



1 of 1 DOCUMENT

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HEADLINE: Joint Hearing of the Senate Environment and Public Works Committee Full Committee and the Clean Air and Nuclear Safety Subcommittee of the Senate Environment and Public Works Committee Subject: "Oversight Hearing: NRC's (**Nuclear Regulatory Commission**) **Implementation of the Fukushima Near-Term Task Force Recommendations** and other Actions to Enhance and Maintain Nuclear Safety" Co-Chaired by: Senator Barbara Boxer (D-CA) and Senator Thomas Carper (D-DE) Witnesses: Nuclear Regulatory Commission Chairman Allison Macfarlane; Nuclear Regulatory Commission Commissioner Kristine Svinicki; Nuclear Regulatory Commission Commissioner George Apostolakis; Nuclear Regulatory Commission Commissioner William Magwood IV; Nuclear Regulatory Commission Commissioner William Ostendorff Location: 406 Dirksen Senate Office Building, Washington, D.C. Time: 9:31 a.m. EST Date: Thursday, January 30, 2014

BODY:

Joint Hearing of the Senate Environment and Public Works Committee Full Committee and the Clean Air and Nuclear Safety Subcommittee of the Senate Environment and Public Works Committee Subject: "Oversight Hearing: NRC's (**Nuclear Regulatory Commission**) **Implementation of the Fukushima Near-Term Task Force Recommendations** and other Actions to Enhance and Maintain Nuclear Safety" Co-Chaired by: Senator Barbara Boxer (D-CA) and Senator Thomas Carper (D-DE) Witnesses: Nuclear Regulatory Commission Chairman Allison Macfarlane; Nuclear Regulatory Commission Commissioner Kristine Svinicki; Nuclear Regulatory Commission Commissioner George Apostolakis; Nuclear Regulatory Commission Commissioner William Magwood IV; Nuclear Regulatory Commission Commissioner William Ostendorff Location: 406 Dirksen Senate Office Building, Washington, D.C. Time: 9:31 a.m. EST Date: Thursday, January 30, 2014

SENATOR BARBARA BOXER (D-CA): The hearing will come to order.

Today we're holding our eighth NRC oversight hearing since the earthquake, tsunami and nuclear meltdown in Japan. The third anniversary of Fukushima is coming, and Japan is still struggling. Failed efforts to prevent radioactive water from washing into the sea have led officials there to build a huge underground ice wall. And it will be at least three more years before 60,000 local residents can return to their homes safely.

We must learn from the tragic events in Fukushima and take all necessary steps to ensure the safety of our own nuclear facilities.

Now, more than two years ago, the NRC charged its most senior nuclear safety officials with making recommendations to help prevent such a disaster here. Some of the 12 recommendations that NRC's task force proposed have been acted on. The NRC issued orders to enhance safety when plants lose electrical power and to increase the reliability of venting systems to prevent explosions. That is good.

But other measures have not moved forward. For example, the NRC has allowed three full years for seismic evaluations of nuclear reactors in the western United States to be completed. If a seismic evaluation finds that there's a seismic risk, the NRC provides an additional three years for yet more analysis. To me this is an unacceptable delay, because earthquakes aren't going to wait until your paperwork is done.

Now, when the NRC is made aware of a new seismic risk, as it was for the Diablo Canyon nuclear facility near San Luis Obispo in my state, it should require immediate steps be taken to protect the people who live and work near these facilities.

On another issue, our ability to conduct oversight is being impeded by a lack of cooperation from the NRC. During my investigation of the San Onofre nuclear power plant in California, I learned that NRC's general counsel directed NRC staff to withhold documents that I requested. My investigation into why flawed equipment was installed at San Onofre is very important, as it will provide lessons learned for the commission's future safety decision-making activities.

The NRC's response to my investigation is not the only recent example of the agency's effort to avoid congressional oversight. Last fall the NRC attempted to unilaterally change its policy in providing information to Congress from one that generally made nonpublic documents available to one that did not.

The new policy even added restrictions that could have been used to withhold information from the chair and ranking member of this oversight committee, even though each of you, as you were up for your confirmation, absolutely agreed to make all documents available. And my counsel tells me, whether you were sworn in or not, it's considered a sworn statement.

Congress unambiguously rejected this new policy when it rescinded that policy, your policy, in the appropriations bill. And I want to thank the bipartisan leadership of that committee for making sure that you can't do that.

NRC still has not responded to my document request in a manner that is consistent with congressional direction. And I will not back down on this matter. In recent letters, the NRC cites nonspecific constitutional separation of powers as a basis for continuing to withhold documents from our committee. However, there is simply no constitutional basis that this is applicable to the documents in question.

Finally, I note that excessive travel by NRC commissioners is of concern. I'm going to ask you about your travel. It's been difficult to schedule oversight hearings because one or the other is somewhere in the world. I'm also mystified as to why the travel records provided to me are marked nonpublic. I plan to ask questions about the lack of transparency and scheduling of your travels.

During a period where reactors are closing unexpectedly due to adverse safety (or economic ?) conditions, the NRC's role as a strong safety regulator has never been more important. However, I'm concerned that whistleblowers who have raised safety and other concerns within the NRC have been ignored.

So those are issues of deep concern to me. I intend to ask you about all of them. I look forward to hearing your open and complete answers.

And I would turn to my ranking member.

SENATOR DAVID VITTER (R-LA): Thank you, Madam Chair, for convening today's hearing.

And I also want to thank our NRC commissioners for being so accommodating with your schedules after the previous hearing was postponed to facilitate the majority's vote on the nuclear option. Thank you for coming back.

As the chair alluded, many of these hearings have been scheduled and canceled because of the chair's ongoing pursuit of documentation from the NRC. While I disagree with the chair on many aspects of that issue, I do want to note for the record her aggressive fight for complete transparency of agencies under the jurisdiction of this committee, and I welcome her to that position and look forward to following up on that with regard to the EPA as well.

I want to briefly revisit some of the points I made during the November hearing before we get to your testimony. The NRC's compliance with the U.S. Court of Appeals for the D.C. Circuit's decision is a very important step forward in addressing the long-term management of nuclear waste and the legal commitment to Yucca Mountain.

More importantly, it's a step in the right direction for the federal government after years of political games, quite frankly, taking precedence over good policy and agency stewardship.

To date, Yucca Mountain has resulted in over \$15 billion of spending, with very little forward movement. It's really irresponsible and a failure of leadership that the Yucca Mountain safety evaluation report was halted in the first place, and it shouldn't have required a court ruling for the agency to comply with that law.

Nuclear energy has become an indispensable contributor to our base-load electricity needs, and it will continue to be for years to come. As the commission continues to develop new regulations, it should certainly keep in mind the negative consequences that have resulted in specific cases from misguided regulations and federal interferences.

We've seen in recent years what clearly negative results can ensue when either the commission loses sight of its clear mission or partisan politics sway decisions. Regulations for the sake of regulating can become a profound burden on our fellow Americans who rely on nuclear energy to meet their everyday needs. And the negative effects of an unwarranted plant closure can result in more than just a diminished power supply, but economic hardship, loss of jobs, negative environmental impacts.

The very nature of the NRC requires its leadership to operate independently of political and ideological pressures and in a transparent manner that focuses on the safety and energy reliability needs of all of our communities.

Certainly the effects of the 2011 Fukushima accident will continue to play a significant role in future regulation of the nuclear industry. And we all agree with that, and we all care, first and foremost by far, about safety. But we need to put that in proper context and understand our U.S. nuclear fleet, which is the safest in the world, was before Fukushima is today.

Thank you all very much for being here.

SEN. BOXER: Thank you very much, Ranking Member Vitter.

Senator Carper will go next. He's the subcommittee chair. And if it's OK with your side, Senator Sessions will then go. He's the subcommittee chair (sic/means ranking member).

All right.

SENATOR THOMAS CARPER (D-DE): Thank you, Madam Chair. And I think you very much for pulling this together today. It's nice to see the members of our panel, and thank you for your service.

My colleagues have heard me say more than a few times, but it bears repeating today, that I believe the NRC plays a critical role in protecting the public and our environment and impacting our energy security. It's with that in mind that we must continue to have nuclear power in the mix of energy resources as part of the all-of-the-above approach that the president referred to Tuesday night in his State of the Union address with respect to our nation's energy policy.

I believe that again today -- because sometimes here in Congress we lose sight of the importance of good governance -- we lose sight of the important work that our federal workforce does on a day-in and day-out basis. When Congress decides not to do our basic job like providing funding certainty for the federal government, federal agencies like the NRC have a really difficult time in trying to do your jobs. And I'd say that the NRC's job is one of the most important in our country.

But as many of you know, I do try to find whenever I can a silver lining in most situations. And the government shutdown is no exception there. Despite the extreme obstacles that we, Congress, put before the NRC and other federal agencies this last October during the government shutdown, the commission and its employees at the NRC rose to the challenge and found ways to ensure that our nuclear facilities remain safe in this country.

I hope we never have to go through that again. And I'm sure you share that sentiment. But I'd like to commend the leadership of the commission and the NRC workforce for their outstanding efforts during a particularly trying time.

Since October, Congress has passed a budget, as we know, and a spending plan that sees us through the near future. These accomplishments are stepping stones, we hope, toward a functioning government and away from a model of governance that has led us moving literally from one crisis to the next.

Finally I think we're starting to do our jobs, and when we do our jobs, the NRC is better able to do its job. Right now the NRC has plenty on your plate. Not only is the NRC ensuring existing reactors continue to run safely, but the commission is implementing lessons learned from Fukushima at all of our reactors. We're seeing the construction of the first new reactors in some 30 years and trying to help our reactors grapple with their nuclear waste as we continue to debate our nuclear waste policy.

All the while, our nuclear reactors are facing economic and climate factors that they've never seen before, putting additional challenges on the nuclear industry. Today is an important opportunity to check in and see how the NRC is doing and how you're handling these challenges. And I look forward to today's dialogue with the commission and with our colleagues here on the panel.

One final word. And that's despite my colleagues -- where my colleagues may sit on this dais and where we are on the issue of nuclear power, I believe we all want a safe nuclear fleet. And I also believe that's true of the commissioners that are here before us. Sometimes we disagree on how to get there, but at the end of the day we all do share the same goal. And because nuclear power is a very sensitive and often a very technical issue, I've found that many of our disagreements are caused not by differing views but because maybe of a lack of communications or a breakdown in communications. That's why I encourage my colleagues and this commission to continue to find ways to communicate better with one another and with the public that we serve.

As I've said a time or two before, I believe that nuclear -- our nuclear power plants are some of the safest, maybe the safest, in the world. We look forward to working with the commission, our colleagues in the nuclear industry to ensure that we reap the benefits of nuclear power by ensuring that safety continues to be our number-one priority.

Thank you very much, Madam Chair.

SEN. BOXER: Thank you very much, Subcommittee Chairman.

And now we turn to the ranking member on that subcommittee, Senator Sessions.

SENATOR JEFF SESSIONS (R-AL): Thank you, Madam Chair, and thank you, Senator Carper, for your leadership on the subcommittee. And you are indeed an excellent chairman, work hard. You take responsibility for this. And to a degree unusual in this Senate, you stay on top of the commission and the activities. And you've invited me in a bipartisan way to participate in that. It's a good example for us all.

