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Committee on Environment
and Public Works Washington, D.C.

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HEARING ON OVERSIGHT OF THE NUCLEAR REGULATORY COMMISSION

Wednesday, October 7, 2015

United States Senate

Committee on Environment and Public Works

Washington, D.C.

The full committee met, pursuant to notice, at 9:34 a.m. in room 406, Dirksen Senate Office Building, the Honorable James Inhofe [chairman of the full committee] presiding.

Present: Senators Inhofe, Boxer, Barrasso, Capito, Boozman, Fischer, Rounds, Carper, Cardin, Whitehouse, Gillibrand, Booker, and Markey.

STATEMENT OF THE HONORABLE JAMES M. INHOFE, A UNITED STATES
SENATOR FROM THE STATE OF OKLAHOMA

Senator Inhofe. The meeting will come to order.

If you remember the last time we met, I made the comment that there are nine people who are on both the Armed Services Committee and this committee, so we set up something where we are not going to coincide. Historically, we have always had the meeting at 9:30 on Armed Services on both Tuesday and Thursday. Well, they decided to have one today. So that shows how much influence I have over there.

This hearing is part of an ongoing oversight on NRC's decision-making on fiscal and policy matters.

I would like to begin by welcoming our four commissioners. We appreciate very much your being here. We have received the President's nomination of Mrs. Jessie Robertson for the open seat, and I expect to proceed with a hearing on her nomination once my colleagues have had a chance to visit with her in person. So you might share that with her so we can make that happen.

We will continue with the committee's practice of five minutes opening statement for the chairman and then two minutes for each commissioner, and then we will be asking questions.

The NRC's mission is a vital one and must be adequately funded. I want our nuclear plants to be safe, and they are

safe. Following Fukushima, I urged the Commission to perform a gap analysis to assess the difference between the basic regulations that they had in Japan, as opposed to what we had in this Country, because a lot of people were laboring under the misconception that it was the same, and it wasn't. So we were far ahead of them to start with.

Four and a half years later, the industry has spent more than \$4 billion and the NRC staff has repeatedly sent proposals to the Commission, which they admit are not safe, significant, or cost-justified. I believe this shows the NRC's bureaucracy has grown beyond the size needed to accomplish the mission.

Now, this is a chart that we are using here, and those who have been on this committee for a while know that we beefed up because we are anticipating something that never did happen, and then you don't beef up after that. So that is kind of the thrust, at least my thrust, in this committee hearing today.

Ten years ago, the NRC accomplished a lot more work with fewer resources. Despite the shrinking industry, the NRC continued to grow, and you can see that in this chart. Over the last few years we have increased our oversight of the NRC's budget and raised concerns about: one, the NRC's extreme level of corporate overhead costs; two, the reactor oversight, spending increasing, despite the decline in operating reactors; three, over-budgeting for the new reactors, work that no longer

exists; and, four, persistent carryover funds.

In response to this scrutiny, the Commission initiated Project Aim 2020 to right-size the agency, and I would like to take the NRC for its word. However, I am struggling to reconcile this with the NRC's recent response to the Senate appropriators.

Lamar Alexander spent a lot of time looking at this, saying what we should do from an appropriation perspective. Then I have the response. I do want to make this response, without objection, a part of the record; and I think several of my colleagues here are going to be asking some questions about that. So it is now part of the record.

[The referenced information follows:]

Senator Inhofe. Rather than seize this as an opportunity to be proactive in the spirit of Project Aim, the NRC took the posture of a bureaucracy, fighting to maintain every nickel of spending. I consider this irresponsible. The situation is strikingly similar to the state of the agency when I took over.

I took over as chairman of this subcommittee in 1997. At that time, there had not been an oversight hearing in four years. Four years. And that can't happen. So we did, we put targets out there as to how often we were going to be having them. I think we need to go back to that and pay a little bit more oversight attention.

Now, given the NRC's response to appropriators, I don't have confidence that the agency will diligently address the need to reform on its own. I believe it is time for oversight to take place.

I intend to draft legislation to reform the NRC's budget structure and fee collection in an effort to instill fiscal discipline in the agency and ensure that resources are properly focused on safety, significant matters, timely decisions are made on matters.

Senator Boxer?

[The prepared statement of Senator Inhofe follows:]

STATEMENT OF THE HONORABLE BARBARA BOXER, A UNITED STATES
SENATOR FROM THE STATE OF CALIFORNIA

Senator Boxer. Thank you so much, Mr. Chairman. I wanted to thank you and the staff because you moved this up to 9:30 because we asked you to because we thought we had something at 10, and it turns out we didn't.

Senator Inhofe. But in Armed Services we do, so that is the problem.

Senator Boxer. It is hard to do all this.

I respect your looking at the fiscal issues surrounding the Commission. As you know, my focus has been really the slow pace at which the NRC is implementing measures to protect American nuclear plants in the wake of the earthquake, tsunami, and nuclear meltdowns that occurred in Japan in March 2011. So we have different focuses, which is fine.

Only one of Japan's 43 nuclear reactors has been turned back on since the Fukushima disaster. A recent Reuters analysis found that of the other 42 operable nuclear reactors in Japan, only 7, only 7 out of 42 are likely to be turned on in the next few years.

For the last four years I have been saying that in order to earn the confidence of the public, we must learn from Fukushima and do everything we can to avoid similar disasters here in America. Following the last NRC oversight hearing in April, I

met with Chairman Burns to discuss the Commission's progress on implementation of the Fukushima Near-Term Task Force recommendations. I do appreciate the letter that you sent to me after our meeting outlining the status of the Commission's work and timelines for completing each of the recommendations.

