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April 1, 2011

Mark Langer, Clerk
U.S. Court of Appeals, D.C. Circuit
E. Barrett Prettyman U.S. Courthouse
333 Constitution Avenue N.W.
Washington, D.C. 20001

RE: ***In Re Aiken County***
U.S. COA, D.C. Circuit No. 10-1050 *consolidated with* 10-1052, 10-1069, 10-1082

Pursuant to Fed. R. App. P. 28(j) and Circuit Rule 28(f), Petitioners submit the following supplemental authorities:

1. Testimony of Gregory Jaczko, Chairman of the Nuclear Regulatory Commission, given on Thursday, March 31, 2011, before the Energy and Water Development Subcommittee, House Appropriations Committee.

2. *CSI Aviation Serv., Inc. v. U.S. Dep't of Transp.*, No. 09-1307 (Apr. 1, 2011)

During oral argument, the Court questioned whether matters before the NRC rendered DOE's decision non-final or unripe. *See* Oral Argument Transcript (Mar. 22, 2011) p. 6 line 14 - p. 7 line 11; p. 9 line 9 - p. 11 line 5; and p. 36 line 22 - p. 38 line 10. On page 44 of the enclosed testimony, Chairman Jaczko states:

> It is not the responsibility of this body [the NRC] to require the DOE to move forward or not move forward with a particular program or a program direction. Our job is licensing. That is the function and responsibility of this body. And no more than you would expect the fire marshal to go in and tell a developer to continue developing a building so that they can conduct their fire inspections should we be expected to be in a position of demanding or requiring the Department of Energy to move forward with a program.

The Chairman has thus agreed that the NRC has no authority to compel DOE to comply with the NWPA. *See* 42 U.S.C. § 10134(d); *see also*, JA 763-64, 768. That authority lies with this Court.

42 U.S.C. § 10139. By the NRC's own admission, then, there is no decision for the NRC to make regarding the two issues pending before this Court (whether DOE may reject Yucca Mountain and abandon all efforts to develop it, and whether DOE may specifically abandon the licensing process). DOE's decision is final and ripe. Respondents' representations in litigation do not change this finality.

The *CSI* decision demonstrates that finality of DOE's decision is determined by a three-pronged substantive analysis, not the form of the decision. DOE's decision meets all three prongs. Petitioner's Opening Brief at 28, 33.

Sincerely,

s/ Andrew A. Fitz

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AAF:dmm
Enclosures
cc: All Parties of Record

HEARING OF THE ENERGY AND WATER DEVELOPMENT SUBCOMMITTEE OF THE HOUSE APPROPRIATIONS COMMITTEE SUBJECT: THE FY 2012 ENERGY DEPARTMENT BUDGET FOR NUCLEAR ENERGY AND THE NUCLEAR REGULATORY COMMISSION CHAIRED BY: REPRESENTATIVE MIKE SIMPSON (R-ID) WITNESSES: PETER LYONS, ACTING ASSISTANT SECRETARY FOR NUCLEAR ENERGY GREGORY JACZKO NUCLEAR REGULATORY COMMISSION CHAIRMAN LOCATION: 2362-B RAYBURN HOUSE OFFICE BUILDING, WASHINGTON, D.C. TIME: 10:00 A.M. EDT DATE: THURSDAY, MARCH 31, 2011

REP. FRELINGHUYSEN: Good morning, everyone. I'd like to call this hearing to order. The subcommittee on Energy and Water Development meets today to hear testimony on Fiscal Year 2012 budget request for the Nuclear Regulatory Commission and for the Department of Energy's Nuclear Energy Applied Research and Development Programs.

We have before us Gregory Jaczko, the chairman of the Nuclear Regulatory Commission and Pete Lyons, the acting assistant secretary for nuclear energy at the Department of Energy. I welcome both of you and look forward to your testimony.

The last three weeks have been devastating for the people of Japan. Our thoughts and prayers are obviously with them. In addition to this terrible loss of life in Japan, this subcommittee has been paying close attention to events at the effected Japanese nuclear power plants, given our jurisdiction over nuclear energy appropriations. Our hearing today is very simple, we look to two of our witnesses to inform us both on the events in Japan and on any implications for us here at home.

Average U.S. electricity prices have gone up 45 percent in just the last 10 years. With growing global demand for energy sources promising to pinch American wallets even further in the coming decades, a diverse and domestic mix of energy sources is essential to our prosperity now more than ever. Nuclear energy currently generates 20 percent of America's electricity and powers much of our naval fleet. There is little doubt that it will be a significant portion of our energy mix moving forward. A new crop of new generation reactors is on the cusp of moving forward and we'll be an important part of that mix.

And still we can't charge forward with new plants without ensuring the safety and security of this and future generations to Americans. We must learn all we can from what happened in Japan and make certain that all reactors whether existing or new are safe.

Today, we will consider programs at the Department of Energy and Nuclear Regulatory Commission that work to ensure the safety of our existing fleet of nuclear reactors. We will also consider how activities proposed in the 2012 budget request would develop new generations of nuclear power plants with designs that incorporate the latest technological advances for improved efficiency and safety.

In all of these areas, Dr. Lyons and Chairman Jaczko, we look to you to give us the facts and to explain a path forward for learning from the events in Japan and building an energy independent and prosperous America.

Just as important, we will hold you both accountable to explain how the administration's position to shutter the Yucca Mountain Waste Depository, a position that throws away billions of dollars of investment and with it, a plant to dispose of spent fuel spread across the country furthers our energy interests and citizen safety.

I ask that each of you please ensure that the hearing record, that the questions for the record, and any supporting information requested by the subcommittee are delivered in final form to the subcommittee no later than four weeks from the time you receive them. Members who have additional questions for the record will have until the close of business tomorrow to provide them to the subcommittee office. At this point, I'll turn to Mr. Pastor for any comments that he may have.

REPRESENTATIVE ED PASTOR (D-AZ): Thank you, Mr. Chairman. Good morning. Good morning, Mr. Chairman, and thanks for taking the time today to discuss the NRC budget and activities in Japan.

Mr. Lyons, good morning. It's good to see you again.

As the chairman has said, this hearing is timely. With the recent events in Japan, it is important to understand what we know of the events in Japan, and how it relates both to the operating nuclear plants in the United States and planned expenditure. Of course, the implications for the U.S. are not the primary concern at this point in time. The safety of the Japanese people and the recovery is of utmost importance in the short term. I would like to hear what we are doing to support our ally and if there are any funding issues that must be addressed to ensure the United States is doing all it can to support Japan.

As we move forward with the review of current safety requirements, the events in Japan have highlighted the importance of this position path for spent fuel. A number of U.S. plants are approaching three times the amount of spent fuel as originally planned. While the NRC has stated that spent fuel can be safely stored for longer than originally anticipated, it is still a critical issue. The administration's termination of Yucca has created a great deal of uncertainty when it comes to how the nation will dispose of its nuclear waste.

Your organization, Mr. Lyons, would be responsible for executing the department's responsibility under the Nuclear Waste Policy Act and informing the blue ribbon commission that we will be looking at alternatives for the back end of the nuclear fuel cycle. The subcommittee continues to have questions regarding how your organization will support the termination process and the path forward.

And Mr. Chairman, I thank you for the time and I yield back.

REP. SIMPSON: Mr. Lyons, welcome.

MR. LYONS: Thank you. Mr. Simpson, Mr. Pastor, members of the subcommittee, thank you very much for the opportunity to appear before you today to discuss the president's fiscal year '12 budget request for the Office of Nuclear Energy at the Department of Energy. As I testify here today and as you've noted in your opening comments, we should all be mindful of the people in Japan who are still dealing with the effects of a devastating earthquake and a tsunami.

The damaged reactors at Fukushima represent the largest nuclear crisis the world has seen in nearly a quarter century. Efforts are ongoing to contain the nuclear material and mitigate the effects of the crisis. But there is no doubt that for many years, the nuclear community will be studying the combined effects of the earthquake and the tsunami on the Fukushima reactors to determine if further safety upgrades are required.

During the crisis, the Office of Nuclear Energy has provided continual staffing to the Department of Energy's emergency operations center to help interpret technical and environmental data arriving from the field. Our principle laboratory, the Idaho National Laboratory, has activated a technical response team that is coordinating six national labs to supply any required expertise.

Turning to domestic matters, President Obama has declared that now is our generation's Sputnik moment and that we will make investments in clean energy technology. And as he said, an investment that will strengthen our security, protect our planet, and create countless new jobs for our people.

The president also called for a clean energy standard, under which clean energy sources would provide the United States with 80 percent of its electricity by 2035. That's an ambitious goal, and that will require all the sources of clean energy, solar, wind and other renewables, as well as carbon capture and sequestration and nuclear power. Such a standard will provide additional market pull to encourage private investment in new nuclear reactors.

The president's FY '12 budget request supports nuclear power by requesting an additional $36 billion in loan guarantee authority for new nuclear plant construction. In addition, the budget request includes a total of $853 million for the Office of Nuclear Energy, and over half of that budget, about $447 million, is for research, development, and demonstration.

One particular area that I'd like to highlight now from our FY '12 request is our proposed small modular reactor, or SMR program. I think that SMRs represent a tremendous opportunity for the United States to regain leadership in one potentially key area of the nuclear supply chain. They offer many potential advantages, including their highly passive safety systems.

As other examples of advantages, building reactors in a factory setting and shipping them to a plant site could offer potential cost savings. If they can be air cooled, they would lessen regulatory and siting challenges. And if they can replace similarly sized fossil plant units, some of the needed infrastructure could already be in place. There are many other potential advantages, too, that we may explore with your questions.

To help accelerate the availability of SMRs, we've proposed a near term multi year program focused on cost sharing for first of a kind engineering associated with design certification and licensing. If that request is supported, we plan to promulgate a funding opportunity announcement that would initiate a competition to select two vendor utility teams. This, we believe, will spur innovation and help American companies compete internationally.

The president also mentioned our nuclear energy hub in the State of the Union Address. Last May, we announced the winning team for that hub, and this May we will have the ribbon cutting ceremony planned for the opening of the one roof collaboration site at Oak Ridge National Laboratory, as well as some first results from that hub, all available to the public.

We remain extremely excited about the prospects at the hub for improving nuclear plant safety and efficiency through advanced computing capabilities. I'm making no attempt to cover all our programs in detail in this opening statement and I'll look forward to your questions to explore them in greater detail.

Thank you.

REP. SIMPSON: Thank you, Dr. Lyons.

Chairman Jaczko.

MR. JACZKO: Mr. Chairman and members of the subcommittee, appreciate the opportunity to appear before you today to discuss the Fiscal Year 2012 budget request for the U.S. Nuclear Regulatory Commission.

Before I speak about broader agency or budget matters, I would like to take just a few moments to address the tragic events in Japan. I would like to reiterate my condolences to all those who have been affected by the earthquake, tsunami and the resulting nuclear emergency in Japan. Our hearts go out to all those who have been dealing with the aftermath of these natural disasters.

The NRC has been working since the event started to support the U.S. embassy in Japan, as well as our colleagues in Japan with requests for information and analysis to help support their efforts to deal with this situation. In spite of the evolving situation, the long hours and the intensity of the efforts, the NRC staff has approached their responsibilities with dedication, determination and professionalism, and at the same time, we have still remained focused on our essential safety and security mission here with the reactors and other materials we regulate in the United States. I am very proud of the work that they have done.

On Monday, March 21, my fellow commissioners and I established a senior level task force to conduct a comprehensive review of our processes and regulations to determine whether the agency should make improvements to our regulatory system. This review will be conducted in a short term and a longer term timeframe, and we anticipate the first short term review to be completed within approximately 90 days. And that review will involve meetings with the commission at 30 and 60 days as well. The longer term review is scheduled to be completed in approximately six months from the beginning of its evaluation.

I would now like to turn back to a general description of our budget requests for Fiscal Year 2012. As you know, the NRC currently licenses, inspects and assesses the performance of 104 operating nuclear power plants, as well as many fuel cycle facilities and research and test reactors. Furthermore, we regulate nuclear materials that are in use at thousands of hospitals, universities and other locations around the country. The safety and security of these facilities and materials is, and always will be, our number one priority.

In light of the prevailing budgetary climate, the NRC is taking steps to improve our strategic planning and annual performance plans, the implementation of our contracting initiatives and the efficiency and cost effectiveness of our corporate support functions. These initiatives allow us to fully meet our safety and security responsibilities while also reviewing new reactor applications and applications to construct and operate fuel cycle facilities. With these efforts as a backdrop, the agency has formulated its 2012 budget to support the NRC safety and security strategic goals and objectives. And I'll just give you a few highlights overall of what the budget covers. Our proposed budget for the Fiscal Year 2012 is one billion, 28 million (dollars). That is a decrease of approximately 1.28 billion (dollars) from the Fiscal Year 2010 enacted level. Approximately 90 percent of that budget is recovered from fees on licensees, and this results in a net budget authority of approximately 128 million (dollars) for Fiscal Year 2012. And this is a decrease of approximately 26 million (dollars) from Fiscal Year 2010.

Of the 1.28 billion (dollars) requested, approximately 800 million (dollars) of that goes to the Reactor Safety Program, and this is a decrease of approximately 8 million (dollars) from the Fiscal Year 2010 enacted level. Those decreases largely reflect fact of life changes in programs that are completing activity in our research area, as well as just the natural changes in cycles with our license renewal program.

Our materials and waste safety program budget decreases by approximately 20.7 million (dollars) from the Fiscal Year 2010 level, and that's largely a reflection of the closeout of the high level waste activities. So with that broad overview, I will end my testimony and be happy to answer any questions you may have about specific programs for our Fiscal Year 2012 budget. Thank you.

REP. SIMPSON: Thank you, and thank you both, again, for being here today.

Let me begin by, everybody has mentioned the tragedy that's gone in Japan with the earthquake and the tsunami, and the resulting nuclear crisis, if you want to call it that. Could you give us, give the committee a brief overview of what has happened, what the current situation is, as you understand it, and what the implications are, early as they may be, for the nuclear industry in the United States?

PETER LYONS: You want me to start?

REP. SIMPSON: Start.

MR. LYONS: Well, as you're well aware, the earthquake and the resulting tsunami has devastated the Fukushima Daiichi plant. At the time of the earthquake, there were three reactors operating. Those, to the best of our knowledge, they, those three shut down successfully, but the resulting tsunami -- again, based on what information we have -- damaged the emergency diesel generators. We've been following the resulting sequence now for a large number of days.

The situation remains where they need to restore cooling for those plants, as well as the seven spent fuel pools at the site, and within the Department of Energy, we've been providing whatever assistance we can, both to understand -- first to understand the situation, and then to offer assistance. There's substantial numbers of personnel, about 40, large amounts of equipment, which are on site in Japan, assisting now. The situation remains serious until long term cooling can be re0established. Between us, we could go into far more detail, if you wish.

REP. SIMPSON: Is there any, what, in your view, what's the implication for the nuclear industry in this country? Have you been able to assess that yet, what you think it might be?

MR. LYONS: I believe the president was completely correct in asking the NRC to undertake a very careful evaluation of any lessons learned or implications from the situation in Japan, as they might apply to U.S. plants. Until that review is completed by the NRC, I'm certainly not aware of changes that are required at any of the U.S. plants. But again, Greg can speak more directly to that.