This is our first meaningful oversight hearing of the NRC since September of 2012 when the NRC had just emerged from a tumultuous period under the previous chairman. It's good that under the leadership of Chairman Macfarlane and with the support of her four colleagues the NRC has stabilized and seems to be functioning well. It's an important task that you have at this time of fragile support; fragile, I guess, financial stability in the nuclear industry. A few bad decisions could deal a body blow to that whole industry.

There are many issues to review this morning such as post-Fukushima actions, the cumulative effect of regulations, status of Yucca Mountain licensing activities. In 2001, nuclear energy comprised 20.6 percent of total U.S. electricity generation. And even more recently, many of us here anticipated a nuclear renaissance that would allow the percentage to increase. Congress took steps to streamlining the NRC licensing process to help facilitate expanded reliance on nuclear power. We thought it was the right thing to do.

Regrettably, however, by 2012, our reliance on nuclear power has declined to 19 percent. The U.S. is still producing basically the same amount of megawatt hours of nuclear power as it did in 2001. And I'm deeply concerned about a rash of shutdowns of U.S. nuclear power plants like Kewaunee Power Station in Wisconsin, Vermont Yankee, Crystal River Unit 3 in Florida, SONGS unit 2 and 3 in California.

Last August, Duke Energy announced it would not move forward with its Levy County, Florida, nuclear power plant project, which was previously scheduled for licensing. Last June, the Tennessee Valley Authority announced plans to scale back work at the Bellefonte Nuclear Generating Station, raising new doubts about when that important project would be completed.

Modern nuclear power plants, which Bellefonte would be, constitute long-term assets that can provide safe, affordable, reliable and clean energy for taxpayers and ratepayers for decades to come.

In last month's edition of "Nuclear News," a publication of the Nuclear Society, the senior editor noted that the United States is, to our dismay, now in an area in which decisions can be made to close reactors, some of which have been operating and continue to be exemplary performers, producing electricity safely and at close to peak capacity.

So what factors are at issue here? There seem to be many. Are decisions by grid operators skewed away from nuclear energy and toward other sources like wind power or -- due to federal policies, the article seems to raise that question. The article also notes that nuclear operators are still counting the costs of compliance with lessons learned

from Fukushima. Total cost can currently only be estimated, he says, but any extra cost to normal operation could cast doubt on any reactor's continuing -- continued operation. So this is a factor.

What about the confidence issue -- waste confidence issue? Is that a factor? We haven't settled that sufficiently. What market forces are at work? So there are many important questions to consider. I hope Congress will take the time as we look to develop a coherent energy policy to consider the role of nuclear power in our energy future. I firmly believe the U.S. should remain the world's leading nuclear producer.

Plant Vogtle -- there has been some good news. Southern Company and their partners continue to make good progress with Plant Vogtle, where two new 1,100-megawatt AP1000 units, the most advanced in the world, are under construction. Vogtle Units 3 and 4 will be the first new nuclear units built in the United States in the last three decades. Operations are expected to begin in 2017 and 2018, not too far away.

Since the focus of our hearing today is post-Fukushima actions, it's important to keep in mind that these new units at Plant Vogtle will have pressurized water reactors, including Westinghouse AP1000, and a passive cooling system. The technology is designed to ensure that the kinds of failures experienced at Fukushima cannot occur here.

Thank you, Madam Chairman.

SEN. BOXER: Thanks, Senator.

We have a vote at 11:15. It means most of us have to get there by 11:30. So my hope is to conclude, so I'm going to be tough on gavel --

SEN. SESSIONS: I'll offer the remainder of my remarks, for the record, please.

SEN. BOXER: Absolutely. We'll put them in.

And Senator Inhofe I'll invite if there's no Democrat -- oh, no, then -- I'm sorry -- right now it's Senator Sanders.

SENATOR BERNIE SANDERS (I-VT): Thank you, Madam Chair.

SEN. BOXER: Sorry.

SEN. SANDERS: And thank you for holding this hearing. And commissioners, thank you very much for being with us this morning.

Madam Chair, this oversight hearing is covering a wide range of very important issues, but I would like to focus on one specific issue, an issue I chatted with Chairperson Macfarlane not so long ago. And that is the need to provide a strong role for states -- states -- in the decommissioning process when a nuclear plant shuts down.

Senator Sessions bemoaned the fact that the nuclear power plant in Vermont is going to be shut down. Senator, I would suggest to you that the people of Vermont would respectfully disagree with you, many of whom have wanted to shut that plant down for a very long period of time and feel pretty good about the decision to see it ceased at the end of this year.

The important point is, however -- and I know our governor and his administration have been working with Entergy, the owners of Vermont Yankee -- the important issue here is the role of the state itself in terms of the decommissioning process.

Right now, the rules as I understand it, and obviously this applies not just to Vermont Yankee but to nuclear power plants all over this country which are in the process of being shut down -- what the rules do is allow the NRC to sit down with the companies and negotiate a decommissioning process. Generally speaking, the states do not have any significant role, Madame Chair, in that process. They can be observers. There can be public meetings.

They can provide input. But at the end of the day, the company and the NRC work out the agreement. Madame Chair, I think one the face of it, that just doesn't make a whole lot of sense. The people of a given state, whether it's Vermont or your state of California, it seems to me have a right to have a place at the table. How long is the decommissioning process going to take place? Well, in the case of Vermont Yankee -- I don't think this is going to be the case -- but there was at one point some suggestion, well, it may take 60 years, 60 years. I don't think that's going to happen.

SEN. BOXER: Six-zero?

SEN. SANDERS: Six-zero, 60 years. That was a suggestion. Now, frankly, I don't think that's going to happen. I don't think that's Entergy's intention. But you know, imagining having a hulking mass in Southern Vermont deteriorating for 60 years. Nobody that I know in Vermont wants that to happen.

What about the jobs? We are concerned one of the negatives of the shutdown of the nuclear power plant is the loss of decent paying jobs in Southern Vermont. Everything being equal, we would like to see those workers who are currently employed get a shot at being part of the decommissioning process. They know the plant. I understand there's a difference in job description. Can that take place? I think it can. Should the state, maybe the union be involved in that discussion? I think that they should.

Now, the important point here is this is not an issue that just impacts Vermont. We have a number of nuclear power plants that are being decommissioned, including in states like California, Florida, Wisconsin, New Jersey, New York and Ohio. And this clearly is not a Democrat or a Republican or an Independent issue. It's not rural or urban. This is a simple issue. Do the people of those states get a seat at the table? Right now, the rules, as I understand it, really preclude states from sitting down.

And we can either change it through rules and I will be asking you questions about that or we can change it through law. But one way or another, I think the states in this country should have a strong seat at the table. So Madame Chair, that is my area of interest in this discussion and I thank you very much for allowing us to have it.

SEN. BOXER: Thank you. And then after we hear from our two senators, my intention is to give everyone 10 minutes to have their back-and-forth. And hopefully that will mean we don't have to another --

SEN. VITTER (?): Right.

SEN. BOXER: We have to come back after. Senator Inhofe?

SENATOR JAMES INHOFE (R-OK): Thank you. It was in 2003 when I was chairman of this committee that the Nuclear Regulatory Commission asked Congress for a bigger budget to build new buildings and add significantly to the number of people, support the -- they expected approval of four design certifications for new reactor designs and 17 construction and operating license applications, or COLAs.

Now, 10 years later, that was four and 17, 10 years later the NRC has only approved one design and two COLAs. The NRC's workload did not increase the way that it was expected and I have some questions about that.

But the commission still increased its staff by over 30 percent. now, this is very concerning to me because over the past few years the commission has been developing sweeping new regulations that impose draconian cuts -- costs on the industry and without producing sufficient benefits. It is as if the NRC with its new building and all of its new people have been using its fair time to come up with new things the nuclear industry must do to maintain compliance with the law.

The NRC -- the NRC has done this most clearly in its reaction to Fukushima. While it is reasonable for us to review what went wrong there and make sure we're not vulnerable to the same problems, it is not reasonable for the NRC to use the disaster to justify new expensive rules that don't reduce risk. I question whether the NRC is still employing its own principles of good regulation. Just a few months after Fukushima, the NRC near-term taskforce released its paper showing that there is a minimal chance that the disaster at Fukushima would happen here.

Not only are the U.S. nuclear plants' designs more robust than Japan's but our significant cultural differences, both within the plants and between the plants, and the NRC make it much less likely that we would face the same problem. It's really apples and oranges. Despite all this, the NRC has continued to push new regulations in response to the Fukushima disaster, presuming that planning more and more contingencies and implementing more and more redundancy is the right path to take even when cumulative costs of these actions can exceed \$100 million a plant.

Everyone here wants to ensure that a disaster like the one at Fukushima does not happen in the United States and that really comes down to keeping the reactor cool in the event of both offsite and onsite power is lost. Our plants are designed to protect against all external hazards with the current rate of one in a million years. Unlike the plant in Fukushima, our onsite emergency diesel generators and fuel packs are located safely above the ground from floods and we have external pumps ready to operate like a fire department in the event that first and second redundancies fail.

The United States nuclear fleet is safe and it is well-prepared to face the unforeseen events. The NRC has also continued to press the nuclear fleet to prepare for terrorist attacks in the wake of 9/11. The NRC has required the

fleet to implement new security features and many of them work quite well. But we're getting close to crossing the point where additional requirements are simply adding cost and without any benefits.

When you add in the efforts of the EPA to impose more regulations on the water being used to cool a reaction -- reactors, claiming the new rules' cost is justified because of all the fish it will keep from getting damaged, it's as if the government at the EPA and the NRC is trying to regulate the nuclear energy industry out of business just like it's been trying to regulate fossil fuels out of business. And today, there are more than 50 rules and other regulatory actions on tap at the NRC which is more than I can remember since serving on this committee.

And I would submit the rest for the record since I know I won't have time to do it. But I would say that this is something that we'll cover in the questions that we ask. I think it's very significant that we keep in mind we need the nuclear energy. And there are some who don't want nuclear energy. And we don't want to use overregulation to accomplish the wrong goals. Thank you, Madame Chairman.

SEN. BOXER: Senator, thank you. Senator Wicker?

SENATOR ROGER WICKER (R-MS): Thank you, Madame Chair, for holding this hearing. And thank you to the NRC commissioners for again being here to offer their testimony. Our hearing in November was unexpectedly cut short due to the majority's regrettable insistence on changing the longstanding rules of the Senate with the nuclear option.

So I'm eager to hear today from our witnesses on some of the important issues facing the nuclear industry. The United States must truly embrace a comprehensive energy portfolio that includes all the best resources and technologies available today. We must also plan for the energy demands of tomorrow. Nuclear power is a vital component of this approach.

In Port Gibson, Mississippi, we are proud to have Grand Gulf nuclear station, which opened in July of 1985, becoming the first and only nuclear power plant to produce electricity in Mississippi. Today, Mississippi's Grand Gulf is the largest single unit nuclear power plant in the country and the fifth largest in the world. It provides Americans with an affordable energy resource and is a key component of the state's industrial base.

For plants such as Grand Gulf to have continued viability and success, it is vital that NRC exercise its oversight responsibilities in a manner that provides certainty for the country's nuclear industry. Currently all final licensing decisions for nuclear plants are stayed pending the new waste confidence decision. The NRC previously has provided assurances that the commission's on schedule to complete this decision.

But it recently was announced that the timeline may be delayed. Perhaps we can hear about that today. I hope the commission recognizes the importance of making this action a priority and will address this during question and answer.