While I recognize progress has been made in some of the areas, I am frustrated and disappointed with the overall slow pace. Not one of the 12 task force recommendations has been fully implemented, and I think we have a chart that shows this. Many of the recommendations still have no timeline for action.

I am also concerned with some of the decisions NRC is making on whether to implement important safety enhancements. For example, the Commission overruled staff safety recommendations. They overruled their staff and voted not to move forward with multiple safety improvements. By a 3 to 1 vote, the Commission decided to remove a requirement that nuclear plants have procedures in place for dealing with severe accidents.

What is wrong? How can we vote that way? How does this make any sense?

This requirement was identified in the aftermath of Fukushima, but, after years of work, the Commission chose not to move forward. This is unacceptable.

The Commission, in my view, is not living up to its own

mission, which I always read to you to instill in you this burning desire for safety. This is your mission: "To ensure the safe use of radioactive materials for beneficial civilian purposes, while protecting people and the environment." That is your goal. Not to build new nuclear plants as fast as you can, or walk away from your own ideas on how to make plants safer.

We need to look no further than the two nuclear power plants in my State. At California's Diablo Canyon Power Plant, NRC has repeatedly declared the plant safe, even after learning of a strong earthquake fault near the plant, which wasn't known about when the plant was approved. If you asked the average person on the street, I don't care if they are Republican, a Democrat, a liberal, a conservative, or anything in between, do you think you ought to build a nuclear power plant near a really big earthquake fault, I think they would say no. And I don't think they would need a degree in nuclear science to get the fact that that is not safe. So when you hear of a new fault, and for you not to take any action is very shocking to me.

At the San Onofre Nuclear Generating Station in San Diego, which has closed permanently, the NRC recently issued exemptions to emergency planning requirements. We still have a lot of nuclear waste there. There are so many millions of people who live around that plant. The plant's operator, because of your decision, will no longer be required to maintain detailed plans

for evacuation, sheltering, and medical treatment of people residing in the 10-mile zone around the plant should something go wrong.

I am aware that NRC is planning a rulemaking on decommissioning issues, but rubber-stamping exemptions the way the Commission is the wrong approach. I believe it is wrong to relax emergency planning requirements with thousands of tons of extremely radioactive spent fuel remaining at the site. The millions of people, my constituents, they write to me. They are scared. They are really glad that place closed, but they are scared because they don't see the kind of attention being paid to their safety.

The NRC owes it to the citizens of California and to the Nation to make safety the highest priority, and I urge all the commissioners to rethink this, refocus. Think about why you are there.

And I do look forward to discussing these issues with you today. I know you don't look forward to it, but I look forward to it.

Thank you.

[The prepared statement of Senator Boxer follows:]

Senator Inhofe. Thank you, Senator Boxer.

We will take a moment to congratulate Victor McCree, hold your hand up so everyone knows who you are, on his promotion as Executive Director. It is kind of coincidental; last night I was at an event and three different people came up to me and were singing your praises. So we are looking for great things and I am hoping that after this meeting concludes you won't change your mind.

[Laughter.]

Senator Inhofe. He is a graduate of the Naval Academy. That gives you and Commissioner Ostendorff something to talk to him about, so I think you will be a welcome addition there.

Senator Rounds.

Oh, I am sorry, we will start with the chairman for your five minutes, and then we will go down and hear from the rest of the commissioners. You are recognized.

STATEMENT OF STEPHEN BURNS, CHAIRMAN OF THE U.S. NUCLEAR
REGULATORY COMMISSION

Mr. Burns. Thank you, Chairman Inhofe, Ranking Member Boxer, Chairman Capito, Ranking Member Carper, and distinguished members of the committee. We are pleased to provide an update this morning on the Nuclear Regulatory Commission's activities.

As you know, in response to earlier industry plans to construct a new fleet of reactors, the NRC recruited staff and enhanced our licensing capability. Today, only six applications remain active, out of 18 combined applications originally submitted. Two early site permit requests are under review, not the expected four, and two standardized plant design certifications, instead of the anticipated four, remain on the docket.

The focus of the NRC's work has also shifted in other areas over the last decade. Interest in new reactors is growing. There has been a focus on security, of course, after the events of 9/11. We are also working on license renewal, looking at power uprates, overseeing decommissioning, and, importantly, implementing safety enhancements spurred by the Fukushima Daiichi Nuclear Power Plant accident.

To meet the workload challenges, we are instituting organizational and budget realignments under Project Aim 2020. We are identifying the work most important to our mission, as

well as the activities that can be shed, deprioritized, or performed with a reduced commitment of resources.

Rebaselining is a central element of the Project Aim initiative. The NRC has about 3,628 full-time equivalent staff, down from about 3,960 in fiscal year 2010. Our target is 3,600 by the end of this fiscal year. This excludes the Office of the Inspector General in those numbers.

But, importantly, Project Aim will improve our ability to respond to change, to plan and to execute our important safety and security mission. But we must monitor attrition and recruit with care to retain appropriate expertise in the agency. Our success as an agency is due to our highly trained and knowledgeable staff, and their commitment to our mission has established worldwide our reputation as a strong, independent, and competent regulator.

Overseeing the most safety-significant enhancements stemming from the Fukushima accident remains a priority. Most licensees will complete the highest priority work by the end of 2016. This will substantially improve the already significant capabilities of U.S. nuclear plants and provide further assurance that they can cope with extreme natural hazards or events.

The NRC technical staff is reevaluating plans for the remaining longer-term or lower priority recommendations and will

present the Commission with a paper later this month or next month, and we will be meeting on that in the near future.

The Commission has also directed its staff to submit a proposal for increasing the Commission's involvement in the rulemaking process. The goal is for the Commission to be more involved early in the process, before significant resources are expended.

