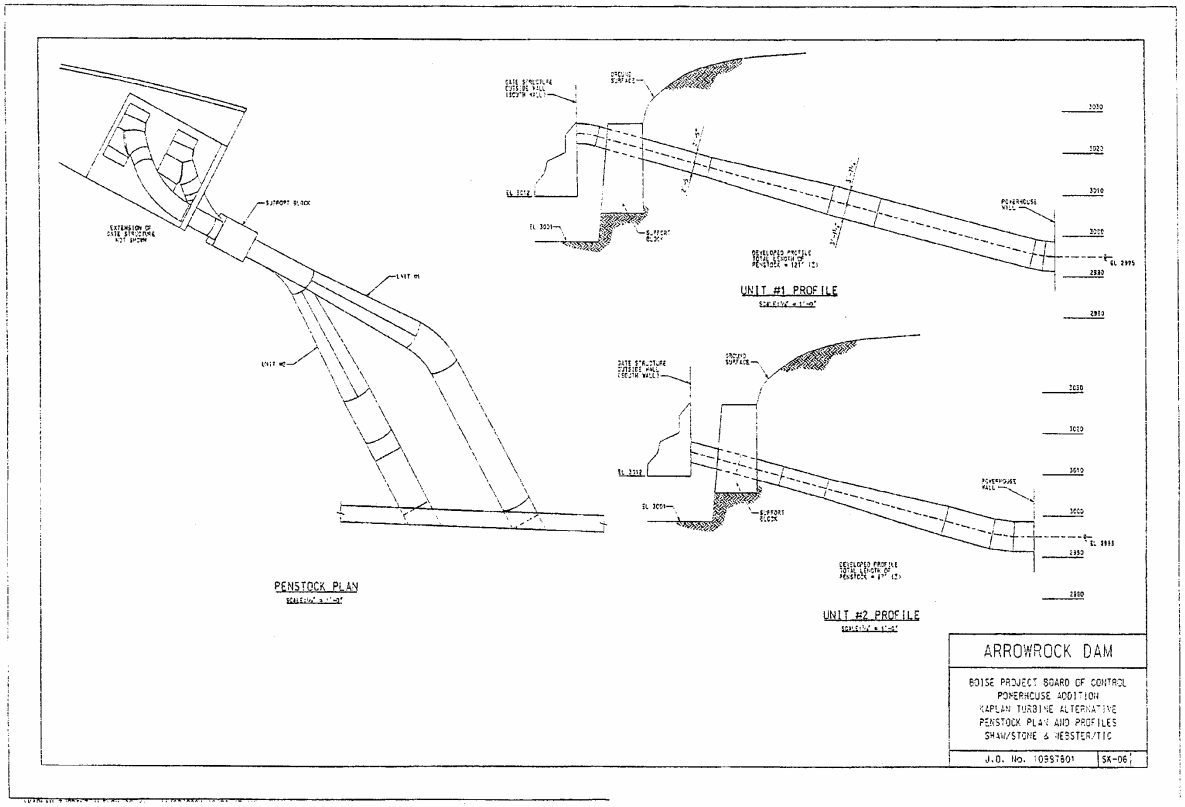
ARROWROCK DAM
BOISE PROJECT BOARD OF CONTROL
POWERHOUSE ADDITION
KAPLAN TURBINE ALTERNATIVE
CONDUIT BIFURCATION PLANS AND SECTIONS
SHAW/STONE & WEBSTER/TIC
J.O. No. 10997501
SK-05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UNIT #1 PROFILE
UNIT #2 PROFILE
ARROWROCK DAM
BOISE PROJECT BOARD OF CONTROL
POWERHOUSE ADDITION
KAPLAN TURBINE ALTERNATIVE
PENSTOCK PLAN AND PROFILES
SHAW/STONE & WEBSTER/TIC
J.O. No. 10997801
SK-06

Tab 14

Albert Barker

From: Garrity, Lenox [lenox.garrity@shawgrp.com]
Sent: Friday, August 26, 2005 4:12 PM
To: jtiedeman@pn.usbr.gov
Cc: Wiseman, Gary; Stan Jones; ktscorp@msn.com; GandP; Albert Barker
Subject: Arrowrock Project Blasting Criteria

This is to summarize and confirm the discussion of Thursday, August 25, 2005 between Shaw/ Stone&Webster [SSW], Len Garrity and Gary Wiseman, the Bureau of Reclamation [BOR] Boise and Denver offices and representatives of Superior Blasting, Gerald Dilley and Jack Kieker. BOR participants included John Tiedeman, Steve Jarsky and Greg Scott

Stone & Webster opened the discussion stating that it was in the process of developing an EPC price for the Arrowrock Hydroelectric Project and need to discuss and if possible arrive at an agreement for the blasting levels to be assumed for the project in order to develop the cost for the blasting/excavation at the site. Superior Blasting explained that it planned to pre split all final walls.

Blasting levels that might be considered ranging from 0.5 in/sec to 10in/sec depending on distances etc. were discussed at some length.

It was determined that a blasting level of 4in/sec was acceptable to the BOR at the toe of the dam and a blasting level of 2in/sec was acceptable to the BOR at the valve works AND stairway structure on the downstream face of the dam.

The BOR stressed that BEFORE any blasting took place it would have to receive AND approve the blasting plan for the excavation. The blasting plan would have to pay particular attention to the approach to be used in excavating for the installation of the new penstocks at the face of the dam. The blasting plan would have to consider and address the existing [now abandoned] diversion tunnel and the downstream plug in the tunnel. Location of the powerhouse and associated excavation should consider relative position to the existing diversion tunnel.

The blasting plan should include a preblast assessment with photographs, seismic monitoring etc. and a shot plan within 50 ft of the dam.

SSW confirmed that it would work closely with the BOR on aspects of the blasting and excavation.

It was pointed out by the BOR that most of the approvals for the blasting would be worked thru Denver office of the BOR which is not far from SSW's Denver office.

We appreciate the BOR's efforts and cooperation in this matter and look forward to working with the BOR personnel on this project.

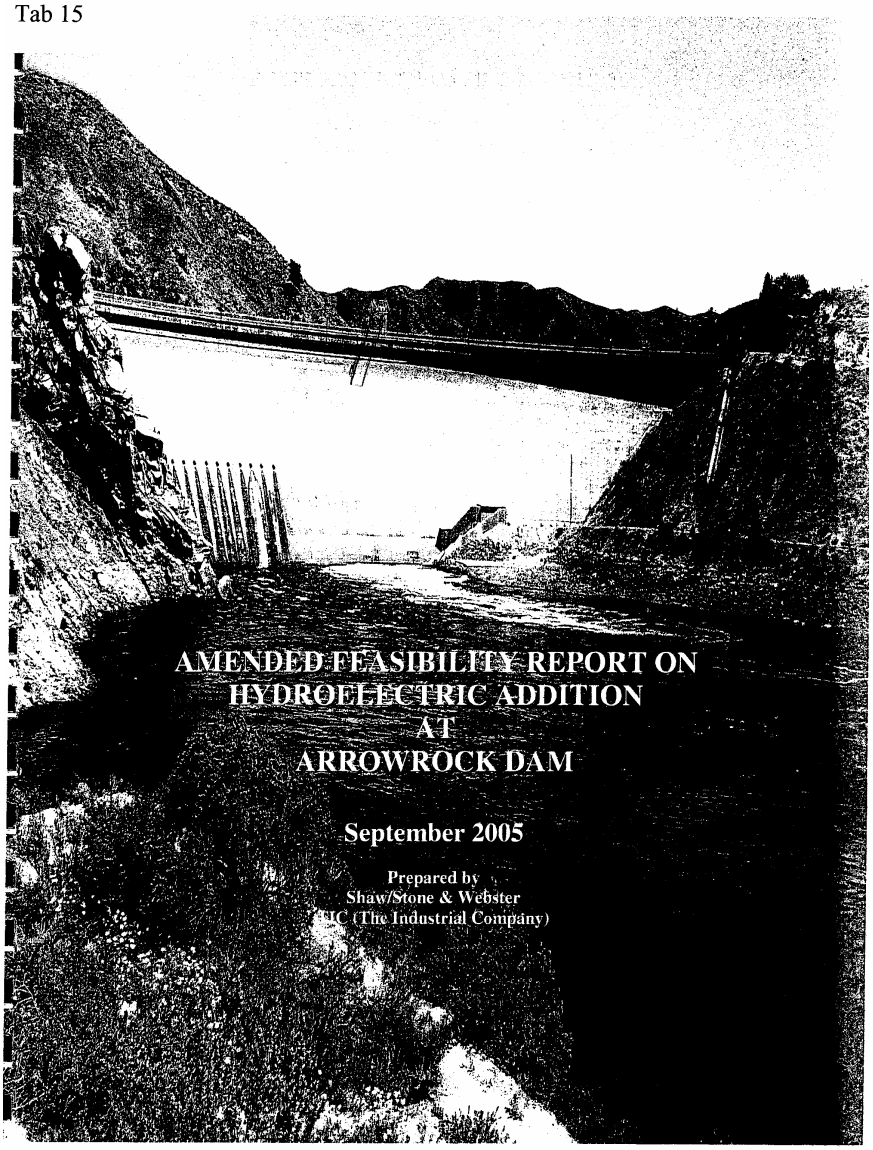
Regards,

Len Garrity

******************Internet Email Confidentiality Footer*******************

Privileged/Confidential Information may be contained in this message.

Tab 15



AMENDED FEASIBILITY REPORT ON HYDROELECTRIC ADDITION AT ARROWROCK DAM

September 2005

Prepared by
Shaw/Stone & Webster
TIC (The Industrial Company)

BOISE PROJECT BOARD OF CONTROL

Boise-Kuna Irrigation District
New York Irrigation District
Nampa and Meridian Irrigation District
Wilder Irrigation District
Big Bend Irrigation District

AMENDED FEASIBILITY REPORT ON HYDROELECTRIC ADDITION AT ARROWROCK DAM

Prepared by

Shaw/Stone & Webster
TIC (The Industrial Company)

September 2005

INTRODUCTION

For convenience of use and completeness of background, this issue of the Arrowrock Feasibility Report is divided into two parts:

PART 1 - Amended information describing the changes that have occurred since the original issue of the Report up to the present time. The section numbering parallels that of the original Report, so that if the reader is interested in knowing what is different now in, say, the transmission line section, which was Section 8 in the original Report, the reader would consult Section 8 in this part of the current volume.

PART 2 - The original Feasibility Report in its entirety, as issued on December 3, 2004. Some of the information in the original Report is no longer current, but will allow the reader to understand the reasoning behind the design development that has taken place (for example, why Kaplan turbine units were selected instead of Francis turbine units).

This Amended Feasibility Report is being issued in early September 2005. It reflects project costs that were developed during January 2005, subsequent to the issue of the original Report, and any further changes that are known to date. Those costs totaled approximately $28.6 million in January 2005. Currently, an effort is underway to confirm/update the pricing. It is expected that an EPC ("Engineer-Procure-Construct") price will be determined by the end of September 2005. This Amended Feasibility Report is being issued prior to that time, however, in order to allow the timely start of a project review by the lender's Independent Engineer.

PART 1

(AMENDED)

FEASIBILITY REPORT
ON
HYDROELECTRIC ADDITION
AT ARROWROCK DAM

September 2005

TABLE OF CONTENTS

Section	Title	Page
1.	**EXECUTIVE SUMMARY**	1-1
2.	**FERC LICENSE**	2-1
3.	**BOISE RIVER SYSTEM DESCRIPTION**	**3-1**
3.6	ARROWROCK RESERVOIR OPERATION UNDER BA PROPOSED ACTION	3-2
4.	**ARROWROCK HYDROPOWER EVALUATION**	**4-1**
4.5	KAPLAN UNITS ALTERNATIVE USING BIOLOGICAL ASSESSMENT PROPOSED ACTION RESULTS	4-2
	APPENDIX	
Appendix 3	Hydropower Monthly Results for Power Plant Voith-Siemens 15 MW Alternative using Biological Assessment MODSIM Output	A4-1
Appendix 3.1	Arrowrock Turbined Flow (cfs)	A4-2
Appendix 3.2	Arrowrock Spilled Flow (cfs)	A4-3
Appendix 3.3	Arrowrock Tailwater Elevation (feet)	A4-4
Appendix 3.4	Arrowrock Net Head (feet)	A4-5
Appendix 3.5	Arrowrock Power Plant Power (MW)	A4-6
Appendix 3.6	Arrowrock Power Plant Energy (GWh)	A4-7
5.	**THE DEVELOPMENT PLAN**	**5-1**
6.	**TURBINE-GENERATOR EQUIPMENT SELECTION**	**6-1**
7.	**POWERPLANT MAJOR EQUIPMENT**	**7-1**
8.	**TRANSMISSION LINES AND INTERCONNECTION**	**8-1**
9.	**CONSTRUCTION PLANNING AND SCHEDULE**	**9-1**
10.	**COST ESTIMATES**	**10-1**
11.	**FINANCIAL PERFORMANCE ANALYSIS**	**11-1**

TABLE OF CONTENTS

Section	Title	Page
11.1	PURPOSE	11-1
11.2	APPROACH	11-2
11.3	ANNUAL COSTS	11-2
11.3.1	Operation and Maintenance	11-2
11.3.2	Insurance	11-3
11.3.3	Property Tax	11-3
11.3.4	FERC Charges	11-3
11.3.5	Idaho Power Company Interconnection Facilities Maintenance	11-3
11.3.6	Other Miscellaneous Items	11-4
11.3.7	Total First Year Annual Costs	11-4
11.4	OTHER FINANCIAL ANALYSIS PARAMETERS	11-4
11.5	ESTIMATED POWER COSTS	11-5
11.6	SEQUENTIAL CASH FLOW ANALYSIS	11-5
12.	**DRAWINGS**	
	SK-01 General Plan and Unit Profile	
	SK-02 Roof Plan and Section	
	SK-03 Powerhouse Plans, El. 2999.5' & 3010'	
	SK-04 Powerhouse Plans, El. 3017' & 3030'	
	SK-05 Powerhouse Longitudinal Sections	
	SK-06 Conduit Bifurcation Plans and Sections	
	SK-07 Penstock Plan and Profiles	
	SK-E1 One Line Diagram	

1. EXECUTIVE SUMMARY

The following changes have been made since the original Feasibility Report was issued in December 2004:

Section 1.1 - The powerhouse height, previously approximately 95 feet, is now approximately 70 feet, due in part to reduced submergence requirements of the turbines, which allowed a turbine setting height about 15 feet higher. The powerhouse elevator mentioned in the text is no longer planned.

Section 1.2 - Revised energy modeling has been conducted using reservoir operations data for October 1927 through September 2000 from the Bureau of Reclamation's "Proposed Action" in its November 2004 Biological Assessment. Refer to Sections 3 and 4 of this Amended Report for further information. The revised energy projections are summarized as follows:

Average annual generation, entire period of record	81,120 MWh
Average annual generation, best 30 consecutive year period	86,940 MWh
Average annual generation, worst 30 consecutive year period	78,830 MWh

The 81,120 MWh/year average annual generation corresponds to a capacity factor of 62 percent.

Section 1.3 - As explained in Section 2 of the Amended Report, the start of construction was delayed because of the need to complete Endangered Species Act consultation on the Project, and the Districts have requested from FERC a Stay of License. If granted, the Stay should allow the Project to proceed with construction in December 2005.

The statement, "Work on the construction site cannot be undertaken when Lucky Peak Lake level is above elevation 3040" is amended to read "elevation 3016."

The statement, "Site work is therefore limited to the time between mid-October and the following late-April to early May" is amended to read "between mid-September and the following mid-March."

Section 1.4 - The reference to the elevator should be deleted. The total construction cost as currently estimated is $28,643,100.

Section 1.5 - The following financial data are revised as follows:

	Previous	Current
Estimated bond issue	$40,000,000	$41,000,000
First year expenditures for all project costs (exclusive of debt payments)	$726,100	$834,240
Financing costs	$400,000	$580,000
Total funds held for drought and reserves	$4,500,000	$5,800,000
Power costs - 1st year of operation	4.9 cents/kWh	4.3 cents/kWh
Power costs - Last year w/full debt paymt.	5.9 cents/kWh	5.1 cents/kWh
Power costs - 1st year after debt retirement	2.1 cents/kWh	1.8 cents/kWh

Tab 16

POWER PURCHASE AND SALE CONTRACT

Executed by

CLATSKANIE PEOPLE'S UTILITY DISTRICT

BOISE-KUNA IRRIGATION DISTRICT

NAMPA & MERIDIAN IRRIGATION DISTRICT

NEW YORK IRRIGATION DISTRICT

WILDER IRRIGATION DISTRICT

and

BIG BEND IRRIGATION DISTRICT

for

THE ARROWROCK POWER PLANT PROJECT

Dated this 28th day of February, 2006.

CLATSKANIE PEOPLE'S UTILITY DISTRICT

By _____
General Manager

ATTEST:

_____
Secretary

BOISE-KUNA IRRIGATION DISTRICT

By _____
President

ATTEST:

_____
Secretary

NAMPA & MERIDIAN IRRIGATION DISTRICT

By _____
President

ATTEST:

_____
Secretary

NAMPA & MERIDIAN IRRIGATION DISTRICT OFFICIAL Seal

NEW YORK IRRIGATION DISTRICT

By _____
President

ATTEST:

_____
Secretary

BIG BEND IRRIGATION DISTRICT

By _____
Voting Delegate

ATTEST:

_____
Secretary

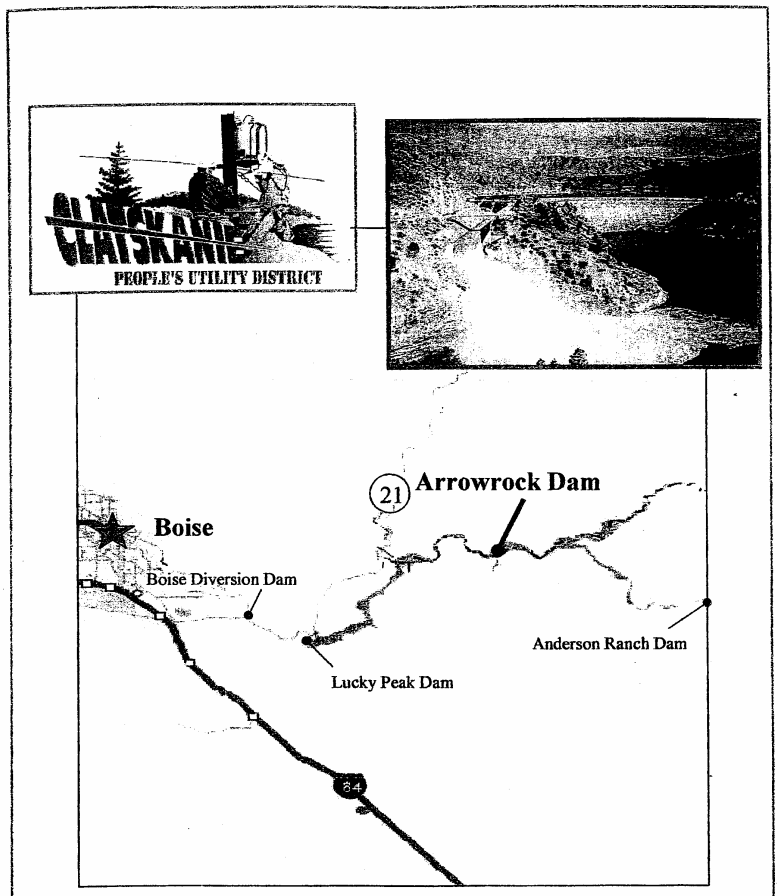
WILDER IRRIGATION DISTRICT

_____
President

Secretary

_____

Tab 17



Arrowrock Hydroelectric Project

History of Efforts to Construct Powerhouse

In 1989 the Federal Energy Regulatory Commission (FERC) issued the original 10 year license to construct a 60 MW Hydroelectric Power Plant at the U.S. Bureau of Reclamation Arrowrock Dam. The license is issued to five Irrigation Districts:

- Boise-Kuna Irrigation District, State of Idaho
- Nampa & Meridian Irrigation District, State of Idaho
- New York Irrigation District, State of Idaho
- Wilder Irrigation District, State of Idaho
- Big Bend Irrigation District, State of Oregon

Prior to the license elapsing in 1999, Congress directed FERC to extend the commencement of the construction deadline by six years, to March 26, 2005.

In early 2004, Clatskanie People's Utility District became involved in the project. At that time, the Irrigation Districts requested the United States Fish & Wildlife Service to evaluate the project based upon a much lower impact design (15 MW Generation).

Following contract negotiations, Clatskanie People's Utility District and the Irrigation Districts filed with FERC a request to extend the license to allow U.S. Fish and Wildlife Service to complete the required consultation process. FERC denied that request and denied the appeal that followed. The current FERC license has lapsed, but has not been terminated.

Approval of S.2035 and H.R. 4377 would extend the license period allowing the Districts three years to complete consultation and commence construction of the project.

Arrowrock will be the second power project for the Irrigation Districts. The Irrigation Districts hold the FERC license to the 101 MW power plant built at the U.S. Army Corps of Engineers's Lucky Peak Dam which is located immediately downstream from the Arrowrock Dam. The Lucky Peak powerhouse became operational in 1988, and the output is sold to Seattle City Light.

Proposed Legislation

H.R. 4377 & S.2035

To extend the time required for construction of a hydroelectric project in the State of Idaho, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

Section 1. ARROWROCK HYDROELECTRIC PROJECT. *Notwithstanding the time period specified in section 13 of the Federal Power Act (16 U.S.C. 806) that would otherwise apply to the Federal Energy Regulatory Commission project numbered 4656, on request of the licensee, the Commission shall- (1) if the license for the project is in effect on the date of the enactment of this Act, extend the period for commencing construction of project works for a period of 3 years beginning on the date of enactment of this Act; or (2) if the license for the project has been terminated before the date of enactment of this Act, reinstate the license and extend the period for commencing construction of project works for an additional 3-year period beginning on the date of enactment of the Act.*

Arrowrock Hydroelectric Project

- **The Project:** Five Boise area Irrigation Districts jointly hold FERC license P. 4656 for the construction of a small hydroelectric generation project at the Arrowrock Dam, an existing Bureau of Reclamation facility on the Boise River in Idaho. The current proposed configuration of the hydroelectric project is to retrofit and install 2-7.5 MW turbines on two of the nine existing downriver outlets at the dam. Total installed generation capacity will be 15 megawatts.