REP. SIMPSON: Let me follow that up first. Is, you know, the NRC announced review of all commercial nuclear power plants, per the president's orders. Is the DOE doing the same type of thing? And

specifically, is DOE taking similar steps, such as seismic analysis of the advanced test reactor in Idaho?

MR. LYONS: Yes, sir, very much so. Let me start by saying we believe the advanced test reactor at Idaho, which is a workhorse for us and for naval reactors, is operating safely. However, the Department of Energy in a prudent step, is asking each of the operators of any similar facilities within the Department of Energy to undertake similar evaluations such as the NRC is undertaking for the commercial plants. And that process is ongoing.

REP. SIMPSON: Chairman Jaczko?

MR. JACZKO: Well, I would just add a little bit to what Dr. Lyons said about the event. Largely, the challenges we believe, for the long term, have resulted because of the lack of electric power to the site. And that's a situation we refer to as a station blackout event. Namely, you lose all of the electric power and the backup electric power systems. That's known to be, based on our understanding of reactor safety, to be a significant event. And we're seeing, obviously, the consequences of that in Japan. So, that's something that we'll be looking at as part of our review.

And as I mentioned in my opening remarks, that review is essentially a two-step process. We'll begin with a 90-day, what we're calling a quick look review, which is really to get an assessment of whether there's any immediate actions that we would need to take with reactors in this country. The longer term review will begin when we have more detailed information about what really were the causes of the challenges in Japan. As Dr. Lyons indicated, right now we know that there was an earthquake followed by a tsunami, which appears to have been an important contributor to the event. But until the situation is really stabilized, we won't really know exactly what were the most important factors as we go forward. So, the review we're doing will take a look at the best available information we have right now and really do a quick look and make sure that there aren't any immediate actions we need to take to ensure the continued safety of reactors in this country.

REP. SIMPSON: Your budget was prepared and submitted before this event in Japan. Will the reviews that you are both undertaking require additional resources from the budget? Will there be a supplemental request or an amended budget that is submitted to address the increased work load that's going to occur because of this?

MR. LYONS: I can't speak to whether a supplemental will be requested or not. We have been asked by our chief financial officer to catalog expenses or costs that we're incurring specifically in response to the crisis in Japan, and those costs are certainly mounting. As to whether there will be a need for a supplemental, or whether there will be a direct impact on our budgets in FY '12, I don't foresee that now, but it's very much an evolving situation.

MR. JACZKO: I think it's a similar situation for us. In the short term for the current fiscal year, we would anticipate being able to

recover the costs or cover the costs for our activities through, likely through a reprogramming request, once we have a final Fiscal Year '11 budget.

For Fiscal Year 2012 and beyond, at this point we don't anticipate a significant additional need. We would likely incorporate the longer-term activities into our normal safety review process and into our normal safety activities. Of course these may get a higher- level priority and displace some other lower priority work, but at this point we don't anticipate a significant need for additional resources in 2012.

REP. SIMPSON: Well, let me ask on a different subject in a different direction.

Dr. Lyons, you mentioned in your testimony SMRs. I've been in Congress now. This is my 13th year. I think I've had three presidents, four, maybe five -- at least four secretaries of Energy. I don't know how many -- any undersecretaries since we've made it an under secretary position and so forth -- we've gone through.

I can't remember what it was in 2000 -- or in 1998 when I first came, and then we went through the GNET phase, and we went through the NGNP phase. Now we're going through the small modular reactor phase.

What phase are we going to move into next? And this gets back to my question of how do we create a sustainable program that we know what we are going to fund and why we are doing it without changing every time we have a new secretary. And I'm kind of between a rock and a hard spot here in that I want a new secretary and an administration to be able to put their footprint down on what they'd like to do, but we're talking about programs that are sometimes 10, 20, 30-year programs, and this committee is -- we've put in NGNP, I think, $526 billion total so far, something like that -- or million dollars. I can't remember exactly how much.

But it is -- now we are substantially reducing the funding for NGNP and we're moving to a different phase of the small modular reactor, again a cost share program moving from one cost share program to another cost share program.

Could you give me the logic of what we're doing, why we're doing it, why will this cost share program be successful when the other cost share program apparently hasn't been? And what are the problems we're running into moving NGNP along the road that I think we all thought it was going to go down?

MR. LYONS: Well, Mr. Simpson -- REP. SIMPSON: That's a pretty broad question. (Laughter.)

MR. LYONS: Yeah. That's a rather broad question. Let me at least take a few cracks at some of those key points.

As far as trying to achieve stability and achieve a long-term vision, I'm very proud of the research and development roadmap that we've

pulled together within the Office of Nuclear Energy with -- certainly with participation from national laboratories, industry, many different sources.

Certainly my view and my very earnest hope is that that R&D roadmap can lay out or has successfully laid out a long-term path in the directions that are appropriate for the nation to undertake from a research, development, and deployment standpoint on the whole -- on the broad area of nuclear power. I would also point to the Blue Ribbon Commission.

I think that is an extremely important group which has been constituted by the secretary with a very, very broad charter to try to look at all that has been learned in the decades now since the Nuclear Waste Policy Act, and provide suggestions certainly within the government. I hope they'll be reviewed within Congress on appropriate approaches for management of used fuel. I'm very, very optimistic that the BRC, the Blue Ribbon Commission, will provide some very, very important guidance to the country as we look into the future and hopefully reach I guess what I might term as a sustainable approach to management of used fuel.

I -- at least in my mind, we certainly have not demonstrated that we have a sustainable approach at this point, and I'm looking to the BRC to help create it. As far as NGNP, that remains an important program for us. I continue to be very confident that there is a strong future, a strong need in the country for reactors that operate at very high temperatures.

This is very much a transition year -- well, this year and FY '12 are very much a transition year for the NGNP program. Just a couple of the events that are ongoing now: Our Nuclear Energy Advisory Committee is, as we speak, reviewing the NGNP program. They will provide a report to us. That will be the basis of a recommendation for a secretarial determination later in FY '11 as to whether we move ahead with construction of NGNP.

I believe that a key element in that decision will be decisions by industry for effective cost sharing. You asked -- or at least I think part of your question was why are we having difficulty with the cost sharing in general.

Again a complicated issue, but I think at least part of the answer -- and I don't think it's specific to nuclear power. I think it's specific to almost any of the various clean energy sources -- is that we have very low cost of natural gas, at least at this instant in the country. We do not have a value on carbon.

For utilities looking at short-term solutions to energy needs, natural gas is extremely -- an extremely inviting target. If one looks at a longer-term view, the importance of diversity, I hope that there will be interests from utilities in moving towards a number of clean energy sources and programs such as we have within our office, such as

the Loan Guarantee Program within another office, I hope can help to move us in that direction.

I think I completed the story on NGNP, but the reason for the reduction I didn't talk about. The reason for the reduction in FY '12 is that no matter which way the secretarial determination goes late in FY '11, either to transition to a more researched-focused program or to move ahead with a construction program, we view FY '12 as being a year of transition into that program.

The funding that we've requested in FY '12 is sufficient to maintain the R&D emphases within the High Temperature Gas Reactor Program that is the backbone of the NGNP, and then depending on that secretarial decision will determine where we move in FY '13 and beyond.

That's a long answer, sir, but that was a complicated question.

REP. SIMPSON: I -- if I could just -- I want to follow up on that. Just one question. If the Department was to accept the proposed cost share by industry, what would that do to the Department's research and development budget in terms of nuclear energy?

MR. LYONS: It would basically consume it. The industry proposal such as I have seen, and of course that may evolve as we move further into this process would require such a large fraction of the budget -- assuming the current levels of budget within my office that would be extraordinarily difficult for us to pursue any of the other essential activities that are required within my office.

REP. SIMPSON: Thank you.

Mr. Pastor.

REP. PASTOR: As I recall, building this reactor is going to be at what cost, money -- dollar wise?

MR. LYONS: Well, those estimates are still being developed, but it's probably in the --

(Cross talk.)

REP. PASTOR: Well, give me a ballpark. MR. LYONS: -- 3 (billion dollar) to $4 billion range.

REP. PASTOR: Three (billion dollar) to $4 billion. And so I think, as my conversations with the group have been that probably 2011 at the latest is either we're going to do it or we're not being -- we're not using the money effectively. I think that we're pretty much at the cusp of having to make that decision that if the money is not there, and this is probably this year, then we're going to have to let this program go because of the cost share and the unwillingness for industry to step up and bring forth that kind of money.

Don't you agree?

MR. LYONS: Well, again, sir, the plan is late 2011 for the secretarial determination. That secretarial determination will certainly include evaluation of industry's interest and willingness for a cost share. If that is not forthcoming, my anticipation is that we will move to a research focus, which I believe should continue on high temperature reactors in general.

REP. PASTOR: Well, I would tell you that the probability that it's going to go forward with completing the reactor is -- chances are pretty minimal. I mean that's -- but I was wrong in the brackets, so, you know, I guess -- (laughter) -- you know, I could be wrong on this one, but I have to tell you that after seeing this program now for the number of years and the willingness, I think, right now the industry -- the -- a consortium to come up with that kind of money is not there for various reasons and so I -- but following up on the -- well, the other question I had was dealing with safety.

I know that you're going to start the review shortly and it's going to be a 30-to 60-day -- as I heard your testimony -- review.

Now, you have been looking at monitoring these nuclear plants all along. And so you know -- should know -- the status -- the safety status -- of these nuclear reactors at current times, I would think.

MR. JACZKO: We believe right now we have a very strong regulatory program in place that ensures the safety and security of the fleet of operating reactors. Of course, when you see an event like what happened in Japan, we always want to take information from that and use that to improve our process, to improve our regulations, if there are areas that need to be adjusted. And that's really what the focus of this short-term review -- which will be a 90-day review -- will really be on that short-term look at are there some things that -- actions we need to take immediately just to continue to ensure the safety.

But again, we believe we have a strong regulatory program in place right now that involves multiple layers of redundancy and defense in depth, so that if we were to have an event like a natural disaster comparable to something like that in Japan, that we have some confidence now that these multiple layers of defense in depth would ensure ultimately that the public is protected and that there is not exposures to the public of radiation that would be harmful.

REP. PASTOR: Well, I always made the assumption that your safety regimen today would currently look at models to say if you're up in San Francisco, there's a high probability that you're going to have an earthquake that possibly is of this magnitude. So therefore, the reactor, because how it's constructed and, you know, where it's at, this is a probability that would have this failure or not have the failure. I mean, I would think you're making those assessments or have made those assessments all along.

MR. JACZKO: We have. We look for all types of natural disasters or natural phenomenon, like hurricanes, earthquakes, tsunamis.

We look at the historical record, and all of our plants are designed to make sure that they can -- they can deal with what we think are the maximum historical natural disasters that have occurred in any area.

So for instance, if it's a power plant on the West Coast, we look at earthquakes that would be within about a 200-mile radius of that plant, and we require the plant to be able to be designed to deal with an earthquake that's the largest earthquake we've seen for that area. And then we add a little bit of, kind of, margin to that just to make sure that we've captured some of the uncertainty about what may have happened historically. And then if you look beyond that, we also -- we have a program where we require the plants to -- or the plants have looked at these kinds of severe accidents. And they have procedures that they've developed, so that if something were to happen that we never envisioned or couldn't imagine, that we know the plants will be able to cope with that situation.

And I think the last really significant piece that we have right now that gives us strong assurances right now that we have a safe program is following September 11th, we put in place requirements for all of the plants to have procedures and equipment already developed, again, to deal with a very catastrophic event at a nuclear power plant. Our thinking at that time was more events that were terrorist related, but the end result is ultimately the same, that if you have a damaged condition at the plant or a significant damage to the plant, all of our plants are required to be able to mitigate that and ultimately do the important things, like keep cooling into the reactor core and keep cooling water into the spent fuel pool.

So we think we have a very strong system, but we're a learning organization and we don't want to -- we don't want to miss an opportunity to improve our regulations and improve our understanding of safety to continue to make sure that we provide the best program for the American people.

REP. PASTOR: Since you've had this ongoing safety regimen and -- all along -- because that's your responsibility -- what is your assessment right now of our nuclear plants in the United States and the ability to assure the American public that right now the plants are -- the construction, the operation, is safe enough that you're not losing sleep at night?

MR. JACZKO: Well, it -- the program, as I said, we have in place we think is a very strong program that provides safety for the existing fleet of reactors. It is something we worry about and we think about every day. That's what the 4,000 men and women who work at the NRC come to work every day doing is to make sure that the facilities and materials we regulate are safe and secure.

And that's, you know -- more specifically, at each of our reactor sites, for instance, we have two or more inspectors who are there pretty much full time to continue to oversee and inspect the facilities and identify problems where they see them and ensure that those problems get addressed. So it is a very active program. It is continuously

monitoring the plants and their performance, and where we find challenges -- and there always are areas where the plants can do a little bit better -- we make sure that those issues are addressed, identified and then corrected.

REP. PASTOR: Getting all that data, having those safety inspectors, being briefed every day on all the reactors we have, do you feel very good that our reactors are safe, do you feel somewhat good that our reactors are safe, or are you worried that our reactors are not in very good safety condition? What is your assessment? And that's all I'm asking. I know you're doing all the -- how do you feel about it?

MR. JACZKO: I feel very good that we have a strong safety program. But I --

REP. PASTOR: No, how are the reactors -- (laughs) -- you have a great program, but how do you assess -- how do you assess the --

MR. JACZKO: We feel --

REP. PASTOR: I know that you -- I agree with you. OK, I'll agree with you; you have a great safety program. What is your assessment right now of our nuclear reactors in terms of are they safe enough, or do you have problems (in some of them?)?

MR. JACZKO: Right now we have very good performance from the actual reactors. We have generally a system of review that we have for each of the reactors. And right now there are approximately six plants that are in one of the areas of more intensive review from a safety perspective, and those are the plants that we right now are most concerned about.

But again, we have a very conservative system, so we like to identify problems early and ensure that they can get addressed early. But with the exception of those six plants, the remaining plants really in this country are operating well within our safety requirements and we believe are operating safely. And again, all of the plants right now are meeting our safety requirements, and we believe are operating safely.

REP. PASTOR: Thank you, Mr. Chairman. I yield back.

REP. SIMPSON: (Mr. Rehberg ?)?

REPRESENTATIVE DENNIS REHBERG (R-MT): Thank you, Mr. Chairman. One of the natural phenomenons of catastrophe is initially an overreaction. So I guess my question is on the short-term effects of the disaster on America's construction. You had mentioned there is going to be an ongoing review of the construction. How many plants are currently being constructed? Is it two or four or --

MR. JACZKO: We have -- right now we have limited construction activities ongoing at two facilities.

REP. REHBERG: Where are those?

MR. JACZKO: One is in Georgia; one is in Texas. And then, again, there is site preparation work and other types of site work going on at a third reactor right now -- REP. REHBERG: Do you anticipate any delay in review and approval of various phases in the Georgia and Texas facility?

MR. JACZKO: Our plans right now are to continue doing our reviews at the pace that we were before the Japanese event. We certainly will -- if there lessons from any of these reviews that we're doing, we certainly will incorporate those into the review, but at this time we're continuing with the resources we have to move forward.