In addition, I've heard from many industry stakeholders who are concerned about the cumulative impacts of existing NRC regulations, as well as further actions that may turn out to be unworkable or financially untenable. There's no doubt that the Fukushima disaster in Japan has reemphasized NRC's principal role to ensure the safety of U.S. nuclear plants and their surrounding communities.

In the wake of this tragedy, however, we must not lose sight of the fact that, absent clear priorities, regulatory actions can divert management and staff attention from the most important matter -- safe and reliable operation. It's vital that NRC balance the needs of the industry with effective regulatory measures as it continues its important work to ensure the safety and success of the U.S. nuclear industry.

So welcome to our witnesses. And thank you, Madam Chair.

SEN. BOXER: Senator, thank you.

So as we previously agreed, we'll open it up. And the chair will have five minutes and each commissioner two minutes, and then we'll begin the questioning.

ALLISON MACFARLANE: Thank you very much.

Good morning, Chairman Boxer, Ranking Member Vitter, Ranking Member Sessions, and distinguished members of the committee. My colleagues and I appreciate the opportunity to appear before you today on behalf of the U.S. Nuclear Regulatory Commission.

The NRC continues to have a full plate of regulatory responsibilities, from the operation, construction and decommissioning of reactors to nuclear materials, waste and security. The commission continues to function effectively and collegially.

Today I'd like to share some of our accomplishments and challenges.

We continue to address lessons learned from the Fukushima-Daiichi accident and implement appropriate regulatory enhancements. Licensees have purchased and staged backup equipment at reactor sites, installed supplemental flood barriers and pumps to mitigate extensive flooding, and are developing plans to install hardened vents and improved spent-fuel pool instrumentation.

Implementation of these and other activities will continue throughout this year under NRC oversight. We plan to conduct audits at every site to assess licensees' implementation efforts and follow up with detailed inspections once implementation is complete.

We're also making progress on several important rule-makings. We're carefully ensuring that this work does not distract us or the industry from day-to-day nuclear safety priorities. The highest-priority safety enhancements for the operating reactor fleet will be implemented by 2016.

The NRC has held more than 150 public meetings to get input on our Fukushima work and share progress. The NRC receives regular reports on the status of the Fukushima site from the government of Japan and the Tokyo Electric Power Company as they continue their work at the damaged reactor buildings.

We're also closely coordinating with other U.S. federal and state agencies regarding information about current concentrations of radioactive contamination in the Pacific Ocean. Based on the best scientific information available, no agency in the United States or abroad has identified any evidence of concerns for U.S. food and water supply for public health.

The vast majority of operating reactors in the United States are performing well, while a few warrant enhanced oversight to ensure their safe and secure operation. Several reactors have recently shut down or announced their decision to cease operations. As they transition from operating to decommissioning, they have two years to develop and provide to the NRC their decommissioning plans. The NRC will adjust its oversight accordingly and ensure these plans meet our regulations, keeping the public informed all the time, of course.

The NRC has acted expeditiously to comply with the D.C. Circuit Court of Appeals decision directing us to resume review of the Yucca Mountain license application. The commission carefully reviewed feedback from participants to the adjudicatory proceeding and budget information from the NRC staff.

Last November and again last week, the commission issued orders directing the staff to complete the safety evaluation report for the application and to make the licensing support network documentation publicly available in the NRC's ADAMS database, among other things. The project, planning and building of the technical capability to finish the safety evaluation report is nearing completion.

The NRC also continues to make progress in its waste-confidence work. The proposed rule and draft generic environmental impact statement were available for public comment from September through December of last year. We conducted 13 public meetings in 10 states to get feedback and address questions. And the agency has received more than 33,000 public comments. The commission has recently revised its review schedule for publication of the review -- of the rule and GEIS no later than October 3rd, 2014, this year.

In the interim, the NRC continues to review all affected license applications, but we will not make final licensing decisions dependent upon the waste-confidence decision until the court's remand has been fully addressed.

Construction of the new units at Vogtle and V.C. Summer is well under way, under rigorous NRC inspection. Construction also continues at Watts Bar Unit 2, and the staff is working towards an operating licensing decision for that plant in December of this year. We're also busy preparing the first -- for the first design certification application of a small modular reactor, which we expect to receive later this year.

The NRC has accomplished a great deal, and I'm confident we'll continue to meet the challenges ahead. Let me assure you, safety and security at our operating and license facilities and materials remains our top priority.

Thank you for the opportunity to appear before you today. I'm pleased to answer your questions.

SEN. BOXER: Thank you.

Commissioner Svinicki.

KRISTINE SVINICKI: Thank you, Chairman Boxer, Ranking Member Vitter, Chairman Carper, Ranking Member Sessions, and members of the committee, for the opportunity to appear before you today at this oversight hearing.

The commission's chairman, Dr. Allison Macfarlane, in her statement on behalf of the commission, has provided a comprehensive description of key agency accomplishments and challenges in carrying out NRC's important mission of protecting public health and safety and promoting the common defense and security of our nation.

In a recent communication to all agency employees, the NRC's senior career official, the executive director for operations, stated the following: "Our future is likely to be dynamic and unpredictable, and the agency will need to remain flexible and agile as we respond to new events and external pressures. We will need to continually evaluate the work we are doing, give careful consideration as how best to use resources, and remain focused on safety and security."

I agree with his statement. As an organization which embraces the precepts of continuous learning, the NRC consistently seeks to improve its organizational effectiveness. As a member of the commission, I will continue to work with my commission colleagues and the NRC staff to support the agency's assessment of how we can accomplish our work efficiently and effectively and in light of the circumstances and factors we face day to day.

I'm confident that the NRC's dedicated and highly professional staff members are up to the task of meeting these challenges, as they have proven time and again over the course of the agency's history. I thank them for their sustained commitment to the agency, to its work, and to each other.

I appreciate the opportunity to appear today and look forward to your questions. Thank you.

SEN. BOXER: Thank you, Commissioner.

Commissioner Apostolakis.

GEORGE APOSTOLAKIS: Chairman Boxer, Ranking Member Vitter, Chairman Carper, Ranking Member Sessions and members of the committee, good morning.

As Chairman Macfarlane stated, we have made a great deal of progress in implementing the lessons learned from the Fukushima accident. I would like to add that we know a lot more today about what it will take to implement the lessons learned than we did in 2011, when the commission set its goal to, quote, "strive to complete and implement the lessons learned from the Fukushima accident within five years, by 2016," end of quote.

It is important to focus exclusively on the five-year -- I'm sorry. It is important not to focus exclusively on the five-year goal to complete the recommendations, but rather on the entire process which allows us to improve safety significantly by implementing the highest-priority safety enhancements in a well-informed and effective manner.

I emphasize that for the most safety-significant enhancements, we expect to meet the five-year implementation goal. Schedules will extend beyond 2016 in the case of the boiler-water reactor containment vents, because additional requirements were imposed after issuance of the initial orders.

In another case, the guidance for addressing seismic hazard reevaluations was revised in order to implement safety enhancements and actual plant modifications earlier, while allowing licensees more time to complete comprehensive site-specific seismic risk analysis.

In my view, these actions are consistent with the original intent of the commission to promptly and effectively implement the lessons learned from Fukushima.

Thank you.

SEN. BOXER: Thank you, Commissioner.

Commissioner Magwood.

WILLIAM MAGWOOD: Thank you, Chairman Boxer, and good morning to you and to Ranking Member Vitter, Chairman Carper, Ranking Members Sessions and members of the subcommittee. We appreciate the opportunity to appear before you today to discuss the work of our agency.

Chairman Macfarlane's comments capture the full range of activities. And as you can see, it's been an extraordinarily busy time for the NRC.

I will add briefly that we appreciate the encouragement from this commitment as we've responded to the Fukushima Daiichi disaster. Since March 2011, the NRC has learned vital lessons from this disaster and taken clear, rational action to enhance nuclear safety. We have kept our pledge to neither overreact nor underreact to the events in Japan, and I believe we've gotten it just about right.

Our challenge now, both for NRC and its licensees, is to absorb the post-Fukushima activities into our normal work and prioritize it appropriately. Doing so will require us to understand how to manage the preparation for beyond-design basis events in concert with our ongoing efforts to protect against much more likely acts and scenarios. Considerable work lay ahead, and I'm confident that the agency is up to the challenge.

So again, I thank you for your engagement during the last three years of hard work and look forward to answering any questions you have.

SEN. BOXER: Thank you.

Commissioner Ostendorff.

WILLIAM OSTENDORFF: Chairman Boxer, Ranking Member Vitter, Chairman Carper, Ranking Member Sessions, thank you for the chance to be before you today.

After receiving the Fukushima Near-Term Task Force recommendations back in July of 2011, it was clear to myself and my colleagues at the table that those recommendations needed to be prioritized to focus on the most safety-significant action items, the so-called tier one activities. I personally believe that great strides have been made in implementing tier one activities.

Chairman Macfarlane has in-depth in her written and oral testimony covered these issues. I think a lot of progress has been made. And I agree with my fellow colleagues that we have gotten it, from our perspective, about right.

I acknowledge there's been a lot of work done. There's some things added to the plate since the original Near-Term Task Force report, a lot of discussion about what we should do, what we should not do. I would say that the commission decision process has been very thoughtful and deliberate in these areas. A great deal of work has been done.

I appreciate this committee's oversight role and look forward to your questions.

Thank you.

SEN. BOXER: Thank you, sir.

Now each of us will get 10 minutes of questions.

Madame Chairman, I've sent the NRC five letters requesting documents that relate to the flawed steam generators at San Onofre. Just two days ago, you told me in writing that NRC didn't provide me with everything I requested, and you admitted that, because of constitutional concerns.

I have here the Comprehensive Congressional Research Service Manual on Congressional Oversight. I have confirmed there are two constitutionally based privileges that allow an agency to withhold documents from Congress. One is an assertion of executive privilege and the other is the exercise of the Fifth Amendment right not to incriminate oneself.

So which one of these are you asserting as you do not give me my documents that I've asked for.

MS. MACFARLANE: Madame Chairman, thank you for the opportunity to answer your questions here.

We have -- we certainly want to have a good relationship with our oversight committee.

SEN. BOXER: No, no, I don't have time to -- I like you, I have a good relationship with you. What are you asserting? I need these documents. Is it the right not to incriminate yourself or --

MS. MACFARLANE: We have been trying --

SEN. BOXER: -- is it executive privilege? Those are the two that are allowed.

MS. MACFARLANE: We have been working with your staff, with the committee's staff to provide documents. In fact, we just provided another tranche of documents yesterday and the day before to the staff, that was responsive to your request.

SEN. BOXER: So you will give me all of the documents I've requested.

MS. MACFARLANE: If we have not been responsive to your request as we go through the documents that we just provided, we of course would like to continue to work with the committee to see how we can --

SEN. BOXER: No, no. I don't want you to work with the committee. You have promised the ranking member and myself that whenever we ask for documents you get them to us. You've also committed that to everyone else. So I'm just saying to you, if we do not have the documents that we request rightfully and legally, you better assert why you are withholding them, either it's incrimination or it's executive privilege. And you've talked about separation of powers. We have -- we will share with your legal people.

We also heard other things from your counsel that deal with other reasons which just don't make any sense. And so we will continue to work with you.