- **License Renewal:** Support is needed to pass legislation in the House (Bill H.R. 4377) and in the Senate (S.2035) which would extend the time allowed to begin construction of the project.

- **Positive Impact:** The project will bring needed energy to public power customers in the Pacific Northwest. The project is added to an existing dam, no new impoundments will be required. Existing water releases will generate the electricity. The project will benefit large numbers of Idaho farmers and water users by helping offset the operating costs of their increasingly expensive water delivery systems.

- **No Negative Environmental Impact:** The five Irrigation Districts entered into formal consultation with the U.S. Fish & Wildlife Service to evaluate any threat to endangered species in the vicinity of the project – Bull Trout. No negative environmental impact was found.

- **Clean Renewable Resources:** Clatskanie People's Utility District is committed to acquiring new, clean renewable resources to meet future electrical load growth particularly for local business and industry.

- **Project Commitments:** The five Irrigation Districts received overwhelming approval from their electors to fund and develop the Arrowrock Hydroelectric Project at a special election held on August 2, 2005. Clatskanie PUD, by approval of its Board of Directors has contracted with the five Irrigation Districts licensed to help develop the project and to purchase all power generation from the project (estimated at 81,000 megawatt hours per year) for the 30 year term of the operating license.

Clatskanie People's Utility District

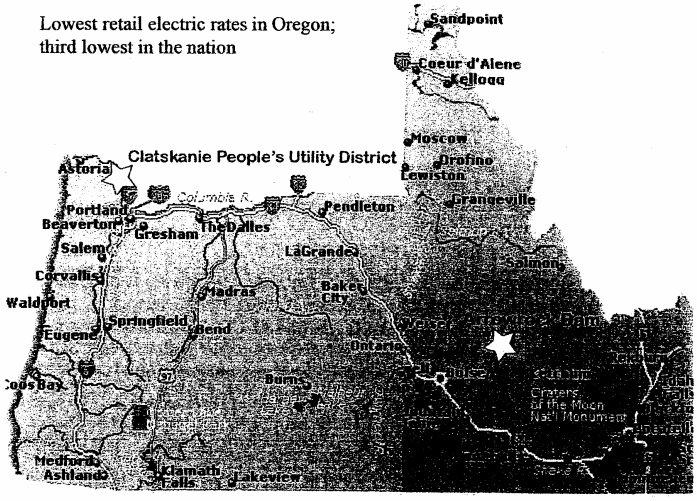
Oregon's first operating PUD (operational in 1943)

Northern Columbia County, Oregon
Eastern Clatsop County, Oregon
Extended industrial sales
- Halsey, Oregon
- Bellingham, Washington

4,325 retail customers
21 wholesale customers
158 megawatts peak load
1.2 billion kWh total electric sales annually
$45 million annual budget
CPUD purchases account for 1.5% of BPA preference sales

Co-owner of 36 MW Co-generation facility (65% renewable fuel)
11 MW Gas Turbine-Generator
Three million kWh electricity acquired through new conservation yearly

Lowest retail electric rates in Oregon;
third lowest in the nation



Clatskanie People's Utility District - Greg Booth, General Manager
PO Box 216, Clatskanie, OR 97016 (503) 728-2163 www.clatskaniepud.com

Tab 18

PEOPLE'S UTILITY DISTRICT

NEWS RELEASE

FOR IMMEDIATE RELEASE

Date:	March 21, 2006
PUD Contact:	Gail Rakitnich, Customer Relations Manager
Project Contact:	Joe Taffe, Power Manager, Greg Booth, General Manager

The Clatskanie People's Utility District and five Idaho and Oregon Irrigation Districts recently signed an agreement to jointly develop the 15 megawatt Arrowrock Hydro-Electric Project on the Boise River northeast of Boise, Idaho. Pending extension of the Federal license by Congress, construction could proceed by November of this year, and be completed by 2008.

The Arrowrock Dam, owned by the U.S. Bureau of Reclamation, was built in 1915 and is 353 feet high. When built, it was the highest dam in the world. Water is currently released from Arrowrock Dam with a series of outlet valves and a spillway.

The project, to be financed by the Boise-Kuna, Nampa & Meridian, New York, Wilder, and Big Bend Irrigation Districts is expected to cost $41 million and produce an average of 81,000 megawatt-hours of electricity per year, which will be purchased by Clatskanie PUD. The project will consist of placing 2 - 7.5 MW turbines on two existing dam outlets, and reconstructing a 5.5 mile power line to a nearby substation.

"This clean renewable energy project would produce enough electricity to power 5,400 average homes, or about 8% of Clatskanie PUD's current energy needs," according to Greg Booth, General Manager at the PUD. The project has no anadromous fishery impact and will have very little impact on the environment. "This project will be a long term, low-cost resource for the PUD and, with minimal environmental impact, is as green as it gets," according to Booth.

Clatskanie PUD is a joint owner of the 36 megawatt Wauna Cogeneration Power Plant and owns the 11 megawatt Alden-Bailey Natural Gas Power Plant.

Clatskanie PUD sells 1.2 million megawatt hours of electricity yearly to retail customers in northern Columbia County and eastern Clatsop County and to industrial facilities in Bellingham, Washington, and Halsey, Oregon. It has annual revenues of approximately $45 million and has the third lowest residential rate in the country.

The Irrigation Districts are also public entities. They own the storage rights to the water behind Arrowrock Dam. The Irrigation Districts supply water to irrigate 167,000 acres in the Boise River Valley and most of the land is farmed in small parcels of less than 160 acres. The Irrigation Districts currently own and operate the 101 megawatt Lucky Peak Hydro-Electric Power Plant located on the Boise

River just a few miles downstream from the Arrowrock Dam. The Lucky Peak powerhouse has been operating since 1988.

The voters of the Irrigation Districts overwhelmingly approved the agreement with Clatskanie PUD. "This vote shows that the Arrowrock Hydroelectric Project is very important to the farmers and landowners of the District", according to Mike Kukla, a Director of the Boise-Kuna District and member of the Irrigation Districts' Power Committee. "It will provide a tremendous benefit to the landowners at no cost to the federal government."

Arrowrock Dam

Left to Right: Ron Becker - Nampa Meridian, Ron Blickenstaff - Boise-Kuna, Dave Greening - Big Bend, Greg Booth-CPUD General Manager, Ron Platt - Wilder, Paul Warrick - New York, Kneeling: Warren Nakkela-CPUD Board President

Tab 19

CLATSKANIE
PEOPLE'S UTILITY DISTRICT

June 24, 2005

Al Barker
Barker, Rosholt & Simpson LLP
205 North 10th, Suite 520
P.O. Box 2139
Boise, ID 83701-2139

Dear Mr. Barker:

By this letter Clatskanie People's Utility District ("Clatskanie") confirms its intent to purchase all net energy produced by a 15 megawatt hydroelectric generation project (the "Project") to be financed and built, pursuant to voter approval, by the Boise-Kuna Irrigation District, the Nampa & Meridian Irrigation District, the New York Irrigation District, the Wilder Irrigation District, and the Big Bend Irrigation District ("Irrigation Districts") at the U. S. Bureau of Reclamation's Arrowrock Reservoir located in Idaho.

Clatskanie will continue negotiations with the Irrigation Districts to develop and execute, within 90 days of this letter, a long term, thirty (30) year Power Purchase Agreement ("PPA") that binds Clatskanie to the purchase of net energy from and to conditionally guarantee the Operation and Maintenance and financing cost for the Project. Clatskanie reserves the right to enter into agreements with other public power entities with equal or better credit ratings for the disposition of any or all net energy produced by the Project.

The execution of the PPA and subsequent purchase of net energy and guarantee of Project costs are broadly conditioned by approval of the PPA by the Clatskanie Board of Directors and Clatskanie's statutory authority to enter into the PPA. The PPA shall also be conditioned by financed Project costs not exceeding forty-one million dollars ($41,000,000); the successful conclusion of consultation with the U.S. Fish and Wildlife Service ("FWS") resulting in a flow regime that allows the Project to produce approximately 81,000 megawatt-hours on average, annually; the approval of the Project by the Federal Energy Regulatory Commission ("FERC"); an acceptable agreement between Clatskanie and Idaho Power Company to interconnect the Project and integrate the net energy; the successful completion and commercial operation of the Project; payment terms in the PPA calling for Clatskanie to pay approximately 90% of the Mid-C average for all net energy produced by the Project; and monthly maximum prices for net

energy ranging from approximately $70 to $190 per megawatt-hour; and the return to Clatskanie of 70% of Project revenues in excess of agreed upon Project costs. Reserve funds approximating two (2) years of Project costs shall be established and maintained and should the Project produce no net energy for any period of 24 consecutive months, Clatskanie's obligations under the PPA shall be suspended until such time the Irrigation Districts return the Project to commercial operation.

By this letter Clatskanie also commits to reimbursing 50% of up to $150,000 in new development costs that might be necessary and incurred prior to execution of the PPA and 50% of all additional development costs necessary prior to obtaining financing, not to exceed $300,000 including additional costs incurred prior to execution of the PPA without Clatskanie's agreement.. The Irrigation Districts shall pay agreed upon additional development costs necessary prior to financing and Clatskanie shall reimburse the Irrigation Districts 50% of these costs upon receipt of invoice.

If the Irrigation Districts agree with and accept the obligations indicated above please indicate by signature below and return signed copies to Clatskanie.

Sincerely,

Greg Booth

Greg Booth
General Manager
Clatskanie People's Utility District

Signature Title
Boise-Kuna Irrigation District

Signature Title
Nampa & Meridian Irrigation District

Signature Title
New York Irrigation District

Signature Title
Wilder Irrigation District

Signature Title
Big Bend Irrigation District

funds approximating two (2) years of Project costs shall be established and maintained and should the Project produce no net energy for any period of 24 consecutive months, Clatskanie's obligations under the PPA shall be suspended until such time the Irrigation Districts return the Project to commercial operation.

By this letter Clatskanie also commits to reimbursing 50% of up to $150,000 in new development costs that might be necessary and incurred prior to execution of the PPA and 50% of all additional development costs necessary prior to obtaining financing, not to exceed $300,000 including additional costs incurred prior to execution of the PPA without Clatskanie's agreement.. The Irrigation Districts shall pay agreed upon additional development costs necessary prior to financing and Clatskanie shall reimburse the Irrigation Districts 50% of these costs upon receipt of invoice.

If the Irrigation Districts agree with and accept the obligations indicated above please indicate by signature below and return signed copies to Clatskanie.

Sincerely,

Greg Booth

Greg Booth
General Manager
Clatskanie People's Utility District

Monte Janicek President
Signature Title
Nampa & Meridian Irrigation District
Monte Janicek

Signature Title
Wilder Irrigation District

Signature Title
Boise-Kuna Irrigation District

Signature Title
New York Irrigation District

Signature Title
Big Bend Irrigation District

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If the Irrigation Districts agree with and accept the obligations indicated above please indicate by signature below and return signed copies to Clatskanie.

Sincerely,

Greg Booth

Greg Booth
General Manager
Clatskanie People's Utility District

Signature Title
Boise-Kuna Irrigation District

Signature Title
Nampa & Meridian Irrigation District

Signature Title
New York Irrigation District

Dane Paulsen

Signature Title
Wilder Irrigation District

Secretary / Treasurer

Signature Title
Big Bend Irrigation District

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If the Irrigation Districts agree with and accept the obligations indicated above please indicate by signature below and return signed copies to Clatskanie.

Sincerely,

Greg Booth
General Manager
Clatskanie People's Utility District

Mike O'Keefe Chairman
Signature Title
Boise-Kuna Irrigation District

Signature Title
Nampa & Meridian Irrigation District

Signature Title
New York Irrigation District

Signature Title
Wilder Irrigation District

Signature Title
Big Bend Irrigation District

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If the Irrigation Districts agree with and accept the obligations indicated above please indicate by signature below and return signed copies to Clatskanie.

Sincerely,

Greg Booth

Greg Booth
General Manager
Clatskanie People's Utility District

Signature Title
Boise-Kuna Irrigation District

Paul Wamick Vice Chairman

Signature Title
Nampa & Meridian Irrigation District

Signature Title
New York Irrigation District

Signature Title
Wilder Irrigation District

Signature Title
Big Bend Irrigation District

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Sincerely,

Greg Booth

Greg Booth
General Manager
Clatskanie People's Utility District

Signature Title
Boise-Kuna Irrigation District

Signature Title
Nampa & Meridian Irrigation District

Signature Title
New York Irrigation District

Signature Title
Wilder Irrigation District

Signature Title
Big Bend Irrigation District

Tab 20

A RESOLUTION canvassing the results of the special contract election held in the Boise-Kuna Irrigation District, Ada and Canyon Counties, State of Idaho, on August 2, 2005, upon the proposition of the District entering into a Power Purchase and Sale Contract by and among the District, the Wilder Irrigation District, the Nampa & Meridian Irrigation District, the New York Irrigation District, the Big Bend Irrigation District and Clatskanie People's Utility District for the purpose of financing and constructing a hydroelectric facility to be known as the Arrowrock Power Plant Project and authorizing the sale of surplus electrical energy generated at the Arrowrock Power Plant Project to Clatskanie People's Utility District.

*** *** ***

WHEREAS, on July 12, 2005, the Board of Directors (the "Board") of the Boise-Kuna Irrigation District (the "District") adopted a Resolution (the "Election Resolution") calling a special contract election to be held in the District on August 2, 2005 (the "Election"), for the purpose of submitting to the qualified electors of the District at the Election the proposition hereinafter set forth; and

WHEREAS, only those electors of the District who possessed all the qualifications specified in the form of Elector's Oath or the form of Elector's Oath for Corporations and Partnerships set forth hereinafter in Sections 4 and 5, respectively, were permitted to vote; and

WHEREAS, the Election has been duly held pursuant to the Election Resolution and pursuant to the provisions of the Constitution and Laws of the State of Idaho, and the results thereof have been canvassed by the Board and a complete investigation has been made by the Board as to the manner in which the Election was held and as to the regularity thereof;

NOW, THEREFORE, BE IT IS RESOLVED by the Board of Directors of the Boise-Kuna Irrigation District, Ada and Canyon Counties, State of Idaho, as follows:

Section 1. That the Election was held in the District on August 2, 2005, at which Election there was submitted to the qualified electors of the District the following proposition:

PROPOSITION

Shall the Board of Directors of the Boise-Kuna Irrigation District, Ada and Canyon Counties, State of Idaho, be authorized to enter into a Power Purchase and Sale Contract (the "**Contract**") by and among the District, the Wilder Irrigation District, the Nampa &

Meridian Irrigation District, the New York Irrigation District, and the Big Bend Irrigation District (collectively, the "**Districts**") and the Clatskanie People's Utility District ("**Clatskanie**"), authorizing the District to participate in the financing, construction, operation and maintenance of a hydroelectric facility to be known as the Arrowrock Power Plant Project at the Arrowrock Dam (the "**Project**") and authorizing the sale of surplus electrical energy generated at the Project to Clatskanie, and the payment by Clatskanie over the term of the Contract of amounts sufficient to pay all maintenance and operations expenses of the Project and all principal and interest on revenue bonds issued to finance the Project in the form of (i) payments by Clatskanie for electrical energy, or (ii) in the event such payments are insufficient, from loans by Clatskanie to the Project repayable by the District only from surplus revenues of the Project, which loans shall be cancelled if unpaid at the expiration of the Contract, all pursuant to chapter 23, Title 43, Idaho Code, as amended, and under the terms and conditions of the Contract?

Section 2. That the Notice of Special Contract Election (the "Election Notice") was duly and legally given by the Secretary of the Board by publication thereof in the *Idaho Statesman* and in the *Idaho Press-Tribune*, newspapers of general circulation in the District and published in Boise, Ada County, Idaho, and Nampa, Canyon County, Idaho, respectively, on July 15, 2005 and July 22, 2005, each such publication having been made on the same day of two (2) consecutive weeks, the last publication of which was at least ten (10) days prior to the date of the Election. Said Election Notice, as published, is hereby in all respects ratified and confirmed.

Section 3. That the polls for the Election were opened at 8:00 A.M. and were closed at the hour of 8:00 P.M. at the voting place(s) specified hereinafter in accordance with the provisions of the Election.

Section 4. That the form of Elector's Oath which the judges of the Election required every natural person offering to vote at the Election to subscribe to as a prerequisite to casting a vote is attached hereto as Exhibit A.

Section 5. That the form of Elector's Oath for Corporations and Partnerships which the judges of the Election required every person offering to vote on behalf of a corporation or partnership at the Election to subscribe to as a prerequisite to casting a vote is attached hereto as Exhibit B.

Section 6. That the ballots used at the Election were in the form prescribed by law and the Election Resolution and in the form attached hereto as Exhibit C.

Section 7. That the votes cast at the following polling place(s) held on the aforesaid proposition were, and are hereby formally found and determined to be, as follows:

Polling Place: 129 N. School Avenue, Kuna, Idaho

	All Electors	Land Owners	Non-Land Owners
Total votes cast:	119	113	6
Total votes cast "YES":		106	6
Total votes cast "NO":		7	Ø
Total challenged votes (individuals):	Ø	Ø	Ø
Total challenged votes (corporation/partnership):	Ø	Ø	Ø
Total ballots rejected:	Ø	Ø	Ø

Section 8. That it is hereby found, determined and declared that the proposition on the question of authorizing the Board of Directors of the District to enter into the Power Purchase and Sale Contract by and among the District, the Wilder Irrigation District, the Nampa & Meridian Irrigation District, the New York Irrigation District, the Big Bend Irrigation District and Clatskanie People's Utility District ("Clatskanie") for the purpose of financing, construction, operation and maintenance of a hydroelectric facility to be known as the Arrowrock Power Plant Project and authorizing the sale of surplus electrical energy generated at the Arrowrock Power Plant Project to Clatskanie, carried by a majority of more than two-thirds of the qualified electors of the District voting at the Election on the proposition.

Section 9. It is further found and declared that the Election was held and conducted in strict compliance with law and the provisions of the Election Resolution.

ADOPTED AND APPROVED this 8th day of August, 2005.

President, Board of Directors

Attest:

Secretary, Board of Directors

A RESOLUTION canvassing the results of the special contract election held in the Wilder Irrigation District, Canyon County, State of Idaho, on August 2, 2005, upon the proposition of the District entering into a Power Purchase and Sale Contract by and among the District, the Boise-Kuna Irrigation District, the Nampa & Meridian Irrigation District, the New York Irrigation District, the Big Bend Irrigation District and Clatskanie People's Utility District for the purpose of financing and constructing a hydroelectric facility to be known as the Arrowrock Power Plant Project and authorizing the sale of surplus electrical energy generated at the Arrowrock Power Plant Project to Clatskanie People's Utility District.

*** *** ***

WHEREAS, on July 12, 2005, the Board of Directors (the "Board") of the Wilder Irrigation District (the "District") adopted a Resolution (the "Election Resolution") calling a special contract election to be held in the District on August 2, 2005 (the "Election"), for the purpose of submitting to the qualified electors of the District at the Election the proposition hereinafter set forth; and

WHEREAS, only those electors of the District who possessed all the qualifications specified in the form of Elector's Oath or the form of Elector's Oath for Corporations and Partnerships set forth hereinafter in Sections 4 and 5, respectively, were permitted to vote; and

WHEREAS, the Election has been duly held pursuant to the Election Resolution and pursuant to the provisions of the Constitution and Laws of the State of Idaho, and the results thereof have been canvassed by the Board and a complete investigation has been made by the Board as to the manner in which the Election was held and as to the regularity thereof;

NOW, THEREFORE, BE IT IS RESOLVED by the Board of Directors of the Wilder Irrigation District, Canyon County, State of Idaho, as follows:

Section 1. That the Election was held in the District on August 2, 2005, at which Election there was submitted to the qualified electors of the District the following proposition:

PROPOSITION

Shall the Board of Directors of the Wilder Irrigation District, Canyon County, State of Idaho, be authorized to enter into a Power Purchase and Sale Contract (the "**Contract**") by and among the District, Boise-Kuna Irrigation District, the Nampa & Meridian

Irrigation District, the New York Irrigation District, and the Big Bend Irrigation District (collectively, the "**Districts**") and the Clatskanie People's Utility District ("**Clatskanie**"), authorizing the District to participate in the financing, construction, operation and maintenance of a hydroelectric facility to be known as the Arrowrock Power Plant Project at the Arrowrock Dam (the "**Project**") and authorizing the sale of surplus electrical energy generated at the Project to Clatskanie, and the payment by Clatskanie over the term of the Contract of amounts sufficient to pay all maintenance and operations expenses of the Project and all principal and interest on revenue bonds issued to finance the Project in the form of (i) payments by Clatskanie for electrical energy, or (ii) in the event such payments are insufficient, from loans by Clatskanie to the Project repayable by the District only from surplus revenues of the Project, which loans shall be cancelled if unpaid at the expiration of the Contract, all pursuant to chapter 23, Title 43, Idaho Code, as amended, and under the terms and conditions of the Contract?

Section 2. That the Notice of Special Contract Election (the "Election Notice") was duly and legally given by the Secretary of the Board by publication thereof in the *Idaho Press-Tribune* newspaper of general circulation in the District and published in Nampa, Canyon County, Idaho, on July 15, 2005 and July 22, 2005, each such publication having been made on the same day of two (2) consecutive weeks, the last publication of which was at least ten (10) days prior to the date of the Election. Said Election Notice, as published, is hereby in all respects ratified and confirmed.

Section 3. That the polls for the Election were opened at 8:00 A.M. and were closed at the hour of 8:00 P.M. at the voting places specified hereinafter in accordance with the provisions of the Election.