Being prepared to evaluate applications for light water-based small modular reactors, as well as non-light water technologies, presents challenges, but we are prepared to review any applications under our existing framework. Within budget constraints, the agency is working on advanced reactor activities with the Department of Energy, industry standard-setting organizations, and the Generation IV International Forum. We expect to receive a small modular reactor design application in late 2016.

Finally, I would like to touch on this topic of spent nuclear fuel. The NRC has received two letters from potential applicants indicating intent to apply for a consolidated interim storage facility license. The NRC does not have resources budgeted for either review this fiscal year, but could reprioritize work if need be. The NRC has previously issued a license to authorize an independent spent fuel storage facility private fuel storage in Utah, but construction of that facility

did not go forward.

In conclusion, as I have noted many times since becoming chairman, I am very proud to be part of this organization. The NRC has a prestigious history and is viewed worldwide as a premier regulator. I am repeatedly reminded of the NRC's importance and the excellence with which we pursue our work. We are in a sustainable path toward reshaping the agency, while retaining the skill sets necessary to fulfill our safety and security mission.

Thank you, and I would be pleased to answer your questions.

[The prepared statement of Mr. Burns follows:]

Senator Inhofe. Thank you very much, Commissioner Burns.

Commissioner Svinicki.

STATEMENT OF KRISTINE SVINICKI, COMMISSIONER OF THE U.S. NUCLEAR
REGULATORY COMMISSION

Ms. Svinicki. Thank you, Chairman Inhofe, Ranking Member Boxer, and distinguished members of the committee, for the opportunity to appear before you today at this hearing to examine policy and management issues pertaining to the NRC.

The Commission's Chairman, Stephen Burns, in his statement on behalf of the Commission, has provided an overview of the agency's current activities, as well as a description of some key agency accomplishments and challenges in carrying out the NRC's work of protecting public health and safety, and promoting the common defense and security of our Nation.

The NRC continues to implement safety significant lessons learned from the Fukushima accident in accordance with agency processes and procedures, while also maintaining our focus on ensuring the safe and secure operation of nuclear facilities and use of nuclear materials across the Country. Concurrent with this, the NRC is undertaking a comprehensive reevaluation of our agency's structure and processes under the Project Aim initiative. This initiative has engaged, and continues to solicit the input of, all agency employees, as well as interested stakeholder groups.

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

[The prepared statement of Ms. Svinicki follows:]

Senator Inhofe. Thank you, Commissioner Svinicki.

Commissioner Ostendorff.

STATEMENT OF WILLIAM OSTENDORFF, COMMISSIONER OF THE U.S.
NUCLEAR REGULATORY COMMISSION

Mr. Ostendorff. Chairman Inhofe, Ranking Member Boxer, and distinguished members of the committee, thank you for the opportunity to be here today.

I am in complete alignment with the chairman's testimony. I will expand very briefly on two topics: post-Fukushima safety and Project Aim.

The Commission recently approved what I consider to be the capstone of our response to Fukushima, the Mitigation of the Beyond Design Basis Event rulemaking. This rulemaking codifies significant enhancements for station blackout, spent fuel pool safety, onsite emergency preparedness responsibilities, and other command and control aspects.

I look at Senator Carper and note an exchange we had in this committee hearing four years ago on the half dozen, and I believe that this rulemaking codifies the bulk of that half dozen we exchange comments on in 2011.

Seeing a light at the end of the tunnel, the Commission also directed staff to provide a plan and schedule for resolving all remaining Fukushima action items. That is due to us the end of this month.

Project Aim is a real opportunity for this agency to take a fresh look at how we operate and see where we can improve our

efficiency and effectiveness in executing our mission. This fresh look has new faces leading the change. As Senator Inhofe mentioned, we have Victor McCree now leading as the Executive Director for Operations. We also announced a number of other significant management changes. I have the utmost confidence in these leaders.

In closing, I appreciate the opportunity to be here today and look forward to your questions.

[The prepared statement of Mr. Ostendorff follows:]

Senator Inhofe. Thank you, Commissioner Ostendorff.

Commissioner Baran.

STATEMENT OF JEFFREY BARAN, COMMISSIONER OF THE U.S. NUCLEAR
REGULATORY COMMISSION

Mr. Baran. Chairman Inhofe, Ranking Member Boxer, and members of the committee, thank you for the opportunity to testify today.

Chairman Burns provided an overview of the agency's current activities. I would like to highlight just a few of those efforts.

NRC continues to address post-Fukushima safety enhancements and lessons learned. Progress has been made in several areas, but a lot of work is still underway. Later this month, as Commissioner Ostendorff mentioned, the NRC staff will be sending the Commission a plan for how to proceed on the remaining Tier 2 and Tier 3 items. There are some significant safety issues in these categories, so we will need to do some careful thinking about how to best address them.

The staff has begun work on a rulemaking for decommissioning reactors. This rulemaking offers an opportunity to take a fresh look at a range of decommissioning issues with the benefit of public comment. It is also a chance to move away from the current approach of regulation by exemption, which is inefficient for both NRC and its licensees.

The Commission has been working to resolve the policy issues raised by the expected applications for small modular

reactors. Earlier this year, we decided to proceed with a rulemaking to establish a variable fee structure for small modular reactors which will provide regulatory certainty and transparency for potential applicants.

In addition, the Commission recently approved a rulemaking related to the size of emergency planning zones for small modular reactors. This will allow the agency to examine novel emergency planning issues in a way that engages potential applicants and other interested stakeholders.