And you know, we've had eight oversight hearings. I'm glad that my colleagues want more because I want more as well. And that leads to an issue of your travel, all of your travel. Now, we all travel on business because sometimes it is extremely important to do so. But I have looked over how many trips each of you have taken in your time: Commissioner Svinicki, 17 international trips to 23 countries. Commissioner Magwood, 127 days on international travel since 2010.

And I know that Chairman Macfarlane has requested that all five commissioners be in town at least one week each month in order to ensure that the commission can meet to conduct its business and be available to testify before Congress.

So I'm asking if each of you would agree to her request, starting with Ms. Svinicki.

MS. SVINICKI: Yes, I think we work very collegially on scheduling matters. And I --

SEN. BOXER: I'm asking if you agree with her request that you be in town one week a month, all of you together.

MS. SVINICKI: Yes, I don't think there's any month where I haven't been in town one week.

MR. APOSTOLAKIS: Yes.

SEN. BOXER: Thank you.

MR. MAGWOOD: Yes.

MR. OSTENDORFF: Yes.

SEN. BOXER: That's good, because it will make it easier on us because some of my colleagues are complaining that we don't have enough oversight. We're going to do more oversight.

Now, the NRC travel records I received are marked, quote, "non- public" which is mystifying to me since there's no good reason to keep that information secret. The taxpayers are paying for it.

Now, when we travel we get heat sometimes. We have to show where we go and what it costs, et cetera. Some of you publicly disclose some of your travel and your meetings, but most of you don't.

So yes or no, will each of you commit to this committee to making all of your travel and meetings publicly available, going forward?

MS. MACFARLANE: I already do make my schedule publicly available and my travel publicly available.

SEN. BOXER: Yes. Will you do that?

MS. MACFARLANE: Yes.

MS. SVINICKI: Yes.

MR. APOSTOLAKIS: I think I'm already doing it.

SEN. BOXER: You will do it.

MR. MAGWOOD: Yes, I currently do that.

MR. OSTENDORFF: I currently make my meetings public.

SEN. BOXER: OK. Well, my understanding is, Commissioner Magwood, you haven't in the past. So we look forward to seeing that in the future.

I'm going to be introducing legislation that will ensure that the commission and staff are more open about the travel.

Chairman Macfarlane, I think we all agree NRC must be independent, it's essential. And I'm concerned that your independence may have been compromised as you considered a request by SoCal Edison to restart the San Onofre nuclear reactor. That reactor shut down in early 2012 when its steam generators were found to be in very bad shape. The NRC properly requested considerable amount of technical information from the licensee in order to inform its decision on whether the reactor was safe. You were right to do that.

But documents I have received, at least I've received some, indicate the NRC staff was preparing a document declaring the -- (inaudible) -- of the reactor -- saying that the restart of the reactor was safe months before it received all its responses to the technical questions.

So how can we have confidence in NRC's independence when it was preparing to grant industry's request months before it received the necessary safety-related information?

MS. MACFARLANE: The -- during the investigation of the steam generator failure at the San Onofre nuclear generating station, there were many concurrent issues that were working at the Nuclear Regulatory Commission. It was a very complicated proceeding. And there was an active investigation --

SEN. BOXER: Well, I'm just asking a specific question. Documents show that you were ready to allow that plant to start up before all the technical studies were done and you had something drafted. I mean, I'm just concerned. And I guess what I'm getting at, you've closed -- that reactor is down, it's gone. Thank God, because of the problem. Well, the company actually did it, you didn't.

But the bottom line is, what I want to make sure of in the future, if there's an investigation going on, you shouldn't reopen. So I guess my question is, do you think it's right to reopen a facility while an investigation is still going on, you don't really know what the problem is?

MS. MACFARLANE: It depends on the particular situation. Unfortunately, I can't give you a specific answer because it depends on the particular situation. And in some situations, our regulations allow for a plant to restart while an investigation continues.

SEN. BOXER: OK, fair enough. So I'm going to just continue to work on this in my investigation.

Chairman Macfarlane, are these statements accurate?

MS. MACFARLANE: I believe that the senior resident at -- in years past did file a non-concurrence.

SEN. BOXER: You believe that is correct then?

MS. MACFARLANE: I believe that's correct.

SEN. BOXER: Second, he also said that PG&E's own analysis showed that the newly discovered faults could cause ground shaking that was 70 percent stronger than the NRC license allows. Is that correct?

MS. MACFARLANE: I would have to look. I'm --

SEN. BOXER: Would you get back to me on that and let me know?

MS. MACFARLANE: Yes, I can take that for the record.

SEN. BOXER: OK. I have a number of other questions I want to ask about that for the record.

MS. MACFARLANE: Sure.

SEN. BOXER: So I'll get -- I'll ask all of those.

Madam Chairman, recently the NRC voted to delay a recommendation by its own staff that two people be present whenever highly enriched uranium or plutonium were being handled in order to protect against an insider threat. The Department of Energy has had a rule like that in place for decades. And in 2011, the Department of Homeland Security warned that violent extremists have obtained insider positions at utilities and that, quote, "insiders and their actions pose a significant threat to the infrastructure and information systems of U.S. facilities."

So I'd like you to answer, do you support the quick adoption of the two-person security rule that your own staff recommended?

MS. MACFARLANE: The commission decided not to go forward with that at this time.

SEN. BOXER: Why?

MS. MACFARLANE: It was a commission decision.

SEN. BOXER: Why? What was the vote?

MS. MACFARLANE: I'm not sure. I don't recall what the vote was. I would think that was --

SEN. BOXER: Does anyone recall what the vote was not to go forward with this? None of you remember? Yes, sir.

MR. : Madam Chair, the specific issue was that the staff had not completed a cost-benefit analysis to assess whether or not the two-person rule was appropriate.

SEN. BOXER: Well, could I just say --

SEN. SANDERS: Madam Chair, I see -- we don't have an answer to what the vote was. Could you tell me what the vote --

MR. : I don't recall what the vote was. I voted --

SEN. SANDERS: Does anybody -- five people is not a lot of people. What was the vote? Three to two? Four to one?

MR. : I voted against the rule because the two-person piece --

SEN. SANDERS: OK.

SEN. BOXER: How did -- how did you vote on it?

MR. : Senator, I recall I voted against --

SEN. BOXER: How'd you vote on it? How'd you vote?

MS. MCFARLANE: I believe I voted against it.

SEN. BOXER: How did you vote?

MS. SVINICKI: I don't recall now either.

SEN. BOXER: I am completely flummoxed. This is a big and important issue. And this business of a -- of a cost-benefit analysis when you're dealing with a potential terror attack and a takeover of a -- of a nuclear plant? You've got to be kidding.

Now, let me say, you've never done a cost-benefit analysis for these sorts of materials tracking in the past. And you found the costs were minimal, less than a million (dollars) a year. And I'd say the benefit of preventing someone from stealing nuclear weapons material is pretty much priceless. And I would suggest if you don't move and reverse yourselves on this, there will be legislation.

And I thank you, and I turn to my colleague.

SEN. VITTER: You know, I think oftentimes in government and in Washington in particular we've become very process-oriented and lose the forest for the trees. So I'm just going to suggest a question, not to be answered here, but suggest a question for all of us to think about.

Senator Sessions went through the rash of shutdowns very recently -- Kewaunee in Wisconsin, Vermont Yankee, Crystal River Unit 3 in Florida, SONGS 2 and 3 in California. Duke Energy announced it wouldn't move forward with Levy County, Florida. TVA announced that it would scale back work at Bellefonte.

Now, if any of us as individuals think most or all of those sites were unsafe or not safe enough, well, that's a good result. But if we think, as I do, that most, probably all, of those sites were safe, were safe enough, that is a fundamental failure on the part of all of us -- NRC, Congress, the whole establishment. So I just want to try to have us focus on the forest and not lose sight of it.

Let me ask some specific questions about Yucca Mountain. First of all, Madam Chair, at your confirmation hearing, you stated very clearly, quote, "To be effective, a regulatory body must be independent from economic, policy and political interest," closed quote. However, in the majority opinion on Yucca Mountain, Judge Kavanaugh stated that, quote, "The commission's political prognostication may or may not ultimately prove to be correct. Regardless, an agency may not rely on political guesswork about future congressional appropriations as a basis for violating existing legal mandates," closed quote. And he didn't consider it a close call.

Why did it take you a court decision to move forward with that legal mandate? Why was not that political prognostication about -- and political guesswork about congressional appropriations not being independent from political interests and considerations?

MS. MACFARLANE: Thanks for the question, Senator. I was not on the commission when those decisions were made. So I will not try to second-guess the decisions that were made in the past.

What I can assure you is that we are fully complying with the court's decision, and we are moving forward, continuing with the proceedings, and we are moving forward promptly on this.

SEN. VITTER: OK. Well, let's move to that. The commission has repeatedly acknowledged in its order, including this week, that it does not have adequate resources to fully complete the Yucca review and issue a decision. Is that correct?

MS. MACFARLANE: We -- to fully complete the licensing decision?

SEN. VITTER: Yes, to fully complete --

MS. MACFARLANE: We do not have adequate resources --

SEN. VITTER: -- the review and issue a decision pursuant to the review.

MS. MACFARLANE: That is -- that is correct.

SEN. VITTER: OK. So what action are you taking to solve that problem? For instance, have you proposed a supplemental budget to OMB?

MS. MACFARLANE: No, we have not.

SEN. VITTER: Have you taken any other action to solve that problem?

MS. MACFARLANE: No, we are complying with the court's decision. They told us to use the existing funds that we had, and we are going forward using those funds.

SEN. VITTER: Let me ask you about existing resources. As was pointed out by other members a few minutes ago, NRC staff has increased about 34 percent at least since 2000. Meanwhile, the expected increase in workload has never materialized, quite the opposite. So huge increase in staff, no increase in workload in terms of applications for licenses, et cetera.

Are you moving any of that staff to solve this resource problem?

MS. MACFARLANE: We -- you know, I'd like to actually submit something for the record, if that's OK. I've got a little chart here, which shows our budget from 2003 to 2013. And I know it's a bit of an eye test for you, but it shows it in actual dollars and constant dollars. And if you look at the constant dollar chart, which is in red, our current budget is the lowest it's been since 2007, I believe. And in that time period since 2007, we have -- our workload has increased significantly. We have been dealing with Yucca Mountain, we have been dealing with waste confidence, we have been dealing with Fukushima in addition to all the other work that we're doing -- the new construction work, all of that work. So we are actually now doing more with less.

SEN. VITTER: Well, there are going to be a lot of folks who disagree with you, and that goes back to my original statement. If you become completely process-oriented, I'm sure you're dealing with more because you've created that process. If you step back, I think you come to the opposite conclusion. And as you know, those resources were given to you to meet an expected increase in license applications, an increase in sites, increase in nuclear reactors. None of that has happened. Yes, regulations have multiplied almost exponentially, but that fundamental growth of the industry has not happened.

Let me re-ask my question about people, because you will agree that at least since 2000 there's been a huge increase in bodies at the NRC, correct?

MS. MACFARLANE: In -- since 2000 -- we had our maximum a couple years ago, and we have decreased in size since 2010. And we now have around 3,700 employees.

SEN. VITTER: OK. Well, not that long ago it was 2,900. So there's been a big increase over that time period. Are you moving any of those folks to solve the Yucca resource?

MS. MACFARLANE: Oh, absolutely, absolutely. We are currently about --

SEN. VITTER: How many of those folks have been moved recently from something else to Yucca?