Section 4. That the form of Elector's Oath which the judges of the Election required every natural person offering to vote at the Election to subscribe to as a prerequisite to casting a vote is attached hereto as Exhibit A.

Section 5. That the form of Elector's Oath for Corporations and Partnerships which the judges of the Election required every person offering to vote on behalf of a corporation or partnership at the Election to subscribe to as a prerequisite to casting a vote is attached hereto as Exhibit B.

Section 6. That the ballots used at the Election were in the form prescribed by law and the Election Resolution and in the form attached hereto as Exhibit C.

Section 7. That the votes cast at the following polling place(s) held on the aforesaid proposition were, and are hereby formally found and determined to be, as follows:

Polling Place: Water Master's Office at Lake Lowell, Canyon County, Idaho

	All Electors	Land Owners	Non-Land Owners
Total votes cast:	60	59	1
Total votes cast "YES":	58	57	1
Total votes cast "NO":	2	2	0
Total challenged votes (individuals):			
Total challenged votes (corporation/partnership):			
Total ballots rejected:			

Polling Place: Water Master's Office at Wilder, Canyon County, Idaho

	All Electors	Land Owners	Non-Land Owners
Total votes cast:	93	84	9
Total votes cast "YES":	87	79	8
Total votes cast "NO":	6	5	1
Total challenged votes (individuals):			
Total challenged votes (corporation/partnership):			
Total ballots rejected:			

Section 8. That it is hereby found, determined and declared that the proposition on the question of authorizing the Board of Directors of the District to enter into the Power Purchase and Sale Contract by and among the District, the Boise-Kuna Irrigation District, the Nampa & Meridian Irrigation District, the New York Irrigation District, the Big Bend Irrigation District and Clatskanie People's Utility District ("Clatskanie") for the purpose of financing, construction, operation and maintenance of a hydroelectric facility to be known as the Arrowrock Power Plant Project and authorizing the sale of surplus electrical energy generated at the Arrowrock Power Plant Project to Clatskanie, carried by a majority of more than two-thirds of the qualified electors of the District voting at the Election on the proposition.

Section 9. It is further found and declared that the Election was held and conducted in strict compliance with law and the provisions of the Election Resolution.

ADOPTED AND APPROVED this 8th day of August, 2005.

President, Board of Directors

Attest:

Assistant Secretary, Board of Directors

A RESOLUTION canvassing the results of the special contract election held in the Nampa & Meridian Irrigation District, Ada and Canyon Counties, State of Idaho, on August 2, 2005, upon the proposition of the District entering into a Power Purchase and Sale Contract by and among the District, the Wilder Irrigation District, the Boise-Kuna Irrigation District, the New York Irrigation District, the Big Bend Irrigation District and Clatskanie People's Utility District for the purpose of financing and constructing a hydroelectric facility to be known as the Arrowrock Power Plant Project and authorizing the sale of surplus electrical energy generated at the Arrowrock Power Plant Project to Clatskanie People's Utility District.

*** *** ***

WHEREAS, on July 12, 2005, the Board of Directors (the "Board") of the Nampa & Meridian Irrigation District (the "District") adopted a Resolution (the "Election Resolution") calling a special contract election to be held in the District on August 2, 2005 (the "Election"), for the purpose of submitting to the qualified electors of the District at the Election the proposition hereinafter set forth; and

WHEREAS, only those electors of the District who possessed all the qualifications specified in the form of Elector's Oath or the form of Elector's Oath for Corporations and Partnerships set forth hereinafter in Sections 4 and 5, respectively, were permitted to vote; and

WHEREAS, the Election has been duly held pursuant to the Election Resolution and pursuant to the provisions of the Constitution and Laws of the State of Idaho, and the results thereof have been canvassed by the Board and a complete investigation has been made by the Board as to the manner in which the Election was held and as to the regularity thereof;

NOW, THEREFORE, BE IT IS RESOLVED by the Board of Directors of the Nampa & Meridian Irrigation District, Ada and Canyon Counties, State of Idaho, as follows:

Section 1. That the Election was held in the District on August 2, 2005, at which Election there was submitted to the qualified electors of the District the following proposition:

PROPOSITION

Shall the Board of Directors of the Nampa & Meridian Irrigation District, Ada and Canyon Counties, State of Idaho, be authorized to enter into a Power Purchase and Sale Contract (the "**Contract**") by and among the District, Boise-Kuna Irrigation District, the

Wilder Irrigation District, the New York Irrigation District, and the Big Bend Irrigation District (collectively, the "**Districts**") and the Clatskanie People's Utility District ("**Clatskanie**"), authorizing the District to participate in the financing, construction, operation and maintenance of a hydroelectric facility to be known as the Arrowrock Power Plant Project at the Arrowrock Dam (the "**Project**") and authorizing the sale of surplus electrical energy generated at the Project to Clatskanie, and the payment by Clatskanie over the term of the Contract of amounts sufficient to pay all maintenance and operations expenses of the Project and all principal and interest on revenue bonds issued to finance the Project in the form of (i) payments by Clatskanie for electrical energy, or (ii) in the event such payments are insufficient, from loans by Clatskanie to the Project repayable by the District only from surplus revenues of the Project, which loans shall be cancelled if unpaid at the expiration of the Contract, all pursuant to chapter 23, Title 43, Idaho Code, as amended, and under the terms and conditions of the Contract?

Section 2. That the Notice of Special Contract Election (the "Election Notice") was duly and legally given by the Secretary of the Board by publication thereof in the *Idaho Statesman* and in the *Idaho Press-Tribune*, newspapers of general circulation in the District and published in Boise, Ada County, Idaho, and Nampa, Canyon County, Idaho, respectively, on July 15, 2005 and July 22, 2005, each such publication having been made on the same day of two (2) consecutive weeks, the last publication of which was at least ten (10) days prior to the date of the Election. Said Election Notice, as published, is hereby in all respects ratified and confirmed.

Section 3. That the polls for the Election were opened at 8:00 A.M. and were closed at the hour of 8:00 P.M. at the voting places specified hereinafter in accordance with the provisions of the Election.

Section 4. That the form of Elector's Oath which the judges of the Election required every natural person offering to vote at the Election to subscribe to as a prerequisite to casting a vote is attached hereto as Exhibit A.

Section 5. That the form of Elector's Oath for Corporations and Partnerships which the judges of the Election required every person offering to vote on behalf of a corporation or partnership at the Election to subscribe to as a prerequisite to casting a vote is attached hereto as Exhibit B.

Section 6. That the ballots used at the Election were in the form prescribed by law and the Election Resolution and in the form attached hereto as Exhibit C.

Section 7. That the votes cast at the following polling place(s) held on the aforesaid proposition were, and are hereby formally found and determined to be, as follows:

Polling Place: Central District Health Department, 707 N. Armstrong Place, Boise, Idaho

	All Electors	Land Owners	Non-Land Owners
Total votes cast:	8	N/A	N/A
Total votes cast "YES":	4	N/A	N/A
Total votes cast "NO":	4	N/A	N/A
Total challenged votes (individuals):	0	N/A	N/A
Total challenged votes (corporation/partnership):	0	N/A	N/A
Total ballots rejected:	0	N/A	N/A

Polling Place: Meridian Library, Old Time Branch, 18 E. Idaho Street, Meridian, Idaho

	All Electors	Land Owners	Non-Land Owners
Total votes cast:	25	N/A	N/A
Total votes cast "YES":	21	N/A	N/A
Total votes cast "NO":	4	N/A	N/A
Total challenged votes (individuals):	0	N/A	N/A
Total challenged votes (corporation/partnership):	0	N/A	N/A
Total ballots rejected:	0	N/A	N/A

Polling Place: Nampa City Hall, 411 Third St. South, Nampa, Idaho

	All Electors	Land Owners	Non-Land Owners
Total votes cast:	70	N/A	N/A
Total votes cast "YES":	51	N/A	N/A
Total votes cast "NO":	19	N/A	N/A
Total challenged votes (individuals):	0	N/A	N/A
Total challenged votes (corporation/partnership):	0	N/A	N/A
Total ballots rejected:	0	N/A	N/A

Section 8. That it is hereby found, determined and declared that the proposition on the question of authorizing the Board of Directors of the District to enter into the Power Purchase and Sale Contract by and among the District, the Wilder Irrigation District, the Boise-Kuna Irrigation District, the New York Irrigation District, the Big Bend Irrigation District and Clatskanie People's Utility District ("Clatskanie") for the purpose of financing, construction,

operation and maintenance of a hydroelectric facility to be known as the Arrowrock Power Plant Project and authorizing the sale of surplus electrical energy generated at the Arrowrock Power Plant Project to Clatskanie, carried by a majority of more than two-thirds of the qualified electors of the District voting at the Election on the proposition.

Section 9. It is further found and declared that the Election was held and conducted in strict compliance with law and the provisions of the Election Resolution.

ADOPTED AND APPROVED this 8th day of August, 2005.

President, Board of Directors, Monte Janicek

Attest:

Secretary, Board of Directors, Daren R Coon

A RESOLUTION canvassing the results of the special contract election held in the New York Irrigation District, Ada and Canyon Counties, State of Idaho, on August 2, 2005, upon the proposition of the District entering into a Power Purchase and Sale Contract by and among the District, the Wilder Irrigation District, the Nampa & Meridian Irrigation District, the Boise-Kuna Irrigation District, the Big Bend Irrigation District and Clatskanie People's Utility District for the purpose of financing and constructing a hydroelectric facility to be known as the Arrowrock Power Plant Project and authorizing the sale of surplus electrical energy generated at the Arrowrock Power Plant Project to Clatskanie People's Utility District.

*** *** ***

WHEREAS, on July 12, 2005, the Board of Directors (the "Board") of the New York Irrigation District (the "District") adopted a Resolution (the "Election Resolution") calling a special contract election to be held in the District on August 2, 2005 (the "Election"), for the purpose of submitting to the qualified electors of the District at the Election the proposition hereinafter set forth; and

WHEREAS, only those electors of the District who possessed all the qualifications specified in the form of Elector's Oath or the form of Elector's Oath for Corporations and Partnerships set forth hereinafter in Sections 4 and 5, respectively, were permitted to vote; and

WHEREAS, the Election has been duly held pursuant to the Election Resolution and pursuant to the provisions of the Constitution and Laws of the State of Idaho, and the results thereof have been canvassed by the Board and a complete investigation has been made by the Board as to the manner in which the Election was held and as to the regularity thereof;

NOW, THEREFORE, BE IT IS RESOLVED by the Board of Directors of the New York Irrigation District, Ada and Canyon Counties, State of Idaho, as follows:

Section 1. That the Election was held in the District on August 2, 2005, at which Election there was submitted to the qualified electors of the District the following proposition:

PROPOSITION

> Shall the Board of Directors of the New York Irrigation District, Ada and Canyon Counties, State of Idaho, be authorized to enter into a Power Purchase and Sale Contract (the "**Contract**") by and among the District, Boise-Kuna Irrigation District, the Nampa &

Meridian Irrigation District, the Wilder Irrigation District, and the Big Bend Irrigation District (collectively, the "**Districts**") and the Clatskanie People's Utility District ("**Clatskanie**"), authorizing the District to participate in the financing, construction, operation and maintenance of a hydroelectric facility to be known as the Arrowrock Power Plant Project at the Arrowrock Dam (the "**Project**") and authorizing the sale of surplus electrical energy generated at the Project to Clatskanie, and the payment by Clatskanie over the term of the Contract of amounts sufficient to pay all maintenance and operations expenses of the Project and all principal and interest on revenue bonds issued to finance the Project in the form of (i) payments by Clatskanie for electrical energy, or (ii) in the event such payments are insufficient, from loans by Clatskanie to the Project repayable by the District only from surplus revenues of the Project, which loans shall be cancelled if unpaid at the expiration of the Contract, all pursuant to chapter 23, Title 43, Idaho Code, as amended, and under the terms and conditions of the Contract?

Section 2. That the Notice of Special Contract Election (the "Election Notice") was duly and legally given by the Secretary of the Board by publication thereof in the *Idaho Statesman* and in the *Idaho Press-Tribune*, newspapers of general circulation in the District and published in Boise, Ada County, Idaho, and Nampa, Canyon County, Idaho, respectively, on July 15, 2005 and July 22, 2005, each such publication having been made on the same day of two (2) consecutive weeks, the last publication of which was at least ten (10) days prior to the date of the Election. Said Election Notice, as published, is hereby in all respects ratified and confirmed.

Section 3. That the polls for the Election were opened at 8:00 A.M. and were closed at the hour of 8:00 P.M. at the voting place(s) specified hereinafter in accordance with the provisions of the Election.

Section 4. That the judges appointed in the Election Resolution, including judges appointed and sworn in on the date of the Election to replace previously-appointed judges unable to act as Election judges, are hereby ratified and confirmed as the Election judges.

Section 5. That the form of Elector's Oath which the judges of the Election required every natural person offering to vote at the Election to subscribe to as a prerequisite to casting a vote is attached hereto as Exhibit A.

Section 6. That the form of Elector's Oath for Corporations and Partnerships which the judges of the Election required every person offering to vote on behalf of a corporation or partnership at the Election to subscribe to as a prerequisite to casting a vote is attached hereto as Exhibit B.

Section 7. That the ballots used at the Election were in the form prescribed by law and the Election Resolution and in the form attached hereto as Exhibit C.

Section 8. That the votes cast at the following polling place(s) held on the aforesaid proposition were, and are hereby formally found and determined to be, as follows:

Polling Place: Independent School District Administrative Office, 8169 W. Victory, Boise

	All Electors	Land Owners	Non-Land Owners
Total votes cast:		55	1
Total votes cast "YES":		55	1
Total votes cast "NO":		0	0
Total challenged votes (individuals):		0	0
Total challenged votes (corporation/partnership):		0	0
Total ballots rejected:		0	0

Section 9. That it is hereby found, determined and declared that the proposition on the question of authorizing the Board of Directors of the District to enter into the Power Purchase and Sale Contract by and among the District, the Wilder Irrigation District, the Nampa & Meridian Irrigation District, the Boise-Kuna Irrigation District, the Big Bend Irrigation District and Clatskanie People's Utility District ("Clatskanie") for the purpose of financing, construction, operation and maintenance of a hydroelectric facility to be known as the Arrowrock Power Plant Project and authorizing the sale of surplus electrical energy generated at the Arrowrock Power Plant Project to Clatskanie, carried by a majority of more than two-thirds of the qualified electors of the District voting at the Election on the proposition.

Section 10. It is further found and declared that the Election was held and conducted in strict compliance with law and the provisions of the Election Resolution.

ADOPTED AND APPROVED this 9th day of August, 2005.

Richard L. Murgatroyd
President, Board of Directors

Attest:

Velta Harwood
Secretary, Board of Directors

Tab 22

BOISE PROJECT BOARD OF CONTROL
ARROWROCK HYDRO EXPENSES

YEAR	AMOUNT
1985	$11,072.43
1986	6,285.19
1987	13,342.27
1988	6,593.22
1989	31,934.91
1990	104,151.86
1991	53,738.83
1992	29,472.30
1993	7,049.66
1994	6,497.19
1995	2,055.44
1996	276.14
1997	490.80
1998	0.00
1999	39,568.60
2000	26,400.27
2001	197,523.76
2002	106,789.36
2003	7,882.34
2004	139,596.53
2005	142,216.23
2006	6,833.55
TOTAL	**$939,770.88**

FEBRUARY 28, 2006

Tab 23

LEHMAN BROTHERS

ROBERT H. CAMPBELL
MANAGING DIRECTOR

March 16, 2006

Albert P. Barker, Esq.
Barker Rosholt and Simpson, LLP
PO Box 2139
Boise, ID 83701-2139

Dear Al,

You have asked for our opinion concerning the Boise Project Irrigation Districts' (the "Districts'") ability to finance the Arrowrock Hydroelectric Project (the "Project") within the three year time period provided by S.2035 should that legislation be enacted, and we are happy to do so.

By way of background, our firm is a global investment banking firm with extensive experience structuring, underwriting and trading municipal obligations. In particular, we have senior managed the underwriting of more than $5.5 billion of electric revenue bonds over the past five years and served as the sole managing underwriter of the most recent non-recourse financing sold on the Districts' behalf by Boise-Kuna Irrigation District. Consequently, we are intimately familiar with the marketplace not only for electric revenue bonds generally, but also for obligations sold on a non-recourse basis specifically for the Districts' benefit.

Also, as you know, we have been involved in assisting the Districts with their structuring of the Project's financing for several years. Over the past year or two, we have helped the Districts structure their February 28, 2006 Project Power Purchase and Sale Agreement with Clatskanie Peoples Utility District (the "Power Sales Agreement") with a view toward creating an arrangement that would support financing the Project in the municipal marketplace on a non-recourse basis to the Districts. During the course of our work with the Districts, we have become familiar with their plans to construct the Project, the Project's anticipated operating regime and the terms and conditions of the Power Sales Agreement.

Based on: i) our experience with electric revenue bond financings generally and non-recourse bond issues sold on behalf of the Districts in particular; and ii) our familiarity with the Project and the Power Sales Agreement, we are of the opinion that the Project could be financed under current market conditions with the non-recourse revenue bonds supported only by payments

RECEIVED
MAR 20 2006

LEHMAN BROTHERS INC.
701 FIFTH AVENUE SUITE 7101 SEATTLE, WASHINGTON 98104-7016 206 344 5888 FAX 646 885 9424 RHCAMPBE@LEHMAN.COM

made by Clatskanie Peoples Utility District under the Power Sales Agreement. Furthermore, we believe that such bonds could be sold within 90 days after the enactment of S.2035 and the procurement by the Districts of all of the permits and permissions necessary for them to proceed with the financing and construction of the Project.

Very truly yours,

LEHMAN BROTHERS
701 FIFTH AVENUE, SUITE 7101 SEATTLE, WASHINGTON 98104 TELEPHONE (206) 344-5888 FACSIMILE (206) 233-2817

Tab 24

IDAHO POWER
An IDACORP Company

IDAHO POWER COMPANY
P.O. BOX 70
BOISE, IDAHO 83707

16 September 2004

Mr. Kip W. Runyan, P.E.
2233 Spring Mountain Drive
Boise, ID 83702
Ph 208-384-0960
Fax 208-384-5978
mailto:KRunyan50@aol.com

RE: Arrowrock Dam Hydroelectric Project

Dear Mr. Runyan:

This letter is to inform you of the progress of your generation interconnection request:

Date of request	Location	Amount (MW)	Requested in-service date
8/6/04	Elmore County	15 MW	May 1, 2007

The Feasibility Study indicates that our system is capable of integrating your generation project at the specified location. These results are based upon studies performed to date, and upon your application indicating synchronous machines will be utilized. At this time, a System Impact Study is not required.

Interconnection facilities, including metering and protection equipment, will be required. This equipment which will be owned by Idaho Power Company typically can be expected to cost approximately $100,000. However, that design and cost detail will be determined as part of the Facilities Study, used to prepare actual construction work orders. We also understand you will be constructing and providing other facilities to reach Idaho Power's existing distribution line and other requirements associated with the interconnection.

Your project will be forwarded on to John Barrutia who will assist you through the Facility Study process. We will be offering a study agreement to proceed with that work shortly.

If you have any questions please do not hesitate to contact either myself or John Barrutia (388-2222).

Sincerely,

"Kip" David L. Sikes, P.E.
Planning Leader
Idaho Power Company
dsikes@idahopower.com
(208) 388-2459

c: John Barrutia/IPC
Rowena Bishop/IPC

IDAHO POWER
An IDACORP Company

IDAHO POWER COMPANY
P.O. BOX 70
BOISE, IDAHO 83707

October 28, 2004

Mr. Kip W. Runyan, P.E.
2233 Spring Mountain Drive
Boise, Idaho 83702

Dear Mr. Runyan,

Re: Arrowrock Dam Hydroelectric Project

You should have received a letter from Idaho Power Company (IPC) dated September 16, 2004, discussing the results of the Feasibility Analysis. The Feasibility Analyses indicated that IPC's system is capable of integrating your 15-MW hydroelectric project on IPC's 34.5-kV Boise Bench feeder (BOBN-041). My letter today is to discuss the required interconnection facilities for your project and present the next step in the generation interconnection process.

Project Details

IPC's understanding of your project is as follows:

Project Location: Arrowrock Dam (Elmore County, Idaho).
Project Owner: Boise-Kuna, Nampa & Meridian, Wilder, and Big Bend Irrigation Districts (Irrigation Districts).
Energy Source: Hydroelectric.
Generators: Two synchronous 7.5-MW generators.
Interconnection Voltage: 34.5-kV, three-phase.
Electrical Interconnection Location: South side of IPC voltage regulator RG300 located along Highway 21 in Township 3N, Range 4E, Section 21.
Project In-Service Date: May 1, 2007.

Interconnection Facilities

You were provided IPC's Requirements For Generation Interconnection as an attachment to IPC's letter dated August 10, 2004. Consistent with that document, the interconnection facilities required for your project are as follows:

Generation step up transformer: A generation step up transformer sized for the expected plant output is required for connection to IPC's system. Based on your Interconnection Application, the Irrigation Districts intend to own the generation step up transformer. Since the transformer connections affect existing feeder ground fault relaying and surge protection facilities, IPC requires that the transformers be connected grounded-wye (34.5Y/19.9-kV) on the primary side and connected ungrounded wye on the secondary (generator) side.

Disconnection device: The disconnection device essentially defines the point of interconnection between IPC and the generation customer. The disconnection device will be located at the interface between your line and IPC's (i.e. where your 35-kV circuit connects to IPC's overhead facilities), and will be owned, installed, operated, and maintained by IPC.

Circuit-interrupting device: The circuit-interrupting device will be owned, installed, operated, and maintained by IPC. IPC will utilize a pole-mounted, 3-phase, 35-kV recloser as the circuit-interrupting device. The 35-kV recloser will be installed on the same pole as the disconnection device discussed above.

Revenue metering: The revenue meter and associated instrument transformers will be owned, installed, operated, and maintained by IPC. The revenue meter and instrument transformers will be pole mounted on one pole and electrically located on the utility side of the circuit-interrupting device. The revenue meter will have load profile, modem, and reactive metering capability and will be connected to a dedicated dial-up telephone circuit (provided by the Irrigation Districts) for telemetering to IPC.