As you have already heard, the agency is working to increase its efficiency and agility, while remaining focused on our core mission of protecting public health and safety. Through our Project Aim rebaselining prioritization efforts, we will strive to implement NRC's existing scope of work more efficiently, identify any outdated and unnecessary initiatives, and adjust to declining workloads in some areas. Project Aim is not about relaxing regulatory oversight of licensee performance and safety; it is about more efficiently focusing on the right safety priorities.

Thank you, and I look forward to your questions.

[The prepared statement of Mr. Baran follows:]

Senator Inhofe. Okay, thank you. Thank you all, commissioners.

The NRC proposes to spend \$91 million on research in 2016, which is 9 percent of the total budget. Now, three times, including the last meeting that we had, I have asked for a list of all ongoing research projects. I understand that that is one reason that some are saying that the amount of money in my opening statement that I talked about should be looked at is going to research projects, in writing and once personally with you, Chairman Burns, when we met in my office.

Now, late last night I finally received the list. So that has been several weeks ago, and then we get it right before the meeting, which makes it very difficult to analyze. But it still doesn't have, according to those who have read it, all of the cost information or the risk reduction information that we asked for.

So, commissioners, how do you develop a budget and meet your responsibility to be good stewards of taxpayer dollar and license fees if it takes six months and three oversight requests to produce a list of what projects this \$91 million will be spent on? Any one of you want to respond to that, why it should take that long? Because it did.

Mr. Burns. Senator, I will take that, and my colleagues can add.

I think the difficulty that we had in terms of the way that the agency tracks some of the research projects and its accounting, and our accounting is responsible; it meets management requirements. We assure within our process that projects are identified, have a user need; they are reviewed by management and are undertaken. So we try to do the responsible thing.

But what I have asked our EDO and our CFO to do is to tell me how can we, in effect, track some of the data in a way that I think we have gotten a request from your staff. So I don't think this is a matter that we are irresponsible. I think we are quite responsible in terms of how we plan the research of the agency, how we account for it, and how we carry it out. But there are ways we could make it, perhaps, more transparent for you.

Senator Inhofe. Well, do you disagree with the staff's first analysis of the document that we received last night is not complete, is not as thorough as it should be?

Mr. Burns. I think it has the projects that are there. What I understand is what we don't have is the granularity at the individual project level. I think that is what it is. That is what I have asked our EDO and CFO to look at in terms of going forward and we have a process in terms of how we bin the data that can meet that.

Senator Inhofe. Well, other members are going to have specific questions about that. I would observe that in April I asked about the 2005 IG finding that the NRC needed to update its budget formulation procedure, and you indicated that the revised procedure was complete. Was the 2017 budget that we referred to developed using this procedure?

Mr. Burns. I think, Senator, my understanding is what we have was we have a set of management directives that would come to the Commission for its review, given its policy, and I think by the end of this year, for our approval. Our budget, as I understand it, has been developed in accordance with procedures that the agency has in place and are consistent with the standards that OMB expects as we develop a budget.

Senator Inhofe. Wouldn't a thorough updated budget formulation procedure establish some discipline that there has been criticism of before and prevent the sort of thing that we are seeing in the Office of Research?

Mr. Burns. I think the updated procedure can help us improve our processes, and I think that is one of the outcomes that we are looking for.

Senator Inhofe. Do you think Senator Alexander, when he was making his analysis, is accurate in most of his assertions?

Mr. Burns. I am sorry, I didn't hear that.

Senator Inhofe. On the budget, looking at it from an

appropriator's perspective, Lamar Alexander made recommendations and criticism. Well, let's do this. For the record, why don't you respond to his criticism. Would you do that?

Mr. Burns. Yes, we will.

Senator Inhofe. Okay. Senator Boxer?

Senator Boxer. Thanks very much, Mr. Chairman.

Mr. Burns, I was perplexed by the Commission's decision to approve exemptions from emergency response planning requirements at the San Onofre Nuclear Generating Station. I am sure you know millions of people live around it. And the plant has been permanently shut down, but significant amounts of spent fuel remain at the site. I know you know that as well. They are in spent fuel pools.

I don't understand. Why did you do that? Why did the Commission decide it was wise to exempt the plan from emergency response planning requirements?

Mr. Burns. Thank you, Senator. The current framework for plants under decommissioning relies, for better or worse, in terms of a construct that includes both looking at amendments to the license, as well as exemptions. And the exemptions are from rules that applied during operations, when there is fuel in the reactor, when the reactor may be operating.

The judgment with respect to emergency planning and the exemptions from certain emergency planning requirements was

based on the staff's analysis that the risks with respect to the spent fuel pool are not such that it requires the full emergency planning complement. That is the basis for it.

Senator Boxer. Okay, so let me understand. So if something were to happen, God forbid, because, as you know, there is a lot of storage right there, your answer to the people who are exposed to these materials would be, oh, we didn't do it because you weren't operational; this happened after you closed down? That makes no sense to me.

Now, I am introducing legislation, or I actually have done it, to prohibit emergency planning exemption at decommissioning reactors until all the spent fuel has been moved into safer drier cask storage. And I understand that NRC is developing a rule to address decommissioning issues.

Will you take another look at this issue or is this your final decision? Once a plant is decommissioned, you don't care how much spent fuel is there, they don't need a plan? You have to be kidding. Are you going to look at this again when you do that rule, in terms of decommissioning?

Mr. Burns. I believe that within the scope of the decommissioning rule, we would look at the processes for what requirements would remain place and what time frequency.

Senator Boxer. Okay. Well, I am going to talk to you further about this, all of you, and make the point. If you are

exposed to nuclear materials, it is very serious; and people don't care if the plant was operational and there was an accident or the plant was decommissioned and there is an accident. They get just as sick.