REP. REHBERG: OK. I've kind of mucked around France looking at their process and I've been to Chernobyl. Are there any similarities between Three Mile Island and Chernobyl and this that are glaring, they just kind of poke you in the head and --

MR. JACZKO: Well, I think -- again, it's very early to speculate on what happened in Japan and what the real contributing factors will be. We'll have -- it will take some time before we really know --

REP. REHBERG: Well, yeah, but you always seem to hear cooling, cooling, cooling, cooling, and you'd think that maybe you'd have a cooling process in place. I mean, does that seem to be a similarity among all three?

MR. JACZKO: The events of Chernobyl, Three Mile Island, and the events in Japan are all very different in terms of what happened and the causes of each of those, although the one -- the one common factor that appears certainly in Three Mile Island and Chernobyl is the impact of human error and people making wrong decisions, so that's always something that we look at.

And following Three Mile Island, we had a very strong program put in place to enhance the training and the qualification requirements for operators at nuclear power plants to ensure that they would better deal with these kinds of emergency situations that may develop. So there's very extensive training. They now spend a lot of time on simulators to ensure that they can handle an abnormal type of occurrence. But it continues to be an issue that we focus on and want to really make sure is working appropriately because it is certainly a factor.

MR. LYONS: Just to add a little bit, Mr. Rehberg, as you're probably well aware, Chernobyl was a very different type of reactor and quite distinct in its operating characteristics from either TMI or the reactors in Japan. Now there are similarities, at least in the sense that they're light water-cooled between TMI and Fukushima reactors; however, at TMI there was very little released, certainly not health-significant releases offsite and there were basically no injuries from TMI. It's clear already that the Fukushima situation is substantially worse than TMI.

REP. REHBERG: Let me ask about Japan and Three Mile Island -- I mean, Yucca. Do they have anything -- do they store their spent fuel onsite in Japan or do they have a central depository for waste?

MR. LYONS: Oh, well, Japan has several different approaches. However, at Fukushima there are a total of seven spent fuel pools. There is one for each of the six reactors at Fukushima Daiichi. In addition, there is a very large central spent fuel pool at that site and they also use dry cask storage.

REP. REHBERG: So is there a similarity, though, among the nuclear industry in Japan to all of our -- something comparable to Yucca?

MR. LYONS: Yes, all. Again, comparable to Yucca -- all of our plants have spent fuel pools. The majority of our plants are now utilizing dry cask storage. Japan has also reprocessed some of their used fuel, not -- well, very little of it in Japan at this point in time. There has been some reprocessed in either France and some in the U.K.

I am less sure on their progress towards a long-term repository. I know they have some programs, but I don't know the details at all.

REP. REHBERG: Does this change your attitude at all about Yucca with storage onsite in all the facilities that we have in America and maybe, you know, I know you can't get too far out on a limb on this.

MR. LYONS: Well, I'd start from the perspective that based on the NRC regulations I believe -- they believe -- I believe, and I believed when I was on the NRC, that both spent fuel and dry cask storage are safe. It doesn't change the fact that we eventually need to work towards, I used the word "sustainable" before, a sustainable national policy on the back end of the fuel cycle. And there we -- I am looking with great anticipation towards the report of the Blue Ribbon Commission. That interim report will be available in July, and I believe that report will provide very important guidance as we look towards a range of options which could involve a once-through cycle like we have had leading directly towards a repository, could involve work towards a reprocessing type of economy in the future. And the research programs within my office span the gamut of the different options that could be used for used fuel and those programs may be refined after we have the BRC report.

REP. REHBERG: Okay, I just kind of want to go back to one point that the chairman made as far as a supplemental on additional money being required or necessary. You probably don't want to prioritize, but if you were to prioritize your expenditures within your budget for Fiscal '12, is it the 90-day and the six-month review or the ongoing licensure of the two plus the partial third construction?

MR. LYONS: Well, those would happen in very different parts of the organization, so in a sense they would both have, I think, equal priorities as we go forward.

REP. REHBERG: And you have enough money for the ongoing -- again, I can't help but think that my neighbor to the left here in

Louisiana with, you know, the overreaction as they started this whole conversation, the overreaction of the disaster down in the Gulf by the administration pulling back and making it very difficult to permit. And I just don't want to see that happen.

This is too important to our comprehensive energy policy to see any kind of delay in any of the new construction as a reaction to something that occurred somewhere else, especially if the processes are different. The safety is different. Then you have a protocol for safety in place.

I just want -- I want to be assured that you've got the money necessary to continue the ongoing permitting process of the new construction and your reaction to go out and take a look at all the others and say the 90 days and the six-month is not going to affect our energy policy in this country.

MR. LYONS: Well, I would say right now we have the resources to continue with the licensing activities and the licensing reviews that we're doing. We're budgeted in 2012 to begin the possibility of construction inspection and construction activities for some of those reactors if they are successfully licensed.

But I don't want to prejudge the outcome of any of the reviews that we're doing and say right now that there may not be impacts. It's certainly possible that there will be. We'll have to wait and see what the information tells us, but right now we're continuing to move forward on the licensing activities that we have and right now there's not really an impingement on our budget as a result of that. REP. REHBERG: Okay. Okay, thank you.

REP. SIMPSON: Mr. Fattah?

REPRESENTATIVE CHAKA FATTAH (D-PA): Thank you, and let me thank both of you for your testimony. You know, obviously for the last 30 years, since the Reagan administration forward, I mean, we have not built any nuclear power facilities in our country, so I know that this administration, which is moving ahead, will take into account any of the safety concerns that need to be taken care of are taken into account as we move forward.

And I supported the president's call for a safety review, so I think that, you know, we should move forward but obviously we have to be able to take into account that there's been a tremendous calamity that is, you know, both from an earthquake and a tsunami, but at the heart of the problem in Japan is the spent fuel in these pools. Now we have something, you know, slightly more than 60,000 metric tons of spent fuel here in the United States. Now you said it's in dry casks, is that the term you used?

MR. LYONS: Dry cask or spent fuel pools.

REP. FATTAH: Right. And so this is a challenge that we have to think through and I think the blue ribbon panel and its review will help

inform us on this point, but I, first and foremost, I think the administration should be commended because it's inexcusable over the last 30 years that we've done nothing on this. You know, through many, many administrations.

And we know that nuclear has to play a part of our energy mix going forward, so the fact that you are moving forward in at least a couple of instances. I know that the NRC is reviewing a number of other proposals and your decision package will help us kind of figure out the total deal flow in terms of the number of units but it will be somewhere in the four or five.

The secretary of Energy has come out, and I guess I'll start with you, Dr. Lyons, over the last 72 hours very strongly related to the small modular reactor program that you reference in your testimony. And now this is going to be -- the focus of this is going to be based at Oak Ridge, is that correct?

MR. LYONS: Once we have a budget we would look towards a competitive process to identify two locations for demonstration projects. Oak Ridge has certainly discussed their interest in this, but they would go through the competitive process.

REP. FATTAH: I understand. and the idea here, just so we can talk about it in English is that you're going to be able to make -- the idea here is to develop these small modular reactors that can be made in factory and then deliver it to a site and therefore cut the costs, the tremendous costs in building new plants. There is this other idea that Bill Gates has been pursuing in terms of TerraPower and in your research budget is this one of the items that you will be looking at in terms of new designs, perhaps, going forward?

MR. LYONS: Our program in small modular reactors has two components, at least the requested program. There is the 67 million (dollars) that we are requesting for the licensing demonstration and another roughly 30 million (dollars) for review of advanced concepts. The Gates concept is similar to several other ideas that are also being considered around the country and, yes, I anticipate that those kind of ideas would be explored within the advanced component of our SMR program.

Now, I'm trying to distinguish between reactors that we think can be deployed quite soon of the small modular reactor type --

REP. FATTAH: That's a different -- yeah. Yeah, I'm separating the two also. Yeah.

MR. LYONS: -- as opposed to the more advanced, and the ideas proposed by Mr. Gates certainly are in the more advanced. Extremely interesting but definitely the more advanced and longer term.

REP. FATTAH: Let me try to break these apart. So on the first level the administration is proceeding forward with some number of what we might refer to as more traditionally designed nuclear reactors; both in Georgia, Texas and whatever other decisions that the NRC may make

about permits that would be offered under the loan guarantee program through traditionally financing.

And then separate from that the department has plans to move forward; that's number one. The department plans to move forward in terms of the small modular reactor at least in two locations and which -- that would be competitively determined.

MR. LYONS: Yes, sir.

REP. FATTAH: That's number two.

And then looking into the future, you're looking into the future. You're looking at newer designs that could alleviate a number of the challenges going forward. One of those could be, for instance -- or similar to -- the Bill Gates approach related to TerraPower, which are reactors that in some ways get around some of the questions around spent fuel. Is that correct?

MR. LYONS: Yes. In general, that is correct. The Bill Gates approach would be one very interesting approach on used fuel management; it could certainly contribute.

REP. FATTAH: And this is something that would be a part of some of the research that you're asking for in the FY-12?

MR. LYONS: Yes, sir; very much.

It would be research on advanced concepts, which would include the types of what we call fast reactors that would be involved in the proposal that Mr. Gates has put forward.

REP. FATTAH: So you got a trifurcated approach moving forward on kind of a number of different levels, and what I'm suggesting is that that's in face of us doing 30 years doing zero. And I think that is an admirable position for the administration and that should be noted by the public.

Thank you. MR. LYONS: Thank you, sir.

REP. SIMPSON: Representative Nunnelee.

REPRESENTATIVE ALAN NUNNELEE (R-MS): Thank you, Mr. Chairman.

I just want to follow up really on some of the questions from a couple of my predecessors. You put together a budget, submitted it, and then we had this tragedy in Japan that none of us could have anticipated. And appropriately you're reacting in the United States to ensure the safety of our citizens. But that couldn't have been anticipated in your budget request that you put together. And so I just want you to reassure me that the process of reviewing pending applications for licenses is going to continue to move forward in the same manner that it was before the tragedy in Japan.

MR. JACZKO: As I said, right now our -- the work of our oversight and the safety of the existing fleet of reactors is a very separate budget item for us from the new reactor licensing reviews that we're doing.

So, right now we will continue to move forward on the pace we would have prior to the events in Japan with the new reactor licensing activities. But, again, we are doing reviews to see if there isn't some information that we need to accommodate or incorporate into our understanding of safety for the existing fleet and possibly for the new reactors.

So, I don't want to prejudge what comes out of those reviews but right now, certainly from a budget standpoint, we have the resources we need in order to move forward with our planned schedules for new reactor licensing in the U.S.

REP. NUNNELEE: And that's right. That should be your position; you shouldn't prejudge. But I want to make sure you've got the resources you need to adequately make those reviews and there's not going to be any inordinate delays because you don't have the resources you need.

MR. JACZKO: Right. Right now we don't see a resource challenge, although I'll be clear that in fiscal year 2011 we have some amount of carry-over funds from previous fiscal years that we would reprogram when we finally get a fiscal year appropriation. And we would reprogram those funds to help cover the costs of our ongoing incident response with the Japan events.

So if we were not successful with that reprogramming then we would have some challenges dealing with resources in fiscal year 2011.

REP. NUNNELEE: I guess 2011, if we don't get things worked out we're all going to have some challenges after Friday.

Thank you, Mr. Chairman. REP. SIMPSON: Mr. Olver.

REPRESENTATIVE JOHN OLVER (D-MA): Mr. Chairman, hi. Thank you very much.

I actually am going to pass on this round, if I may, because I've just come in and I wanted to get a sense of what has been missed. I apologize for not being here earlier but I had something rather important.

REP. SIMPSON: No problem. We will be -- we'll get back to you.

Let me ask Dr. Lyons about the -- we talked a little bit about SMRs. Give me the -- what you see as the advantages of SMRs, the challenges of SMRs, the economics of SMRs versus the Gen III-plus reactors that -- how the economies of scale work here. Tell me why this new soup du jour is small modular reactors.

MR. LYONS: Mr. Simpson, let me start from several perspectives.

As far as some of the advantages, these much smaller units allow the developers to take advantage of highly passive features in the plant. By passive we mean that in virtually any accident scenario one can imagine that there is very few or no operator actions required, that there is not a dependence on AC power, one does not need emergency diesel generators, one can rely on natural forces, gravity and convection, to adequately cool the reactors. So, as terms of one key advantage, the passive safety.

Another key advantage, again, the smaller size. Any of the vendors with whom we're talking -- that I've heard of at this point, are looking at underground siting. The underground siting might offer some very important advantages from the standpoint of security, probably also will offer advantages from the standpoint of seismic in the sense that you don't have a large structure, if you will, wiggling in the breeze. So, those may all be advantages.

Now on the economics, I think those need to be proven. We are -- we and a number of vendors have done studies which suggest that the fact that these can be built in a factory setting and transported largely completed to a site leads to rather dramatic savings in the construction costs. A number that is derived from the nuclear submarine business, which I've heard from a number of different sources, is that as the nuclear submarine program has moved from essentially building each sub intact as one unit and has moved to so- called modular construction where large modules are built in a factory setting, that the time and cost savings has been about a factor of eight.

Now, it remains to be proved that that can be demonstrated effectively for the small modular reactors and that they can come in at the cost targets that the vendors are proposing. If they can do that then it would appear that they will be another very interesting option compared to the large plants such as the ones being build in Georgia, South Carolina, that are also passively safe, but still -- but offer -- the large plants lead to substantial challenges from the standpoint of financing.

For the large plants, one is talking about costs of the order of 5 billion (dollars) or more in overnight costs. And typically these sites are two plants, so double that -- or two units, I should say. If you compare that to the size, the capitalization of many of our utilities, building one of the large plants is getting close to abet the company proposition. That may still be very appropriate for some companies and the administration remains very supportive of the large plants being constructed and the -- that's demonstrated by the long guarantee at the Vogtle site.

But the small modulars may present another paradigm which may offer different opportunities for other utilities, ones that can not look towards the $10 billion investment and are far more interested in, if you will, much more bite-sized chunks of both power and economic costs.

REP. SIMPSON: What are you looking at in costs of an SMR, roughly? Any idea?

MR. LYONS: The targets for cost from the various vendors range in the 4,000 to 5,000 or so per kilowatt number. That is the same general range for overnight costs for the large plants.

In other words, a 100 megawatt plant of the order of 500 million (dollars), as opposed to the $10 billion number. Again, those are projections.

REP. SIMPSON: If the gentleman would yield, now these would be 700 megawatts at the max though?

MR. JACZKO: The small modulars we're using -- what we've been using is a definition 300 megawatts, but I think an even better definition is simply that they are amenable to factory construction and transport to the site. We've used 300 megawatts as the upper limit though, and the IAEA has suggestions at the 300 megawatt level as well.

REP. SIMPSON: Any challenges in licensing SMRs relative to your staff, your budget, et cetera?

MR. JACZKO: We are for fiscal year 2012 we are budgeted to be able to support the applications for the SMR designs that would get Department of Energy support. So we are anticipating right now at least one design review in 2012 and one actual license application in 2012 to -- for citing with the Tennessee Valley Authority.

And I think as Dr. Lyons has indicated, there's multiple activities then we're doing research and licensing framework development for the NGNP Project, which is also kind of combined in that advanced reactor area that we're working on. So right now we think we have the resources we need to do what we think is anticipated in 2012.