Multifunction protective relaying and associated controls: The protective relaying/control equipment and associated instrument transformers will be owned, installed, operated, and maintained by IPC. The protective relaying/control package will consist of an SEL311C line distance relay, relay-class uninterruptible power supply (UPS), DC-DC (48VDC to 24VDC) converter, modem and associated surge protection, control switches, and indicating lights. The protective relaying/control package enclosure and one associated instrument potential transformer will be located on the same pole as the circuit interrupting device. The remaining relaying instrument transformers will be located on the same pole as the revenue metering instrument transformers.

The SEL311C relay will provide automatic control of IPC's 35-kV recloser and will communicate instantaneous real and reactive power flow, circuit breaker status, instantaneous analog voltage, and disturbance information to Idaho Power's dispatch center via leased communications circuit (provided by the Irrigation Districts). The following inputs/outputs are available with the SEL311C relay for use by you if desired:

- The SEL311C will be programmed to accept three normally-open dry contacts (rated 48-volt minimum) from your generation facility to provide recloser control as follows:
    1. Recloser manual lockout trip
    2. Recloser manual lockout reset
    3. Recloser close control
- The SEL311C will be programmed to provide three output dry contacts (48-volt rated) to your generation facility to provide recloser and system status as follows:
    1. Recloser position (52a)
    2. Recloser position (52b)
    3. IPC system available for connection (normally-open)

You will be required to provide the communications equipment, circuits, and raceways between your project and IPC's protective relaying/control package should you desire to utilize the above-listed inputs and outputs.

A pole mounted 15-kVA power transformer will be installed on the utility side of the revenue meter and associated disconnect switch to provide power to the protective relaying/control package.

Special Facilities/Upgrades: Disconnect switches will be required on the utility side of the metering equipment to isolate the equipment for maintenance. These disconnect switches will be owned, installed, operated, and maintained by IPC.

The Feasibility Study has indicated that the electrical interconnection location needs to be on the south side of IPC voltage regulator RG300 located along Highway 21 in Township 3N, Range 4E, Section 21. The existing distribution line (owned by others) to Arrowrock Dam is presently tapped from IPC's single circuit distribution line north of the Lucky Peak Nursery. That tap is approximately 1 mile (following the alignment of IPC's distribution line) north of RG300.

I have had telephone discussions with both you and The Shaw Group, Inc. (Stone & Webster) regarding options to accomplish this requirement. IPC evaluated the possibility of relocating RG300 further north. However, it was discovered that when IPC installed RG300 several years ago, a possible site several miles north was originally evaluated but ultimately not utilized because a requested access easement (requiring a permanent access road and drainage improvements) could not be obtained. This resulted in the installation of RG300 in its present location. Other locations in the general area cannot be considered because of the difficult terrain and regular accessibility requirements to the regulator. In summary, the other apparent alternative is to extend the Arrowrock Dam distribution line to the south side of RG300. In which case, you will need to obtain the necessary easements and extend the Arrowrock Dam distribution line, or IPC can rebuild IPC's existing distribution line between the present Arrowrock Dam tap and RG300 (making a double circuit line) to accommodate the required line extension. In the latter case, IPC would own, operate, and maintain the line extension.

Telemetry: Two separate voice grade leased communications circuits are required between the interconnection location and a location specified by IPC. One of the circuits will be connected to the SEL 311C relay and the other to the revenue meter. You will be required to coordinate with the local telephone company to provide the circuits and pay the monthly charges. Please note that the communications company typically requires feeder impedance and available fault current information at the point of interconnection. IPC can provide you that information upon request. The communications circuits will need to be installed and operational prior to generating into the IPC system.

In summary, three poles are anticipated at the physical point of interconnection as follows:

- The disconnection device, 35-kV recloser, generator side potential transformer, associated protective relaying/control package, and telephone company equipment will be mounted on the first pole.
- The metering/relaying instrument transformers, revenue meter, and telephone company equipment will be installed on the second pole.
- The pole mounted 15-kVA power transformer and associated fused disconnect, and the disconnect switches upstream of the metering facilities will be installed on the third pole.

If the Irrigation Districts extend the Arrowrock distribution line to RG300, the interconnection facilities will likely be physically located near RG300. If you request IPC to rebuild the existing distribution line between the present Arrowrock Dam tap and RG300 to make a double circuit line, the interconnection facilities will likely be physically located near the present tap location north of the Lucky Peak Nursery.

Energy Sales

The generation interconnection process (interconnection application, feasibility analysis, facility study, etc.) as required by the Federal Energy Regulatory Commission (FERC) is only for the physical connection to the wires. If you wish to sell the energy from this project to IPC an energy sales agreement with IPC will be required. This agreement will be in accordance with the various FERC and Idaho Public Utilities Commission (IPUC) regulations governing these types of agreements and agreed upon by both parties. Your IPC contact for energy sales is Randy Allphin. You may contact Randy at *rallphin@idahopower.com* or call him at 208-388-2614 to discuss the various energy sales agreement options and requirements. If the Parties ultimately agree that IPC will purchase generation from the project, additional requirements and operation and maintenance obligations are outlined in IPC's tariffs, including Schedule 72, Interconnections to Non-Utility Generation.

Facility Study

The next step in the generation interconnection process is for you to authorize IPC to perform a Facility Study for the engineering/design of the generation interconnection facilities if you intend to proceed with the project. The scope of the Facility Study typically includes the following:

- Field visit(s) at the project site to develop project layout (establish line extensions, obtaining easements, etc).
- Detailed analysis of existing utility infrastructure to evaluate necessary control system modifications, relaying modifications, switching requirements, subsurface evaluation (e.g. blasting requirements for pole setting, etc.), equipment fault duty analysis, etc.
- Detailed design based on the results of the above-listed analysis. The detailed design also includes the engineering/design (including schematics, wiring diagrams, and assembly drawings) for the protective relaying package.
- Review of the Generator's descriptive literature for any of the equipment that may be provided by the Generator (transformer, etc.).
- Coordinating with the Generator (or his authorized agent) regarding the interface details between the Generator's equipment and IPC's equipment.
- Providing a detailed construction cost estimate and construction schedule based on the project design and available resources.
- Providing a letter to the Generator detailing the results of the Facility Study.

Disposition

The estimated Facility Study costs are $25,000. We will reconcile actual costs upon completion of the Facility Study. Attached is a Facility Study Agreement (FSA) for your review and execution authorizing us to proceed. If the attached FSA is acceptable to you, please sign and return it to us along with the $25,000 facility study deposit payable to Idaho Power Company. We will then send you an executed copy and keep the original for our files.

Execution of the FSA by you is necessary before IPC proceeds with the design of the interconnection facilities and to maintain your priority for interconnection. Our normal processes allow 15 days for you to respond to us. *If you wish to proceed with this project we must hear from you by close of business on November 19, 2004*, or your project will be considered to be withdrawn. In addition, please provide IPC with your updated project single-line diagram and the manufacturer's descriptive literature, applicable schematics, and wiring diagrams of the generation step-up transformer (and applicable generation control facilities if you intend to utilize the SEL311C inputs/outputs) so the interconnections can be coordinated.

The budget-level construction cost estimate (2004 cost) for the installation of the required IPC interconnection facilities is approximately $90,000. The budget-level construction cost estimate (2004) cost for IPC to rebuild the existing distribution line between the present Arrowrock Dam tap and RG300 to make a double circuit line is approximately an additional $125,000. Please note that these estimates are *preliminary* in nature and provided to you as a courtesy for budgetary purposes. They do not take into account market conditions for labor, materials, and equipment at the time of construction, or any necessary improvements (not described herein) that may be identified during the Facility Study. A more accurate construction cost estimate will be established upon completion of the Facility Study. Please note that the contractual obligations for monthly operations and maintenance charges as required by Schedule 72 tariff will be based on the actual facility construction costs (refer to Energy Sales paragraph). These contractual obligations may be of particular interest to you when evaluating the rate of return for your project.

Please note that all equipment and facilities provided by the Irrigation Districts shall meet applicable UL, ANSI, and IEEE standards, and shall be installed to meet all applicable local, state, and federal codes. IPC will not energize your project until the authority having jurisdiction has completed the appropriate electrical inspections. In addition, IPC will not assume responsibility for protection of your generators or any portion of your facilities.

Kip Sikes/IPC and Eric Zuber/IPC were responsible for carrying your project through the Feasibility Study. Your project has been passed on to me to carry it through design and construction. I will be the Project Manager for your project, and will be your contact for the physical connection to the electrical system from this point forward.

Please call me at (208) 388-2222 if you have any questions or need additional information.

Sincerely,

John Barrutia

John Barrutia, P.E.
Project Manager

cc: Kip Sikes/IPC
Eric Zuber/IPC
Randy Allphin/IPC

Attachment

Tab 25

AUG 2 2 2002 KN

08/20/2002

IDAHO DEPARTMENT OF WATER RESOURCES

Water Permit Report 63-10240

WATER RIGHT NUMBER: 63-10240

Owner Type	Name and Address
Current Owner	BOISE PROJECT BOARD OF CONTROL 2465 OVERLAND RD BOISE, ID 83705 (208) 344-1141
Original Owner	US DEPT OF INTERIOR BUREAU OF RECLAMATION PN REGIONAL OFFICE 1150 N CURTIS RD STE 100 BOISE, ID 83706-1234 (208) 334-1460

Priority Date: 06/11/1984

Basis:

Status: Active

Source	Tributary
BOISE RIVER	SNAKE RIVER

Beneficial Use	From To	Diversion Rate	Annual Volume
POWER	1/01 to 12/31	5,470.000 CFS	
	Total Diversion:	5,470.000 CFS	

Location of Point(s) of Diversion

BOISE RIVER NW1/4SE1/4 Sec. 13, Twp 03N, Rge 04E, B.M.

BOISE County

Place of Use

POWER Within BOISE County

T03N R04E S13 NWSE

Conditions of Approval:

1. The right holder shall submit plans, drawings, and specifications to the department as required in Section 42-1712, Idaho Code, and IDAPA 37.03.06010.23.b (Safety of Dams Rule 10.23.b).
2. 004 The issuance of this right does not grant any right-of-way or easement across the land of another.
3. 01N The right holder shall install a measuring device that can be used to determine the instantaneous rate of flow of water through the system, or the right holder shall provide to the department a flow rate measurement or computation made by a certified water right examiner in accordance with actual system design and operation.
4. 025 This right does not constitute Idaho Public Utilities Commission or Federal Energy Regulatory Commission approval that may be required.
5. 027 Use of water under this right shall be non-consumptive.
6. 08A This right is subject to the provisions of Sections 42-205 through 42-210, Idaho Code, restricting the sale, transfer, assignment, or mortgage of this right. Failure to comply with these provisions is cause for immediate cancellation of this right.

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7. 106 Use of water under this approval shall comply with applicable water quality standards of the Department of Environmental Quality.

8. 17G The diversion and use of water under this right and any license subsequently issued is subject to review by the Director on or after the date(s) of expiration of any license issued by the Federal Energy Regulatory Commission. Upon appropriate findings relative to the interest of the public, the Director may cancel all or any part of the use authorized herein and may revise, delete or add conditions under which the right may be exercised.

9. 17H The rights for the use of water acquired under this right shall be junior and subordinate to all other rights for the use of water, other than hydropower, within the State of Idaho that are initiated later in time than the priority of this right and shall not give rise to any claim against any future rights for the use of water, other than hydropower, within the State of Idaho initiated later in time than the priority of this permit.

10. R04 Use of water under this water right will be regulated by the watermaster of State Water District No. 63 or a successor district.

Remarks:

1. If the department or the permit holder proposes to eliminate or alter condition 12 and/or 13, the elimination or alteration shall be deemed to be a substantial change in the method or proposed use of the water as to Protestant Pioneer Irrigation District, Protestant Farmers Cooperative Ditch Co., Ltd, and Protestant Farmers Union Ditch Co., requiring an amended application or permit to be filed by the permit holder under the provisions of Idaho Code, §42-211. Notice of any such amended application or permit shall be given to the above listed protestants by the Director of the Department by certified mail. Protestants are entitled to raise any objections to any amendment proposing changes to the conditions referred to above which they could have raised in opposition to issuance of the original permit.

2. This permit or any subsequently issued license does not convey any authority to require or demand the release of water, but shall only be effective to allow generation of hydroelectricity using water released under existing water rights and operating procedures for irrigation, flood control or other authorized purposes.

3. Construction, operation, maintenance, repair, replacement or modification of the project works and features under this permit or subsequently issued license shall not injure, reduce, or impair existing water rights established under state law or water rights entitlements under federal contracts relating to the Boise River, its reservoirs, or its tributaries.

Dates and Other Information:

Permit Proof Due Date: 8/1/2007

Permit Approved Date: 8/6/2002

Water District Number: 63

GIVENS PURSLEY LLP

LAW OFFICES
277 North 6th Street, Suite 200
PO Box 2720, Boise, Idaho 83701
TELEPHONE: 208 388-1200
FACSIMILE: 208 388-1300
WEBSITE: www.givenspursley.com

Direct Dial: (208) 388-1270
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Gary G. Allen
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Jeffrey C. Fereday
Steven J. Hippler
Karl T. Klein
Debora K. Kristensen
Anne C. Kunkel
Franklin G. Lee
David R. Lombardi
D. David Lorello, Jr.
Kevin T. Maloney
Kimberly D. Maloney
John M. Marshall
Kenneth R. McClure
Kelly Greene McConnell
Cynthia A. Melillo
Christopher H. Meyer
Kendall L. Miller
L. Edward Miller
Patrick J. Miller
Judson B. Montgomery
Angela K. Nelson
Deborah E. Nelson
W. Hugh O'Riordan
Kenneth L. Pursley
Brad V. Sneed
Conley E. Ward
Robert B. White

Raymond D. Givens
James A. McClure
Stephanie C. Westermeier
or counsel

August 23, 2002

VIA U.S. MAIL

Albert P. Barker
Barker, Rosholt & Simpson, LLP
205 North 10th, Suite 520
P.O. Box 2139
Boise, ID 83701-2139

Re: United Water Application for Permit No. 63-31409
Our File: 30-109

Dear Al:

We have had a chance to review with United Water the conditions proposed in your August 16, 2002 letter. I am attaching a redlined version that shows our changes.

Please call with any questions. I will be out of the office until September 9, 2002. In my absence please feel free to contact Jeff Fereday or Deb Nelson.

Sincerely,

John M. Marshall

JMM/tns
Enclosure
cc: Gary Spackman
Scott Campbell
Kathleen Carr
United Water Idaho
S:\Clients\30\109\Corr\2002-08-23 JM ltr to Barker re conditions.doc

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1. Use of water under this water right will be regulated by the watermaster of the State Water District No. 63.

2. If measured or calculated Boise River flows at the point of diversion are less than 240.00 cfs during the period beginning June 16 and ending February 29, water shall not be diverted pursuant to this water right. If measured or calculated Boise River flows at the point of diversion are less than 1,100.00 cfs during the period beginning March 1 and ending May 31, water shall not be diverted pursuant to this water right. Measured or calculated Boise River flows at the point of diversion shall be based on gauged Lucky Peak Dam ~~D~~discharge minus diversion to the New York Canal.

3. ~~United Water right if granted would be junior to all valid water rights with a priority date prior to February 5, 2002.~~ United Water ~~would~~ shall exercise ~~its~~ this right only when the Boise River is on flood release below Lucky Peak dam/outlet, ~~and only when authorized by the District 63 watermaster. United Water shall not have the authority to call for delivery of water independently of flood releases. Flood releases~~which shall be determined based upon the MOA between the Department of Army and Department of Interior for Flood Control Operations of Boise River Reservoirs, Supplement Contracts with contract holders, the 1985 "Water Control Manual – Boise River Reservoirs" and any modifications duly adopted pursuant to federal law~~s and which are consistent with the MOA between the Department of Army and Department of Interior for Flood Control operations of Boise River Reservoirs and Reclamation's Repayment contracts for the Boise Project Arrowrock Division.~~ This water right may not be used to divert water released from storage for ~~Exercise of this water right will not occur from releases for minimum stream flows or for water released for~~ flow augmentation authorized under Idaho law.

4. ~~Applicant must submit proof of beneficial use to the Department within two years of issuance of this permit. All requests for extension shall be served on Protestants, who shall be provided the opportunity to protest any such extension. This permit does not authorize any increase in the total water rights held by United Water in its service area. To the extent that this water right, when added to Applicant's other existing water rights, exceeds the water rights deemed necessary to meet the United Water's reasonably anticipated future needs as determined by the Department in the IMAP or other APA proceeding, Applicant shall abandon an equivalent portion of Applicant's existing water rights.~~ This water right, when combined with all other water rights held by United Water, shall not exceed a total combined diversion rate of 416.8 cfs, or such other diversion rate the Department determines is necessary to meet the permit holder's reasonably anticipated future needs.

5. The point of diversion for this water right shall not be treated as interchangeable with Applicant's groundwater rights, regardless of whether the interchangeability of groundwater points of diversion is approved in the IMAP or other process.

6. Applicant must obtain an injection well or recharge permit prior to any groundwater recharge.

7. If the Department or the permit holder proposes to eliminate or alter these conditions, such alteration shall be deemed to be a substantial change in the method or proposed use of the water as to Protestants and Intervenors requiring an amended application or permit to be filed by the permit holder under the provisions of I.C. § 42-211. Notice of any such amended application or permit shall be given to the Protestants and Intervenors by the Director by certified mail. Protestants and Intervenors and entitled to raise any objections to any amendment proposing changes to the conditions which they could have raised in opposition to issuance of original permit.

Tab 26

Albert Barker

From: Brownell, Dave F NWW [Dave.F.Brownell@nww01.usace.army.mil]
Sent: Wednesday, February 16, 2005 8:50 AM
To: Albert Barker
Subject: RE: Arrowrock Hydro facility Status

Thanks for the update, Al. I am not aware of any additional COE requirements other than the ones previously noted e.g 404 permit.

Dave

-----Original Message-----
From: Albert Barker [mailto:apb@idahowaters.com]
Sent: Wednesday, February 16, 2005 9:17 AM
To: Brownell, Dave F NWW
Subject: RE: Arrowrock Hydro facility Status

Dave-

We are in somewhat of a holding pattern. We were to begin construction in March. Our theory was that we could start to work on the hardware manufacturing then and then start to work on the ground in the fall after Lucky Peak begins to come down. However the Fish & Wildlife Service dealt us a blow and said they would not even talk to us about impact to bull trout until after they finish consulting with the Bureau of Reclamation on the Upper Snake BA. That won't be done until after we were to have started construction.

We are now looking at alternatives to start of construction dates. There are lots of factors at play in that decision, so we have no answers yet. I will keep you advised once we have a decision.

Meanwhile, if you have any thoughts on what the COE might require, let me know.

-----Original Message-----
From: Brownell, Dave F NWW [mailto:Dave.F.Brownell@nww01.usace.army.mil]
Sent: Tuesday, February 15, 2005 1:11 PM
To: apb@idahowaters.com
Subject: Arrowrock Hydro facility Status

Hi Al,

I was scanning through one of my "holding stacks" today and came across the Arrowrock Hydropower materials. More out of curiosity than anything else, I am wondering what the status is. It seems like you had mentioned that some decision needed to be made not long after the first of the year. Any new light to shed? Thanks.

Dave Brownell

Tab 27

Idaho Water Users Association, Inc.

205 N. 10th St., Suite 530 • BOISE, IDAHO 83702
OFFICE - 208-344-6690 • FAX - 208-344-2744
E-MAIL - iwua@iwua.org
WEBSITE - www.iwua.org

KEITH ERIKSON
President
REX BARRIE
1st Vice President
SCOTT BREEDING
2nd Vice President
NORMAN M SEMANKO
Executive Director &
General Counsel

DIRECTORS

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Idaho Falls - District 2
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Aberdeen - District 3
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Castleford - District 5
BERWYN MUSSMANN
Eden - District 6
REX BARRIE
Homedale - District 7
GEORGE REAM
Dingle - District 8
GREG SHENTON
Dubois - District 9
MIKE FAULKNER
Gooding - District 10
VERNON E CASE
Wilder - District 11
HENRY WEICK
Boise - District 12
DENNIS LAMMEY
Caldwell - District 13
MARCIA H HERR
Boise - District 14
JIM HUDSON
Post Falls - District 15
HAROLD MOHLMAN
Rupert - District 16
LYNN CARLQUIST
Hazelton - District 17
DEAN STEVENSON
Paul - District 18
SCOTT BREEDING
Hazelton - At-Large
BILLY R THOMPSON
Rupert - At-Large
DAVE SHAW
Boise - Associate
MARK BRANSOM
Boise - Associate

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JOHN ANDERSON
Rural/Urban Affairs

NWRA DELEGATES

NORMAN M SEMANKO
NWRA Director
DALE SWENSEN
NWRA Director
ROGER D LING
Policy Committee

March 6, 2006

Senator Larry Craig
520 Hart Senate Office Building
Washington, D.C. 20510

REFERENCE: STATEMENT OF SUPPORT FOR ARROWROCK HYDROELECTRIC PROJECT

Dear Senator Craig:

We support the construction of the Arrowrock Hydroelectric Project by the five Boise Project Irrigation Districts and the bill pending before Congress to extend the deadline for construction.

In 2005, the Congress passed, and the President signed, an energy bill designed to encourage the production of alternative sources of energy. The Arrowrock Hydroelectric Project is just the kind of project that carries out the energy policy of this country and is a project that should be encouraged by the federal agencies.

The Arrowrock Hydroelectric Project will be built at an existing facility—the Arrowrock Dam, just a few miles upstream of the City of Boise. It will utilize existing releases of irrigation and floodwaters to generate electricity. The power plant will not change the hydrology of the river nor any of the other beneficial uses of the Boise River--recreation, flood control, irrigation, and fish & wildlife.

At the same time, approving this bill will bring a $28 million construction project to this valley, along with the jobs and business opportunities that a project of this magnitude entails.