I don't know how many of you have been there. Have all of you visited the plant? Can you nod? All of you? One hasn't, three have.

I spoke to the sheriff there and I said, what is the plan in case there is an evacuation, and she kind of shrugged her shoulders and she pointed to the road, which was backed up 24/7. That is the way people get away from there. So, please, your decision is dangerous, is wrong.

Now, Mr. Burns, will you commit to respond to me with specific timelines for implementation of all the task force's recommendations? You did send a good letter and had some deadlines, but you left out others. Will you get back to me on what the deadlines will be?

Mr. Burns. Yes. I can look at the gaps that are there and make sure we understand what they are and what you are looking for. I would be pleased to do that.

Senator Boxer. Okay.

Mr. Baran, recently, the Commission decided to ignore the recommendations of NRC staff and remove safety requirements from a proposed rulemaking that were opposed by the nuclear industry.

In a press release, the Nuclear Energy Institute said, "The measures were not justified using quantitative measures."

What are the limitations of relying solely on quantitative measures to justify new safety enhancements?

Mr. Baran. Well, I think a purely quantitative approach isn't going to do a good job of addressing low probability, high consequence events. A Fukushima style or Fukushima type event is a very low probability of occurring. So when you run the numbers, that makes it difficult for even common sense steps to pass a cost-benefit test that looks only at quantified benefits.

In fact, I think it is unlikely that any of the major post-Fukushima requirements that were instituted by the Nuclear Regulatory Commission with broad support would have passed a purely quantitative test. The Commission required flex equipment and hardened vents both as necessary for adequate protection of public health and safety, which is an exemption to the back-fit rule. Spent fuel pool instrumentation was required under the rule.

Senator Boxer. Okay, I am going to interrupt you. I agree with you, but I am running out of time. Are there any other rules that don't look at quantitative only, in your knowledge? Do they all have to pass that quantitative test? Obviously, the staff didn't agree with that.

Mr. Baran. Well, when you are doing a cost-benefit

analysis, you need to examine both quantitative factors and factors that you can't quantify.

Senator Boxer. I agree.

Mr. Baran. So all the costs, all the benefits. You need to look at them all. If you can quantify them, that is great; if you can't, you do need to still examine them.

Senator Boxer. You have to examine the worst that could happen, is that the point?

Mr. Baran. Some benefits are not easy to quantify, but you still need to consider them when you are making decisions about weighing the pros and cons of whether to proceed with the requirement.

Senator Boxer. Thank you. I agree with you completely. Thank you.

Senator Inhofe. Thank you, Senator Boxer. Senator Rounds?

Senator Rounds. Thank you, Mr. Chairman.

Chairman Burns, five reactors have shut down in recent years and more closures are possible. I think in your written testimony you indicate an expectation for Oyster Bay to be shut down in 2019. My understanding is that it takes more resources to oversee the operating reactors than it does for those that have been permanently closed. In spite of this, the budget of the Office of Nuclear Reactor Regulation has grown about 42 percent, if our calculations are correct, since 2012, including

a \$32 million increase in corporate support costs.

Chairman Burns, do you think it is sustainable to continue increasing this section of the budget while the size of our reactor fleet continues to shrink? The reason why I am asking, it looks to me, while we focus on the safety side of things and we understand, as you have heard right here, there is a concern on that end of it, the dollars and cents side of it is an important part of the oversight as well. I think it is a fair question when we start looking at, if we have a shrinking number, how do we react to that in terms of the size of the entity that oversees these operations.

Mr. Burns. Well, I would agree with you, Senator, that the size of the operation should meet the resource commitments or the projects that we would expect to come in. I would note in the operating reactor area, though we expect, for example, the Oyster Creek Plant in New Jersey, which this has been a longstanding plan, to cease operation in, I think, 2019, and there may be some others, we also, in the area of the operating reactors, we expect the Watts Bar 2 Plant to come online sometime next year. We are taking steps to work off the licensing backlog and to finish the Fukushima requirements. So those are things that I think, responsibly, that we need to budget for.

I agree with the principle that the resources should

reflect the type of work that we have, and it may shift. It may shift. As you get out to 2020 in terms of operating reactors, the forecast would be you have four additional units online between the Vogtle and the Summer plants.

Senator Rounds. Let me just continue on a little bit. In both 2014 and in 2015 the fee recovery rules, the NRC has accounted for the reactor closures so far and the resulting loss of those fees by simply billing the remaining reactors more, on a per reactor basis to make up the difference.

For example, the NRC stated in their 2015 fee recovery rule, the permanent shutdown of the Vermont Yankee reactor decreases the fleet of operating reactors, which subsequently increases the annual fees for the rest of the fleet. As I say, now you have Oyster Bay, which is planned for decommissioning in 2019.

This is for all of you. Do you believe that this is a fair way, an appropriate way to structure the fee collection, to drive up the fees on the operating reactors because of a closure of a plant currently in existence today? Is this the right way to do it or should we be looking at another alternative?

Ms. Svinicki. If I might jump in, Senator Rounds. Not speaking to whether or not it is fair, as long as the legal requirement exists for NRC to recover 90 percent of its budget, by virtue of mathematics, if there are fewer reactors in the

United States, the fixed costs of our activities will be allocated across a smaller number of reactors with, again, the mathematical result that the fee would increase. So I think there is likely some minimum number of reactors where that would become unworkable, and at that point perhaps Congress would then look at options for a different fee allocation.

Senator Rounds. Do you have any recommendations for this committee?

Ms. Svinicki. I do not, but if I might respond for the record, please.

Senator Rounds. That would be appropriate. Thank you.

Thank you, Mr. Chairman.