MS. MACFARLANE: Well, I can assure you that we're currently about 80 percent staffed up for dealing with the safety evaluation reports. So we are going to be ready to go on those very soon.

SEN. VITTER: But again, I was talking about following the whole process through. You've said several times you don't have adequate resources, so I'm talking about that broader challenge. How do you propose to solve that problem?

MS. MACFARLANE: I think right now that the budget appropriations has been settled we are in a reasonable position going forward. I would ask my colleagues to weigh in if they'd like to.

MS. SVINICKI: Senator, if I could just add to the chairman's answer --

SEN. VITTER: Sure.

MS. SVINICKI: In terms of reallocating appropriated money to Yucca Mountain-related activities, there are prohibitions on our doing that. We would have to seek a congressional reprogramming because activities used for Yucca Mountain I believe must be appropriated from the Nuclear Waste Fund. So our other appropriated monies would have to receive a congressional reprogramming.

SEN. VITTER: Are you all going to make that request?

MS. MACFARLANE: This will be a commission decision. So it's something we will have to decide as a body.

SEN. VITTER: Are you considering making that request? Has there been any discussion?

MS. MACFARLANE: We will -- there has been some discussion. We will -- we will entertain this as it comes up in future budgets.

SEN. VITTER: Yes, sir?

MR. OSTENDORFF: Senator, if I may add to Commissioner Svinicki and Chairman Macfarlane's comments, Glenn Tracy, who directs out office of nuclear -- new reactors, a New Orleans native, has moved a number of his personnel over the last two years, because of the drop back in licensing of new reactors, over to help with Fukushima action items in the seismic and flooding area. And I think Mark Satorius, our executive director for operations who's back here in the back row, has taken a lot of steps to ensure the appropriate, fiscally prudent use of these resources.

SEN. VITTER: Well, I hope you can understand my general concern which is it took a court order to have the NRC follow a clear legal mandate. And even as that's happening, there are all sorts of statements, well, we don't have the decisions to follow through and get everything done down the line. I realize we're not talking about the immediate work at hand but the full review and decision.

And so, why don't we start thinking about how we solve that problem? I don't hear any request for reprogramming, any significant movement of individuals, even though there's been a major increase over a decade,

any proposal to OMB. So can you all discuss how we solve that problem over time and present to us and Congress and everyone appropriate your plan for solving that problem, not just identifying the problem or not just pointing to the problem. Thank you. That's all I have.

SEN. BOXER: Thank you, Senator. Senator Carper?

SENATOR THOMAS CARPER (D-DE): Thank you. Thanks, Madame Chair. I want to go back to the issue raised by our chair and that is the two person rule. And let me just note for the record, we've voted around here hundreds of times, thousands of times and people ask me from time to time, how did you vote on such and such. Frankly, I don't always remember. So I can understand how you may not remember how you voted. But for the record, let us know how you voted.

The other thing for the record, let us know why you voted that way. And in my oold job in the Navy, we used to -- in the Navy P3 aircraft world, we -- as Commissioner Ostendorff knows, we handled from time to time nuclear weapons. And we had in our aircraft a rule. When you're using nuclear death bombs, you want to arm them or whatever, two people are involved in that. And that was for good reason.

And so just let us know what's your rationale for doing this. And if there's a good reason for it, we'd like to know it. And if ultimately there's not a good reason for it, we'd like to know that too and we'd like to know sooner rather than later. So if we can put that out there, that would be -- that would be great.

The other thing, just clarify for the record, you all have done a fair amount of travel. We do a fair amount of travel. I think -- I'm the chairman of the homeland security committee. I need to do more international travel and I'm cognizant of that. We're going to try to do a better job this year now that I have my first year of my chairmanship behind me and -- but you all travel a lot. Some of you travel -- the chairman doesn't travel that much. She's not been on the commission for as long which may be the explanation.

Some of you travel a lot to Japan. That's understandable. Others of you travel to places where it's less clear. And I would just ask in terms of taxpayer paying for your travel, my understanding is that the lion's share of the expenditures at the NRC -- and I presume it's travel as well -- come not from tax dollars, taxpayer dollars, but from fees collected from the utilities and so forth. Can you all give me the breakdown on that? What is it, 90/10? What is it?

MS. MACFARLANE: Yeah, it's 90 percent. We're a 90 percent fee recoverable agency.

SEN. CARPER: It sounds like you're fairly transparent on the travel that you do. Just to make sure, we get criticized for foreign travel. A lot of cases, it's stuff that's justified. I usually go to places where we have Americans getting shot at, killed and so forth and it's kind of hard to criticize that.

But just make sure that you continue to be transparent, explain why it's important and if you think -- I always like to think what if a trip that I take is going to be on the front page of the newspaper, banner headlines and I have to defend it. Just kind of take that approach to it and make sure that you use good common sense. I want to turn to Sandy. Sandy visited my state a little over a year ago and our region of the country, did a lot of damage.

And I think if climate change stuff is real, I think it is, we're going to see more Sandy's in the future and they're going to come to other places around our country and around our world. What were our lessons? What were our lessons learned from Sandy? What could we have done better, not just for our nuclear power plants but within the federal, state and local governments?

MS. MACFARLANE: What were the lessons learned?

SEN. CARPER: Yep.

MS. MACFARLANE: Well, certainly we were actually very impressed with our licensees' response to Sandy. They were all on alert. They were all prepared. We ourselves were prepared. We had extra inspectors at the facilities ready and watching. So we were all ready to manage. And the plants managed very well. The only plant that had any kind of incident during that time was Oyster Creek in New Jersey, which did have high water levels but didn't -- it didn't reach the design basis and didn't affect the plant.

SEN. CARPER: Other commissioners, what are some things we learned from Sandy that we're acting on or that we could have done better, not just within the NRC but the plants themselves, maybe state and local government and their responses? Anybody? Commissioner Ostendorff?

MR. OSTENDORFF: Senator, thanks for the question. We had a commission meeting earlier this month in public from Rockville and we had the operational supervisor from Salem hope Creek there. And I think the licensee learned some things. We learned some things. The two comments I have are regional coordination and how the licensee and the NRC communicate with FEMA and then onsite there are some areas identified to enhance the operating procedures in the event of a flood.

SEN. CARPER: OK. Is there anything that the NRC is doing -- and this could be for the chair or the other members as well -- but anything that the NRC is doing to better ensure, to better ensure that our nuclear plants and the communities around them are better prepared for storms like this in the future?

MS. MACFARLANE: Well, we're certainly -- we asked all our plants to reevaluate the flooding hazard at the plants. And we are getting their flood hazard reevaluations in. We got a big tranche in last year. We're getting -- we're expecting another this year, you know, to keep up with the potential for increases in flood hazard from climate change or what have you. So we are on top of that. And we're going to be analyzing other aspects of weather and natural disaster events that as we work through the Fukushima tier three activities.

SEN. CARPER: OK. Let's go across the world to Fukushima this morning. How are they doing there in their recovery? Just somebody give us a 30,000-foot -- how are they doing in their recovery from the terrible disasters that they were visited by?

MS. MACFARLANE: How are we doing?

SEN. CARPER: No, no. How are they doing?

MS. MACFARLANE: At Fukushima?

SEN. CARPER: Yeah. They're like a sister state to us in Delaware. So we care about them.

MS. MACFARLANE: Yeah, they're working very hard. It's a very difficult situation. And it's an unprecedented situation. So they're really having to make things up as they go, in other words. You know, there's a constant issue of radiation leakage into groundwater. They have a lot of water issues there. And they're working very hard to minimize it.

They really literally I think are working around the clock. So you know, but new problems will crop up and as Commissioner Apostolakis noted, we are learning more all the time now about the accident, about what happened. And that's giving us more insight into our own operations here.

SEN. CARPER: All right. Some of you travel extensively to Japan. Anybody else want to just give us a quick 30 seconds or so? How are they doing over there in their recovery?

MR. MAGWOOD: Appreciate the question, Senator. I think there's been some very important progress. They've begun, for example, to begin by relocating some of the spent fuel from the damaged spent fuel pools. And that's a very important milestone that people in Japan were watching very closely.

I think the biggest challenge they have in Japan, quite frankly, is the continued skepticism that the public has about the ability of the government and the regulators so speak clearly to requirements and making decisions and they still have those doubts.

And I think that's a big challenge for our colleagues at the Nuclear Regulatory Authority, as they try to make good decisions. And I think they've made -- done a very good job so far. But that public skepticism is still very high, and this is a big challenge for them.

SEN. CARPER: OK. Sticking with Fukushima for another minute or so. In response to the Fukushima event, the commission I know continues to pursue a long list of lessons learned from the accident. That's good. The NRC has several deadlines to meet in the next couple of years, I believe, to meet the timeline established in March of -- I think it was 2012. Are there any lessons -- are there any issues, rather, that have been a lot more difficult than you might have been expected? If so, what have they been?

MS. MACFARLANE: Issues that have been achieving the activities, or --

SEN. CARPER: Are there any issues that have been more difficult to address than expected?

MS. MACFARLANE: I would say at this moment not directly, no. There -- we're certainly learning as we go, and shifting things around a little bit as we go. You know, we issued an order, for example, on hardened vents to make them a little more secure.

Last year, the commission revisited this issue and said, you know, we really need to make sure that these events are -- it's -- to harden them if possible; to open them in an accident scenario. But these events have to be able to withstand the conditions of an accident -- the temperature, pressure, intense radiation conditions of an accident. And so we revised the order and reissued it and -- so that these events will be capable of being operated under those conditions as well. So we're doing that as we go along.

SEN. CARPER: All right. Chairman -- rather, Commissioner Apostolakis, I think it was last September, along with Senator Sessions and Senators Barrasso and Cardin, we sent a letter to the commission encouraging the NRC to streamline the licensing process for dry cask storage. Since we sent our letter, we understand that the NRC has implemented a new, expedited process for approving dry cask storage designs. And I was wondering if you might elaborate for us on that process. Share with us any feedback that you've been receiving from the industry, please.

Mr. -- Commissioner Apostolakis, if you would, please. Give us a -- give us some feedback that you received from the industry. How are we doing here?

MR. APOSTOLAKIS: I have not heard any complaints from the industry; I think we're doing fine as far as I know.

SEN. CARPER: Anybody else want to respond to my question? (No audible response.) No? All right. Chairman Macfarlane, can you give us an update on where the NRC is on waste confidence, please?

MS. MACFARLANE: Yes. As I said, we have finished our public comment period of getting public comments on the waste confidence ruling and the Generic Environmental Impact Statement. We're now in the process of going through those over-33,000 public comments, undressing them, and we will be about -- right now, the estimate is one month over time. So we'll be done by the beginning of October.

SEN. CARPER: OK. Madam Chair, our colleague, Senator Sanders raises interesting questions -- I put this -- my old governor hat on -- about the appropriate role for state and local governments. I have a clear interest in the decommissioning of these facilities around our country, including Vermont and other places.

And I don't know that we need a law to do that. I don't know if we need regulations to make sure that they have the ability to play an appropriate role. There's clearly an interest and a concern; I would have it as well. And let's figure if we get -- use some common sense to make possible for the state and local government to have, probably, some involvement. And I -- we'll follow up -- Senator Sessions and I will follow up with you some further discussions -- and involve Senator Sanders, if he'd like to be part of that.

Thank you.

SEN. BOXER: Senator Inhofe.