The project will provide a great benefit to thousands of irrigators. The Boise Project Irrigation Districts provide water to 167,000 acres in the Boise River valley. The benefits from the generation of electricity from this hydroelectric project will help pay for the costs of the water delivery

system at a time when agriculture is under increasing cost pressures throughout the State and the country.

The Boise Project Irrigation Districts have the know-how to get this project done, as these districts own the Lucky Peak Power Plant Project on the Boise River immediately downstream of the Arrowrock Hydroelectric Project. The Lucky Peak Power Plant Project is a much larger project and has been in operation since 1989.

Thank you for your support of this important project and the legislation to extend the deadline for construction.

Sincerely,

Norman M. Semanko
Executive Director & General Counsel

NMS:kje
bcc:Al Barker

Tab 28

March 15, 2006

Senator Larry Craig
520 Hart Senate Building
Washington D.C. 20510

Senator Mike Crapo
239 Dirksen Senate Building
Washington D.C. 20510

Rep. Mike Simpson
1339 Longworth House Building
Washington D.C. 20515

Rep. Butch Otter
1711 Longworth House Building
Washington D.C. 20515

Re: S. 2035 and H.R. 4377

Dear Senators Craig and Crapo and Representatives Simpson and Otter:

The irrigation districts in the Boise Valley--Boise-Kuna, Nampa-Meridian, Wilder and New York – that have rights in the water storage in the Boise river system dams – recently made us aware of the above-referenced legislation that is needed to extend the deadline for construction of a hydroelectric project at the Arrowrock Dam. At the Chamber Executive Committee meeting on March 2, 2006, and at our Board meeting on March 9, 2006, we had information about the important aspects of the Arrowrock hydroelectric project, namely:

- The Project will be built at the existing Arrowrock Dam.
- Because the Project will utilize existing releases of irrigation and floodwaters to generate electricity, it will not change the hydrology of the river nor any of the other beneficial uses – recreation, flood control, irrigation, and fish & wildlife – areas residents have come to enjoy.
- Other pre-conditions to financing the Project – a power purchase agreement and a 2/3 vote by the residents of the Districts – have also been completed.
- Through interchange or exchange agreements designed to reduce transmission loses and efficiently share regional power resources, the electric energy from the Project remains in the local service area.
- The Project will bring a $28 million construction project to the Boise area.
- Revenue from Project will enable the Districts to reduce the cost of water delivery to landowners.

The Boise Metro Chamber has had a policy statement on power supply in effect for many years and it was most recently updated in 2001. A copy is attached. This policy supports the addition of "new generation and delivery capability to meets the area's long-term needs."

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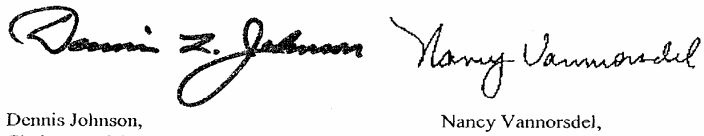
Page 2.

Based on the information we received about the Arrowrock Project, it was apparent that the Project is consistent with the Chamber's policy. The Chamber Board members voted unanimously to authorize sending this letter to so advise you of our policy.

Thank you for considering our views as you and your congressional colleagues act upon S. 2035 and H.R. 4377.

Very truly yours,



Dennis Johnson,
Chairman of the Board

Nancy Vannorsdel,
President & CEO

cc: Albert P. Barker
Barker Rosholt & Simpson

SUPPORT A POWER SUPPLY SYSTEM
THAT MAINTAINS LOW COST AND RELIABILITY

POLICY STATEMENT: The Boise Metro Chamber of Commerce supports maintaining our area's low cost and reliable power supply. To ensure the future development of the economy of Southwest Idaho and maintain the qualities of life that we enjoy, the Chamber will:

* Support successful relicensing of hydropower plants operated by Idaho Power Company.

* Advocate for reasonable relicensing costs while maintaining environmental stewardship.

* Advocate for the retention of operational flexibility of hydropower plants in order to meet rapidly changing electricity needs.

* Support new generation and delivery capability to meet the area's long-term needs.

* Support appropriate conservation programs by business and industry.

Background:
For over a decade, the Boise metropolitan area has experienced significant economic activity involving new business development, expansions and related new residential construction. This economic expansion followed a period where electric utilities in the Pacific Northwest, including Idaho Power Company, had significant resource surpluses. Contributing to this economic activity is Idaho Power's generation mix of low-cost 17 hydropower and joint ownership in 3 coal fired thermal plants. As a result of continuing economic growth, the regional surplus has ended and additional generation capacity is needed by 2004. Currently, Idaho Power is inviting proposals to provide this additional generation capacity.

During this time of need for additional electricity generation, Idaho Power is in the midst of a significant undertaking of relicensing 12 of its hydropower plants through a process under the authority of the Federal Energy Regulatory Commission (FERC). These 12 plants represent 1,480 megawatts or 85% of Idaho Power's total hydropower capacity. Hydropower provides the lowest-cost, most flexible generation. The FERC relicensing process involves years of studies and input from hundreds of interested parties. A possible outcome of this process is extensive new recommendations or mandatory conditions for protection, mitigation and enhancement measures. This could significantly increase generation costs and possibly reduce the operational flexibility of the hydropower plants. This would have a negative impact on continuing economic opportunity in the Boise metropolitan area. The Chamber supports the relicensing of the hydropower plants, as well as additional generation capacity.

Updated 7-12-01
Policy/PowerSupply

MR. MOLLOHAN. Mr. Chairman, thank you, Mr. Ranking Member, Mr. Boucher. Mr. Chairman, as you aware, I am seeking to extend the time required for the commencement of construction of a 100 percent privately financed hydroelectric project, an extension to December 31, 2007. Mr. Chairman, this project is located in Grafton, West Virginia. The Tygart Dam, which was constructed in the 1930s for flood control on the Monongahela Basin, would incorporate this project. The dam was built with future hydroelectric capabilities in mind, requiring no major

infrastructure changes to open the water flow tunnel for hydroelectric power.

During the time in which the City of Grafton's Federal Energy Regulatory Commission's license was valid, the contractor's project economies were very tight and the contractor was unable to secure utility cooperation to make the project viable. Those dynamics have now changed and the contractor, National Renewable Resources, is confident that more favorable market conditions combined with acceptable interest rates makes the project's economics work. The contractor is already negotiating buyers for the electricity that would be produced at the proposed facility.

This year, the contractor will have repaid the senior debt on another very successful hydroelectric project in Pennsylvania, thus freeing up additional capital to finance the Tygart Dam project. The contractor's plan is to finance the Tygart project with approximately 50 percent of its own capital and 50 percent with long term financing. Design engineering for the project is advanced stages, and the contractor has already bid out the equipment package and construction of the project would begin within 10 to 20 months of reinstatement of the FERC license. The contractor believes the facility could be fully operational as early as 2008.

A hydroelectric facility in Grafton would provide very real near and long term economic boosts to the city. Local materials, suppliers, and services would be utilized during the $20 million construction phase. Approximately 200 construction workers would be employed, totaling more than $1 million in monthly payroll outlays during the construction period. Once completed, the new hydroelectric plant would generate about $300,000 in annual royalty revenues for the City of Grafton, or roughly $13.5 million over the 45-year anticipated project life. The City of Grafton could expect to see royalty revenues in late 2008 or early 2009, and could be used at the discretion of city leaders.

The Congressional Budget Office scored S. 2028, the Senate companion to H.R. 4417, and found that implementing it would have a zero negative net effect on the Federal budget. Mr. Chairman, the environmental standards have not changed since the initial FERC approval was granted to the City of Grafton in the 1980s, and any re-approval by FERC will take vast amounts of time and money at no benefit or little benefit. Generating electricity by the force of falling water is obviously a proven method, and one that holds as much validity now as it did centuries ago. This project would be efficient to build, to operate, harms neither the water itself nor the quality of the environment, and it contributes to reducing the reliance on foreign energy, and adds to

another grand gesture for the public good. Thank you, Mr. Chairman. Thank you, Mr. Boucher, for allowing me to appear here today.

[The prepared statement of Hon. Alan B. Mollohan follows:]

PREPARED STATEMENT OF ALAN B. MOLLOHAN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF WEST VIRGINIA

As you are aware, I am seeking to extent the time required for the commencement of construction for a 100% privately financed hydroelectric project until December 31, 2007 in Grafton, West Virginia. The Tygart Dam was constructed in the 1930's for flood control on the Monongahela River Basin. The Dam was built with future hydroelectric capabilities, requiring no major infrastructure changes to open the water flow tunnel for hydroelectric power, and simplifying its adaptive use.

During the time period in which the City of Grafton's Federal Energy Regulatory Commission's (FERC) license was valid, the Contractor's project economics were very tight and the Contractor was unable to secure utility cooperation to make the project viable .

Those dynamics have now changed and the Contractor, *National Renewable Resources (NRR)*, is confident that the more robust energy market that exists today, combined with acceptable interest rates, makes the project economics work. The Contractor is already negotiating buyers for the electricity that would be produced at the proposed facility. This year, the Contractor will have repaid the senior debt on another very successful hydroelectric project in Pennsylvania, thus freeing up additional capital to finance the Tygart Dam project. The Contractor's plan is to finance the Tygart project with approximately 50 percent of its own capital and 50 percent with long tem financing.

Design engineering for the project is already in advanced stages, and the Contractor has already bid out the equipment package and completed a number of civil drawings. Construction of the project would begin within 10-20 months of reinstatement of the FERC license and, the Contractor believes the facility could fully operational as early as 2008.

A hydroelectric facility in Grafton would provide very real near and long term economic boosts to the city. Local materials, suppliers and services would be utilized during the $20 million construction phase. Approximately 200 construction workers will be employed, totaling more than $1 million in monthly payroll outlays during the construction period.

Once completed, the new hydroelectric plant would generate about $300,000 in annual royalty revenues for the City of Grafton, or roughly $13.5 million over the 45-year anticipated project life. The City of Grafton could expect to see royalty revenues in late 2008 or early 2009, and could be used at the discretion of the City leaders.

The Congressional Budget Office scored S. 2028, the Senate companion to HR 4417, and found that implementing it will have **ZERO NEGATIVE NET EFFECT** on the federal budget.

The environmental standards have not changed since the initial FERC approval was granted to the City of Grafton in the 1980's, and any re-approval by FERC will take vast amounts of time and money at little or no benefit.

Generating electricity by the force of falling water is a proven method, and one that holds as much validity now as it did centuries ago. This project would be efficient to build and operate; harms neither the water itself nor the quality of the environment; contributes to reducing the reliance on foreign energy; and adds another grand gesture for the public good.

NRR CONEMAUGH, LP

730 5th Avenue
Suite 1901
New York, New York 10019

Tel: (212) 245-2722
Fax: (212) 245-5216
arlingtonny@aol.com

October 4, 2005

The Honorable Alan Mollohan
United States House of Representatives
2302 Rayburn House Office Building
Washington, DC 20515

Re: Grafton's Tygart Hydroelectric Project

Dear Congressman Mollohan:

This letter serves to provide written answers to several items discussed with Angela Ohm, of your staff, during our September 29, 2005 meeting:

First, as you are aware, despite your assistance in maintaining the FERC license and preliminary permit for the Tygart hydroelectric facility, the project has not moved forward. During our window of opportunity when the City of Grafton's FERC license was valid, the project economics were very tight and we were unable to secure utility cooperation to make the project work. These dynamics have now changed and we are confident that a more robust energy market combined with lower long-term interest rates make the project economics work. We are actively working to secure a buyer for electricity produced by the proposed facility, and we are confident that such a buyer can be found. The time is right to build the Tygart hydroelectric facility. With your help in reinstating the City of Grafton's FERC license, I believe that we can make this project a reality.

Second, next year our company will have repaid the senior debt on our very successful Conemaugh hydroelectric project; thus freeing up additional capital to finance the Tygart project. Our current plan is to finance the Tygart project with approximately 50 percent of our own capital and approximately 50 percent with long term bank debt.

Third, because we have already bid out the equipment package and have completed a number of the civil drawings, we could begin construction of the project within about 12 months after reinstatement of the FERC license. Our company would commit itself to fast tracking the work on the Tygart project in order to get the project under way as soon as possible.

Fourth, the City of Grafton could expect to see royalty revenues produces in late 2008 or early 2009, at the end of our 18-22 months construction period. Grafton will receive royalty payments estimated at $300,000 per year, on average, over the 45 year anticipated life of the facility. These funds could be used at the discretion of the City leaders.

Finally, my company will take on the entire financial cost of the project and will not request any financial assistance from the City of Grafton, the State of West Virginia or the federal government.

I would like to thank you again for all that you have done over the years to help the Tygart hydroelectric project. I assure you that if the needed legislation is enacted, our company is totally committed to making this project finally work.

Sincerely,

Jeffrey M. Kossak
President

cc. Honorable G. Thomas Bartlett III
Mayor, City of Grafton

CITY OF GRAFTON

1 West Main Street-Grafton, West Virginia 26354-Phone (304) 265-1412-Fax (304) 265-0119

October 3, 2005

The Honorable Alan Mollohan
United States House of Representatives
2302 Rayburn House Office Building
Washington, DC 20510

Dear Congressman Mollohan:

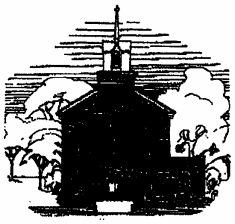
This past Thursday, September 29, I took the opportunity along with a Grafton delegation: Kevin Stead, our City Manager and Howard Farris, our City Attorney, to visit your office in Washington DC. At that time I got personally acquainted with Jeff Kossak, of National Renewable Resources and learned first hand about the history of commercial interest in the hydroelectric potential of the Tygart Dam here in Grafton..

I understand that an earlier FERC license to proceed with this project has expired and learned also that several adverse factors had frustrated earlier efforts to proceed with the hydroelectric project. Now, I am made to understand that there is a renewed interest in the project because of recent developments which now make this project both attractive and feasible.

It seems that we are witness to a favorable conjunction in timing for several critical factors. NRR currently has a management which is encouraging their involvement in this project, and the financing of a similar project is maturing thereby providing potential for the necessary funds to build the hydroelectric facility at company expense. Issues associated with environmental impact studies performed several years ago appear to be current since the situation at Tygart Dam has changed very little since then. The cost of providing electrical energy has escalated in recent years and shows no sign of reversing in the expected life cycle of this project. This provides for a likely prospect of selling electrical energy to power companies in the region at bargain prices. The current Grafton City Council is in support of this project.

In addition, we are advised that the City of Grafton stands to gain the advantage of a substantial regular income from the success of this project. We look forward to the opportunity of responsibly utilizing this resource for the betterment of our community.

We are, therefore, asking for your intervention in providing a renewal of the FERC license which lapsed several years ago. We understand that legislative action may be needed to provide for this renewal.



"Where Mother's Day Began" - Andrews Methodist Episcopal Church
First Mother's Day Service - May 10, 1908

The Tygart Dam was built the year I was born with the facility of providing for hydroelectric power generation as part of the construction design. Now, after 70 years I may be witness to the utilization of this capability for the purpose of providing needed electrical power from a renewable resource.

Warmest personal regards,

G. Thomas Bartlett III
Mayor

HOUSE OF DELEGATES
WEST VIRGINIA LEGISLATURE

BUILDING 1, ROOM 6A-R
1900 KANAWHA BLVD., EAST
CHARLESTON, WV 25305-0470
PHONE (304) 340-3179

JEFFERY TANSILL
1037 WEST MAIN ST.
GRAFTON, WV 26354
PHONE: (304) 265-2273
EMAIL: jltansill@aol.com

Committees:
Education
Political Subdivisions
Roads & Transportation
Veterans Affairs & Homeland Security

Congressman Alan B. Mollohan
2302 Rayburn House Building
Washington, DC 20515

November 2, 2005

Dear Congressman Mollohan,

In mid-August I wrote asking for your assistance in helping the City of Grafton obtain a reinstatement of the FERC hydroelectric license for the Tygart Dam. Since then representatives from the City of Grafton visited you in Washington with the expressed purpose of discussing the proposed hydroelectric project. I would like to follow up their visit by mentioning some of the benefits of getting the hydro plant online.

It will not alter the environmental effects, as the dam and water flow are already in place. The community will benefit economically during the construction phase as local materials and services are purchased and fees are paid. It is estimated that there will be at least six fulltime jobs to staff the plant when it is running. The major impact affecting Grafton and the local community will be revenue in taxes stemming from the non-polluting energy that will be produced. The City of Grafton and Taylor County desperately need the revenue.

Anything you can do to help bring this plant to Grafton will be greatly appreciated. Thanks again for your time and effort in this matter.

Sincerely,

Jeffery L. Tansill, Delegate
42nd District

Karli Snyder

Water is the new gas

Do you remember learning about the water cycle back in elementary school? It explained how after it rains (precipitation), the water goes to the earth, where it is either absorbed into the ground or lands in another body of water. The sun then heats up the water and it goes back up into the air (evaporation). The clouds finally make the water into precipitation again (condensation), and the water cycle begins all over again.

Now why should I even bother telling you about such a simple process? To prove that water is a renewable source, that is at our fingertips for use.

Our local government has been trying to get legislation passed that would help fund a hydroelectric plant in Taylor County. I'm not really well-versed in hydroelectric plants, so I did a little research at the United States Geological Survey (USGS) Web site.

A hydroelectric plant converts water into usable energy, just like how we use coal and wind. Hydroelectric plants need the following three components to work: a dam, a reservoir and generators.

Taylor County already has a dam and a reservoir at Tygart Lake. All we need are the generators that would be placed inside the dam to be able to tap into this resource.

Hydroelectric power is often not used because of the money, time and construction needed to build the plant, but since Taylor County already has two of the three components, building the generators would be well worth the money and manpower.

Too often Taylor County officials and citizens are faced with the dilemma of putting long-term and short-term goals side-by-side and see which one is more cost effective. The hydroelectric plant, though it would cost a lot in the beginning stages, is sure to have a solid profit margin once everything is up and running.

The USGS listed three main advantages for hydroelectric plants. First, fuel is not burned, so there is minimal pollution. Tygart Lake is a beautiful natural asset to our community, and anything to jeopardize it with pollution simply is not worth it. Period. Also, hydroelectric plants are given tax breaks by the federal government by complying with certain EPA guidelines.

Second, water to run the plant is provided free by nature. Though this may seem like a common sense advantage, it is more than that. The City of Grafton owns the property, so the ability to use their own product would cut down on costs, if we chose to go that route.

Lastly, though this is the most obvious advantage, water is renewable! Unlike coal that takes millions of years to form, then time to be mined, water is here now. It's not going away any time soon.

Many citizens have raised concerns over the possibility that the electric provided by the hydroelectric plant would not be used in Grafton. It is true that the power provided by the hydroelectric plant would more than likely be sold to an outside energy company, but that is more common than you would think. Natural gas and coal are both shipped out from their original areas to be used throughout the country. Hydroelectric power is just the same.

With such a high demand for energy, Grafton would be able to capitalize on the profits from selling the energy, which would create a dependable source of revenue that is much needed for this area.

Hydroelectric: it may sound intimidating, something not worth the money, but when it gets down to it, we as Taylor County citizens need to vote "yes" to this environmentally safe, long-term project so that generations to come may reap the benefits.

Lawmakers try to revive Grafton hydroelectric power plant project

The Dominion Post

Efforts are being made to revive a project that would build a hydroelectric power plant at the Tygart Lake Dam near Grafton.

Sens. Robert C. Byrd and Jay Rockefeller and Rep. Alan B. Mollohan, all D-W.Va., have crafted legislation to kick-start the project by clearing the licensing with the Federal Energy Regulatory Commission.

Grafton has been considering the hydroelectric facility for years, and first received a license for the project in 1999.

It lapsed in 1998 when the city was unable to make progress on the project.

The Byrd-Rockefeller-Mollohan effort would reinstate the license and allow Grafton to move ahead with a 20-megawatt hydroelectric facility.

Grafton is working with private contractor NHK Consumaugh on the plant.

With a new FERC license, the contractor believes the facility could be in operation as early as 2008.

It is expected that the new hydroelectric plan will generate about $300,000 in annual revenues for Grafton, while creating 200 construction jobs in the process.

"With the high price of energy, the city of Grafton is looking for low-cost alternatives. Installing hydroelectric power on the Tygart River Dam is a smart step forward," Byrd said.

Rockefeller added, "This facility will help meet the energy needs of consumers in Grafton and the surrounding area, and it will provide a major significant economic boost to the city. It means a more prosperous future for Grafton."

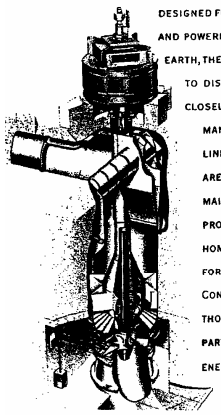
Mollohan described the project as one with considerable potential for Grafton, providing both near- and long-term benefits to the local economy.