Senator Inhofe. Thank you, Senator Rounds. Senator Cardin?

Senator Cardin. Thank you, Mr. Chairman.

Let me thank the commissioners for being here and for your service to our Country. The mission of the agency is critically important to this Country. The amount of energy met by nuclear electricity is significant, particularly when you look at the carbon-free generation. And your mission on safety, as we have already talked about several times, is very important to the public health of people of this Country, not only the design and operation, but, as Senator Boxer said, the handling of spent fuels. All that is a critically important mission.

I want to talk about the workforce for one moment.

Your agency consistently ranks among the top as a best place to work. I mention that because I am sure that is because of your headquarters location in Maryland. But I want to talk about the impact that may have moving forward.

You have a highly skilled workforce. You are looking at Project Aim, with the realities of the reductions in the number of applications that you have received. You look at the demographics of your workforce and you see a significant number, over 20 percent now, are eligible for retirement, and that number is going to escalate pretty dramatically in the next few years. You look at the average age of your workforce, and that is increasing pretty dramatically.

So as you are looking to rebalance and you are looking at the realities of budget here in Washington, what game plan do you have to be able to recruit young talent that is needed in the agency, maintain expertise so that the mission of your agency moving forward can maintain that excellence?

Mr. Burns. Thank you, Senator. One of the things I think we continue to do is have a robust entry level program for technical staff, and there is still a lot of excitement about that. I have had the opportunity in the last few months to go to Penn State University, which does some research for us but also has a large nuclear engineering department. They say they

have an excellent interest in nuclear engineering there.

We support, through our budget, a grant program that goes out to not only universities, but also some craft and trade schools that help throughout. So, again, I think what we can do is leverage off being a great place to work, having an exciting mission that jumps around. That is what kept me there and kept me in Maryland for 34 years at the NRC before I left and then came back.

But it is an important area because there is a generational shift there, and there are fewer of us folks who were there in the late 1970s and early 1980s, and we need to make sure we have the next generation and we are able to also transfer knowledge to them. So we work at that.

Senator Cardin. But as you looking at Project Aim 2020 and rebalancing, which in many is code for downsizing, do you have a concern that young people may not see the future of the agency and that you may not be able to recruit? Also, downsizing numbers. You are going to get hit on both sides, it seems to me, retaining the expertise you need, but recruiting the new people. Is there any help you need? Any tools that you need in order to be able to get this done?

Mr. Burns. I think we have the tools that we need. What I agree with you with is part of it is our communication, because what it is, although we are getting smaller, we need to retain

critical disciplines. Those are our highly skilled workers.

But we also need lawyers, we need administrative staff, we need IT people, and communicating that out so that while we are shifting around we expect ourselves to be somewhat smaller, again, communicating those opportunities. That communication piece is important. I think we have the tools we need to recruit and do those types of things.

Senator Cardin. Thank you, Mr. Chairman.

Senator Inhofe. Thank you. Senator Boozman?

Senator Boozman. Thank you, Mr. Chairman.

And thank you all so much for being here. The work of the NRC is so very, very important, and we need a Commission that is responsive to Congress, collegial, and thorough. The Commission must be science-based and quantitative analysis of benefits and costs, and it must be focused on the right priorities. We need to budget for these priorities.

First of all, I want to acknowledge the hard work and dedication of your staff in Arkansas. We are very proud of Arkansas Nuclear One. There was an industrial accident at the plant in 2013 that involved contract work that was performed onsite in a non-radiation area. This was a very serious and tragic accident, but it involved no risk to public health or safety.

The NRC has been very active over the last two years,

reviewing safety measures at the plant. In the meantime, the Commission has determined that the plant remains extremely safe to operate, and we appreciate the work that has gone into fixing issues that were identified.

Our nuclear plant provides nearly 1,000 really good jobs in Arkansas, which is a huge boost to the economy of the State of Russellville and the area. In addition to those permanent jobs, hundreds of additional contractors regularly work onsite and invest in the community.

The plant has the capacity of over 1,800 megawatts. Our nuclear plant truly keeps the lights on in Arkansas, and it keeps our industry and manufacturers going. It is the largest producer of emissions-free energy in Arkansas by far. In fact, each year this plant reduces air emissions by over 13,000 tons of sulfur dioxide, it eliminates nearly 10,000 tons of nitrogen oxide emissions, and it cuts almost 8.5 million tons of carbon emissions. For all these reasons, we are very glad to have Arkansas Nuclear One.

So, again, we are very proud of our nuclear plant. We appreciate the potential and all that nuclear energy does.

Chairman Burns, the NRC's corporate overhead costs have risen significantly over the last decade, reaching \$422 million, or 41 percent of NRC's total budget authority, according to the NRC's fiscal year 2015 fee recovery schedule. I am told that

the NRC is considering an accounting recommendation that would allow some overhead costs, such as the human resources and financial management, to be reclassified within the NRC's business lines in order to make the costs attributed to corporate overhead appear smaller.

I guess the question is does the NRC plan to adopt what I would call almost an accounting gimmick, or is the Commission planning to find ways to actually reduce corporate overhead costs, rather than simply placing them in such a way in the business line budget that it is harder to get to?

Mr. Burns. Well, thank you, Senator. We need to be transparent in terms of how costs are allocated and where they are. We do, as part of Project Aim, we are taking seriously looking at efficiencies in terms of the corporate support costs, as well as overhead costs in our activities. As directed by the Congress in the last appropriation bill or in the report on the bill, we used the consultant services of EY, formerly Ernst & Young, to look at corporate support.

My understanding is that we are generally aligned with other agencies. But this is an area we are focused on in Project Aim to try to reach a better balance and efficiencies in how we do it.