REP. SIMPSON: Okay. Dr. Lyons, your budget request provides $97 million for a new program Nuclear Energy Enabling Technologies. Some of that funding is for existing modeling and simulation hub and some of it is Idaho User Facility, but almost 60 million (dollars) appears to be for new programs. Your request says the programs are for crosscutting and transformative research, but I'd like a better idea what that is and what we expect to get out of it and what do we expect next year when you come back for the next project?

MR. LYONS: In the crosscutting area we are identifying a number of areas of technology that don't fit neatly within either our reactor or fuel cycle programs. These would be areas like advanced manufacturing, advanced instrumentation nonproliferation where they -- well we've used the work crosscutting because I think that's the best explanation. Just to take proliferation for an example, we need to evaluate the proliferation potentials, whether we're talking from the reactor perspective or the fuel cycle perspective.

And we see that the cost cutting place is a very good -- is the best opportunity to do that. Advanced materials is another area for emphasis within the crosscut. And again the material challenges that are faced on the reactor side will share many similarities with materials challenges that will be shared on the fuel cycle side. So we're viewing this as an efficient way of better organizing programs, some of which are ongoing under either the reactor or fuel cycle area.

In the transformative area, I would describe that as ensuring that blue sky ideas have an opportunity to come to the forefront, to be evaluated and if interesting and promising to be funded to the point where we can understand whether they again would fit more logically into one of the larger programmatic areas.

REP. SIMPSON: Your 2012 request in your budget overall goes down $30 million, at the same time you propose to increase program direction by $20 million. Explain what you plan to do with $20 million additional in program direction?

MR. LYONS: The largest source of the need in the program direction is that we have taken over within my office the remaining functions of the Office of Radioactive Waste Management. And we have added a number of staff from the Las Vegas office into our program based on those new responsibilities.

REP. SIMPSON: Okay. I'm going to go through again and then we're going to get back to a subject that's near and dear to everyone's heart. (Laughter.) Mr. Pastor.

REP. PASTOR: On the last point, is your offices where the technical papers from Yakima have been deposited? I know we were trying to salvage as much as we could in terms of the technical knowledge, the paperwork, et cetera, and some personnel.

MR. LYONS: Personnel and certainly their knowledge is resident in my office. The records management, the reports that you indicated, that is being handled through the Legacy Management Office at the Department of Energy. And in fact there's a number of different offices across the department that have different responsibilities in different aspects of the closed office.

REP. PASTOR: How many personnel have been moved to your site from Yakima?

MR. LYONS: We had between 20 and 25 people were added into my office in an area that we've labeled as used fuel disposition within our fuel cycle program. REP. PASTOR: In the -- I think it was the 2010 budget, which was adopted, it was money -- I think it was 12.5 million (dollars) for the startup of the HUB -- the nuclear Hub modeling simulation.

MR. LYONS: I think it was -- it was a number like that at least, yes.

REP. PASTOR: Or 22 million (dollars).

MR. LYONS: Okay. That's more what I was remembering, yes.

REP. PASTOR: And we're now -- what, we've been at it for a year. What's the status of it? I know you -- could you go into a little more detail than what you -- other than we're going to have an announcement here soon -- 22 million (dollars) in a year, what have we gotten from it or for it?

MR. LYONS: I have tremendous optimism for the modeling and simulation hub. It is an attempt to bring modern computational tools to the nuclear power industry.

REP. PASTOR: The question is you've had a year and 22 million (dollars). And your optimism, that's good, but what has it brought us to date?

MR. LYONS: They are realizing --

REP. PASTOR: What's the status of it?

MR. LYONS: This month they will release the first version of their virtual reactor simulation code, and that code, which they will continue to develop throughout the five years of this process, will -- is focused on a software or computational rendition of an operating reactor. Our goal is to use that code and modern computing to try to better understand safety and efficiency aspects of operating reactors.

And frankly, to bring the nuclear power industry into the regime of modern computing, which they have not been in. Again, I can go into more detail.

REP. PASTOR: I'd like for you to go into more detail because, you know, we spent 22 million (dollars) and we've had a year and I'm just curious how that money's been spent and what we -- as a result we have a code, so --

MR. LYONS: This is a modeling and simulation center, so --

REP. PASTOR: No, I understand.

MR. LYONS: The result is a code.

REP. PASTOR: What's that? MR. LYONS: The result of this now and in the future will be codes and simulations that will help the nuclear industry better understand particular details that have not been amenable to the existing codes. Just as some examples, when a utility considers upgrading the power of an existing reactor they utilize the tools that they have available in working with the NRC to develop a case as to whether the power of that reactor can be safely upgraded.

With these new tools I think we could do a far better job of defining the safety margins and helping the utility and hopefully helping

the NRC better understand the safety case for that operate. It may be possible using this code to increase the already impressive capacity factors, which are around 90 percent in this country. It may be possible to better understand some of the problems that still plague our industry with problems in fuel pins.

Occasionally some of our sites will have a leaking fuel pin, and there's tremendous efforts that go into trying to minimize those leakers, because that requires in many cases shutting down the reactor, finding the leaking pin before they can move ahead.

It may be possible to better understand the development of the different sources of degradation of those pins and avoid those leakers. That could be very important to the industry. Those are all examples of the vision that we have for applying high-performance computing tools to operating reactors. And of course if this continues into the future we would expect to expand this to advanced reactors and new systems, but we thought the most important first step was to literally move the nuclear power industry into the regime of high performance computing.

MR. LYONS: And of course, if this continues into the future, we would expect to expand this to advanced reactors and new systems, but we thought the most important first step was to literally move the nuclear power industry into the regime of high performance computing.

REP. PASTOR: I have the same -- I don't know what I would describe it as, but I've been with Mike here in this committee, his subcommittee, for a number of years. And two years ago -- maybe it was three years ago -- the hydrogen fuel cell was the silver bullet and -- (chuckles) -- and now with this administration it's the hubs, and I -- and we have supported them, as you know. And that's why I was asking the question, because there is still, in all honesty -- what the makeup of the hubs, the money to invest it and what will be the result.

And so in the -- in the bill 2010, when this hub was created, as well as the other one, we asked for transparency and also for reporting so that the subcommittee would have the knowledge to ensure that it had the -- had the information, so as we went forward that we knew that the money -- it's increasingly becoming more scarce -- was a good investment. And even today -- yesterday we had a hearing with the Office of Science -- no it was (Efficiency?) -- and still, you know, you have the hubs, you have the frontiers, you have the ARPA-E, and sometimes the connections are not -- are not that easy to define or see. But the hubs seem to be a way of addressing some of the needs that we have in our country as it deals with energy.

So we just are asking that you keep the subcommittee informed, because when you have greater transparency and more information, then decisions that we make here about the funding, I think, make it easier in terms of understanding what you're doing and what the -- (inaudible) --

MR. LYONS: That's right.

REP. PASTOR: -- in the future.

MR. LYONS: If you or your staff or any of -- any of you would like a briefing on exactly what has been going on with the hubs -- with our hub -- be very happy to provide that. I view it as a great success story already, and I think over the five years it will be an even more dramatic success story.

REP. SIMPSON: (Off mic.)

REP. FATTAH(?): Well, I just have one question, because I know we have a nuclear scientist who wants to answer some questions here. So I just want to go back, because I didn't probe this particularly as well as I should have. We have about 63,000 metric tons of spent fuel -- some of it in pools, some of it in dry casks, right? As part of your review, you, I assume -- and I just -- I guess just to put on the record -- you want to review the entirety of the circumstances relative to the safety of the spent fuel that exists here at our 100- plus nuclear facilities, right?

MR. JACZKO: Yeah, that's certainly part of what we'll look at. But again, to reiterate, we believe right now fuel is stored safely in spent fuel pools and safely in dry cask storage.

REP. FATTAH(?): I believe this fuel -- that it's stored safely too, but I have no actual knowledge about it, so the Nuclear Regulatory -- you're going to look at it again in each -- in each -- in each and every instance in terms of what type of facility, how robust the facility is, what redundancies are built in, because in Japan what you had was a set of calamities, you know, that, you know, I guess, you know, caused the problem. And most of the problem, as I -- if I'm correct -- relates to this spent fuel being in these pools. Now, we have some of it in pools here, and we have some of it in this more -- in this dry cask, right?

MR. JACZKO: That's correct. And again --

REP. FATTAH(?): Can we quantify which is which, how much of the metric tons in pools and how much in dry cask?

MR. JACZKO: We can get you that number, but right now the majority of the fuel is in pools. But --

REP. FATTAH(?): Is one safer than the other?

MR. JACZKO: We think that both --

REP. FATTAH(?): I know you think both are safe.

MR. JACZKO: -- are safe.

REP. FATTAH(?): I'm asking, in a relative sense, is one safer?

MR. JACZKO: It's not clear at this point. They both provide a very, very high degree of safety, and when you get into the level of

safety that we're talking about, the likelihood of anything bad happening is so small in a spent fuel pool and it's so small in a dry cask storage, that it's hard at those very, very small levels to really say one is more or less safe, because it's -- it's just very, very low likelihood of any concern. And I would just add that we are constantly reviewing and monitoring the safety of the spent fuel pools, of the dry cask storage, so the review we're doing is not -- is not a review to -- REP. FATTAH(?): I'm not trying to cast any suggestions to the contrary, and I don't think that we -- that that would be right to do so. I think we should -- I'm pro-nuclear. Part of this process is spent fuel, and we have a lot more of it than, for instance, the French do because they have a different process altogether, right, in terms of reusing this.

But, Dr. Lyons, would you care to offer to the committee whether one process is safer -- the dry cask versus the pool? You have a degree from Cal Tech in astrophysics. Would you like to -- we're just politicians so --

MR. LYONS: I would give you the same answer that Dr. Jaczko did. They're both carefully evaluated; they're both safe.

REP. FATTAH(?): So you take the spent fuel and you put it in water and you put it in some kind of building, right?

MR. LYONS: Yes.

REP. FATTAH(?): Versus you create some kind of more solid dry (casting?) of it. And both of them provide the same level of safety?

MR. LYONS: Both, I believe, are safe.

REP. FATTAH(?): In a more common sense circumstance, right? Just, you know, someone who didn't have a lot of this information from a scientific basis, one suggests it's a little more safe than the other.

MR. JACZKO: Congressman, if I could add, they perform different functions. The fuel, when it comes out of the reactor, is very hot. It needs at that point to go into a pool in order to dissipate the heat --

REP. FATTAH(?): Cool, right. So you suggest that it should be in the pool for five to seven years. We have spent fuel that has been in pools for a lot longer than that, right? So I'm just trying to figure out whether it should be in dry casks or not, and I don't have the scientific basis to know, which is why I'm asking you.

MR. JACZKO: And what we know -- and what we've looked at -- is that as the fuel gets cooler -- so as it's in the pools for a longer period of time -- it presents a much lower risk. So the fuel that needs to go into the pools is the hotter fuel, and that can't go immediately into dry cask storage. So the challenges that you have with the fuel tend to be when it's hotter and when it's more recently out of the reactor. That can only go into the spent fuel pools.

REP. FATTAH(?): I've got you, (Chairman ?), but follow me for a minute. The NRC -- you recommend, as I would understand your regs, that it should be in the pool for five to seven years. MR. JACZKO: We actually -- as part of our regulations, we require that it be in there for at least a year. We have approved fuel being removed from a pool within three years, but generally it's kept in the pools for about five years. That's kind of the minimum assumption.

REP. FATTAH(?): But we have fuel that's in pools beyond the suggested realm --

MR. JACZKO: Again --

REP. FATTAH(?): -- in our country.

MR. JACZKO: -- there is no -- the five years is not a maximum time.

REP. FATTAH(?): That's not my question.

MR. JACZKO: Right. So we have fuel that is in the pools that has been there longer than five years. But we --

REP. FATTAH(?): OK. Is that safer -- that fuel safer -- than if it was in dry cask?

MR. JACZKO: As I said, we don't have technical information right now that says that it is safer in dry cask versus in the pools. It is both at a -- if I could -- it's the -- it's like -- it's like winning the Powerball versus winning, you know, the -- another lottery that happens. It's very, very unlikely that either -- you're going to win either one of those. I think other than -- I think Congressman Sensenbrenner does fairly well with lotteries, but it's hard -- it's hard to say when you're getting at that low level of numbers. It's the difference, perhaps, between a one in a million times a million versus five in a million times a million. Those numbers at that level don't really tell you --

REP. FATTAH(?): I understand, but you understand the odds of a tsunami and an earthquake at the same point that you've got these spent fuel rods and Reactor 3 -- and I think it's 4 in Japan. I mean, so there was a set of dynamics that happened. At the end result, the danger relates to this spent fuel being in the pool. So then we come to America -- we've got spent fuel in pools. I'm just trying to figure out if it shouldn't be there past five years, whether we should be doing something else with it. I know the chairman wants to get to a broader range discussion about that.

I'm going to leave it alone.

MR. JACZKO: Congressman, we don't right now think that that's the case.

REP. FATTAH: You think it's safe no matter -- whether it's in a dry cask or not, whether it's been there five years or not --

MR. JACZKO: Right.

REP. FATTAH: And you don't think there's any relative difference in the level of safety notwithstanding?

MR. JACZKO: Right. Correct.

REP. FATTAH: Thank you. All right, thank you.

REP. SIMPSON: Mr. Walberg.

REPRESENTATIVE TIM WALBERG (R-MI): Thank you, Mr. Chairman. I want to just ask a couple questions about the deep burn fuel research program. I understand you're hoping to extract a lot more energy out of the fuel that is put in and/or improve the fuel. I am sort of curious. I wonder what does it mean to improve the fuel and -- well, a simple one. In the normal fission procedures, what is the burn level?

MR. JACZKO: If you mean the utilization of the original uranium in a once-through cycle, it is 0.6 percent of the original uranium is actually used in the energy production.

REP. WALBERG: Only 16 hundredths of a percent?

MR. JACZKO: Zero point 6 percent.

REP. WALBERG: Not 6/10ths of a percent?

MR. JACZKO: Six-tenths of a percent.

REP. WALBERG: Six-tenths of a percent.

MR. JACZKO: That is starting from the original mined uranium all the way through the process. It is very low. REP. WALBERG: Oh, well, what percent of what actually goes into the plant as the fuel rods, that must be higher than 6/10ths.

MR. JACZKO: Oh, it's far higher than that but you have thrown away a tremendous amount in the process, in the enrichment process. Typically, fuel would be enriched into the roughly four percent range as it goes ~ it's loaded into a reactor and it would come out when it's slightly below 1 percent uranium.

REP. WALBERG: Really?

MR. JACZKO: U-235. Yeah.

REP. WALBERG: Oh, so you're actually using three-quarters of the uranium --

MR. JACZKO: Of the U-235 that was loaded into the fuel, which is very different than what was mined. I was trying to -- I started from the mining. Maybe that was confusing, sir.

REP. WALBERG: Well, I'm interested in what happens with the rods. The rods are what percent of U-235 that's been enriched in the first place. The U-235 has been brought considerably above its isotopic abundance.

MR. JACZKO: Yes, sir, that's the roughly 4 percent, depending on the details. It can be some variation around that, depending on the reactor.

REP. WALBERG: So it's roughly 4 percent? But then are you saying then that three-quarters of the U-235 has been used --

MR. JACZKO: Yes.

REP. WALBERG: -- in that process of whatever going through -- what is it, a year-and-a-half or so before you have to replace rods?