PROFILE: CONEMAUGH HYDROELECTRIC PROJECT

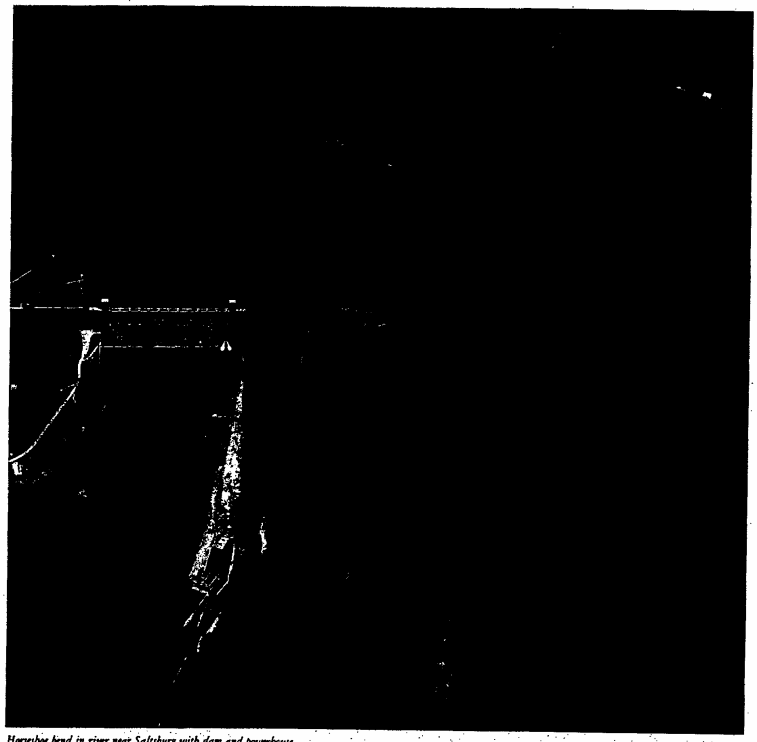
HE CONEMAUGH RIVER RISES IN SOUTHWESTERN PENNSYLVANIA, WINDING AND CURVING ITS WAY THROUGH THE STEEP ALLEGHENY MOUNTAINS. AT BOW RIDGE, A SHARP BEND IN THE RIVER NEAR THE BOROUGH OF SALTSBURG, MEN HAVE LONG MADE GRAND GESTURES FOR THE PUBLIC GOOD. IN THE 1830'S, THE PENNSYLVANIA MAINLINE CANAL PLUNGED THROUGH THE ALLEGHENIES ON ITS WAY WESTWARD. THE THIRD TUNNEL DUG IN AMERICA CARRIED THE CANAL THROUGH BOW RIDGE. N THE 1940'S, THE US ARMY CORPS OF ENGINEERS CHOSE THE SAME BEND IN THE RIVER TO BUILD A DAM THAT HAS SPARED THE DOWNSTREAM RIVER VALLEYS SOME $550,000,000 IN FLOOD DAMAGES. THE DAM RISES TO 137 FEET ABOVE THE RIVER, HOLDING BACK HEAVY RAINFALL, SNOW MELT, AND STREAM FLOWS UNTIL THEY CAN BE SAFELY RELEASED. ITH THE 1980'S THE BEND IN THE RIVER AT SALTSBURG SAW ANOTHER GRAND GESTURE. THE CONEMAUGH DAM CREATES A 40- TO 105- FOOT DIFFERENCE IN WATER LEVEL OR "HEAD" THAT CAN PROPEL THE RIVER WITH SUFFICIENT FORCE TO GENERATE ELECTRICITY. A HYDROPOWER PLANT WAS BUILT ALONG THE RIVER TO MAKE USE OF THE SITE, PROVIDING AN ECONOMICAL ANSWER TO THE AREA'S NEED FOR A SAFE, CLEAN, RENEWABLE ENERGY SOURCE.

PROFILE: CONEMAUGH HYDROELECTRIC PROJECT

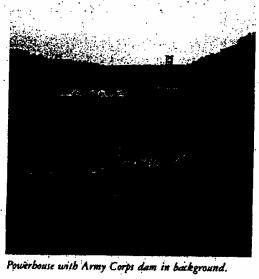
A PUBLIC PRIVATE PARTNERSHIP FOR HYDROPOWER At a time when many governmental agencies face unprecedented demands to build new public works, the private sector is increasingly offering a helping hand. The story of the Conemaugh Hydroelectric Plant is a story of how well that relationship can work. In one of the first public/private ventures for small-scale hydroelectric development in the country, Pennsylvania Renewable Resources, Associates (PRRA), a limited partnership of private interests, teamed up with the US Army Corps of Engineers and the Borough of Saltsburg to build one of Pennsylvania's largest private non-utility hydroelectric developments. After nearly eight years and the approval of over two dozen local, state, and federal regulatory agencies, the 15-megawatt plant began operations, lighting up the homes of 10,000 southwestern Pennsylvania families, saving 210,000,000 gallons of oil over the life of the plant. **WORKING OUT THE DETAILS** Today, coordinating with dozens of government agencies, negotiating contracts, and orchestrating countless details are all part of building a hydroelectric plant. PRRA set the process in motion, obtaining the plant license and necessary permits, and arranging financing for the $31,000,000-project with the assistance of Kidder, Peabody & Co. Incorporated. Though largely private, the project financing was assisted by a $3.2-million Urban Development Action Grant awarded by the US Department of Housing and Urban Development to the Borough of Saltsburg and earmarked for the Conemaugh Project. If details are handled correctly, all concerned benefit. In an agreement with PRRA, the Corps is guaranteed that its present flood control and water release procedures will be followed. Customers of PENELEC, the local utility, are assured of lower rates in the long term under a 25-year agreement stipulating that power will be sold at a discount below the power pool rate. And because of PRRA's commitment to hire locally, building the plant created over 100 construction jobs, and an investment of $20,000,000 in area goods and services. Long after the last construction crew has left the site, the Borough of Saltsburg and Conemaugh Township will receive millions of dollars in royalties over the life of the plant. **TUNNELING THROUGH A MOUNTAIN** To generate electricity at Conemaugh, Morrison-Knudsen Engineers, Inc. designed the project so that fast moving water is channeled from Conemaugh reservoir through a 700-foot-long, 20-foot in diameter tunnel in Bow Ridge to a powerhouse 1,500 feet downstream of Conemaugh Dam. Water rushes through the tunnel in the mountain into the powerhouse to turn the blades of twin turbines specially designed for the great fluctuations in head created by the Conemaugh Dam. In the process of constructing the tunnel and powerhouse, general contractors Kiewit Eastern Company blasted and removed 61,000 cubic yards of rock and earth, the equivalent of a football field 35 feet deep. In digging the tunnel, workers had to be especially careful not to disturb the other historically significant rail and canal tunnels in the same mountain ridge. Work was closely coordinated with local and state historic and museum commissions. With United American Energy Corp. managing construction, the 25-month project was completed four months ahead of its projected deadline. **OPERATIONS: PROTECTING THE PLANT FOR FUTURE GENERATIONS** A highly trained manager and skilled assistants are responsible for the success of the plant on a day-to-day basis. Through routine inspections, preventive maintenance, and plant betterment programs, plant personnel, who live in the area, play a critical role in protecting the plant for future generations. State-of-the-art computer controls link the plant to the PRRA home office for support on an as-needed basis. **MAXIMIZING NATURAL RESOURCES** Generating electricity by the force of falling water is a proven method, but one that holds as much validity now as it did centuries ago. The Conemaugh project captures that age-old opportunity, tapping the river's power for a moment to benefit thousands of families, and then releasing it to flow on unchanged. This old-fashioned idea, hydropower, has particular relevance for our modern technological world. The Conemaugh plant is a safe, clean, renewable energy source that does not destroy irreplaceable resources or contribute to the greenhouse effect. It is efficient to operate, harms neither the water itself nor the quality of the environment, and adds



[illegible] to that sharp bend in the river near Saltsburg



Horseshoe bend in river near Saltsburg with dam and powerhouse.



Powerhouse with Army Corps dam in background.

PROFILE: CONEMAUGH HYDROELECTRIC PROJECT

OWNER	MANAGING GENERAL PARTNER	LIMITED PARTNER
PENNSYLVANIA RENEWABLE RESOURCES, ASSOCIATES 50 TICE BOULEVARD, WOODCLIFF LAKE, NEW JERSEY 07675 (201) 307-1818	A SUBSIDIARY OF UNITED AMERICAN ENERGY CORP. 50 TICE BOULEVARD WOODCLIFF LAKE, NEW JERSEY 07675	COMMUNITY ENERGY ALTERNATIVES (A SUBSIDIARY OF PUBLIC SERVICE ENTERPRISE GROUP INCORPORATED)
GENERAL PARTNER	**GENERAL PARTNER**	**LIMITED PARTNER**
A SUBSIDIARY OF COMMUNITY ENERGY ALTERNATIVES INCORPORATED 1200 E. RIDGEWOOD AVENUE RIDGEWOOD, NJ 07450	A SUBSIDIARY OF NATIONAL RENEWABLE RESOURCES, INC. GULF & WESTERN BUILDING 15 COLUMBUS CIRCLE, SUITE 906 NEW YORK, NY 10023	CONEMAUGH HYDROELECTRIC PROJECTS, INC. (A WHOLLY-OWNED SUBSIDIARY OF CHRYSLER CAPITAL CORPORATION)

CONEMAUGH STATISTICS

EXCAVATION		60,913 CUBIC YARDS
CONCRETE		12,354 CUBIC YARDS
REINFORCING STEEL		1,136,020 POUNDS
TURBINES		2 EACH, KVAERNER HYDRO POWER, INC.
		2,550MM 5-BLADE VERTICAL KAPLAN
	RATED HEAD:	62.4 FEET
	RATED DISCHARGE:	1,630 CU FEET/SEC EACH
	SPEED:	257 RPM
GENERATORS		2 EACH, NATIONAL INDUSTRI USA, INC.
	RATED OUTPUT:	7,500 KW
	VOLTAGE:	4,160 V
	SPEED:	257 RPM
SWITCHGEAR AND CONTROLS		PHOENIX CONTROL SYSTEMS, INC.
TRANSFORMERS		2 EACH, GENERAL ELECTRIC COMPANY
	RATED CAPACITY:	10,000/12,000 KVA
AVERAGE ANNUAL ENERGY PRODUCTION		56,000,000 KWH
COMMERCIAL OPERATION		FEBRUARY 6, 1989
CONSTRUCTION LOAN		BAYBANK BOSTON, N.A.
LONG TERM LOAN		PRUDENTIAL POWER FUNDING ASSOCIATES (A UNIT OF THE PRUDENTIAL INSURANCE COMPANY OF AMERICA)
URBAN DEVELOPMENT ACTION GRANT		AWARDED TO THE BOROUGH OF SALTSBURG BY THE U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT AND ADMINISTERED BY WESTMORELAND COUNTY.
POWER CONTRACT		PENNSYLVANIA ELECTRIC COMPANY (PENELEC)

'RODUCED BY TECTON GROUP, INC.

CITY OF GRAFTON

1 West Main Street-Grafton, West Virginia 26354-Phone (304) 265-1412-Fax (304) 265-0119

RESOLUTION

Whereas, the Grafton City Council has determined that the development of alternative energy sources is needed to reduce reliance on foreign oil; and

Whereas, Tygart Dam, constructed in the 1930s for flood control in the Monongahela River Basin was also built for future hydroelectric capabilities; and

Whereas, the City of Grafton owns all property in the vicinity where the proposed hydroelectric plant would be constructed; and

Whereas, the hydroelectric plant project has been a long term commitment from the Grafton City Council dating back to the early 1980s; and

Whereas, the hydro-electric project would bring additional jobs to the Grafton area; and

Whereas, the hydroelectric project would bring additional revenues to the City of Grafton and Taylor County which could be used for further restoration of the City and also for recreational opportunities for the youth of this community.

Now, therefore, be it resolved by the Grafton City Council that the City of Grafton request the assistance of our National Delegation to help commence the construction of this important project in our community.

G. Thomas Bartlett III, Mayor

ATTEST: Larry M. Richman, City Clerk

"Where Mother's Day Began" - Andrews Methodist Episcopal Church
First Mother's Day Service - May 10, 1908

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To provide for the reinstatement of a license for a certain Federal Energy Regulatory project. (Introduced in House)

HR 4417 IH

109th CONGRESS

1st Session

H. R. 4417

To provide for the reinstatement of a license for a certain Federal Energy Regulatory project.

IN THE HOUSE OF REPRESENTATIVES

November 18, 2005

Mr. MOLLOHAN introduced the following bill; which was referred to the Committee on Energy and Commerce

A BILL

To provide for the reinstatement of a license for a certain Federal Energy Regulatory project.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. REINSTATEMENT OF LICENSE FOR FEDERAL ENERGY REGULATORY COMMISSION PROJECT.

(a) In General- Notwithstanding the time period specified in section 13 of the Federal Power Act (16 U.S.C. 806) that would otherwise apply to project numbered 7307 of the Federal Energy Regulatory Commission, the Commission shall, upon the request of the licensee for the project, in accordance with that section (including the good faith, due diligence, and public interest requirements of that section and the procedures established under that section), extend the time required for commencement of construction of the project until December 31, 2007.

(b) Applicability- Subsection (a) shall apply to the project upon the expiration of any extension, issued by the Commission under section 13 of the Federal Power Act (16 U.S.C. 806), of the time required for commencement of construction of the project.

(c) Reinstatement of Expired License- If a license of the Commission for the project expires before the date of enactment of this Act, the Commission shall--

(1) reinstate the license effective as of the date of the expiration of the license; and

(2) extend the time required for commencement of construction of the project until December 31, 2007.

THIS SEARCH	THIS DOCUMENT	GO TO
Next Hit	Forward	New Bills Search
Prev Hit	Back	HomePage
Hit List	Best Sections	Help
	Contents Display	

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To provide for the reinstatement of a license for a certain Federal Energy Regulatory Commission project. (Introduced in Senate)

S 2028 IS

109th CONGRESS

1st Session

S. 2028

To provide for the reinstatement of a license for a certain Federal Energy Regulatory Commission project.

IN THE SENATE OF THE UNITED STATES

November 17, 2005

Mr. BYRD (for himself and Mr. ROCKEFELLER) introduced the following bill; which was read twice and referred to the Committee on Energy and Natural Resources

A BILL

To provide for the reinstatement of a license for a certain Federal Energy Regulatory Commission project.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. REINSTATEMENT OF LICENSE FOR FEDERAL ENERGY REGULATORY COMMISSION PROJECT.

(a) In General- Notwithstanding the time period specified in section 13 of the Federal Power Act (16 U.S.C. 806) that would otherwise apply to project numbered 7307 of the Federal Energy Regulatory Commission, the Commission shall, on the request of the licensee for the project, in accordance with that section (including the good faith, due diligence, and public interest requirements of that section and procedures established under that section), extend the time required for commencement of construction of the project until December 31, 2007.

(b) Applicability- Subsection (a) shall apply to the project on the expiration of any

extension, issued by the Commission under section 13 of the Federal Power Act (16 U.S.C. 806), of the time required for commencement of construction of the project.

(c) Reinstatement of Expired License- If a license of the Commission for the project expires before the date of enactment of this Act, the Commission shall--

(1) reinstate the license effective as of the date of the expiration of the license; and

(2) extend the time required for commencement of construction of the project until December 31, 2007.

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Next Hit	Forward	New Bills Search
Prev Hit	Back	HomePage
Hit List	Best Sections	Help
	Contents Display	

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H.R.4377
Title: To extend the time required for construction of a hydroelectric project, and for other purposes.
Sponsor: Rep Otter, C. L. (Butch) [ID-1] (introduced 11/17/2005) Cosponsors (1)
Related Bills: S.2035
Latest Major Action: 12/2/2005 Referred to House subcommittee. Status: Referred to the Subcommittee on Energy and Air Quality.

ALL ACTIONS:

11/17/2005:
Referred to the House Committee on Energy and Commerce.
12/2/2005:
Referred to the Subcommittee on Energy and Air Quality.

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Next Hit	Forward	New Bills Search
Prev Hit	Back	HomePage
Hit List	Best Sections	Help
	Contents Display	

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To extend the time required for construction of a hydroelectric project, and for other purposes. (Introduced in House)

HR 4377 IH

109th CONGRESS

1st Session

H. R. 4377

To extend the time required for construction of a hydroelectric project, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

November 17, 2005

Mr. OTTER (for himself and Mr. SIMPSON) introduced the following bill; which was referred to the Committee on Energy and Commerce

A BILL

To extend the time required for construction of a hydroelectric project, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. ARROWROCK HYDROELECTRIC PROJECT.

Notwithstanding the time period specified in section 13 of the Federal Power Act (16 U.S.C. 806) that would otherwise apply to the Federal Energy Regulatory Commission project numbered 4656, on request of the licensee, the Commission shall--

(1) if the license for the project is in effect on the date of the enactment of this Act, extend the period for commencing construction of project works for a period of 3 years beginning on the date of enactment of this Act; or

(2) if the license for the project has been terminated before the date of enactment of this Act, reinstate the license and extend the period for commencing construction of project works for an additional 3-year period beginning on the date of enactment of this Act.

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Next Hit	Forward	New Bills Search
Prev Hit	Back	HomePage
Hit List	Best Sections Contents Display	Help

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To extend the time required for construction of a hydroelectric project in the State of Idaho, and for other purposes. (Introduced in Senate)

S 2035 IS

109th CONGRESS

1st Session

S. 2035

To extend the time required for construction of a hydroelectric project in the State of Idaho, and for other purposes.

IN THE SENATE OF THE UNITED STATES

November 17, 2005

Mr. CRAIG (for himself and Mr. CRAPO) introduced the following bill; which was read twice and referred to the Committee on Energy and Natural Resources

A BILL

To extend the time required for construction of a hydroelectric project in the State of Idaho, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. ARROWROCK HYDROELECTRIC PROJECT.

Notwithstanding the time period specified in section 13 of the Federal Power Act (16 U.S.C. 806) that would otherwise apply to the Federal Energy Regulatory Commission project numbered 4656, on request of the licensee, the Commission shall--

(1) if the license for the project is in effect on the date of enactment of this Act, extend the period for commencing construction of project works for a period of 3 years beginning on the date of enactment of this Act; or

(2) if the license for the project expired before the date of enactment of this

Act, reinstate and extend the period for commencing construction of project works for an additional 3-year period beginning on the date of enactment of this Act.

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MR. BURGESS. Thank you both. The third panel then is excused and we will--

MR. BOUCHER. Mr. Chairman, let me just briefly ask one question. First, let me thank our colleagues for being here today. Alan, all you are asking for is an extension to the end of next year on the license, is that right?

MR. MOLLOHAN. That is correct.

MR. BOUCHER. And, Mr. Otter, the same?

MR. OTTER. Mine is very much similar, Mr. Boucher. For the construction period is what we are asking for, and I think as I have pretty well outlined in giving you the background it was circumstances far beyond our control when the bull trout was licensed--or was designated an endangered species, then that stopped everything. And it stopped it during our permit period during the period in which we were allowed to begin the construction, the design and the construction of the hydroelectric project.

MR. BOUCHER. Okay. All right. Thank you.

MR. MOLLOHAN. If I might add, this is a project that has not been viable because of market conditions and obviously the market conditions have changed, and with the price of fossil energy now this project does become viable, and what they are doing is lining up customers which are not finding a problem in lining up. It is just an unfortunate situation that--well, in some ways for this project it is an unfortunate situation in that the market wasn't more favorable earlier, but it is now, and they are ready to go.

MR. BOUCHER. Both of you make your case very well. Thank you. Thank you, Mr. Chairman.

MR. BURGESS. I think with that we will see our fourth panel. Do we have Mr. Robinson? Mr. Robinson, we welcome you to the committee and look forward to your testimony. You are recognized for 5 minutes.

STATEMENT OF J. MARK ROBINSON, DIRECTOR, OFFICE OF ENERGY PROJECTS, FEDERAL ENERGY REGULATORY COMMISSION

MR. ROBINSON. Thank you, Mr. Chairman, and Congressman Boucher. My name is Mark Robinson. I am the Director of Office of Energy Projects. We are responsible for the authorization, development of the record for the authorization of LNG terminals, natural gas pipelines, natural gas storage, and more significantly here today for the licensing, administration, and dam safety of about 1,600 hydroelectric projects across the country. I am here to make comments on five bills that generally would extend the time frame for the start of construction relative to Section 13 of the Federal Power Act.

Section 13 requires that projects start construction within 2 years of the license issuance date or if granted by the Commission not to exceed one 2-year extension so there is a 4-year period under law that the Commission can act to allow the start of construction. The Congress, however, through the years on different projects has extended that time period and the Commission has not objected when that time frame does not extend beyond 10 years from the time the project was licensed until

the start of construction actually commences. There are generally two policy reasons for that. The first is that when the Commission does take an action to license a project, it has concluded that it is in the public interest to generate power from that site. Ten years has generally been recognized as a reasonable period to allow an applicant or at this point a licensee for that project to take the actions necessary to get the financing, to get the final designs, to start construction of that project that the Commission has found to be in the public interest. Where that has not occurred, the general policy consideration is that if they cannot do it in 10 years, let us give someone else the opportunity to do so, since it has been found to be in the public interest.

The second policy consideration is the record that is used for the Commission to take those actions. After 10 years there is a growing probability that the record that was developed to authorize that project in fact may not still stand for determinations on the size of the project, the economics of the project, the environmental consequences associated with the project. And for those two reasons the Commission historically, our chairmen, have opposed extensions of time that go beyond 10 years. Having said that, I would like to very quickly run through the five bills and give you my opinion on those five bills, which is fairly predictable at this point.

H.R. 4417 for the Tygart Dam project would extend the start of the construction period to 12/31/2007 for a project that was licensed in 1989. That would be a total of 18 years post licensing and therefore I would oppose that bill. H.R. 4377 for the Arrowrock Project in Idaho would extend the start of construction for a 3-year period post the implementation of that bill, which date we cannot determine, but to date there has been 16 years past since the licensing of that project, and therefore I would oppose that bill.

H.R. 971 would extend the start of the construction period for three projects, the Hale Project in Connecticut, where it would authorize the start of construction in 2007 plus two additional 2-year periods. That project was licensed in 1997. If you take that provision and extend it out that would be a 14-year period post licensing and therefore I would oppose that part of that bill. H.R. 971 also goes to the upper and lower Collinsville Projects also in Connecticut. It similarly would extend the start of construction to 2007 plus two 2-year periods. Both of those would be approximately 10 years out and therefore I do not oppose those provisions of that bill.

S.176, Reynolds Creek in Alaska, would extend the start of construction for three 2-year periods. That would start from the 4-year term of the original license for a grand total of 10 years and therefore I would not oppose that bill. And S. 244 for the Swift Creek Project in

Wyoming would similarly extend the start of construction for three 2-year periods post the 4-year Federal Power Act provision for a total of 10 years. Therefore, I would not oppose, but I would mention here this particular bill goes to the re-licensing of the project. The Commission has found in the past that Section 13 does not apply to the re-licensing and therefore there is no statutory limitation as far as the Commission is concerned on granting authorizations for the start of construction for a refurbishing of a re-licensed project, but we would not oppose that bill. With that, after having run through those, I will be more than happy to answer any questions.