Senator Boozman. So I guess the question is, are you going to do that. Are you going to, again, make it such that you

reclassify some of your costs that shifted away from the overhead costs?

Mr. Burns. I believe that the way we are portraying some of the costs will include overhead costs, yes. And I think in doing that, again, the idea is not to hide them, we want to be transparent about it, but a direct effort of a technical person does require some overhead in terms of office space, other types of support activities and the like, so that overhead. But we want to do it in an appropriate way.

I fully agree with your principal. This is not sort of hide the peanut, move a shell game here. We want to be responsible about it.

Senator Boozman. Good. Thank you and thank you all for being here.

Thank you, Mr. Chairman.

Senator Inhofe. Thank you. Senator Gillibrand?

Senator Gillibrand. Thank you, Mr. Chairman.

I would like to talk a little bit about Indian Point, which is one of our reactors in New York. Following the May 8th transformer fire at Indian Point, which resulted in oil leaking into the Hudson River, I wrote to you expressing concerns about the incident and the number of incidents involving transformers over the past eight years, including fires in 2007 and 2010. In our correspondence following the incident, we discussed the

Commission's decision to not require an aging management plan for transformers as part of the licensing renewable and, instead, continue to monitor them as part of NRC's ongoing oversight inspection and maintenance activities.

Can you please explain, any of you who have looked at this, why, given multiple incidents involving transformers at Indian Point over the past eight years, the Commission believes that the current monitoring regime for transformers is sufficient?

Mr. Burns. Thank you, Senator Gillibrand. As I think we discussed when I met with you, I did not participate in the Commission's adjudicatory decision related to that because I am disqualified from doing that. I think the general principal is that in looking at license renewal, the focus is on the aging of long-lived passive components, which a transformer generally is not considered. I think there is oversight and monitoring that the licensee is expected to do through its maintenance programs that we monitor. I think that is the basic dichotomy.

Senator Gillibrand. Okay. Despite the fact that Indian Point experienced four unplanned shutdowns earlier this year, including a shutdown that was a result of the transformer fire, the mid-cycle assessment states that NRC plans to conduct baseline inspections at Indian Point. What are the criteria for a baseline inspection versus other levels of inspection? And when making a decision on the level of inspection that a plant

will be subject to, do you look at the previous violations in a cumulative way or do you only look at a specific period of time?

Mr. Burns. I would like to be able to provide you more detailed information for the record. The general approach is we do look at a history of operation or performance during the time. I have to say I am a little fuzzy in terms of how the things will line up, but I would be pleased to provide that for you for the record.

Senator Gillibrand. Okay. And for the record, if there is a number, if there is a number of incidents or violations within a certain period of time that NRC would then require a different level of inspection above baseline inspection, please let us know.

Mr. Burns. Yes. Because there is generally, through our reactor oversight process, and I just don't have the details in my head, in terms of how the levels of inspection and expectations are. So we will make sure we get that to you.

Senator Gillibrand. Okay.

Mr. Ostendorff. Senator, if I may just make a brief comment here on your question.

Senator Gillibrand. Sure.

Mr. Ostendorff. One of the concerns on tying plant shutdowns or trips to performance evaluations is, it could send a signal to a licensee that there is going to be a penalty to

pay if they shut down. And in many cases our licensees will take the conservative safety step of shutting down.

Senator Gillibrand. Right.

Mr. Ostendorff. We do not want to send a different incentive to that licensee.

Senator Gillibrand. Okay.

On December 12th the license for Indian Point Unit 3 will expire. As you know, the license for Unit 2 expired in 2013. The reactor has been operating with an unexpired license for the past two years in what is called a "timely renewal period." Is Unit 3 also expected to enter into a timely renewable period when its license expires in December? Have there been previous instances where multiple reactors at the same plant were both operating without a renewed license? What impact do you think this will have on the plant and the NRC's inspection process for Indian Point?

Mr. Burns. I would expect, given the status of the adjudicatory proceeding on renewal, that the other unit would go into so-called timely renewal. That is a provision under the Administrative Procedure Act that is incorporated in our regulations.

What I understand is that the licensee, Entergy, will implement the enhancements to the license that are expected that have come through the process of staff review. They would

continue to have the oversight by the NRC. They are still expected to follow the license. In a sense, the open item is the conclusion, the proceeding on license renewal, but our oversight would remain and our ability to do that remains the same.

Senator Gillibrand. Thank you.

With my remaining five seconds, will you just submit for the record an analysis about the Fitzpatrick Plant? Because we have hear from Entergy that they may shut it down, and I just want to know what NRC's role, if any, in being part of these decisions, whether you are notified of plans, whether you have any input. Because it is a huge community issue right now and I would love to know what your perspective is and if you do involve in these decisions on any level.

Mr. Burns. I will certainly do that. We don't have a role in the decision with respect to operation, but if a plant decides not to continue operation, there are processes, and we can provide you information on that.

Senator Gillibrand. Thank you.

Senator Inhofe. Thank you, Senator Gillibrand. Senator Capito?

Senator Capito. Thank you, Mr. Chairman.

I want to thank all of you all for being here today. I would like to ask some questions along some of the same lines as

my colleagues have. I also would like to mention that I do not have a nuclear facility in my State, but I was able, by the courtesies of AEP, to visit the Cook Plant in Michigan, which has just had a 20-year extension, I believe, on their license. So I learned quite a bit there.

But as I understand it, when companies need to modify their plants or alter their procedures, the NRC has to approve that. Correct?

Mr. Burns. For many things. There are provisions in our regulations, and perhaps also in our licenses, that allow certain types of changes to be made if the licensee does the analysis and concludes, for example, under one of our regulations, that there is no unreviewed safety question. So they have some flexibilities themselves.