MR. JACZKO: The rods are typically in longer than that, but there are multiples. The simple answer is typically they're in for three cycles of 18 months.

REP. WALBERG: Okay, so the deep burn is trying to make certain that you go above using three-quarters of the uranium by some other processing procedure, I take it. Maybe you need to explain to me what you mean by deep burn. To me, I thought the word "burn" meant what percentage of the available fuel was being used up, which would be the percentage of the 235 that's being used up in the first burn, and I've gotten --

MR. JACZKO: Okay, there's a number of different approaches that go under the general rubric of deep burn. They all look towards increased utilization of the uranium resource and/or the actinides that are produced in the -- REP. WALBERG: But you're still only able to get energy out of the reaction of the U-235, so three-quarters of it has been used in --

MR. JACZKO: No, sir. In the process of the reaction, you start with U-235, yes, but you build up plutonium, you build up other actinides and those also contribute to the fission process and, in fact, by the time the fuel comes out of the reactor, you have the order of, say, slightly less than 1 percent is now plutonium, so you start with U-235, yes, but in the process you are building up other materials, other isotopes that also fission.

But deep burn is a way of making better utilization and/or further destruction of the actinides. It's a process that is of considerable interest. That's why we have funded it rather well within our fuel cycle program.

REP. WALBERG: Well, then you're going to repeat, you're going to do some concentration, reconcentration or reformulation of the fuel, I take it, for additional burns, for going deeper than the original burn.

MR. JACZKO: Most of the deep burn ideas would involve some degree of reprocessing and reformulating the fuel.

REP. WALBERG: And you're not going to be using -- in those fuels, you're not using much more than the plutonium and the uranium in the second and sequential operations, are you?

MR. JACZKO: You could include a number of the higher actinides which are some of the troublesome isotopes from a repository performance standpoint, and at least some of the ideas of deep burn would involve destruction of transuranics of other actinides.

REP. WALBERG: Well, okay. Clearly, I'm in over my head, the gentleman just to my left -- (laughs) -- who has just left notwithstanding. Let me ask a little bit different question. On the modeling hub, the hub -- the simulation and modeling hub, was that competed?

MR. JACZKO: Yes, sir.

REP. WALBERG: How many competitors were there?

MR. JACZKO: I'm remembering three. I think I'm correct.

REP. WALBERG: At least three?

MR. JACZKO: Yes, I think of three.

REP. WALBERG: Were they all energy labs? Were they all -- because you ended up choosing Oak Ridge, one of our -- MR. JACZKO: We chose Oak Ridge. Oak Ridge was the winner. The other two that at least I'm remembering, and I could be forgetting one. One was led by Argonne, one was led by -- it was either Utah or Utah State, sir, and I'm not sure which one.

REP. WALBERG: But each of them has an effort at cooperation, collaboration. It wasn't drawing on resources outside the Argonne or the Oak Ridge hub?

MR. JACZKO: You're absolutely correct. Yes. They involved --

REP. WALBERG: How many of those in the case -- when was the actual hub chosen? When was it contracted? When was that -- the award was made but then there must be some sort of a process of contracts being written as to who's going to do what as to the products that you're going to get out of it.

MR. JACZKO: I could certainly get you the precise dates, but my memory is that May of 2010 was the selection of Oak Ridge and their very large team. You're right. It is a very large team.

REP. WALBERG: How many of that team is now out at Oak Ridge? It's not new buildings or anything like that that you're building, is it? It's reusing more spaces that are not being used for other things?

MR. JACZKO: They are certainly taking advantage of virtual connections among the industry, other national labs and universities. There was a facility being constructed at Oak Ridge for their advanced computing facility and the hub -- the center of the hub will be housed in that. That building was not constructed by the hub. It was being built as part of that.

REP. WALBERG: So are people from these other -- what did you call -- you used a term there.

MR. JACZKO: Well, virtual.

REP. WALBERG: Virtual. From those places that are in the virtual sphere, are some of those people going to be actually housed at Oak Ridge?

MR. JACZKO: Some will.

REP. WALBERG: Drawn to it and housed at Oak Ridge?

MR. JACZKO: Some will, but the majority of the interaction will take advantage of the virtual interconnections.

REP. WALBERG: So we're far too early to have any sense of what your success might be on that, aren't we? MR. JACZKO: Well, as I indicated, this month the first release of the reactor simulation code will be coming out or is coming out. In fact, I think it's today or tomorrow. However, the intent is to build on that and to have a far more capable product over the five- year, 10-year that this is planned for.

REP. WALBERG: I'm sure we would all like to examine that action code. I quit. (Laughter.)

REP. SIMPOSON: Usually you yield back, you don't quit. (Laughs.)

REP. WALBERG: I quit. (Laughter.)

REP. : Turn off your mic, then.

REP. SIMPSON: I'd like to welcome a member of the Appropriations Committee, Ms. Lowey, who I understand has requested permission to join the hearing today.

I understand the motion for Ms. Lowey to join will require unanimous consent from the subcommittee members present. Do any members object?

Hearing none, welcome to the committee, Ms. Lowey. And you're next in line.

REPRESENTATIVE NITA LOWEY (R-NY): Well, you're very kind. And I would like to thank my friend, Chairman Simpson, Ranking Member Pastor, Chairman Frelinghuysen who we all wish in good health. I'm grateful -- oh, OK. (Turns on microphone.)

It's all right, I'll talk loud. I am grateful for the opportunity -- that's OK. I'm grateful for the opportunity to discuss an issue of critical important, the safety and security of those who live near -- such good help in this committee, thank you so much. OK. Thank you, again.

Indian Point Nuclear Power Plant in Westchester County, as you know, is located within 30 miles of New York City. Approximately 20 million people live in the 50-mile radius surrounding the plant. My grave concern is that a terror attack, natural disaster or other unexpected event could put Indian Point at risk and cause it to lose power, limit its ability to cool reactors and cause a leak of radiation or radioactive material.

The government has recently recommended a 50-mile evacuation zone in Japan. If a 50-mile evacuation were ordered for Indian Point, millions of families from the lower Hudson Valley to New York City to parts of Long Island and New Jersey would need to be evacuated. However, there is currently no plan and insufficient infrastructure to ensure an orderly evacuation in that event. We simply cannot accept such risks.

Yet the NRC, which oversees safety and security operations at the nation's 104 commercial reactors has neglected terrorism and evacuations and relicensing decisions. Despite the risks, factors such as population, security, insufficient evacuation routes, seismic and scientific data are not taken into account when determining the relicensing in nuclear facilities. Many of our commercial power plants are aging and are now or will soon be in the relicensing process. I hope to work with you in ensuring that the criteria used for relicensing protects the safety and security of our citizens.

I'd like to read you a quote. Concerns regarding nuclear facilities within high-population areas are not new. In fact, in 1979, the NRC's own director of the office of state programs Robert Ryan stated that, quote, "I think it is insane to have a three-unit reactor on the Hudson River in Westchester County 40 miles from Times Square, 20 miles from the Bronx."

And if you describe the 50-mile circle, as I said before, you've got 21-million people, and that's crazy. I'm sorry. I just don't think that's that right place to put a nuclear facility.

Do you agree with this assessment?

DR. GREGORY JACZKO: No. I think right now we think that for Indian Point the plant is safe, it meets our strong safety requirements

and in the very, very unlikely event of some type of accident that would possibly release radiation, that the right kinds of emergency protective actions would be taken to protect the population in and around the plant.

REP. LOWEY: Well I was very pleased also to hear Secretary Chu's statement on March 21st, 2011, in which he stated that "nuclear power plants in high-population areas with inadequate evacuation plans should receive further study," and that "officials should determine if these plants remain in light of these risks."

Dr. Lyons, do you agree with that statement?

MR. LYONS: I believe Dr. Chu was referring to the planned review that the NRC is undertaking. And it will certainly be -- well, as we've been discussing quite a bit today, that review will be taking into account the lessons learned from the Fukushima disaster and making sure that plants here are appropriately regulated to meet that concern.

REP. LOWEY: Well, I think I just heard Chairman Jaczko make a statement that it was all safe and it's going through a relicensing process in 2013. So, I'd like to ask Dr. Lyons, what steps will the Department of Energy take to evaluate whether these plants and especially Indian Point, as Secretary Chu noted, should remain? And what factors -- well, perhaps I should let you answer that. What steps are you going to take?

MR. LYONS: Well there's a clear differentiation between the responsibility of the Department of Energy and the responsibilities of the NRC. The review in question here is a responsibility of the NRC. And I think Congress, I would say in a great deal of wisdom, separated the promotional aspects of nuclear power within the Department of Energy and the regulatory aspects within the NRC.

So, we are not part of a specific review of the safety of any specific unit within the country. We have many programs that impact or are oriented towards the research of safety of all systems but we don't focus on a particular reactor from a licensing standpoint, which is NRC's purview. REP. LOWEY: Well then let me ask Dr. Jaczko, what factors should the NRC take into account in relicensing? And why should the NRC not take into account high-population areas and the effectiveness of a proposed evacuation in relicensing determinations?

DR. JACZKO: Well the factors that you're talking about, these are issues that we look at on an ongoing basis with nuclear reactors. The availability of evacuation plans to be effective is assessed, I believe, on a biannual basis. So this is not something that we wait until the relicensing process occurs.

REP. LOWEY: Are you looking at a 10-mile evacuation plan rather than a 50-mile that's been recommended in Japan?

DR. JACZKO: The current program for emergency preparedness is basically built on two thresholds. The first thresholds are those types of events that could happen in a very short period of time and would

require pre-prepared and preplanned evacuation plans. And that gets you to the 10-mile emergency-planning zone that we often refer to. Beyond that we have a 50-mile planning area that is, again, for events that are happening more quickly, is intended to provide a mechanism to ensure that food supplies and other kinds of contamination-related events could be controlled and dealt with.

But in any situation, it is up to the state and local governments to provide the ability to take appropriate protective actions. And that could extend beyond 10 miles, certainly, if the events warranted that. So it is the preplanning that is what goes into the 10 miles that we have right now.

And again, we'll be looking at a short-term 90-day review of information coming out of Japan and then a longer review of information coming out of Japan. And I suspect that this an issue that we'll look at and see if there's changes we need to make with our understanding and concepts for emergency planning and emergency preparedness.

REP. LOWEY: Well, thank you, Chairman Jaczko. Thank you, Chairman Simpson.

I would just assume, and I encourage you to review this carefully, if the United States is recommending a 50-mile zone in Japan, I don't know why it wouldn't be as good for the United States of America.

And I appreciate your willingness to come tour the plant and meet with constituents; there's a great deal of concern.

And as I understand the news today, unfortunately, there's such a catastrophe there, and I met with the ambassador yesterday from Japan, who is so grateful for our help and assistance. And I guess the news today is they're planning to bury the reactors and just evacuate all the people. So, I just thank you. And thank you for allowing me to be here. And I just hope that there is a real thorough evaluation given the latest statistics and numbers and not just a routine stamp.

Thank you so much. And I look forward to welcoming you to Westchester County.

DR. JACZKO: Thank you.

REP. LOWEY: Thank you, Mr. Chairman.

REP. SIMPSON: Thank you, Congressman Lowey.

Let's turn to a subject that's -- you know, any hearing with the NRC and NE would be incomplete without a thorough rediscussion of Yucca Mountain.

Probably the most four -- the four most expensive electoral votes ever cast in this country were the four Nevada votes in 2008. They cost us approximately $12 billion in shutting down Yucca Mountain, or the attempt to shut down Yucca Mountain.

There seems to be a difference of opinion between Congress, past Congresses, past administration, and this administration about what the Nuclear Waste Policy Act does. It seems clear on reading it, to me, that Congress and the administration, through law, enacted legislation which created Yucca Mountain as the nation's nuclear waste repository. This administration has a different point of view. I respect that. Disagree with it, but I respect it.

It would seem to me that if we are going to close down Yucca Mountain, as the administration wants to do, the administration needs to come to Congress and modify the Nuclear Waste Policy Act. Is the administration going to propose legislation to amend the Nuclear Waste Policy Act?

MR. LYONS: Mr. Simpson, I am not a lawyer. Our general counsel has thoroughly reviewed the actions that have been taken, thoroughly endorsed the actions that have been taken as being within the legal framework available to the department. And I might note that I accepted this job with the clear understanding that we were -- that Yucca Mountain was viewed as an unworkable solution -- an opinion which I agree with -- and I took the job --

REP. SIMPSON: Unworkable in what way? Scientifically unworkable?

MR. LYONS: The secretary has made it clear that to be workable requires both a technical -- from a technical perspective and a local support perspective. The technical perspective, I don't think I'm prepared to comment on. That has not been determined. From a local support perspective, it has certainly not enjoyed that support.

REP. SIMPSON: It depends on how local you want to get.

MR. LYONS: It does. And as someone who grew up in Nevada --

REP. SIMPSON: There are counties very close to Yucca Mountain --

MR. LYONS: -- and is very close to Nevada --

REP. SIMPSON: -- that support it.

MR. LYONS: -- I saw that up close and personal.

REP. SIMPSON: There are counties very close to Yucca Mountain that do support Yucca Mountain. It is -- it was interesting, when we had this discussion with Secretary Chu -- I mean, we all know what this is. It's a political decision. We all know that. And we all know why it was done. I'm not even criticizing that. I've kind of got to the point where I don't really care about Yucca Mountain anymore, because it's become such a political issue that it is taking away from our, I think, drive to actually solve the problem. What bothers me is the law. And I think this administration's clear refusal to accept what Congress

enacted and was signed by a president -- now, I don't like throwing $12 billion away. I think it was a stupid decision. But that's my opinion. I think the attorneys that are interpreting that are looking beyond -- I mean, attorneys can interpret something to say pretty much anything that they would like their employer to say. I notice that the NRC's review board said, no, you can't withdraw it. The decision is still before the NRC. The decision has been voted on by the NRC of whether to accept that decision or not.

MR. Jaczko: Well, they -- Congressman, the, our voting process is an involved process and we --

REP. SIMPSON: It's been voted on.

MR. Jaczko: We have not, in our formal process made a final decision on that. Voting at the NRC is not much as you do voting here. It is not the final action. In fact, the final action would be commission agreement on an order responding to the particular issue in question. That has not happened at the commission yet.

There are ongoing discussions in regard to that. And I know that term voting gets used, but it is not, in fact -- our votes are often not even in a traditional form of a yes or no decision. They're often just opinions and commentary about a particular action, so --

REP. SIMPSON: The other commissioners don't agree with you.

MR. Jaczko: I --

REP. SIMPSON: They don't agree that they're just opinions. They believe that they are -- made well informed judgments and that they take a vote, and that they are not just discussion points to be discussed until we have a majority opinion.

MR. Jaczko: I'm not familiar with any position of the commission that's contrary to what I've stated. The commission's procedures are well established. It is true for every action that we take. Voting begins and is not actually the final decision. The final decision on non-adjudicatory matters is actually something we call staff --

REP. SIMPSON: Well, let me tell you, in response to an inquiry by Senator Inhofe on November 4th, "I filed my vote --

MR. Jaczko: Correct.