SEN. INHOFE: Thank you, Madam Chairman. I was -- I have to confess that I was hoping that Senator Sessions would make it back because I always do so much better when I ask my questions after Senator Sanders has asked his questions. (Chuckles.) And you'll find out in a minute. (Laughter.)

I -- (chuckles) -- let me -- well, let me ask this, also. I really think -- and I've been here for quite a while, and I used to chair this committee a long time ago. And I think we have an excellent commission -- and I mean, all five of you, I just appreciate your service so much. And it's well-balanced. I noticed, Mr. Apostolakis, that you're going to be the next one that would be coming up for renomination, and I would hope that you would continue on, and I -- if you're inclined to do so. I would appreciate your service to continue.

My opening statement -- I'm going to repeat something that I said there because it's kind of following up a little bit on what Senator Vitter was talking about, but maybe in a different way. I said that -- and I remember it so well, because at that time I chaired this committee -- this is 2003 -- that the NRC asked Congress for the bigger budget to build new buildings, add all these employees -- and by the way, I'm going to -- I've got some specific numbers.

And I have to say, Madam Chair -- you weren't here at that time, so it doesn't -- you know, you're off the hook, partially. But they -- they wanted to do this so they could add expected approval of four design certifications for new reactor designs in 17 of the COLAs -- that's a -- not the normal COLAs we talk about -- the construction and operating license applications. So that was four in 17.

So that was actually -- at that time, in discussing this, we were looking in terms -- because I went back and checked our notes -- that we would have to anticipate having that increased workload in three to five years. Now that's been a long time. And now, 10 years later, we only have approved one design certification and two COLAs. So it's going from one -- an expectation of four design certifications and 17 COLAs; down only one and two.

Now, I say this -- and I'd kind of like to get a response from each member; maybe start with -- well, you, since you weren't here at that time. Let's start with Ms. Svinicki. Tell me how that can happen? Why did that happen?

MS. SVINICKI: Well, I would note, Senator, some statistics I found, just very quickly here -- is that NRC does have under review right now -- two, three, four -- three design certifications.

SEN. INHOFE: And let me correct --

MS. SVINICKI: And the chairman is helping me out -- and I am talking about --

SEN. INHOFE: -- I'm not talking about under review. We said at that time that we would have those by -- in three to five year, not be reviewing them 10 years later.

MS. SVINICKI: As some members of the committee have noted in their opening statements, some of the larger economic circumstances for the utilities that were interested in building these new reactors have changed somewhat significantly. As a result, some have suspended or withdrawn their applications, but some have decreased the pace at which they are supporting the review of the -- their application, by which I mean when we generate questions; they've indicated that they're content with a slower pace to our review. So some of the schedules have become protracted for that reason.

SEN. INHOFE: OK, because of the timing, I'm going to -- if there's time, I'll come back and ask the same question of the other three. But I want to get another thing here in the meantime, and that is that the NRC Near-Term Task Force, in two Japanese reports on Fukushima, determined that the disaster is one that was, we call, made in Japan. In other words, the cultural differences, the gaps that are out there.

I would -- it would seem that we need to have that determined. And we talked about this way back -- well, back in 2011, when it happened. We said there are differences here. There are cultural differences here. So I would ask Chairman Macfarlane, has the NRC conducted a thorough gap analysis between the Japanese and the United States systems and regulations to compare and contrast the complete picture comparing U.S. and Japanese models to more closely and wisely, cost effectively suggest policy changes? Have we made that kind of a study?

MS. MACFARLANE: Yes, we did a comparative study of the U.S. and Japanese regulatory systems, but it wasn't comprehensive. We did --

SEN. INHOFE: It was not comprehensive.

MS. MACFARLANE: No, it wasn't completely comprehensive.

SEN. INHOFE: It didn't include all the cultural?

MS. MACFARLANE: In part because it's -- you know, to get into the weeds of comparing the U.S. and Japanese, we'd have to translate all of their regulations to fully understand the differences.

But let me just jump to the conclusions of the study that we did. We found some similarities and we found some differences, but the bottom line was that there was no evidence that a Fukushima-type accident would have been completely avoided in the U.S.

SEN. INHOFE: OK.

MS. MACFARLANE: And what I've learned from the fantastic staff at the NRC is that one of the most important things for a regulator is operating experience, and the operating experience that we've gained during the Fukushima accident is significant. We did not, prior to the Fukushima accident, expect or analyze for more than one reactor at a site to have an accident.

SEN. INHOFE: OK.

MS. MACFARLANE: So that was not planned for.

We had not prepared properly for extended, long-term station blackout, no electricity, no backup sources, and we are now addressing that.

And you know what? Every country with a significant nuclear program around the world came to the same conclusions and they are doing the same things.

SEN. INHOFE: OK. What I'd like to have is a copy of this report that you have.

MS. MACFARLANE: Certainly, it's publicly available.

SEN. INHOFE: Even though you state that it's not as complete as we would all probably want. But I want to compare it with the notes that we took three years ago on the changes. For example, you have to actually go get permission in advance to do things that we are, through the NRC, empower those people on the site to do. And there are so many changes like that.

And I'd like to ask, well, (Captain ?) Ostendorff, would you think it's important for us to have the benefit of a complete report, even more complete than the one we have right now?

MR. OSTENDORFF: Senator, I appreciate the question. I agree with Chairman Macfarlane's response. And I know that this has been some discussion over the last couple of years with this committee. I think we have thoughtfully taken aboard the Fukushima lessons learned, including the scope of Japanese regulations in place at the time, for those areas that were important.

SEN. INHOFE: OK. Well, we'd just like to have the benefit of everything.

And while we're talking about getting reports, Madame Chairman, I know we've had enough funding to complete the Yucca Mountain report. And I'll be watching real closely to see. Do you have a date that we would have that report?

MS. MACFARLANE: I think it's about a year from January, but I need to get back to you on that. So let me take that for the record and get the answer.

SEN. INHOFE: OK. Well, you're going to write to me. And for the record, I'd like to have you give me a date that we should anticipate receiving it, because I think that's, to me anyway, that's very important.

Now, in the remaining time I'd ask the question and opening up how we can -- when we're looking at -- first of all, increasing the staff, it's my information that we have 900 more employees right now than we had in 2004. Now, I don't know whether that agrees with your chart or not, but what I'd like to have you do is take your charts since this action took place in 2003, extend it to three years prior to 2003 so we can get a better look on how much of that came from the increased activity that we've anticipated were going to happen in (COLAs ?) and design certification.

So I would ask that you take the chart, go back to, instead of starting at 2003, start at 2000 and we can --

MS. MACFARLANE: Certainly, we can do that for you.

SEN. INHOFE: OK. Now, the rest of you, in terms of the increase from anticipating forward design certifications in 17 COLAs and only getting one design certification and two COLAs at that time. The other three of you that didn't have a chance to respond to that, tell me what I'm overlooking here?

MR. APOSTOLAKIS: Well, on the face of it I must agree it doesn't look good. (Laughter.)

SEN. INHOFE: OK, that's a good response.

How about you, Mr. Magwood?

MR. MAGWOOD: Yeah, Senator, when you look at what actually has taken place over the last several years, you find that the applicants and licensees have had -- have actually struggled somewhat when it comes to answering some of the technical questions --

(Cross talk.)

SEN. INHOFE: Yeah, but -- (inaudible) -- is little bit different than the gap that I'm talking about.

MR. MAGWOOD: There's been significant back-and-forth with the applicants over technical issues.

SEN. INHOFE: Yeah.

MR. MAGWOOD: And it's taken significantly longer than I think anyone thought. But as Commissioner Svinicki pointed out, there are still reviews under way as we speak.

SEN. INHOFE: Yeah, we're -- I'm almost out of time.

You --

(Cross talk.)

MR. OSTENDORFF: I'll go quick, Senator. Real quick, I'll give you one example. The two examples on the design certifications -- Mitsubishi had a design certification submitted to the NRC for what's called the APWR. They, the submitting group, backed off their resources to focus them back in Japan. The second one, AREVA, had an application in for the EPR. There have been problems in the international community with digital lines --

SEN. INHOFE: Yeah, my time is up. And I -- just to tee up one more thing for my good friend Senator Sanders.

SEN. BOXER: We have to vote at 11:15, so I'm afraid people aren't going to get a chance.

SEN. INHOFE: No, just one sentence. (Laughter.) OK, yeah.

(Off mic commentary.)

Yeah, out of your time, that's good. All right, that's good.

Do you think it was unfair for me to assert that perhaps we're trying to regulate the nuclear energy out of business just like we're trying to regulate the fossil fuel business out of business. That's it.

SEN. BOXER: Thank you for that provocative thought. And with that, we'll turn to Senator Sanders and he will --

SEN. SANDERS: Well, let me begin. Senator Inhofe and I disagree every now and then, despite being very good friends. But I share your line of questioning about the growth of employees at the NRC.

And as Commissioner Apostolakis said, it doesn't look so good on the surface. And I would agree with you and that's something we want to pursue together.

The other issue, I want to get back to the point that I made earlier about the role of state government in decommissioning process.

But before I do that, I want to get to this voting issue which concerns me, which is actually an issue that has been raised for a number of years. Every person up here as a United States senator has to cast some very difficult and controversial votes, and occasionally, those votes are distorted and put onto 30-second ads, half-hour reality, we live with that.

Is there any reason why every vote that you cast should not be made public? Right down the line.

Madame Chair?

MS. MACFARLANE: I think there are -- when we vote --

SEN. SANDERS: Very briefly, please. Maybe yes or no.

MS. MACFARLANE: We vote in our adjudicatory role, those votes, I don't believe, are public.

SEN. SANDERS: All right, here -- my point is, just give me an answer. We have to cast -- we cast votes about whether we go to war or not, of some consequence. They are made public. Any reason why your votes should not be made public? And you're saying yes, you think there are some occasions when they should not. I head that.

MS. MACFARLANE: Yes.

SEN. SANDERS: Ms. --

MS. SVINICKI: I agree with that and would add that if there are security-related matters those are not made public as well.

SEN. SANDERS: Well, that's a big word, "security." And we can hide a whole lot under "security."

Mr. Apostolakis?

MR. APOSTOLAKIS: I agree with my colleagues.

SEN. SANDERS: All right.

Mr. Magwood?

MR. MAGWOOD: The vast majority of our votes are public.

SEN. SANDERS: Mr. Ostendorff?

MR. OSTENDORFF: Senator Sanders, every single one of our Fukushima-related votes that come to us -- (inaudible) -- when the voting process is complete, those votes are all made public.

SEN. SANDERS: Well, you know, I happen to think that unless there's some extraordinary circumstance votes should be made public. That's just my own view and that's an issue I want to pursue.

I think Ranking Member Vitter raised the issue of a, quote- unquote, "rash of nuclear shutdowns" in this country. But the truth of the matter is there are a whole lot of people who are concerned about nuclear power. We are concerned about safety aspects of nuclear power. We are concerned about the cost of the production of nuclear power.

You know, many of my very conservative friends here say over and over again they want the government to deregulate, they want the government out of the private sector. We hear that every day.

The truth of the matter is, if we did not have legislation like Price-Anderson, which is not a well-known piece of law, what Price- Anderson is about is, God forbid there were ever a nuclear disaster of consequence like Fukushima in the United States, I'm not sure that everybody is aware that taxpayers of this country would be called upon to come up with, who knows, tens and tens and tens of billions of dollars to deal with the costs incurred in that disaster.

Am I right, Ms. Macfarlane?