[The prepared statement of J. Mark Robinson follows:]

PREPARED STATEMENT OF J. MARK ROBINSON, DIRECTOR, OFFICE OF ENERGY PROJECTS, FEDERAL ENERGY REGULATORY COMMISSION

The Office of Energy Projects (OEP) at the Federal Energy Regulatory Commission is responsible for non-federal hydroelectric licensing, administration, and safety; certification of interstate natural gas pipelines; and, authorization and oversight over the construction, operation, and safety of Liquefied Natural Gas (LNG) terminals.

This testimony concerns H.R.4417, H.R.4377, H.R. 971, S. 176, and S. 244, five bills, which would extend the deadlines for the commencement of construction for seven hydroelectric projects. H.R. 4417 would extend until December 31, 2007, the deadline for the commencement of construction of the proposed Tygart Dam Project No. 7307 in West Virginia. H.R. 4377 would extend the deadline for commencing construction of the proposed Arrowrock Hydroelectric Project No. 4656 in Idaho. H.R. 971 would extend the deadlines for commencing construction of the Hale Hydroelectric Project No. 11547, the Upper Collinsville Project No. 10822, and the Lower Collinsville Project No. 10823 in Connecticut. S. 176 would extend the commencement of construction deadline for the Reynolds Creek Hydroelectric Project No. 11480 in Alaska. S. 244 would extend the commencement of construction deadline for the Swift Creek Hydroelectric Project No. 1651 in Wyoming.

Section 13 of the FPA requires that construction be commenced within two years of license issuance and authorizes the Commission to extend this deadline once, for a maximum of two additional years. If construction has not commenced by the deadline, the Commission is required to terminate the license.

Generally, enactment of bills authorizing commencement of construction extensions for individual projects leaves the development of an energy resource in the hands of an entity that has shown an inability to develop a project, and therefore has not been recommended. The current Commission Chairman and past chairmen have opposed legislation extending commencement of construction deadlines that would give an entity more than 10 years to develop a project, based on the notion that allowing one entity that is not progressing in developing a project to control a hydropower site for a longer time is not consistent with the public interest in developing hydroelectric energy. In addition, the record on which projects were originally licensed, including the examination of environmental and developmental issues, may be out of date. To ensure that the public interest is served would require not simply reinstating the license and/or extending the deadlines for commencement of construction, but reexamining and updating the record.

Therefore, I oppose extensions for H.R. 4417 and H.R. 4377, and do not oppose extensions for H.R. 971, S. 176, and S. 244.

Mr. Chairman and Members of the Subcommittee:

My name is J. Mark Robinson, and I am the Director of the Office of Energy Projects at the Federal Energy Regulatory Commission. Our Office is responsible for non-federal hydroelectric licensing, administration, and safety; certification of interstate natural gas pipelines and storage facilities; and, authorization and oversight over the construction, operation, and safety of Liquefied Natural Gas (LNG) terminals.

I appear today as a Commission staff witness speaking with the approval of the Chairman of the Commission. The views I express at this hearing are my own and not necessarily those of the Commission or of any individual Commissioner.

Under Part 1 of the Federal Power Act (FPA), the Commission issues licenses to non-Federal interests authorizing the construction, operation and maintenance of water power projects on federal lands, on navigable waters of the United States, which utilize the surplus water or water power from a federal dam, and on streams over which the Congress has jurisdiction. Licenses may be issued under the FPA only if, in the judgment of the Commission, the proposed project is best adapted to a comprehensive plan for the development and utilization of the water resources of the river basin involved for all public purposes. The licenses are issued for terms of up to 50 years and contain terms and conditions that are designed to ensure that the comprehensive development standard is met.

The FPA requires that the licensee will proceed expeditiously with the development and construction of the proposed project once a license has been issued. Section 13 of the FPA requires that construction of a licensed project be commenced within two years of issuance of the license and authorizes the Commission to extend this deadline once, for a maximum of two additional years. If project construction has not commenced by the deadline, the Commission is required to terminate the license.

I appreciate the opportunity to comment on H.R. 4417, H.R. 4377, H.R. 971, S. 176, and S. 244.

H.R. 4417 would (upon the licensee's request and subject to the good faith, due diligence, and public interest requirements of section 13, and the Commission's procedures) require the Commission to extend until December 31, 2007, the deadline for the commencement of construction of the proposed Tygart Dam Hydroelectric Project No. 7307 and, if necessary, to reinstate the project license.

H.R. 4377 would require the Commission to extend for a three-year period beginning on the date of enactment of the bill, the deadline for commencing construction of the proposed Arrowrock Hydroelectric Project No. 4656, and, if necessary, to reinstate the project license.

H.R. 971 concerns three hydroelectric projects. First, H.R. 971 would require the Commission to extend until May 30, 2007, the deadline for commencing construction of the proposed Hale Hydroelectric Project No. 11547 and (upon the licensee's request and subject to the good faith, due diligence, and public interest requirements of section 13, and the Commission's procedures thereunder) to issue two additional two-year extensions of the construction deadline. The bill would also require the Commission to reinstate the project license. H.R. 971 would also require the Commission to extend until May 30, 2007, and (upon the licensee's request and subject to the good faith, due diligence, and public interest requirements of section 13, and the Commission's procedures thereunder) to issue two additional two-year extensions for the commencement of construction deadlines for the Collinsville Upper Hydroelectric Project No. 10822 and the Collinsville Lower Hydroelectric Project No. 10823 on the Farmington River, in Hartford County, Connecticut.

S. 176 would authorize the Commission to extend the commencement of construction deadline for the Reynolds Creek Hydroelectric Project No. 11480 for three

two-year periods beyond the date that is four years after the date of issuance of the project license.

S. 244 would authorize the Commission to extend the commencement of construction deadline for the Swift Creek Hydroelectric Project No. 1651 for three two-year periods beyond the date that is four years after the date of issuance of the project license.

As a general matter, enactment of bills authorizing or requiring commencement of construction extensions for individual projects leaves the development of an important energy resource in the hands of an entity that has shown an inability to develop a project, and therefore has not been recommended. The last several Chairmen of the Commission have had a policy of opposing legislation extending commencement of construction deadlines that would allow an entity more than 10 years to develop a project, based on the notion that allowing one entity that is not showing progress in developing a project to control a hydropower site for a greater length of time is not consistent with the public interest in developing clean, renewable hydroelectric energy.

In addition, the record on which projects were originally licensed, including the examination of environmental and developmental issues, may be out of date in various respects. To ensure that the public interest is served would require not simply reinstating the license and/or extending the license timeframes for commencement of construction, but reexamining and, as necessary, updating the record.

In view of these considerations, I will comment on each of the bills in more detail below.

H.R.4417

H.R. 4417 would authorize the Commission to reinstate the license and extend the deadline for the commencement of project construction for the Tygart Dam Project No. 7307, located in West Virginia, until December 31, 2007.

The Tygart Dam Project was licensed on September 27, 1989, to the City of Grafton, West Virginia (Grafton). The license gave Grafton two years from the issuance date, as permitted by Section 13, to start construction – that is, until September 27, 1991. On December 17, 1990, the Commission issued partial stays of the licenses for the Tygart Project and 11 other projects in the Ohio River Basin, pending resolution of judicial appeals of the Commission's licensing orders. On April 16, 1992, after the orders were affirmed, the Commission issued an order lifting the stays.

On November 4, 1992, pursuant to a request by Grafton, the Commission extended the deadline for commencement of construction to April 15, 1995. This represented the maximum period for the commencement of construction (two years plus one two-year extension) that the Commission could grant under FPA section 13.

Subsequent legislation enacted as Public Law No. 104-246 directed the Commission to issue up to three additional two-year orders granting further extensions of time to commence and complete construction. After the Commission did so, September 26, 1999 became the final deadline to commence project construction. On June 23, 1999, Grafton again requested a stay of those license conditions that require pre-construction filings because it was seeking another legislative extension of the commencement of construction deadline. The Commission dismissed this request on February 9, 2000.

Because the licensee did not commence project construction by September 26, 1999, the Commission on November 19, 1999 issued a notice of probable termination of the license for failure to meet the commencement of construction deadline. Grafton did not respond to the notice. The Commission subsequently terminated the license by order issued on March 27, 2000.

On July 24, 2000, Grafton subsequently filed an application for a preliminary permit for the project, as a predicate for filing a new license application. The Commission issued the requested preliminary permit on March 16, 2001, for the Tygart Dam Project

No. 11851 (because the previous license had been terminated, the preliminary permit received a new project number). Grafton made very little progress toward developing the project, and the three-year preliminary permit expired, by its terms, on February 28, 2004. The Commission denied a request for an extension of the preliminary permit term on March 28, 2003.

On March 1, 2004, Grafton filed another application for a preliminary permit for the Tygart Dam Project No. 12490. This application was dismissed on March 28, 2005, for failure to provide additional information related to Grafton's progress toward developing the project. Currently, Grafton has pending before the Commission a third application for a subsequent preliminary permit for the Tygart Dam Project No. 12640. The Commission also has before it a competing application for preliminary permit filed on September 23, 2005, by Tygart LLC for the Tygart Dam Project No. 12613.

The Tygart Project was licensed in 1989, and construction did not commence in the 11 years before the Commission terminated the license. Under these circumstances, I do not support reinstatement of the license or further extension of the commencement of construction deadline.

H.R. 4377

H.R. 4377 would provide for license reinstatement, if necessary, and extend the deadline for the commencement of project construction for the Arrowrock Project No. 4656, located in Idaho, for a three-year period from the date of enactment of the legislation. The Arrowrock Project was licensed on March 27, 1989, to the Boise-Kuna Irrigation District, the Nampa & Meridian Irrigation District, the New York Irrigation District, the Wilder Irrigation District, and the Big Bend Irrigation District (Districts).

The license gave the Districts the maximum two-year time permitted by Section 13 to start construction -- that is, until March 26, 1991. On January 9, 1991, pursuant to Section 13, the Commission granted the Districts' request for the one additional two-year extension to commence construction permitted by the statute, thereby extending the deadline for commencement of construction to March 26, 1993.

Section 1701(c) of the Energy Policy Act of 1992 subsequently authorized the Commission to extend the deadline for commencement of construction of the project for an additional six years, until March 26, 1999. The Commission granted this extension.

On March 23, 1999, three days prior to the expiration of the extended deadline, the Districts requested a stay of the commencement of construction and compliance deadlines, while they sought Congressional legislation permitting further extensions of the construction deadline. The Commission denied that request, and on May 19, 1999, issued an order noticing probable termination of the license for failure to meet the commencement of construction deadline.

In June, 1999 legislation was introduced in the Senate (S. 1236) authorizing a further extension of the Section 13 deadline for the project until March 26, 2005. Former Commission Chairman James Hoecker submitted written testimony to the Senate Energy and Natural Resources Committee on July 28, 1999 stating that because this bill would extend the construction commencement date beyond 10 years from the issuance date of the project license, he did not support its enactment.

This legislation, which was subsequently enacted and signed into law in October, 2000 as Public Law No. 106-343, authorized the Commission, upon the Districts' request, to reinstate the license, if necessary and, to further extend the deadline for commencement of construction for three consecutive two-year periods, to take effect on the date of the expiration of the last extension issued by the Commission (*i.e.*, as of March 26, 1999).

As requested by the Districts, the Commission thereafter granted three extensions, making the new final deadline for starting construction March 26, 2005.

On March 25, 2005, the Districts filed a request for a stay of the license, and to backdate the stay for 120 days to allow them time to comply with license articles containing requirements that must be completed before start of construction.

On May 27, 2005, the Commission denied the request for stay of license and, in the same order, issued notice of the probable termination of the project license. The Commission denied rehearing by order issued September 1, 2005.

The Arrowrock Project was licensed in 1989, and construction did not commence in the 16 years before the Commission gave notice of probable license termination. Under these circumstances, I do not support further extension of the commencement of construction deadline.

H.R. 971

H.R. 971 concerns Projects Nos. 10822, 10823, and 11547. First, H.R. 971 would require the Commission to extend until May 30, 2007, the deadline for commencing construction of the proposed Hale Project No. 11547, and to issue two additional two-year extensions of the construction deadline.

In 1997, the Commission issued Summit Hydropower, Inc., a license for the Hale Project, to be located on the Quinebaug River, in Windham County, Connecticut. The City did not commence construction within the two-year period specified in the license, or within the additional two-year period which it requested and the Commission granted. Consequentially, by letter dated May 2, 2002, the Commission notified Summit of the probable termination of the license. By letter dated August 9, 2002, Commission staff notified the licensee that it would not take further action to terminate the license pending action on legislation to extend the construction deadline.

The license for the Hale Project was issued nine years ago. The required extensions of the commencement of construction deadline could move that deadline to May 30, 2011, almost 14 years after the project license was issued. I therefore do not support the bill in this respect.

H.R. 971 would also require the Commission to extend until May 30, 2007, and to issue two additional two-year extensions for the commencement of construction deadlines for the Collinsville Upper Hydroelectric Project No. 10822 and the Collinsville Lower Hydroelectric Project No. 10823 on the Farmington River, in Hartford County, Connecticut.

The Commission issued licenses to Summit Hydropower for the Collinsville Upper and Lower Projects on February 23, 2001. Summit did not commence construction of the projects during the two-period provided in the license, or during the two-year extension, which expired February 23, 2005, granted by the Commission.

The extensions required by H.R. 971 would extend the commencement of construction deadline for the two projects to May 30, 2011, only a few months more than 10 years after the project licenses were issued. Because the extensions would be so close to 10 years from the date of license issuance, I do not oppose H.R. 971 with respect to the Collinsville Projects.

S. 176

S. 176 would authorize the Commission to extend the commencement of construction deadline for the Reynolds Creek Hydroelectric Project No. 11480 for three two-year periods beyond the date that is four years after the date of issuance of the project license.

On October 24, 2000, the Commission issued Haida Corporation a license for the proposed Reynolds Creek Project, to be located on Prince of Wales Island, Alaska. Haida did not commence construction during the two-year period provided in the license, or during the two-year extension, which expired October 24, 2004, granted by the Commission.

The extensions authorized by S. 176 could extend the commencement of construction deadline until precisely 10 years after the project licenses were issued. Moreover, the bill would authorize, but not require, the Commission to grant the extensions. Therefore, I do not oppose S. 176.

S. 244

S. 244 would authorize the Commission to extend the commencement of construction deadline for the Swift Creek Hydroelectric Project No. 1651 for three two-year periods beyond the date that is four years after the date of issuance of the project license.

On December 19, 1997, the Commission issued Swift Creek Power Company a new license for the existing, non-operating 1.5- megawatt Swift Creek Project, located on Swift Creek, in Lincoln County, Wyoming. Rehabilitation of the upper development consists of adding one-foot stop logs to the upper dam, replacing the penstock, and refurbishing the powerhouse and adding two generators. Rehabilitation of the lower development consists of dredging the lower dam, installing a 2,000-foot-long penstock, building a powerhouse with 2 generators, and a new transmission line. The project occupies 20 acres of federal lands within the Bridger-Teton National Forest.

The original deadline in the license for commencement of construction, December 18, 1999, was, at the licensee's request, extended to December 18, 2001. Swift Creek did not commence construction during the two-year period provided in the license, or during the two-year extension, which expired December 18, 2001, granted by the Commission. The licensee did not request any further extensions of the deadline.

On November 29, 2002, Swift Creek and the Town of Afton, Wyoming, filed a joint application to transfer the license from Swift Creek to Afton. In response to the notice of the application, the U.S. Forest Service filed on February 28, 2003, a motion to intervene in the transfer proceeding, and commented that it supported the transfer if it facilitated either placing the project back into operation or removing the project works from National Forest lands and restoring the lands. Action on the transfer remains pending.

The Commission interprets the deadlines in section 13 as applying only to an original license, authorizing initial construction of a project. Project No. 1651 was in existence when the project was issued a new (or relicense) license in 1997 so, -- although refurbishment of damaged project works would entail substantial new construction -- by the Commission's interpretation, the licensee has not failed to meet a **statutory** commencement of construction deadline. As a policy, the Commission has included construction deadlines when it authorizes licensees to perform major project renovations or to install additional new capacity because it is in the public interest to have construction proceed expeditiously.

I note that while the Project No. 1651 licensee is not subject to Section 13 of the FPA, the Commission has rarely given a licensee more than 10 years to commence new construction at an existing project.

The extensions authorized by S. 244 could extend the commencement of construction deadline until precisely 10 years after the project license was issued. Moreover, the bill would authorize, but not require, the Commission to grant the extensions. Therefore, I do not oppose S. 244.

Summary

As I have indicated, I oppose extensions for H.R. 4417 and H.R. 4377, and do not oppose extensions for H.R. 971, S. 176, and S. 244.

I appreciate the opportunity to present my views to the Subcommittee. Thank you, and I will be happy to answer any questions you may have.

MR. OTTER. [Presiding] As a chairman, I think I will begin the questioning. Mr. Robinson, you said under your two conditions for extending licenses one was a 10-year period and the other one was obviously the economic conditions. Yet I think you heard the testimony from my colleague from West Virginia that under the Tygart Project, it was indeed their economic analysis that said it was now a viable economic project and so that is why because of the increased cost in energy that now they wanted to go forward with that project. The 10-year period, obviously they have updated their considerations. They have updated the fact that they are going to tunnel through that dam and to put in the penstock, and also to make it a viable project. So my question would come back is if we are so rigid on that 10-year period or that economic consideration has not FERC ever extended beyond 10 years a project for either one of those reasons?

MR. ROBINSON. We actually are not by law permitted to extend beyond one 2-year extension on the Federal requirement to start construction within 2 years. We have, however, where Congress has specially authorized us to grant extensions beyond that, we in fact have. I can't remember the project now but we had two sets of extensions by Congress, one for 6 years that added to the 10, and then a second one which I believe was for another 5 years, so we certainly have extended projects beyond the 10-year period where Congress was giving us that authority.

MR. OTTER. And both of those have been successful?

MR. ROBINSON. No. There was only one that I remember, and it was on the same project and that project is still not constructed.

MR. OTTER. The other one that went forward then was successful?

MR. ROBINSON. There was only one that actually went beyond the 10-year period where Congress designated a period beyond that time frame.

MR. OTTER. Now of course on the Arrowrock Project it seems pretty obvious to me that it was circumstances beyond the licensee's control. It wasn't some environmental consideration that they hadn't completed an EIS or an endangered--it was because of the bull trout and the Endangered Species Act that delayed that entire process, and then when FERC at a later time was asked to go forward there was no response from FERC themselves. So circumstances beyond the licensee's control that allowed both of those permits to exhaust their time period would seem to me that FERC would be able to give the consideration, number one, because of its own inaction, and, number two, because of the action of another Federal agency beyond the licensee's control, I want to repeat, that should give it additional consideration.

MR. ROBINSON. During the course of the 16 years that we have been interacting with the licensees for this project and the agencies, there have been numerous explanations for why the project was not going forward, bull trout certainly being one of them and being prominent here more recently. There are differing views on where the ball laid on the bull trout issue. Was it with the Fish and Wildlife Service, was it with the licensee, was it with FERC, and it all goes to what information was available about the project and what information the different agencies required.

The Commission has reviewed this twice. They reviewed that issue very specifically on how the bull trout issue was handled by the Commission staff and under the laws that we have to operate under, and at this point has not accepted a request to stay that license, which is one of the things that the Commission has done where there are conditions beyond the control of the licensee and the time period is running out. They have stayed the license and effectively stopped the clock on even the 2 plus 2 years but certainly within the 10 years. And I believe on Arrowrock they actually did stay that project for a period of time as well.

MR. OTTER. Well, part of that project, the stay on that project came about because of the old antiquated valves that were in there. In order to complete the hydro project the Army Corps or the BOR--

MR. ROBINSON. It is the Bureau of Reclamation.

MR. OTTER. Yeah, the BOR had to install the new valves which then gave it the capacity for the hydro capability, and that was started in 2002 and completed in 2004 so why wouldn't they be granted credit for those 2 years plus the 2 years under the bull trout consideration?

MR. ROBINSON. Well, again, given that there has been 16 years on this project, a number of different issues have held it up over those 16 years. And there is another aspect to this project, should this go forward and the bill be passed and the Commission does grant the extension to start construction, the project that is now being contemplated, which has been under discussion with the Fish and Wildlife Service, is not a project that the Commission has authorized. So there would be a review of this new project which on its surface clearly has advantages associated with it in terms of its footprint and how it would go through the same and all those things, but there are issues associated with the project.

The record that we have currently doesn't match the project that is being pursued, so we would go back and look at it whether it would be an amendment to the license or however we would handle it. The Commission would have to spend some time looking at it, and we would work out the bull trout issue as well during that period.

MR. OTTER. Okay. Thank you very much, Mr. Chairman. I recognize the Ranking Member.

MR. BOUCHER. Mr. Chairman, I really don't have any questions of Mr. Robinson. I want to thank him for stating very clearly the position of the FERC on this matter, and I think you have propounded to him all of the relevant questions. Thank you, Mr. Chairman.

MR. OTTER. Okay. Thank you. Then you are excused, sir. Thank you very much for your time. I appreciate it. Without any further business, the committee is now retired.

[Whereupon, at 4:52 p.m., the subcommittee was adjourned.]

RESPONSE FOR THE RECORD OF THE HON. EDWARD F. SPROAT, III, DIRECTOR, OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT, U.S. DEPARTMENT OF ENERGY

QUESTIONS FROM CHAIRMAN BARTON

Q1. Are you familiar with the interim storage provision in the Senate's Energy & Water Appropriations bill? If that were to become law, what resources would you need to meet those requirements without detracting from progress on the repository? How would that compare to the resources needed to meet the requirements of H.R. 5360, the Administration's legislative proposal?

A1. The Department has not estimated what resources would be necessary to implement the interim storage provisions in the Senate's Energy and Water Appropriations bill, but believes additional resources would be required to license, manage, operate and construct the interim storage facilities even if the Department primarily utilized existing facilities at reactor sites. Implementation of the provisions in the Senate's bill would not reduce the resources needed to license, construct, and operate the Yucca Mountain site. To the extent resources are limited, work on interim storage could delay completion of the repository.