REP. SIMPSON: -- on this matter with secretary of commission on August 25, 2010." Kristine Svinicki, commissioner. "On November 5th, I have voted and registered my vote on September 15, 2010." William Magwood, a commissioner. "On August 26th, 2010, I entered my vote on the adjudicatory matter referenced in your letter." William Ostendorff, commissioner. MR. Jaczko: Correct.

REP. SIMPSON: The commissioners believe that they have voted on this and that you have purposely held up the vote with the argument that we will wait until we have a decision, because it seems to be split, one would assume, two to two. Don't know that. Nobody knows what the votes are.

But you have stated, in testimony before, I believe it was, was in a letter to Congressman Sensenbrenner, and testified as recently as earlier this month in questions from Congressman Shimkus before the House Energy and Commerce Committee, that you were closing out the NRC's review of Yucca Mountain license application under established commission policy. Your quote.

MR. Jaczko: Correct.

REP. SIMPSON; Yet the motion by the secretary of Energy to withdraw the application has been denied by the NRC's own licensing board, and the appeal of that denial is still pending before the commission and has been since last summer. Where is this established commission policy to terminate the review established, and by whom was it established? And isn't the commission action on the appeal necessary to establish the commission's policy on the question?

MR. Jaczko: The -- to answer your question, the commission's policy with regard to the review of the application is established in the commission's budget. In the fiscal year '11 budget, that policy was established to begin closedown activities in fiscal year '11.

REP. SIMSPON: Which budget passed in 2011?

MR. Jaczko: We have yet to receive a final appropriation. However --

REP. SIMPSON: So, there was no budget in 2011, essentially?

MR. Jaczko: That, however, forms a policy document for the commission to begin its activity, and consistent with appropriation law and interpretation of continuing resolutions, the correct action for the agency at the time was to look at the actions taken by Congress. At the time, on October 1st, in subcommittee or full committee in the Senate, they had passed the president's budget, which had $10 million for closedown of the program. In subcommittee in the House, they had passed an appropriations bill that included 10 million dollars for closedown.

REP. SIMPSON: No bill passed Congress.

MR. Jaczko: Correct. But -- REP. SIMPSON: Just because the administration proposed something does not make it law and does not make it a policy that needs to be followed because it hasn't passed.

MR. Jaczko: It --

REP. SIMPSON: Congress hasn't spoke to this. And in fact, I have the commission's budget request language. It says DOE may submit to

the NRC a motion to withdraw or suspend its Yucca Mountain license application during FY 2010. The NRC budget reflects that possibility. Upon withdrawal or suspension, the NRC would begin an orderly closure of the technical review. If the commission still has not, and still has the question of withdrawal before it, and the question is still before the commission, how can it be a precondition that has been met? It can't be.

MR. Jaczko: The -- looking at totality of the budget, I discussed that question with the general counsel, and it was my view -- and that view was supposed by the agency -- that that particular phrase was not the prevailing sense of what the budget entailed. We had other programs in other areas that we were transferring money and working on resources on, and we have moved resourced to work in those areas. So the budget is a total document that provides the guideline and the direction for us to move forward in.

REP. SIMPSON: The budget request --

REP. Pastor: Would you yield?

REP. SIMPSON: Not the budget, the budget request.

MR. Jaczko: And for -- sure.

REP. Pastor: Well, as I recall, the 2010, the money that was appropriated -- and that was signed by the president -- was to continue the licensing process.

MR. Jaczko: Actually, the --

REP. Pastor: The 2010, it was all the monies that were there were to continue the licensing process, and in 2011, we didn't have a -- we weren't able to pass a bill --

REP. SIMPSON: Yeah. We don't have a bill.

MR. Jaczko: Actually --

REP. Pastor: And so we don't have a bill, so basically aren't you still working on the -- in the dictates of 2010?

MR. Jaczko: In 2010, we received a reduction in funding. The original request at the time was, I think, for about approximately $40 million for license activities. That, actually what was passed by the Congress was a reduction to, I believe, $29 million, with a recognition of my belief at that time that the program was on a path towards termination.

REP. Pastor: Right. I would beg to differ from you because we, we, this subcommittee, in 2010, were not in an accord of what was happening to Yucca Mountain. And we passed the budget with the monies.

There may have been a reduction, but the reduction was not an indication of the subcommittee that we were in accordance with the termination of Yucca Mountain.

So that continues, but I don't think that was ever --

REP. Pastor: I --

MR. Simpson : -- this subcommittee or this Congress was never the -- terminated Yucca Mountain with any reduction.

REP. Simpon: Yeah. I firmly believe -- and I -- contrary to whatever your counsel says, that you're acting outside the law. And in fact, it says -- I have a letter from another commissioner. The majority of the commission's members supported language stipulating that orderly closure of the program activities would occur upon withdrawal or suspension of the license review.

These precursors have not occurred.

MR. JACZKO: Again, Congressman, I appreciate you don't agree with the decision that we made. However, that decision --

REP. Simpson: Doesn't matter whether I agree with the decision you've made or not. It's a matter of whether you're following the law.

MR. JACZKO: And based on discussions with our general counsel, we believe that we are consistent with the legal precedent here, and --

REP. Simpson: This guy go to law school?

MR. JACZKO: Yes, he did, and he's actually a very good general counsel. And I would add that there are multiple actions that have been taken by the commission in regard to this. The commission has, again, approved a 2012 budget, which in 2012 the commission approved zeroing out the program. So --

REP. Simpson: The commission approval of a budget doesn't mean diddly.

MR. JACZKO: Absent -- REP. Simpson: It's what passes Congress.

MR. JACZKO: Correct.

REP. Simpson: And it is clear two years ago -- I think it was two years ago or three years ago -- we had a -- we had a motion on the floor to recommit the energy and water budget, to strip out the full $192 million. You know how many votes that got? Thirty-five, I think. Yeah, it was something like that. Which is a clear indication that Congress has a different opinion here. And the unilateral action of the administration, and specifically the NRC, which I think is becoming more politicized -- it -- you are supposed to be a regulatory agency that looks at something without prejudice.

MR. JACZKO: Correct.

REP. Simpson: And I think you've taken it upon yourself to have prejudice in this case and decide for the rest of the commission. As an example, you testified before the --

MR. JACZKO: Congressman, if I --

REP. Simpson: Just a second. You testified before the House Energy and Commerce earlier this month that the commission had not reached a decision in Yucca Mountain -- in the Yucca Mountain appeal, that you as chairman will not schedule a meeting of the commission to resolve this matter until you have had, and I quote here, per statute, a majority position.

MR. JACZKO: Correct.

REP. Simpson: I asked my staff to go through the agency's website and research your voting procedures. We were interested to find that in the commission's own procedures -- an appendix entitled -- "Resolution of a 2-2 Vote." It seems that you have a procedure. Isn't it true that, reading from your own procedures, that a commission vote of 2-to-2 results in a denial of a motion in an NRC proceeding and in denial of reviewing of license board decisions? If so, why do you claim this commission meeting to affirm final commission decisions are scheduled only if there is, as you testified, a majority opinion? Are there cases where the NRC has made a 2-to-2 decision?

MR. JACZKO: Congressman, I don't want to get into the ongoing adjudication. And any discussion about --

REP. Simpson: What do you mean, you don't want to get into it?

MR. JACZKO: It is something that, by law, I am not allowed to get into. In particular --

REP. Simpson: Well, we haven't followed the law so far. Why --
MR. JACZKO: We have legal precedent that establishes that Congress does not interfere with the ongoing adjudications. And that -- there's a --

REP. Simpson: I don't want to -- I don't want to interfere with the ongoing adjudication. What I want to know is, why haven't you scheduled a -- what you would consider a final vote? And your argument is, not until we have a majority opinion. But that argument falls short of your own policies.

MR. JACZKO: Again, that's based on an assumption that you have about what may or may not be in the adjudication.

REP. Simpson: On your website.

MR. JACZKO: And that's based on an assumption of what you believe may or may not be the votes in this particular matter. I'm not going to discuss what the votes are nor indicate what they may be.

REP. Simpson: Well, let's put it this way. There's only, like, a couple of possibilities here. It's either 2-to-2 -- because one person's recused themself, it's either 2 to 2, or it's 3-to-1 for or 3-to-1 against, or it's 4-to-0 . I mean, there are not too many different options here. So the assumption, I think, is fairly clear that it's probably 2-to-2.

MR. JACZKO: And I'm not going to comment on what the status of the votes are or may or may not be.

REP. Simpson: And I don't expect you to comment on it. It's an assumption I'm making.

MR. JACZKO: And again -- and the actions that we are taking as a body are consistent with the law.

REP. Simpson: But you said that -- you said you would bring it before the commission when you had a majority vote -- a majority opinion. If it was 3-to-1 or 4-to-0, you would have a majority opinion and bring it before the board. Why -- what is your excuse for not bringing it before the board?

MR. JACZKO: Congressman, I think I've answered this question fairly clearly. We have a process --

REP. Simpson: Well, you've answered it, but not clearly.

MR. JACZKO: We have a process for conducting our voting that ultimately requires there to be an order. That order has to have majority support, and it has to have majority support to go forward. That is from the statute. We take action by majority action of the commission. Again, you may disagree or not appreciate that, but that is the current status of this situation. The commission continues to discuss and deliberate this matter. REP. REHBERG: Because a 2-to-2 vote -- if it were a theoretical 2-to-2 vote, a non-action?

MR. JACZKO: Again, I'm not going to speculate about any of the matters in front of the commission. It requires a majority of the commission --

REP. Simpson: Are you going to rewrite your -- rewrite your policies on your website on how a 2-to-2 vote -- what a 2-to-2 vote does?

MR. JACZKO: Our statute is --

REP. Simpson: Because if you like, I can read them.

MR. JACZKO: I'm fully aware what the policies and procedures of the commission -- and everything we've done is consistent with the

policies and procedures of the commission. Beyond that, as I said, I'm not going to go into details of what's in the adjudicatory record.

And I would add that at the time that we move forward on the budget decision by the commission, one commissioner did raise a concern that that was not consistent with commission policy. That concern was rejected by the full commission. So, in fact, there is again a commission policy establishing that we move forward with closeout.

So that is the policy of the commission. We fully intend, if we receive any appropriation or any direction from Congress, to comply with that direction from Congress or direction from the courts. And the action that we have taken we believe is consistent with not precluding any action by Congress either to terminate the program or to continue working on the program.

So that's the position we're in. Again, I appreciate you may not agree with that, but I feel very comfortable that all the actions have been consistent with the law.

REP. Simpson: No, it's not that I don't agree with it. I -- you know, as I said, Yucca Mountain's going to -- whatever happens to Yucca Mountain happens to Yucca Mountain. To me, that's the last -- the least important issue here, as far as Congress is concerned. What's concerning to me is the politicization of the NRC by this decision.

MR. JACZKO: And I do not believe the agency has been politicized.

REP. Simpson: And I think it is. And I don't think there's any way you can look at the record and not come to that conclusion, when you look at delaying this vote for -- how long now? MR. JACZKO: Congressman --

REP. Simpson: When you clearly have procedures under Appendix 5 of the resolution of a 2-to-2 vote. And if it is3-to-1 or4-to-0 , you have met the precondition that you set when you said when you have a majority opinion.

MR. JACZKO: Congressman, as I said, I'm following the procedures of the commission. And, again, I don't want to go into details, because I cannot discuss the details of adjudication. You --

REP. Simpson: In a memorandum dated March 30th of 2010, the NRC staff laid out a schedule of tentative completion dates for the safety evaluation report volumes --

MR. JACZKO: Correct.

REP. Simpson: -- the SERs. This schedule included -- includes that -- indicates that each of the volumes will be completed by no later than dates that are shown. Did you as chairman issue any direction to the NRC staff either orally or in writing which delayed or in any way affected the timing or release of the SER volumes related to Yucca

Mountain? For instance, since there was a no-later- than dates, if the NRC staff was ahead of schedule, did you issue any directions that impacted the staff timing of completion of the public release of these volumes?

MR. JACZKO: Yes, I did. I indicated to them that they should follow their published schedules. In a memo, and we can provide that memo to you.

REP. Simpson: So -- if they were ahead of schedule?

MR. JACZKO: I told them to stick to their published schedules. I don't have the exact memo in front of me, and the language, but we can provide that to you for --

REP. Simpson: Could you please provide a copy of that to the subcommittee?

MR. JACZKO: Sure. Absolutely.

REP. Simpson: A number of members of Congress and committees have written to the NRC requesting release of the full, unredacted volume 3 of the SER for Yucca Mountain. Does the commission intend to provide this document to the committees of Congress?

MR. JACZKO: We have provided that to Congressman Issa, I believe yesterday.

REP. Simpson: Yesterday? Appreciate it. MR. JACZKO: Although I would state for the record that I do not agree that we should provide that document. It is a draft, pre- decisional document. And again, with an ongoing adjudication like this, I have not seen that document. I am not allowed to see it, nor are any other members of the commission allowed to see that document.

So I think it creates a very dangerous precedent for pre-decisional documents to be -- when we have hearing processes ongoing in which this information needs to be established formally on the record, I think it creates a very dangerous precedent for us to provide that information. And I did not agree with the commission providing that information.

REP. Simpson: It -- I appreciate the fact that you're -- that you provided that information. There's a way to avoid that problem: Make a decision.

MR. JACZKO: And Congressman, as I've indicated, I am not solely responsible for the decisions of the commission. We function as a body.

REP. Simpson: You're responsible for scheduling the vote.

MR. JACZKO: That is not true. Voting matters are -- go to the entire committee. I propose an agenda to the commission. That agenda needs to be approved by the full commission. Any of our particular

sessions in which we actually vote on matters require a full commission and require a majority of commissioners to move forward.

I do not and have not exercised the authority independently to schedule a vote or not schedule a vote. Again, that is the procedures of the agency that we have. There is, in my mind, some outstanding question whether or not I would have that authority. But it is not untoward that I've exercised it in this particular case.

And, again, beyond that, I don't intend to go into the matters under -- adjudicate in discussion.

REP. Simpson: I appreciate your being here today. I'm sure we'll be back, and I'm sure you'll be back before the Energy and Commerce Committee and the Government Reform Committee because there is real concerns within Congress.

As I said, those concerns extend much beyond Yucca Mountain to the direction that the NRC is taking, and we believe, the direction that it is taking beyond the law. And I'd check the graduation records of that attorney that's advising you. Thank you.

MR. Jaczko: Congressman, I would just like to say for the record, if I may, that I have very strong confidence in the general counsel of the Nuclear Regulatory Commission, and I appreciate you may have differences of opinion about that. Those are certainly matters that the courts will deal with at some point, I suppose.

But I don't think that the general counsel is at all at fault here, and I would just like to state that for the record.

REP. Simpson: Then it only falls back on one person.

MR. Jaczko: Well, I take full responsibility for the actions of this commission. And as I said, I am very comfortable with the discussion we've made. And, in fact, I believe that that was a very apolitical decision and it was an important decision. It was a difficult decision, absolutely, but we are a regulatory body. It is not the responsibility of this body to require the DOE to move forward or not move forward with a particular program or a program direction.

Our job is licensing. That is the function and responsibility of this body. And no more than you would expect the fire marshal to go in and tell a developer to continue developing a building so that they can conduct their fire inspections should we be expected to be in a position of demanding or requiring the Department of Energy to move forward with a program.