MS. MACFARLANE: You are correct.

SEN. SANDERS: All right. So I would, in the goal of getting the government out of the private sector and overregulating, I would wonder if any of my conservative friends would cosponsor with me legislation to repeal Price-Anderson so we can leave the nuclear power industry alone and not get involved with government. And I look forward to working with Senator Vitter or Senator Inhofe getting the government out of the nuclear power industry.

Any volunteers at this point?

SEN. INHOFE: (Off mic.)

SEN. SANDERS: OK, there we go.

SEN. VITTER: Bernie, I'm not going to volunteer, I just want to underscore exactly what I said. I listed all those shutdowns.

SEN. BOXER: (Off mic.) You're taking his time.

SEN. VITTER: Yeah, please don't take this off Bernie's time. I listed those shutdowns and I said, if you believe most or all of these sites are not safe or not safe enough, then that's a good result. But if you don't, and I think the vast majority of informed folks do not, then I think it's a failure on our collective part.

SEN. SANDERS: Well, David, my only point here is --

SEN. BOXER: We can't do too many more back-and-forths because I'm so nervous people aren't going to get a chance. It's not fair. So finish your time.

SEN. SANDERS: Yeah, OK. But I would just say to David, I have heard all of you have given speeches --

SEN. BOXER: And stop being so engaging. (Laughter.)

SEN. SANDERS: We have heard speech after speech about the government being involved in the private sector and not letting free enterprise do its thing, and here you have a situation, without Price- Anderson it is quite likely the nuclear industry in America would collapse tomorrow. And you know why? Because Wall Street, whose job is to make money, and the insurance company, whose job is to make money, they don't think insuring nuclear power plants is a pretty profitable enterprise and they won't do it.

So I look forward to working -- you know, maybe Jim and I can work together on this -- of getting the government out of the nuclear power industry.

All right, that's an aside. The issue that I wanted to focus on -- I also wanted to mention, in terms of nuclear power, I think everybody here knows Germany is in the process -- the people of Germany are not dumb -- they are in the process of phasing out their nuclear industry, I think, by the year 2022. Switzerland and Spain have indicated they don't want any more nuclear power plants. So, you know, people around this planet have different views on nuclear power.

All right, here is the issue that I did want to focus on, and that is the role of states. And I appreciate Senator Carper for reiterating my concerns. There are a number of states in which nuclear power plants will be shut down -- California, Vermont, elsewhere.

It is of enormous importance to the people in those states how the decommissioning process works. Will it take 60 years? Will it take, as it has been the case, 10 years? Will the people of the state be satisfied about the lack of radioactivity in the area? Where will the nuclear fuel rods be placed? I mean, there are -- who will get the jobs? What about the financial arrangements, all of which are very much of concern, I can tell you, to the state of Vermont?

I have three questions that I would like to ask brief responses to the members of the commission.

Do you agree that states have a strong interest in how their nuclear plants are decommissioned? Ms. Macfarlane?

MS. MACFARLANE: I would agree that states and the public, the local public, certainly have a strong interest.

SEN. SANDERS: Ms. Svinicki?

MS. SVINICKI: Yes, states have an interest.

SEN. SANDERS: Mr. Apostolakis?

MR. APOSTOLAKIS: Yes.

SEN. SANDERS: Mr. Magwood?

MR. MAGWOOD: Yes.

SEN. SANDERS: Mr. Ostendorff?

MR. OSTENDORFF: Yes.

SEN. SANDERS: OK. Do you agree that it is fair and reasonable for the host state to have a real seat -- now, I know the real seat is -- that term is not quite a technical term -- but a significant role to play during the decommissioning process? Not just a hearing, not just giving their opinion, but having a seat at the table, helping to determine the outcome? Ms. Macfarlane?

MS. MACFARLANE: Let me just explain something. Our regulations -- what we do is regulate the safety and security of these facilities as they decommission. Let's just talk about the decommissioning piece of this. And in that, our relationship is with the licensee. We are holding them accountable to make sure that they are providing safety and security.

Now, the public should have some kind of role, OK. And we do encourage public engagement. We do hold public meetings -- (inaudible).

SEN. SANDERS: You and I chatted about this issue.

MS. MACFARLANE: Yes. The -- we encourage strongly that the licensee form some kind of community advisory board in which they could --

SEN. SANDERS: OK, let me -- I apologize. I just don't have a whole lot of time. I understand all that. We chatted; community advisory. That is not satisfactory to me, because advice can be rejected.

MS. MACFARLANE: Mm-hmm. (Acknowledging.)

SEN. SANDERS: So my question to you all is, should the states themselves, who have to deal with the consequence of the decommissioning process, have a real -- and I understand real is not a technical term -- but be part of the process such that if what is negotiated between the industry and the NRC is not satisfactory, that will not happen -- to be a real player in the process? Should the states have that type of authority? Ms. Macfarlane, very briefly.

MS. MACFARLANE: I think it depends on the specific situation in the state. I think that there are more interests at stake than just the governor of the state. There are local interests as well.

SEN. SANDERS: Absolutely.

MS. MACFARLANE: Those need to be represented --

SEN. SANDERS: But in our democratic society, there's the state government that ends up, you know, getting elected to do those things.

Let me just say this, because I think I'm probably not going to get a clear answer from any of you. Is -- this is a very, very important issue. I think your rules right now are not satisfactory. I think you do not give enough input -- not input -- you don't give enough power, if you like, in the decision-making power to the people of the states.

I would hope -- and you and I will chat about this, Ms. Macfarlane -- that we will change the rules as they are currently constituted. If you do not change the rules, I will introduce legislation to make sure that states do have that authority.

Madam Chair, thank you.

SEN. BOXER: Thank you, Senator. And you can count on my support for that, because I've got decommission. I think Massachusetts has one coming as well.

Senator Sessions.

SEN. SESSIONS: Thank you.

Well, the government -- we don't want to get the government out, I assume, of solar, auto, ethanol, wind powers.

SEN. BOXER: How about oil?

SEN. SESSIONS: Oil? There's not much in it except to restrict it.

SEN. BOXER: Except (\$6 billion ?).

SEN. SESSIONS: That's a disputed fact --

SEN. BOXER: (Laughs.) OK.

SEN. SESSIONS: -- as to whether or not that's any special tax break or whether it's just a normal tax situation all corporations have.

SEN. BOXER: (Laughs.)

SEN. SESSIONS: OK. Well, I would like to see Bellefonte done in Alabama. I don't know what Vermont does. They sued Vermont Yankee multiple times. I guess they finally just gave up and closed the plant. That's all right. Vermont doesn't want to hire -- wants to have their electricity produced using carbon fuels or whatever. So be it. I'd like to see clean nuclear power be used more around the country.

Now, I raise this concern because I'm really worried about it. I think all of you are aware of the situation we have concerning constriction of nuclear power. And if states now get to second-guess your regulatory powers -- and maybe they have a right to do so -- but if they jump in and double up on the cost of closing a plant or opening a plant, it's just one more burden that makes it even less likely that we'll have an expansion of nuclear power and more likely that we will see this decline continue. So I'm worried about it.

Ms. Svinicki, you've been on the commission for some time and you've observed these issues develop. Would you give your thoughts to us and share your thoughts with us about what might be contributing to the erosion of nuclear-power generation and the failure of new plants to get started that we thought would be started?

MS. SVINICKI: Well, I think, as is well acknowledged by economic experts, the situation of abundant natural gas, while good for the United States in many ways, does affect the economics of both new nuclear but also current nuclear. And so, from the regulators' standpoint, although we don't control any of those macroeconomic factors, I think that our pledge as a commission is to make certain that we do the most disciplined sort of analysis and work so that we are only imposing regulations that we thoroughly analyzed and justified.

SEN. SESSIONS: Is it possible that these regulatory factors and, let's say, a lack of final certainty over waste disposal in Yucca Mountain and cumulative costs of compliance are affecting the future of nuclear power?

MS. SVINICKI: I support the commission's action to address the court's remand to us of our waste-confidence decision. I think that the commission and the agency staff are taking quick and responsible action to address the deficiencies that the court identified, which were not the entirety of the rule that we had put forward, but the court asserted and found that our analysis and evaluation lacked certain points. We're remedying those specific deficiencies. And as the chairman has noted, although we have delayed our schedule by one month, we still continue to push forward very aggressively.

SEN. SESSIONS: Well, it's worse than that. The court hammered the commission and Congress and all for failure to meet this and declared it was in absolute violation of multiple requirements of law. And it has -- goes to the very core of who writes law in America. Congress passed laws. We chose this site. It's been authorized, and directed fees have been collected in billions of dollars. And very little action has been done.

Wouldn't you agree that the court's promise was real -- the court's decision was a real critique of the failure to act on the congressionally approved Yucca Mountain site?

MS. SVINICKI: Yes, on the matter of Yucca Mountain, the court's language was of non -- was unequivocal and was very, very strong. But again, we've taken actions to address the writ of mandamus.

SEN. SESSIONS: Will that be completed in what time?

MS. SVINICKI: Well, we are providing monthly reports to this committee. We do not have the team of NRC experts who will address that work fully assembled. I believe the last I heard, last week, we have 75 percent of the experts assembled. And as Chairman Macfarlane noted, I think they still anticipate it would take approximately one year.

SEN. SESSIONS: I understand she's talked about that previously. But I don't think -- I think if you need to reprogram money, you should ask for it. It just comes down at some point to a constitutional question.

Will the government of the United States execute the laws established by the duly elected Congress? And you have a duty to do that. And not one member of the United States Senate, some powerful senator, ought to be able to block what's been decided by the majority of Congress.

I feel like -- I will say this. I believe if you're seeking investments to build a nuclear plant in the future, the fact that we have failed to have an approved disposal site is a factor -- how much, I don't know -- in weighing against building and going forward with investments in a plant. If you're not sure that that will ever be effected, then -- ever solved, it could reduce your confidence that you can have that -- have the waste disposal -- disposed of as required. We won't -- you will be less confident in investing.

How many, Ms. Macfarlane, plants are in license or relicense process now?

MS. MACFARLANE: In licensing process? We have nine plant -- nine combined license reviews under way. Many of them have been slowed down in part because there are delays in the design certifications for the plants, and those delays were requested by the vendors themselves. And there are no firm construction plans right now for those, including Bellefonte.

SEN. SESSIONS: Right --

MS. MACFARLANE: But we do have five reactors under construction actively in the U.S., and we'll be seeing most likely the completion of the Watts Bar 2 Unit.

SEN. SESSIONS: So you take the TVA's Watts Bar 2 --

MS. MACFARLANE: Yeah.

SEN. SESSIONS: -- the two at Vogtle --

MS. MACFARLANE: Two at Vogtle and two at Summer in South Carolina.

SEN. SESSIONS: OK. And the Vogtle and Summer are entirely new?

MS. MACFARLANE: They're entirely new designs, yeah, the Westinghouse AP1000.

SEN. SESSIONS: How would you describe -- I know you visited the Vogtle plant --

MS. MACFARLANE: Mm-hmm. (Affirmative.)

SEN. SESSIONS: -- recently as part of your inspecting tour. I hope they don't complain about that travel. (Chuckles.) That's good travel to go and observe the plant and see what's going on.

Was it your observation that these plants with the new design, the AP1000, with passive cooling so if all power shut off you could still allow the water to cool the system and prevent disaster, would that be an improvement on the Fukushima design and avoid some of the dangers that occurred there? And how would that --

MS. MACFARLANE: Passive systems are certainly better than active systems, systems that have to be activated. So those passive systems are an improvement.