Q2. The Nuclear Waste Policy Act limits the size of the Yucca Mountain repository to 70,000 metric tons, but what is the physical capacity? What are the scientific and technical factors that would determine the maximum capacity?

A2. The Department has not determined a maximum physical capacity for the site but believes that, at a minimum, the estimated amounts of spent nuclear fuel expected to be generated by the current fleet of commercial reactors throughout their life time and all existing Defense spent nuclear fuel and high-level waste could be disposed of at Yucca Mountain. The maximum technical capacity of the Yucca Mountain repository is dependent on the physical characteristics of the areas of the site that have not yet been thoroughly evaluated, as well as the radionuclide content, volume, and form of materials to be disposed.

Q3. The Electric Power Research Institute conducted a preliminary analysis of the maximum disposal capacity in a Yucca Mountain repository this spring. This analysis suggested that the repository could hold between 4-9 times the current legislated limit if expanded and redesigned. Has DOE reviewed this analysis and are you aware of any other studies regarding the potential capacity for the repository?

A3. The Department is aware of but has not reviewed the Electric Power Research Institute estimates. The Department is not aware of any other studies regarding the potential capacity of the repository at this time.

Q4. If interim storage was authorized by Congress, would it make operational sense to move used fuel in proximity to the planned repository? Why?

A4. Yes, if authorized by Congress, it would make operational sense for interim storage facilities to be near the planned repository to avoid additional transportation of waste to the repository. The advantages of consolidating spent nuclear fuel at the

repository site prior to permanent emplacement would be the avoidance of multiple transportation campaigns and the security of a single Federal site in a remote desert environment.

Q5. Why are the provisions of Resource Conservation and Recovery Act (RCRA) unnecessary for the Yucca Mountain project?

A5. The requirements for containment of spent nuclear fuel imposed by the Nuclear Regulatory Commission (NRC) are considerably more stringent than any standards that might be imposed under the Resource Conservation and Recovery Act (RCRA). Specifically, NRC requires the use of NRC certified containers to transport, store and dispose of spent nuclear fuel and the permanent isolation in a deep geological repository in a manner that limits potential radiological exposures to no more than 15 mrems annually over a 10,000 year period. Passage of the Administration's proposal would avoid a duplicative regulatory structure, by making the NRC the only regulatory authority for the repository facility.

Q6. Why would it be appropriate to require DOE to submit details on only the surface facilities needed for initial operations in the license application?

A6. NRC regulations require DOE to submit details on both surface and sub-surface facilities with its initial license application which DOE intends to do. During the life of the repository operations, the Program plans on additional surface facilities to handle additional amounts of spent nuclear fuel and high-level waste. The Administration's legislative proposal clarifies that DOE need not include these additional surface facilities in its initial license application. The proposal does not eliminate the need for NRC to approve the construction and operation of these additional facilities at the appropriate time.

Q7. What are the advantages to developing site infrastructure prior to receiving a construction authorization from NRC? What are the drawbacks?

A7. Site infrastructure improvements are necessary to maintain safety and the protection of workers, regulators, and visitors. Infrastructure upgrades will enhance safety and enable DOE to safely continue ongoing operations, scientific testing, and routine maintenance. Moving forward with the necessary safety upgrades and infrastructure would significantly facilitate the timely opening of the repository.

QUESTION FROM REPRESENTATIVE ALLEN

Q1. Mr. Sproat, an important issue to me that you did not discuss is the so-called "clean canistered" program developed under the watch of your predecessor Acting Director Golan. As I understand it, this program envisions the development of new transportation, aging and disposal, or TAD, canister systems that DOE would utilize in meeting its spent fuel acceptance obligations.

I have concerns with DOE's TAD concept in light of the impact that it could have on your ability to meet your spent fuel acceptance obligations for contract holders,

such as Maine Yankee, who have undergone decommissioning and are utilizing existing, NRC licensed dual purpose storage and transportation systems. Further, so called "dead plants" are decommissioned and therefore do not have any remaining infrastructure within which to make transfers of waste from existing licensed dual purpose canisters to new canisters.

Q1(a). What role do you envision for the TAD system in the new program plan and schedule you have laid out for the Committee?

A1(a). The transport, aging, and disposal (TAD) system is a vital component of the new Program plan and schedule. The license application will reflect the use of the TAD system and the repository is being designed to reflect the use of the TAD system as the primary mechanism for accepting commercial spent nuclear fuel. The TAD concept will significantly simplify spent nuclear fuel handling operations at the repository. Under this approach, most spent nuclear fuel will be packaged for disposal by the utilities. This approach offers the advantage of having those who know most about the fuel, the generators, responsible for canisterization and packaging. This approach will take advantage of commercial reactor sites with existing capability and spent nuclear fuel handling expertise. Thus, it will limit the need to build new equipment and train operators for a capability that already exists in the private sector. The Department has been working with industry to develop the performance specifications for canisters that can be transported, aged, and disposed of successfully within the waste management system. Also, the facilities needed to support the handling of TAD canisters at Yucca Mountain will be fewer, less complex, and more efficient.

Q1(b). Are you planning to develop surface facilities at the Yucca Mountain site that are capable of receiving material transported to the site in existing dual purpose technologies as well as TAD systems? Will these facilities be the same for both existing and future TAD technologies? If these facilities are not the same and one is to be phased in after the other, which gets built first under your current thinking and what are the relative time frames you are looking at for their construction?

A1(b). The repository surface facilities are being designed to include the capability of receiving material transported to the site in existing dual purpose technologies, including those currently in use at shutdown reactors sites, as well as TAD systems. Different facilities will be needed for the existing dual purpose technologies and the TAD systems. The dual purpose canisters will require opening and repackaging in waste packages licensed for disposal in a repository. The benefit of the TAD system is its ability to be disposed of directly in the repository with minimal packaging steps. The opening and re-packaging of spent nuclear fuel contained in dual purpose technologies will require a wet handling capability that the TAD system does not require, and as a result, a separate building will be utilized that includes a spent nuclear fuel handling pool. The Department is planning on the construction of the facilities to receive TAD canisters early in the repository construction schedule, and the facilities to open dual purpose canisters later.

Q1(c). Why do we need a new canister system? Is there any reason that existing NRC licensed dual use canisters are not acceptable for transportation and storage at Yucca Mountain?

A1(c). The Department has elected to proceed with a primarily TAD based system for the reasons set forth in A1(b) above.

Q2. I am very concerned that the DOE might be headed down a path that would penalize, rather than reward, those facilities, especially single unit decommissioned sites, that have invested in technologies to safely and responsibly store and manage their spent fuel inventory. The Nuclear Waste Technical Review Board has raised "an overarching concern" that the existing litigation between the DOE and utilities "is a significant impediment to the technical resolution of key issues" relating to spent fuel acceptance and management leading to disposal. What assurances can you give us that you will make it a high priority to actively seek a realistic resolution of these issues? Will you commit to working with me and other interested Members of this Committee to seek resolution of these issues?

A2. The Department believes that, notwithstanding the ongoing litigation, meaningful technical discussions can and do take place. This was demonstrated by recent technical interactions with the industry on the development of the TAD system performance requirements. The Government has also been actively negotiating settlements and has reached a settlement agreement with companies representing over 20% of the nuclear industry. It is to the advantage of both parties to seek a settlement agreement and we fully expect additional settlements to be negotiated. I would welcome the opportunity to work with you and other interested Committee Members to resolve these issues.

RESPONSE FOR THE RECORD OF LUIS A. REYES, EXECUTIVE DIRECTOR FOR OPERATIONS,
U.S. NUCLEAR REGULATORY COMMISSION

October 17, 2006

The Honorable Ralph M. Hall
Chairman, Subcommittee on Energy and
Air Quality
Committee on Energy and Commerce
Washington, D.C. 20515

Dear Mr. Chairman:

The Nuclear Regulatory Commission appeared before the Subcommittee on Energy and Air Quality on September 13, 2006. From that hearing, you forwarded questions that were submitted for the hearing record. The responses to your questions are enclosed. If I can be of further assistance, please do not hesitate to contact me.

Sincerely,

/RA/

Rebecca L. Schmidt, Director
Office of Congressional Affairs

Enclosure:
As stated

cc: Representative Rick Boucher

RESPONSE TO THE HONORABLE JOE BARTON

QUESTION 1.

You state that the Commission has certified a number of package designs for the transport of nuclear fuel. Does the Commission have concerns about the Department's proposal for new transport, aging and disposal canisters (TADs) for fuel already in NRC approved transportation packages? Are there safety concerns and does it make sense to repackage the fuel into TADs, especially at decommissioned sites that no longer have spent fuel pools available in which to facilitate the transfer?

ANSWER.

The Department of Energy (DOE) has informed us that it plans to develop the performance specifications for the transport, aging and disposal canisters (TADs) design by late calendar year 2006. To date, neither DOE nor any NRC power plant licensee has proposed packaging or repackaging fuel into TADs. Therefore, NRC has not taken a position on the logistical approach regarding use of the specific TADs contemplated by DOE. DOE has advised the NRC staff that it is considering, in their design of the repository, the capability to receive spent fuel in non-TAD packagings and to repackage spent fuel into TAD canisters at Yucca Mountain. If DOE's license application has such a proposal, the NRC staff will review it. We would note, however, that in a letter to Dr. Margaret Chu, Director, Office of Civilian Radioactive Waste Management dated February 20, 2004, the NRC stated, "The NRC believes that NRC-approved dual-purpose casks can be used to transport spent fuel to the potential Yucca Mountain repository. In addition, NRC is currently permitting decommissioning power reactor facilities to demolish their spent fuel pools after all spent fuel is loaded in NRC-certified dual-purpose storage casks. Obviously, it would be preferred, for safety as well as economic reasons, not to re-pack the fuel loaded in these casks. Thus, early resolution of cask selection and cask certification is important to the NRC's regulatory activities." [Emphasis added] This continues to be NRC's position on this matter. As noted above, DOE has advised the NRC staff that it is considering, in their design of the repository, the capability to receive spent fuel in non-TAD packages and to repackage spent fuel into TAD canisters at Yucca Mountain. This would clearly be the preferred solution for loaded dual-purpose casks at NRC-licensed sites, particularly decommissioned sites.

QUESTION 2.

With respect to preparations for a repository license application, how many people has the NRC hired in the last two years for this project and how many does it expect to hire in the next two? How much of the NRC's annual appropriation for High Level waste management has it spent over this and last year and how much has it and will it carry over to next year?

ANSWER.

From 102 positions in FY 2004, the number of NRC HLW staff decreased by 11 positions in FY 2005. With the delay in the receipt of a license application, the number of NRC HLW staff positions remained level throughout FY 2005 and FY 2006. The number of positions is projected to remain nearly the same in FY 2007 (FY 2008

projections are not included in our response, since the FY 2008 budget is currently with the Office of Management and Budget).

In FY 2005, the NRC was appropriated $68.5 million from the Nuclear Waste Fund (NWF). The agency obligated $46 million and had an unobligated carryover of $23.7 million, of which $1.2 million was from prior year appropriations. In FY 2006, the NRC was appropriated $45.7 million from the NWF, of which $43.7 million was obligated. At the end of FY 2006, the agency had $25.7 million in prior year NWF appropriations that remained unobligated. It should be noted that the unobligated carryover amount is a cumulative total of all prior-year NWF appropriations.

RESPONSE FOR THE RECORD OF THE HON. STAN WISE, CHAIRMAN, GEORGIA PUBLIC SERVICE COMMISSION, ON BEHALF OF NATIONAL ASSOCIATION OF REGULATORY UTILITY COMMISSIONERS

The Honorable Joe Barton

1. ***Does it make sense to stall the development of Yucca Mountain in order to allow time for reprocessing to be developed and implemented?***

Mr. Chairman, I see the development of a repository as largely independent of a future decision to shift to a reprocessing scheme for spent fuel management. First, whether spent nuclear fuel is reprocessed or not, there will remain some highly radioactive waste products of reprocessing—as I understand it from the experts and DOE—that will require disposal in an underground repository. Plus, there is some defense high-level radioactive waste for which disposal is required and, to my knowledge, which is not suitable for reprocessing. Additionally, earlier this year when the GNEP initiative was first introduced, I understood Deputy Energy Secretary Clay Sell to say that spent fuel that had been out of the reactor for more than 15 years may not be a candidate for reprocessing. If this is the case, by the time the government has reprocessing fully operational, it would appear that there will be a large amount, of spent fuel that will have been out of a reactor for more than 15 years that is still in need of disposal and not suitable for the reprocessing program.

There is another consequence for the continued delay in moving the spent fuel to a repository—or until some away-from-reactor interim storage is available. The lawsuits by the utilities for waste acceptance delay damages have yet to be decided, but for those that have, they provide for continuing government liability until the government eventually performs to its contractual obligation to accept the spent fuel.

There is no reason that I can see why the repository development has to be delayed because of the consideration to reprocess spent fuel in the future. Certainly the annual fee payments are not being delayed. Ratepayers are paying for waste disposal; the government needs to provide the disposal that was promised.

2. ***Under what conditions would it make sense to send defense waste to the repository first, ahead of commercial spent fuel?***

Mr. Chairman, actually I believe there are more reasons for commercial spent fuel to be moved ahead of defense waste. Defense waste is already presumably safely and securely stored. In contrast, in 36 locations the spent fuel accumulating at commercial reactors exceeds the storage capacity of the cooling pools and the utilities have had to build dry cask storage (for which the lawsuits seek damages, as mentioned before.) With the recent announcement that the earliest that Yucca Mountain will be ready to begin to accept spent fuel is 2017, I would imagine that more and more utilities will be seeking more and more dry cask storage. That has certainly been our experience in Georgia, as I discuss in more detail in my response to your Question 4.

There are 3,800 tons of spent fuel now stored at shutdown reactor storage sites. I am sure that the owners of those shutdown reactor sites have to meet all the terms of their storage licenses under NRC requirements, including security. You don't have to be an expert in homeland security to conclude that shipping this spent fuel to the repository, whether for disposal or interim storage, is preferable to keeping it at these otherwise shutdown facilities. I know of no comparable perceived risk for current defense waste storage.

There seems to be no economic or security advantage to sending defense waste to the repository ahead of commercial spent fuel. The only advantage I can see—if, for some reason the commercial spent fuel were not ready for shipment—would be to have DOE demonstrate (what we already know, but much of the public may not) that nuclear waste transportation can be planned and implemented safely. This would help build public confidence (as would shipping commercial spent fuel; of course.)

3. Under what circumstances, if any, would it be appropriate for the Nuclear Waste Fund to be used to fund interim storage activities?

Mr. Chairman, first, the appropriations stranglehold on the Nuclear Waste Fund—in which $750 million is collected in fees, yet only a small fraction is appropriated for its intended purpose—would have to be fixed. Otherwise, dollars for interim storage are provided at the expense of the repository.

There are some expenses associated with interim storage that are likely to be appropriate for the Nuclear Waste Fund. Procurement of transportation casks and expenses of transferring spent fuel into them are expenses that would eventually be required for shipment to the permanent repository. The closer the interim storage site is to Yucca Mountain, the more the transportation costs would also seem fundable from the NWF.

In terms of "cost to the government," it seems likely that development of a sizable central interim storage facility to be built and operated by DOE would be more economic than for the utilities to continue to build and manage more dry cask storage at individual reactor sites. It was that "economies of scale" premise that led some of the utilities to form the consortium Private Fuel Storage LLC, which seeks to build and operate a private temporary spent fuel storage facility in Utah. To the extent that a DOE central interim storage could achieve similar economies and DOE will have accepted title (and financial responsibility) for the spent fuel stored there, that would bring a halt to the federal liability for that fuel for the former owners' storage expenses. However, since the liability for those expenses is not against the Nuclear Waste Fund, should not the same source of funding be used to pay for interim storage that would experience a cost reduction? As you know, the Eleventh Circuit of the Federal Court of Appeals ruled in 2002 that the Department of Energy could not use future NWF fee reductions to pay damages in the waste acceptance delay storage cost lawsuits (because the Secretary lacks the authority to make fee adjustments for individual utilities and because the NWPA makes clear the utilities are responsible for reactor-site fuel storage costs.) It is my understanding that the damages awarded to date and the settlement agreement with Exelon are being paid from the Judgment Fund and not the Nuclear Waste

Fund. It follows that the Department of Energy should use other appropriations than the NWF for interim storage.

4. ***I understand that the Southern Company has indicated their interest in building new nuclear plants in Georgia. As Chairman of the Georgia Public Service Commission, what do you think needs to happen with regard to the spent fuel issue in order for the Commission to support new nuclear construction?***

Mr. Chairman, first and foremost, let me say that pursuant to the Official Code of Georgia Annotated §46-3A, all new supply-side capacity is identified in the utility's Integrated Resource Plan and subsequently must be certified by the Commission. Although this certification process is not driven solely by the spent fuel disposal issue, this issue does figure into the overall certification process since the certification process includes decisions on type of generation, construction, operation and maintenance costs of the resource, number of megawatts needed, and when the capacity is needed.

Nuclear expansion has great appeal for meeting forecasted demand for baseload generation due to improved reactor technology. New nuclear units will have advantages over coal such as protection from fuel price instability and no carbon emissions. However, I can foresee the lack of certainty surrounding the spent fuel disposal problem being factored in to the overall certification decision.

Resolution of the spent fuel issue will figure prominently into the overall cost of the new unit. It is my understanding that during the planning stage, it is easier to design greater spent fuel pool storage capacity than it is to retrofit the pool at the existing reactor site. The Georgia Public Service Commission is especially concerned about this issue since as of December 2004, the costs incurred at Georgia Power Company's Plant Vogtle attributable to spent nuclear fuel storage are $8.7 million for additional racks within the spent fuel pool. Given the existing capacity for spent nuclear fuel storage at Plant Vogtle, Vogtle's storage pool will begin to lose its reserve capacity in the year 2015 - at which time Vogtle will begin to transfer assemblies to dry cask storage on site. As you indicated in your question, Southern Company is considering the Plant Vogtle site for a new nuclear generating unit, so spent fuel storage and disposal will likely figure notably into the Commission's decision to certify a new nuclear unit.

This concern applies to siting future dry cask storage as well to perhaps store the entire inventory of spent fuel for the life of the reactor. As of December 2004, the costs incurred at Georgia Power's Plant Hatch attributable to spent nuclear fuel storage are $77 million. Given the present capacity for spent fuel storage, Hatch will reach its capacity of 48 dry casks in the year 2011. Southern Nuclear intends to begin the expansion of the pads in 2009. Here in Georgia, this is a real issue that deserves serious consideration.

It is also my understanding that a revised waste acceptance "standard contract" will need to be presented as part of the Construction and Operation License application that meets the requirements of the Nuclear Waste Policy Act more realistically than the existing contracts.

Finally, it goes without saying that development of a permanent repository and providing secure, complementary interim storage would certainly make it easier to support new nuclear plants.

RESPONSE FOR THE RECORD OF ANTHONY F. EARLEY, JR., CHAIRMAN AND CHIEF EXECUTIVE OFFICER, DTE ENERGY COMPANY, ON BEHALF OF NUCLEAR ENERGY INSTITUTE

Anthony F. Earley, Jr.
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October 13, 2006

The Honorable Joe Barton
Chairman, Energy & Commerce Committee
U.S. House of Representatives
2125 Rayburn House Office Building
Washington, DC 20515

Dear Chairman Barton:

Thank you for allowing me to testify before the Subcommittee on Energy and Air Quality on Wednesday, September 13, 2006, regarding the storage and disposal policy for nuclear waste. It is my pleasure to respond to additional written questions for inclusion in the hearing record.

The attached sheet provides my responses to your questions. If I can be of further assistance, please do not hesitate to call me. I appreciate the opportunity to present our comments.

Sincerely,

Anthony F. Earley, Jr.

Attachment

cc: The Honorable Ralph Hall
Chairman, Subcommittee on Energy and Air Quality
House Energy and Commerce Committee

The Honorable Joe Barton

Q1. To what extent is the development of new nuclear plants dependent on solving the spent fuel issue?

A: As I stated in my testimony, unless progress is made on nuclear waste issues, spending on new plants could slow and eventually grind to a halt. To date, executives in the industry have been willing to make investments to plan for nuclear plants. But as the time approaches for commitment of larger sums, more certainty is needed on the spent fuel issue. If the Department of Energy makes visible and measurable progress on implementing a national used fuel management strategy, with Yucca Mountain as a critical component, companies will continue to move ahead, and the financial markets will have the necessary confidence to support these investments.

Q2. Under what conditions would it make sense to send defense waste to the repository first, ahead of commercial spent fuel?

A: It is important for the government to expeditiously meet its already overdue contractual obligations to take title to and move used nuclear fuel from existing plant sites. The federal government could meet this obligation by consolidating storage of used fuel at a very few surface facilities, perhaps including one in Nevada. This might be done in order to better address potential changes in the fuel cycle such as recycling. Under such a scenario, it might make sense to consider emplacing defense waste in the repository first.

Q3. Does it make sense to stall the development of Yucca Mountain in order to allow time for reprocessing to be developed and implemented?

A: No. Yucca Mountain will be needed in any fuel cycle we may ultimately adopt and we must work to meet the recent schedule set forth by the Department of Energy. In addition, there is a need for timely disposal of both defense waste and older "legacy fuel" that will not lend itself to cost-effective recycling. We should structure repository operations that maintain flexibility to respond to potential fuel-cycle developments, but we should not delay the program based on expectations of future developments.

Q4. Among the additional actions you urge Congress to take is incorporation of features into repository development plans that maintain flexibility for future generations. Why do you believe this is important?

A: It is very important for this nation's energy security that we maintain a significant role for nuclear power through the 21st century and beyond. There are two reasons that flexibility in repository development can support this goal. First, technological developments may allow us to better utilize the potential energy that remains in used nuclear fuel, and to enhance the capacity of Yucca Mountain to handle waste products. Second, while there is a high degree of confidence that the repository will meet or exceed regulatory requirements, it is prudent to monitor the facility's performance for an extended period to further verify that performance and take advantage of potential improvements in waste disposal techniques.

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