I believe that that is a very important principle that's at stake here, and it's important for the independence of this agency that we continue to be able to make decisions absent --

REP. Simpson: The question before the commission was whether the DOE could unilaterally withdraw the license application. That was

the question before the board. And they said because Congress has a say in this and Congress, in the Nuclear Waste Policy Act, determined that Yucca Mountain was the spot -- whether that was a sound or scientific decision or not -- it seems to me that the department, if they don't believe this is the right thing to do, needs to come to Congress and say this is why we've changed our mind. We have found out that this is not safe or this is not the right place to put, or politically, it's not the right thing to do and get a vote of Congress.

This should not be a universal or a unilateral action by the administration to secure four electoral votes, and we all know that's exactly what it was. I just wanted to show you something that's going to be very famous. This is the coin put out by the DOE on submission of the environmental impact statement for Yucca Mountain in 2008. Hopefully, one day it'll be worth something.

REP. SIMPSON: Any other questions?

REP. PASTOR: Yeah. I'd just like to make a comment.

In the 2010 budget that was adopted, H.R. 3183 Appropriations for the Energy and Water Development related Committee, we appropriated money for the Blue Ribbon Commission. And in that law, we said that the 5 million (dollars) shall be provided to create a blue-ribbon commission to consider all alternatives for nuclear waste disposal -- not sites -- but to consider all alternatives.

And there was -- and we felt that we were going at least -- that we were going halfway with the administration; that we were cooperating with the administration and said, all right, have the blue-ribbon commission, here's the money. But I think there's enough record to say, in your deliberation, in your consideration, Yucca Mountain should also be part of the mix.

And DOE basically told us no way, it's a siting. We're not doing siting. Well, we understood you weren't doing siting. We said as you consider all alternatives for nuclear waste disposal that this -- I don't know many billions this -- that this be also considered. But DOE just basically, you know, said, you know, B.S. to you guys.

And so, first of all, if you had the argument of whether you could do it unilaterally and then everything that's gone with that. But then when we make a request in cooperation, you basically said go to hell. And so I've got to tell you that you're still going to have pushback with Yucca Mountain. It'll probably -- going to be a bipartisan effort at least for some members because we felt that -- and I'm sure that your counsel -- and I'm not going argue with you about your legal counsel.

But I always felt that, as Dr. Lyons said, there were technical reasons and public support reasons, and the technical reasons, we haven't given you, but the public support was enough for us to pull it out. I'm saying that was a big investment, and we tried to cooperate by saying we'll give the $5 million to create this blue-ribbon commission, and we

just ask you to consider alternatives for nuclear waste disposal. And you basically told us to go to hell. And I think that has rubbed many members in the wrong way, and I'm sorry to see that we went that way.

MR. LYONS: Mr. Pastor, you essentially gave the only answer that I think I could have given that the BRC is not a siting commission. So they're not considering a specific site.

REP. PASTOR: We didn't ask you to site. We just asked you -- if you read -- you decided to define this alternative as siting. You decided. We didn't decide. We asked you to look at all of the alternatives. And in a way to get around this law, in a way to get around, you decided that make it a siting.

So I'm not arguing that it was a siting. I'm arguing that it was looking at all alternatives. You decided to get around the law by saying it's a siting problem. And so it wasn't me. It was you. And, again, you go -- you had to find a rationale. You couldn't find the technical reason. So you said, well, there's lack of public support. And the blue-ribbon commission in the eyes of the Department of Energy, it's a siting. Well, you made that determination, not me, not the subcommittee, not Congress. It was you who made that decision to claim it was a siting decision.

And I yield back, Mr. Chairman.

REP. SIMPSON: I hesitate truly to get into this one. (Laughter.)

(Off mic conversation.)

REP. OLVER: We don't have a siting commission.

MR. LYONS: The blue-ribbon commission is charged with evaluating and making recommendations on the back end of the fuel cycle.

REP. OLVER: And where is the -- where is this blue-ribbon commission housed? Is it in the Department of Energy? Where is it in the government?

MR. LYONS: It is very much an independent commission. We are -- we're providing -- well, with the fund that you provided, we're providing funding to the BRC, yes.

REP. OLVER: Let me just --

MR. LYONS: -- it's not --

REP. OLVER: You pointed out that you agree with the decision to terminate Yucca Mountain. I don't know whether it's dead forever or not. I almost don't care either especially -- (laughter) -- except that, for all these years, we have been creating the waste, we have been trying to figure out where to put the waste, what to do with the long-term waste and creating more of it.

And you're coming in with a budget which intends to create even a whole lot more waste. So the question is the waste is growing. Somebody has a responsibility to deal with this, but I'm not sure where the responsibility is at this point. But is it administration -- Dr. Lyons, Secretary Lyons, you say that you agree with that decision. What responsibility is DOE trying to take -- willing to take, if any, to try to figure out where this waste is going to go?

MR. LYONS: The department clearly recognizes that it has the responsibility for the management of the used fuel. At the moment --

REP. OLVER: But it's being stored, in large measure, at the sites of the nuclear plants. And if we're going to have more nuclear plants -- which is the policies clearly are to do that -- whether those are successful or not, we'll see along the way. But it took us years and years and years to think about Yucca Mountain, and now it looks as if it's terminated.

How long will it take us to deal with, while all of this waste fuel, with all of its 1 percent of plutonium along with whatever it is the remaining amount of fissionable uranium and the other actinides and everything else that's there with long half lives is going to be growing in its volume.

MR. LYONS: I'm not sure if there was a question in there.

I mean, I indicated that number one --

REP. OLVER: What are you doing? What is the Department of Energy doing to begin to solve that problem if now you agree with the dissolution of the so-called solution, which was Yucca Mountain for some period of time, is now to be taken off the table? What is the alternative?

MR. LYONS: Well, the statement I made was that I welcomed the opportunity to help the department find a more workable solution, and I agreed with Secretary Chu that Yucca was not a workable solution. In terms of the programs that we have, I mentioned earlier some of the research programs we have exploring a range of options, from the once-through cycle all the way through full reprocessing with a number of options in between, including (deep-burn ?), which is one of the very interesting options that may well come through this process.

At this point in time we're within a few months of the blue ribbon commission report. I mean, based on the individuals that are on that commission I am extraordinarily optimistic that the blue ribbon commission will provide very important guidance, first to the department, and I hope to Congress.

REP. OLVER: Do you think they'll dare to tell us where somebody's going to accept the long-term, high radiation nuclear waste?

MR. LYONS: I think that one area that the blue ribbon commission --

REP. OLVER: (I didn't think you'd ?) respond. (Laughter.)

MR. LYONS: One area that the BRC has evaluated, I know, is experience in other countries. There are very successful programs in other countries that could well prove to be useful models in this country. Where in other countries they have found ways to build strong public confidence, public interest and public support in repository programs, there may be lessons in there and I'm awaiting the BRC's evaluation of those lessons.

REP. OLVER: Wow. Wow. If we're -- we're going to continue to simply kick this one down the road, aren't we?

MR. LYONS: We have reported in July -- REP. OLVER: All of those were considered at one point or another. We've known what other countries have been able to do and have been willing to do. We want -- we want to go to die and -- we want to go to heaven, but we don't want to die to do it.

MR. JACZKO: Congressman, if I could just make a point too, that one of the issues that the NRC focuses on is the safety and security of spent fuel, and the commission recently reaffirmed our view that certainly for the next -- really if you take the operating life of the reactors and add about 60 years onto that -- that we see no concerns with the safety and security of that fuel for -- which gets you basically to about 100 years. So --

REP. OLVER: You mean the safety of the fuel is just being -- as added to in pools and so forth at the --

MR. JACZKO: Right.

REP. OLVER: Most of those pools are full. What are we going to do? Build more pools at every one of the nuclear power plants?

MR. JACZKO: As the pools fill up you move the fuel into dry-cast storage. That's the methodology that's been established. And again the commission has looked at this issue and found that basically when you take that 40-year operation of the plant, and then again looking at new plants as well, that it's safe and secure for at least 60 years beyond the lifetime of the plant. So that's a very long period of time at which to look into --

REP. OLVER: (Inaudible) -- that you don't need Yucca Mountain, aren't you?

MR. JACZKO: I'm sorry?

REP. OLVER: You're telling us we don't even need Yucca Mountain. Virtually.

MR. JACZKO: At this point there's a need for a longer-term solution, but for the short-term -- and again we're talking about decades, multiple decades, there are no safety and security issues with the spent fuel.

MR. LYONS: I think dry casks -- to me, dry cask storage gives us the opportunity to step back, find better, more workable solutions and that's why I accepted this job.

REP. OLVER: I want to understand something more about deep burn, and I think if we're able to do that, and also your small modular reactors -- I'm sorry I wasn't -- I have some really -- real questions and I don't want to ask them because I don't think I would use the terms that you would understand. I don't -- I couldn't put the terms correctly enough that I would get anything back that I would understand. Okay?
MR. LYONS: I'd be happy to meet with you or bring staff to you or your staff to have further discussions on these areas.

REP. OLVER: Okay. Thank you.

REP. SIMPSON: And let me just say, you know, throughout this discussion, I'm not critical of the department. I know the secretary and you are doing what you have to do. It is -- I actually support the blue ribbon commission and what they're doing. I think we ought to look at different ways we can deal with this waste, whether we reprocess or other things and reduce the volume. We all know that at some point in time we're going to have to have a geological repository for the gunk that's left over.

MR. LYONS: Absolutely.

REP. SIMPSON: And as Mr. Olver said, I think we're kicking the can down the road. But I'm not critical of what the department is doing in this regard. I understand what you do and why you're doing it, and I look forward to the blue ribbon commission's work and what their recommendations are also. I am real critical of what the NRC is doing, because I think they're overstepping the bounds of the law.

And so this is a subject we will follow up with, I'm sure, in further hearings in a variety of committees before Congress. I appreciate -- in spite of all that I do appreciate what you do and the tasks you have. It's a difficult job right now, particularly in light of events around the world, and we look forward to working with you on this budget to try to make sure that it advances the cause of nuclear energy in this country. And thank you for being here.

MR. LYONS: Thank you.

END.

United States Court of Appeals

FOR THE DISTRICT OF COLUMBIA CIRCUIT

Argued September 21, 2010 Decided April 1, 2011

No. 09-1307

CSI AVIATION SERVICES, INC.,
PETITIONER

v.

UNITED STATES DEPARTMENT OF TRANSPORTATION AND
RAYMOND L. LAHOOD, SECRETARY,
RESPONDENTS

On Petition for Review of an Order
of the Department of Transportation

David M. Hernandez argued the cause and filed the briefs for petitioner.

Mary F. Withum, Senior Trial Attorney, U.S. Department of Transportation, argued the cause for respondents. With her on the brief were *Robert B. Nicholson* and *Kristen C. Limarzi*, Attorneys, U.S. Department of Justice, *Paul M. Geier*, Assistant General Counsel, U.S. Department of Transportation, and *Peter J. Plocki*, Deputy Assistant General Counsel.

Before: SENTELLE, *Chief Judge*, TATEL and GRIFFITH, *Circuit Judges*.

Opinion for the Court filed by *Circuit Judge* GRIFFITH.

GRIFFITH, *Circuit Judge*: The Department of Transportation ordered CSI Aviation Services, Inc., to cease and desist from acting as a broker of air-charter services for the federal government. Because the agency failed to justify its authority to issue the order, we grant CSI's petition for review.

I

Since 2003, CSI has been under contract with the General Services Administration (GSA) to broker air-charter service for various federal agencies. On March 10, 2009, CSI won a competitive bid to renew its status as a GSA contractor through 2014. A few days prior, on March 6, the Department of Transportation (DOT) sent CSI a letter requesting information to determine whether the company was engaging in "indirect air transportation" without the certificate of authority required by the Federal Aviation Act, 49 U.S.C. § 41101(a).

After the company provided the requested information, DOT sent another letter, stating that it had "review[ed] the information submitted by CSI" and "consult[ed] with GSA." Letter from Samuel Podberesky, Assistant Gen. Counsel for Aviation Enforcement Proceedings, DOT, to David M. Hernandez, Counsel for CSI (Oct. 16, 2009) [hereinafter Oct. 2009 Letter to CSI]. The letter then declared:

> Based on this information, CSI has been acting as an unauthorized indirect air carrier in violation of section 41101 with respect to business transacted via its GSA schedule listing. Violations of section 41101 also

> constitute unfair and deceptive practices and unfair methods of competition in violation of 49 U.S.C. § 41712.
>
> Violations of these provisions subject CSI and its principals to the assessment of civil penalties . . . of up to $27,500 for each violation. Each day such violation continues is a separate violation.
>
> . . . .
>
> . . . Accordingly, CSI is warned to cease and desist from any further activity that would result in it engaging in indirect air transportation. If CSI immediately ceases from entering into new contracts pursuant to the GSA schedule, and ceases all its activities governed by existing GSA contracts within 180 days from the date of this letter, we will refrain from taking enforcement action regarding its past violations as discussed above.

Id.

Six other companies received similar letters. All six complied by terminating their status as contractors for GSA. CSI alone chose to challenge DOT's determination, asking the agency to withdraw the cease-and-desist letter on the grounds that the Act requires a certificate of authority only for companies that operate "as a common carrier," 49 U.S.C. § 40102(a)(25), and that CSI's charter flights for the federal government are not common carriage. Letter from David M. Hernandez, Counsel for CSI, to Samuel Podberesky, Assistant Gen. Counsel for Enforcement Proceedings, DOT (Nov. 19, 2009).

On November 25, 2009, seeking another way to avoid shutting down its operations, CSI also submitted a petition to DOT for an emergency exemption from the certification

requirement. In support of CSI's petition, GSA wrote to DOT explaining at length why the Act's certification requirements for common carriage make no sense for government contracts. "Acquisition [of air service] by the Federal Government . . . is distinct in several ways from acquisition in the private sector and does not present the consumer protection related concerns typically at issue in the private sector." Letter from Kris E. Durmer, Gen. Counsel, GSA, to Robert S. Rivkin, Gen. Counsel, DOT (March 1, 2010). "There are a number of ways in which the Federal agencies that purchase air charter broker services . . . are protected from unscrupulous contractors." *Id.*

DOT granted CSI a temporary exemption that was scheduled to expire in April 2011. The exemption order, signed by the Assistant Secretary for Aviation and International Affairs, indicated that DOT "remain[ed] of the view that . . . the provision of air services for U.S. Government agencies through the GSA contracting system constitutes an engagement in air transportation, necessitating that brokers conducting such business hold economic authority from the Department to act as indirect air carriers." Final Order, Docket No. OST-2009-0311, at 4 (Apr. 14, 2010) (DOT).[1] In the meantime, CSI has continued to provide air service for GSA. CSI timely filed this petition for review in December 2009.

The central issue in this case is whether DOT properly concluded that air charter brokers that operate under GSA contract engage in indirect air transportation and so require

[1] The agency has since issued a one-year extension of the original exemption, which is now scheduled to expire on April 14, 2012. *See* Final Order, Docket No. OST-2009-0311 (Mar. 3, 2011) (DOT). The extension order does not revise the agency's position that GSA contractors require certification.

certification from DOT despite the statutory provision that requires certification only for those who provide air transportation "as a common carrier." Before reaching this issue, however, we must first consider whether DOT has taken a final legal position that is fit for judicial review and whether DOT's grant of an exemption for CSI has rendered this case moot.