SEN. SESSIONS: For people who are listening, would you describe how the passive system would work?

MS. MACFARLANE: I'm -- in light -- in light of the time, I'm going to take that one for the record.

SEN. SESSIONS: OK. Well, do you feel like -- that these plants that are on -- the new ones that are moving forward could help the United States be a leader in a modern nuclear plant and set an example for the world as well as our country?

MS. MACFARLANE: Well, it's our job at the Nuclear Regulatory Commission to ensure that the operating plants and the plants under construction are moving along safely, the plants are operating safely and securely, we're protective of public health and safety. It's not our job to prognosticate on the safety of the -- sorry -- on the health of the nuclear industry or what's best in terms of nuclear policy or energy policy. We leave that up to Congress and the administration.

SEN. SESSIONS: Well, you have a role to play in it. And excessive regulation at this time of real competition from low-cost natural gas that is a clean -- fairly clean carbon fuel but not as clean as nuclear power, I think that the scales could be tilted in a way that we could see a collapse in the future of nuclear power. And I think you have to be aware that there are ramifications from your decisions.

Thank you for your work. I think all of you have tried to do the right thing for the country.

SEN. BOXER: Thank you so much, Senator.

Senator Fischer.

SENATOR DEB FISCHER (R-NE): Thank you, Madam Chair. Thank you all for being here today. Nice to see you, Dr. Macfarlane.

The NRC principles of good regulation -- they emphasize efficiency and focusing on activities that have the greatest safety significance. Rulemakings are a small portion of the total scope of your activities that licensees must respond to. How does your agency prioritize its non-rulemaking activities to ensure that your finite resources are focused on activities of the highest safety significance and in the most significant manner?

MS. MACFARLANE: Let me first say that -- and thank you for your question --

SEN. FISCHER: Do you believe -- do you believe that a prioritization process is necessary?

MS. MACFARLANE: Yes, and we do use a prioritization process, and we do work with industry in helping set that prioritization process. And I believe we're going to be receiving a staff paper on this topic this year, but let me just say that in general we weight safety and security as the highest priority-setting factor. But we also depend on how new rules would fit into our strategic plan and how -- what the interests are within the NRC, within the Congress, within other governmental bodies, the public, NGOs; and, as I said, with industry, of course.

SEN. FISCHER: With regards to Fukushima and what's happening there, part of evaluating that lesson, I think, needs to be how you look in the -- in the future and the consequences and working with other agencies here within our government and especially with regards to more dams upstream and if there would be any failures of those dams.

This is a subject, I know, that's not just of interest to you and -- but also to our other agencies out there, the (Corps ?), for example, Department of Homeland Security. How's the commission coordinating its research on that?

MS. MACFARLANE: We are working with the other agencies that you mentioned as well as the FERC, the Federal Energy Regulatory Commission, which also has some purview over dams. But we are working closely with them to deal with these issues. They are significant issues.

SEN. FISCHER: Do you -- do you look at any uniformity in trying to come up with a good assessment on that?

MS. MACFARLANE: Uniformity among the federal agencies?

SEN. FISCHER: Yeah, how's that working?

MS. MACFARLANE: Yeah. (Laughter.) We have our differences.

SEN. FISCHER: Do you think you're going to be able to work together?

MS. MACFARLANE: Yes. Yes, certainly.

SEN. FISCHER: I mean, this is a huge concern.

MS. MACFARLANE: Mm-hmm. (Acknowledgement.) Yes.

SEN. FISCHER: Do you have a formal process in place that you're following right now?

MS. MACFARLANE: To work with the other agencies? Yes, we do. Our staff has been coordinating with them and meeting with them on a regular basis.

SEN. FISCHER: OK. Do you anticipate you're going to be coming up with a plan soon, or is it going to be targeted for each area?

MS. MACFARLANE: Let me get back to you with the -- with the specific answer for -- on that one.

SEN. FISCHER: OK. OK. And then from a review of industry performance over the last 20 years, it appears that the most significant safety improvements have been attained as a result of voluntary industry assessments to identify and fix those blatant vulnerabilities. Do you agree with that?

MS. MACFARLANE: No, I don't actually.

SEN. FISCHER: Tell me why.

MS. MACFARLANE: I don't think there's any evidence that any -- there have been -- let me -- let me put it this way. There have been a number of voluntary actions taken by the industry, but I think those have been prompted by actions within the NRC in anticipation of new rules at the NRC. But my colleagues might disagree, and I encourage you to ask them.

SEN. FISCHER: Yes. Do any of you have anything to add to that? Can you give me specific examples?

MR. APOSTOLAKIS: The studies that were done in the late -- mid- to late '80s to identify so-called vulnerabilities certainly contributed to the -- to enhancing the safety of the plants, but I wouldn't call those the most significant safety improvement. I think we have made tremendous progress in fire protection, for example, where both the industry and the NRC staff have come up with ways of improving fire safety and understanding better. So I would say that's a more significant improvement.

SEN. FISCHER: Thank you.

Yes, sir.

MR. OSTENDORFF: Senator, thanks for the question. I would just provide another example, and that's in the context of the Fukushima action items. I'll make two comments. One, the commission back in 2011 made a very concerted decision to prioritize (sic) those safety issues into tier one, tier two, and tier three -- tier one being the most important. And I think that served the commission and industry and the country well.

The second piece I'd mention is that, in the context of Fukushima, industry developed what is called a flex proposal to deal with loss of power off-site, on-site, to deal with other issues associated with a catastrophic event.

That's been a partnership. Industry has developed that in response to our mitigating strategies order. So I'd say it's really a partnership, lots of discussions, interactions between the regulator and the industry and the public on these issues.

SEN. FISCHER: Yes, sir.

MR. MAGWOOD: Senator, I think it's an excellent question, and I think it's a complicated question, because if you look at the operations of each individual nuclear power plant, licensees take actions both in response to NRC initiatives and also to their own desire to build margin and increase safety.

And there's a handshaking that goes along with those. So I think each plant benefits from voluntary actions taken by licensees. How to add that up and compare them to regulatory actions, I don't think we've ever tried to do that. But I agree with my colleagues that I think the regulatory framework you've put together is one that's built to assure safety. And when licensees go above that, that's just a good thing.

SEN. FISCHER: Thank you very much. Thank you, Madame Chair.

SEN. BOXER: So I want to thank my colleagues because this is really great. The votes, I guess, have just started. They just started, so that's really good.

I want to thank all you commissioners for coming here today. We're going to have you back real soon because there's many more issues we didn't get to. Specifically, we're going to go -- in the next hearing, we're going to look at more of the transparency by commissioners.

We're also going to look at the 12 recommendations that were made post-Fukushima for safety by your own staff who, between them all, had 150 years of experience, who laid out 12 things you should be doing, you should do. And at that time, there was a hope in the commission to get those things done in five years. So Fukushima's March 2011, and March 2012 has passed and March 2013, and we're approaching March 2014. My understanding is there's one rule out of the 12 and everything else is in stages.

I also found it very interesting, talk about cost-benefit -- and we are going to make public your vote because you don't seem to mind, on who voted which way.

My understanding is, Chairman, you voted with everybody else not to do -- I mean, everybody agreed not to do the two-person rule. So that just to remind you, jog your memory, we found that in the public record somewhere, we dug for it.

So the issue is that your own staff, who had 150 years of experience, said get these 12 things done, don't do a cost-benefit analysis because the cost of Fukushima, might I remind you, is pretty much immeasurable and the benefits of avoiding that is pretty much immeasurable.

But no, you're doing cost-benefits on everything. So I'm going to find out from you next time, all of you, the status of each of these 12 recommendations. And I hope you can move forward on them. That is very, very critical.

The other thing, I'm going to put in the record, Madame Chairman, a letter that I just got. As you delivered, you signed it, this next tranche of information, and your answer to me was, well, if you still have a problem, call me. I have a problem because you asserted some kind of a legal bar to your giving me everything. I don't know.

Is your general counsel here? I've never met her. Is she there? Could I meet her, please? Just identify --

MS. MACFARLANE: She's here -- Margie Doane.

SEN. BOXER: OK. I think it's important that you talk to my counsel and that you also speak with those who advise us, because our understanding is the privilege that you are suggesting is absolutely off the wall. And our understanding from every legal expert here is that you can assert executive privilege or your Fifth Amendment right not to incriminate yourself, and you're talking about some separation of powers.

Well, the arrogance of that is unbelievable because you wouldn't be here without the Congress, you wouldn't be here without the Congress setting you up. You wouldn't be here. And you have to be subjected to oversight, and we have a right to documents.

And when you sit there and you tell me and you tell Senator Vitter you're going to hand us all the documents we want and then you don't and then say very sweetly, oh, I'll be happy to find out, if you need any more -- yes, I need

them all. And I need to know what whistle-blowers are saying. I need to know that all because I swear that I will uphold the Constitution and defend and protect the people that I represent and the people of this country.

So this is not a good relationship, and it certainly isn't. I feel very bad. It's not personal. I'm sure each of us could just be very friendly on a personal level, but that's not what this is about. It's about openness and transparency. It's about safety. It's about accountability.

And for you to withhold documents, which you admit that you are doing based on some phony legal argument, is beyond the pale. Maybe it winds up in court. Maybe we sue you. I don't know what we do. I want the information and I will get it even if I have to go to whistle-blowers.

But I'm just telling you, get me the information. Because when I have a situation where a plant was obviously in a dangerous situation and even before the inquiry there was a staff opinion to let it go and open it and I can't find out why and how, it's just wrong.

So I'm really sorry, but this continues on and on. And I thought maybe with a new chairman and a new spirit here things would change, you know. But whether it's your travel that some of you don't -- you want to have buried, you've asked us to make it confidential, don't tell people what we've spent. What is that about? You're not above the American people. I want you to travel somewhere. I want you to go to Japan. I don't know, some of the other places looked like they're really fun to go to. I don't know how much they have to do with anything.

But I'm hoping that you would go back and talk to each other and, instead of going back and saying, oh, that Barbara Box, ew -- you have a right to do that. But I hope you will also change your attitude about openness, transparency, about moving a little quicker.

Just -- have adopted one out of these 12 recommendations? I don't understand it.

Just look at the faces of the people who got caught. And you could say all you want, it'll never happen here. Don't say that. We never thought we'd be hit on 9/11, we never thought we'd see the likes of Hurricane Sandy, no one ever thought kids would have to be in a bus on an iced road for overnight either. We're just not that powerful. We're just not. We are humble in the face of what could happen.

So I hope you'll go back and I hope your counsel will look at the law in the light that our experts are telling us. And our experts, they don't have anything to hide or anything to gain. They've just been advising Congress for forever. And I have the opinion here. And you know what? I'll give it to your counsel. This is the summary of it. This is the summary of it. And we have the full book if you need it. But I hope you'll take a look at this.

Should we give her the whole thing? OK.

We'll give you the whole entire book about it. Because what you're telling us is simply unheard of and we don't get it from any other agency, just so you know. We don't. I mean, people complain about EPA, but they're not asserting. They're asserting either executive privilege or one of the arguments that are legitimate.

So we'll have you back soon. We're going to look at the 12 recommendations and how you're going about it.

And I thank you for being here and for answering all the questions you did. Thank you very much.

We stand adjourned. (Sounds gavel.)

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