II

The Federal Aviation Act provides that "a person disclosing a substantial interest in an order issued [under the Act] . . . may apply for review of the order by filing a petition for review" in this court. 49 U.S.C. § 46110(a). To avoid premature intervention in the administrative process, our review of agency action "has been judicially restricted to review of final agency orders." *Puget Sound Traffic Ass'n v. Civil Aeronautics Bd.*, 536 F.2d 437, 438-39 (D.C. Cir. 1976). The Supreme Court set the standard for finality in *Bennett v. Spear*, 520 U.S. 154, 178 (1997). An agency action is final when it marks "the 'consummation' of the agency's decisionmaking process" and is not merely of a "tentative or interlocutory nature." *Id.* at 178 (citations omitted). The action must be one in which "rights or obligations have been determined" or "from which legal consequences will flow." *Id.*

Bennett highlights the importance of avoiding disruption of the administrative decisionmaking process, but it does not foreclose all pre-enforcement challenges. Our most instructive case on this point is *Ciba-Geigy Corp. v. EPA*, 801 F.2d 430 (D.C. Cir. 1986), which we have recently described as "complementary" to *Bennett*. *Reckitt Benckiser, Inc. v. E.P.A.*, 613 F.3d 1131, 1137 (D.C. Cir. 2010). In *Ciba-Geigy*, an EPA official sent letters to twenty private companies directing

them to modify their pesticide labels. The letters stated that if the companies refused, the EPA would consider the pesticides "misbranded," leading to enforcement actions and penalties. Seventeen of the twenty companies complied but Ciba-Geigy resisted, claiming that the EPA was misreading its legal authority to allow it to bring a misbranding action before following the registration cancellation process required by statute. Facing the choice between costly compliance and the risk of prosecution, Ciba-Geigy filed a pre-enforcement lawsuit seeking injunctive and declaratory relief.

Noting that "an agency may not avoid judicial review merely by choosing the form of a letter to express its definitive position on a general question of statutory interpretation," *Ciba-Geigy*, 801 F.2d at 438 n.9, we held that the EPA's assertion of its statutory authority was reviewable final agency action for three reasons. First, the agency had taken a "definitive" legal position concerning its statutory authority. *Id.* at 436. Second, the case presented "a purely legal" question of "statutory interpretation." *Id.* at 435. In the absence of disputed facts that would bear on the statutory question, there was no benefit in waiting for the agency to develop a record before granting judicial review. And third, the agency's letter imposed an immediate and significant practical burden on Ciba-Geigy, ordering the company to "conform to the new labeling requirement on pain of civil and criminal penalties." *Id.* at 437.

All three factors from *Ciba-Geigy* are present here. First, DOT has issued a "definitive" statement of the agency's legal position. Its initial warning letter clearly took the position that air charter brokers under GSA contract require agency certification. The letter declared in no uncertain terms that "CSI has been acting as an unauthorized indirect air carrier in violation of section 41101." Oct. 2009 Letter to CSI. After

CSI protested and explained why it believed DOT to be misreading its statutory authority, the agency refused to change its legal position. Instead it issued an order granting CSI a temporary exemption from the certification requirement. The exemption order reiterated DOT's position that "the provision of air services for U.S. Government agencies through the GSA contracting system constitutes an engagement in air transportation, necessitating that brokers conducting such business hold economic authority from the Department to act as indirect air carriers." Final Order, Docket No. OST-2009-0311, at 4 (Apr. 14, 2010) (DOT). The warning letter and the exemption order taken together amount to a definitive statement of DOT's legal position. "Not only did the statement of position admit of no ambiguity, but it gave no indication that it was subject to further agency consideration or possible modification." *Ciba-Geigy*, 801 F.2d at 436-37.

Second, this case presents a "purely legal" question of statutory interpretation—whether an air charter broker operating as a GSA contractor is engaged in the provision of air transportation "as a common carrier" and therefore requires a certificate of authority. 49 U.S.C. § 40102(a)(25). In the absence of any disputed facts that would bear on this question, our review of the agency's legal position would not "benefit from a more concrete setting." *Ciba-Geigy*, 801 F.2d at 435. The legal question we review concerns the meaning of the Federal Aviation Act, which is antecedent to and distinct from whether CSI itself has violated the law.

And third, DOT has imposed an immediate and significant burden on CSI. The agency effectively declared the company's operations unlawful and warned the company "to cease and desist from any further activity that would result in it engaging in indirect air transportation." Oct. 2009 Letter

to CSI. At the very least, this cast a cloud of uncertainty over the viability of CSI's ongoing business. It also put the company to the painful choice between costly compliance and the risk of prosecution at an uncertain point in the future—a conundrum that we described in *Ciba-Geigy* as "the very dilemma [the Supreme Court has found] sufficient to warrant judicial review." 801 F.2d at 439. DOT's legal pronouncement was sufficiently burdensome to make six other GSA contractors terminate their air charter operations for fear of prosecution. Having thus flexed its regulatory muscle, DOT cannot now evade judicial review.

The government relies on *FTC v. Standard Oil Co. of California*, 449 U.S. 232 (1980), to argue that final agency action in a case like this one requires the completion of a full enforcement action. In light of *Ciba-Geigy*, however, this argument is mistaken. In *Standard Oil*, the FTC initiated an enforcement action upon finding "reason to believe" that Standard Oil's quasi-monopoly violated the Federal Trade Commission Act. *Id.* at 234. In the midst of the FTC's enforcement action, with key facts still in dispute, Standard Oil of California (Socal) filed a lawsuit arguing that the FTC lacked the requisite "reason to believe" the company had violated the law. The Court dismissed the case for lack of finality. *Id.* at 238.

Standard Oil differs from the present case in three key respects. First, unlike in this case, the FTC in *Standard Oil* did not definitively state its legal position. The FTC's stated finding of a "reason to believe" that Socal had violated the law was only a "threshold determination that further inquiry [was] warranted and that a complaint should initiate proceedings." *Id.* at 241. This contrasts sharply with DOT's definitive statement that "the provision of air services for U.S. Government agencies through the GSA contracting system

constitutes an engagement in air transportation," Final Order, Docket No. OST-2009-0311, at 4 (Apr. 14, 2010) (DOT), and that "CSI has been acting as an unauthorized indirect air carrier in violation of section 41101 with respect to business transacted via its GSA schedule listing," Oct. 2009 Letter to CSI.

Second, the petition in *Standard Oil* did not raise a purely legal question that was amenable to immediate judicial review. Whether Socal had violated the law—and whether there was a "reason to believe" it had—depended on a large body of unresolved facts, best sorted out by the FTC with its expertise and fact-finding capability. In the presence of disputed facts, the case did not present a fully crystallized "legal issue . . . fit for judicial resolution." *Standard Oil*, 449 U.S. at 239 (quoting *Abbott Labs. v. Gardner*, 387 U.S. 136, 153 (1967)). Granting Socal's petition for review would have been premature: it would have caused "interference with the proper functioning of the agency and [imposed] a burden [on] the courts." *Id.* at 242. Here, by contrast, we face a clean question of statutory interpretation with no disputed facts. There is no need to withhold review pending further factual development that might clarify the issue.

Third, the FTC's enforcement action against Socal did not impose the same magnitude of hardship that DOT has imposed on CSI. As the Supreme Court explained, the FTC's tentative determination that Socal might be violating the antitrust laws had no significant "effect upon [Socal's] daily business." *Id.* at 243. Here, however, DOT's legal position cast a shadow over CSI's customer relationships, tainted almost every aspect of its long-term planning, and impaired the company's ability to fend off competitors. Indeed, the very purpose of DOT's legal pronouncements, accomplished with six other companies, was to prompt CSI to shut down its

operations. Thus, whereas Socal had "the burden of responding to the charges made against it" in a formal hearing, *id.* at 242, CSI faced the more troubling question of whether it was willing to risk serious penalties in order to obtain such a hearing at all.

It is clear from *Standard Oil* that courts should take care not to inject themselves into fact-bound agency proceedings that have yet to produce any definitive legal conclusions. But this is not such a case. DOT took a definitive legal position denying the right of GSA contractors to continue operating without certification from the agency. This order imposed a substantial burden on CSI, and the disputed statutory authority underlying the order is fully fit for judicial review without further factual development.[2]

III

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[2] Of course, whether an agency letter threatening enforcement action is subject to judicial review varies based on the circumstances. In *Reliable Automatic Sprinkler Co. v. Consumer Product Safety Commission*, 324 F.3d 726 (D.C. Cir. 2003), we found a lack of finality where the Commission sent a letter informing a sprinkler company that it "intended to make a preliminary determination that the [company's] sprinkler heads present[ed] a 'substantial product hazard.'" *Id.* at 729. That case is inapposite here because it lacked two key factors for reviewability. The letter was not definitive because the Commission had "yet to determine conclusively its jurisdiction to regulate; [] yet to determine whether the sprinkler heads present[ed] a 'substantial product hazard'; and [] yet to issue any compliance orders." *Id.* And, equally important, the question at issue there, whether sprinkler heads qualified as "consumer products" under the Consumer Product Safety Act, "clearly involve[d] the resolution of factual issues and the creation of a record," as well as the exercise of "agency expertise" prior to court involvement. *Id.* at 734.

DOT argues that this case is moot for two reasons. First, the agency "plans to hold a rulemaking on this subject [that] will most likely change the legal landscape that gave rise to the warning letter." Resp't's Br. 11-12. And second, the agency granted CSI a temporary exemption from the statutory certification requirement. In DOT's view, this exemption "superseded the Department's warning letter and completely resolved the controversy" before us. *Id.* at 10.

We reject DOT's mootness arguments. The agency's promised rulemaking has yet to occur, and CSI's exemption is merely temporary. Thus, DOT's assurances provide nothing more than the mere possibility that the agency might allow CSI to continue operating. If the agency does not see fit to change its legal position or extend CSI's exemption, the exemption will expire and the company will face the full force of the adverse legal determination that DOT has announced. This not only raises the specter of future harm to CSI, but actually harms the company now. CSI is in the business of bidding for air-travel contracts and arranging air-charter logistics, both of which require a substantial amount of advance planning. The daily difficulties of running such a business are amplified by the looming threat of a legal kibosh.

IV

We turn at last to the merits of CSI's petition. The fundamental question in reviewing an agency action is whether the agency has acted reasonably and within its statutory authority. The agency must not only adopt a permissible reading of the authorizing statute, but must also avoid acting arbitrarily or capriciously in implementing its interpretation. *See* 5 U.S.C. § 706(2). Among other things, this requires the agency to "take whatever steps it needs to provide an explanation that will enable the court to evaluate

the agency's rationale at the time of decision." *Pension Benefit Guar. Corp. v. LTV Corp.*, 496 U.S. 633, 654 (1990).

In this case, DOT failed to explain why the Federal Aviation Act requires a certificate of authority for air charter brokers operating under GSA contract. The Act states that "an air carrier may provide air transportation only if the air carrier holds a certificate issued under this chapter." 49 U.S.C. § 41101(a). The term "air carrier" means "a citizen of the United States undertaking by any means, directly or indirectly, to provide air transportation." *Id.* § 40102(a)(2). DOT appears to have assumed that, as a broker of charter flights for the federal government, CSI was engaged in the indirect provision of "air transportation." But this reading failed to engage with the special statutory definition of that term. Under the relevant part of the statute, "air transportation" is defined to include "interstate air transportation," *id.* § 40102(a)(5), which in turn means the interstate "transportation of passengers or property by aircraft *as a common carrier for compensation*," *id.* § 40102(a)(25) (emphasis added).

"Common carrier" is a well-known term that comes to us from the common law. *See Try Scheidler v. Nat. Org. for Women, Inc.*, 537 U.S. 393, 402 (2003) (noting presumption in favor of following common law usage where Congress has employed a term with a well-settled common law meaning). The term refers to a commercial transportation enterprise that "holds itself out to the public" and is willing to take all comers who are willing to pay the fare, "without refusal." BLACK'S LAW DICTIONARY 226 (8th ed. 2004). Some courts have allowed that holding out on an all-comers basis to a limited segment of the public might be enough to qualify as a common carrier. *See Woolsey v. Nat'l Transp. Safety Bd.*, 993 F.2d 516 (5th Cir. 1993) (concluding that an air carrier had

acted "as a common carrier" in offering services pursuant to negotiated contracts to members of the music industry because it had "held itself out to the public or to a definable *segment* of the public as being willing to transport for hire, indiscriminately"). But whatever the particular test, some type of holding out to the public is the *sine qua non* of the act of "provid[ing]" "transportation of passengers or property by aircraft as a common carrier." 49 U.S.C. § 40102(a)(25), 41101.

In the present case, it appears that CSI has performed under its contract with the GSA as a dedicated service provider, not as a common carrier. Under the GSA contract, CSI provides charter service to government agencies only, not to all comers. Thus, within the scope of the contract, CSI does not appear to provide "transportation of passengers or property by aircraft as a common carrier." *Id.* § 40102(a)(25). If CSI is not a common carrier under its GSA contract, then it does not engage in "air transportation" and its services for GSA do not fall within the certification requirement of the Federal Aviation Act.

Perhaps one could argue that if a company is a common carrier in any aspect of its business, it necessarily acts "as a common carrier" in all aspects of its business. The more obvious reading of the statute, however, is that a company can segregate its operations, acting sometimes "as a common carrier" and sometimes not. Indeed, DOT itself has taken this approach in the past. In Advisory Circular No. 120-12A, "Private Carriage Versus Common Carriage of Persons or Property" (Apr. 24, 1986), the agency provided "guidelines for determining whether current or proposed transportation operations by air constitute private or common carriage," noting that "this distinction determines whether or not the operator needs economic authority as an 'air carrier' from

[DOT]," *id.* ¶ 1. The circular acknowledges that "[p]ersons operating as common carriers in a certain field" may be providers of "transportation for hire which they perform in other fields," as long as they can "show that the private carriage is clearly distinguishable from its common carriage business and outside the scope of its holding out." *Id.* at ¶ 4.h.

DOT failed to address this critical issue both in its cease-and-desist order and in its brief to this court. This failure is all the more baffling because CSI twice informed DOT that it does not believe it is covered by the "air transportation" portion of the Federal Aviation Act—once in CSI's letter to DOT dated November 19, 2009, and again in CSI's brief before this court. Yet DOT's brief inexplicably claims, "It is undisputed that CSI's service is indirect air transportation." Resp't's Br. at 13-14. Not only is this a disputed point, it is at the very heart of the present controversy.

Given DOT's complete failure to explain its reading of the statute, we find it impossible to conclude that the agency's cease-and-desist order was anything other than arbitrary and capricious, and hence unlawful. Where we "cannot evaluate the challenged agency action on the basis of the record before [us], the proper course . . . is to remand to the agency for additional investigation or explanation." *Fla. Power & Light Co. v. Lorion*, 470 U.S. 729, 744 (1985). It appears to us that the law cannot support DOT's interpretation, but we leave open the possibility that the government may reasonably conclude otherwise in the future, after demonstrating a more adequate understanding of the statute.

V

For the foregoing reasons, the petition for review is

Granted.

CERTIFICATE OF SERVICE

I herby certify that on the April 1, 2011, a copy of the foregoing Citation of Supplemental Authorities was filed electronically using the CM/ECF system, which will provide service on the following parties:

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