Senator Capito. All right, good. Thanks for that clarification. And you budget for about 900 reviews a year. Am I correct in assuming that you have stated that you prioritized the licensing actions based on safety significance? So the ones that would have more impact on safety obviously are going to rise to the top? Is that how you prioritize 900 reviews a year?

Mr. Burns. I think that is generally true. Part of that also comes in discussion with licensees who apply for the amendments or other types of licenses.

Senator Capito. Okay. So we are going to put the chart

back up that the chairman used. The first point I would like to call your attention to is the number of operating reactors has gone down due to economic challenges. So we have gone from 104 to 100 reactors. But resources for the agency have gone up 15 percent over that same time period.

I learned just today, more specifically, that Project Aim 2020 is aimed at probably that discrepancy, but the second thing I would like you to notice is how the workload is down, but there is still a backlog in reviewing licensing actions on time. So I would say since the NRC prioritizes reviews based on safety, which we pretty much just established, any licensing action that companies are pursuing for economic reasons but do not have a safety nexus, are they the ones that are more likely in this backlog? Do you understand my question?

Mr. Burns. No, I understand the question. I think I would have to look at that in terms of the record.

Senator Capito. Let's talk about the backlog a little bit. How extensive is it and what kind of time periods are allowed for backlogs? Is there a stop dead date where you can no longer be in a backlog, when you have to have a decision made?

Mr. Burns. Essentially what the objective is, I think, is to work through license amendment or licensing action type of requests from licensees within a year, and what happened over the last few years, particularly after the Fukushima accident,

is a backlog grew as we focused on the safety significant Fukushima enhancements. So that grew.

What I give credit and credit mostly goes to, I think, our current Director of Nuclear Reactor Regulation, Bill Dean, and his team in terms of they have been taking steps that are working down that backlog, and I think their objective is that we basically have it down to zero by fiscal year 2017.

Senator Capito. Okay. And I think the chairman mentioned the document the NRC gave to appropriators, I am on an appropriations committee, NRC FY2016 High Level Impacts of Further Reductions. In that document, it indicates that the NRC would delay domestic licensing actions prior to suspending the review of foreign reactor design for construction in a foreign company. How do you justify giving foreign work a higher priority than a domestic licensee's operational needs?

Am I understanding that correctly, the statement that you made in that document?

Mr. Burns. The document that the chairman referred to was developed at looking at potential impacts of rolling significant cuts to our budget request.

Senator Capito. Right.

Mr. Burns. And in one of them, yes, it does identify the Korean design certification that is under review. I think what we look at in terms of if we have cuts that go along those

levels, or certain actions that we would have to go to look at in terms of the relative priority. I think that when it comes to the actual decision, the Commission would look at the priority of the particular items and things that are under review. Like, for example, on the backlog it may be a question of stretching out, again, the review versus saying we are not going to undertake that review.

Senator Capito. And I guess the point of my question is I would think, just on the face of it, that one of the priorities that we would certainly like to see, and Senator Boxer has talked about this in terms of her State, is a domestic influence here, or not influence, a domestic priority over what might be occurring around the rest of the world.

Anyway, I thank you for that and I thank you for the response.

Senator Inhofe. Thank you, Senator. Senator Whitehouse.

Senator Whitehouse. Thank you.

I would like to follow up on Senator Capito's questions about the backlog with some questions about what you might call the frontlog.

People have been talking about modular nuclear reactors for decades. So far, not a single one has ever been approved by the NRC. I believe that the first likely one is the NuScale project coming up next year. There have been significant advances in

nuclear next generation technology, the traveling wave technology. TerraPower is, to a large extent, Bill Gates' company. He is no idiot. He has not been able to develop that technology beyond the experimental. Not even beyond the experimental, beyond the theoretical stage in America. Instead, he has signed contracts with China's nuclear commission.

And we are looking at, at a time when carbon pollution is probably going to be the disgrace of our generation, 4.2 gigawatts of carbon-free power lost just in the last two years to decommissioning. Now, some of those decommissionings may have been necessary for safety purposes. It is obviously a case-by-case scenario. I know our ranking member is very concerned about a plant in her State. But to the extent that these are viable plants that are providing carbon-free power and they are being decommissioned on economic grounds because nobody has bothered to figure out a way to price the carbon savings that they provide, we are losing a big piece of our fleet.

So if you look at those three emerging things, the modular power, the next generation power, and the decommissioning that we are seeing, it doesn't look to me like you guys even have a windshield. You are living looking in your rearview mirrors at problems of the past, and I don't get why we seem to be behind or not paying attention in all of those three frontlog areas.

Now, I am probably exaggerating for effect, but I feel some

real frustration when American technologies get developed in China instead of here. I feel some real frustration when strategies for modular, which is basically still light water, it is not even a new technology, that we have talked about for decades, are still backed up; and we are looking at the very first certifications a year from now, after decades, and when we see these plants being decommissioned with no evident review as to the significance of their carbon savings.

So, great on the backlog. How about the frontlog?

Mr. Burns. Thanks, Senator. I think we are looking forward and we are looking forward in some of those areas. We have to ensure the safety, obviously, of the existing fleet. We have to ensure that the plants that go into decommissioning are handled safely. But there are initiatives and there is work that we are doing with respect to both small modular and also advanced technology.

Let me describe that a little bit, but one thing let me point out is that with respect to our ability to review or take, in effect, licensing type action on those new technologies, they have to come in with a sponsor who is ready to pay, basically pay the fees as we are required to collect under that. That is some of the challenge. I have had some discussions with the Department of Energy, because they have a role, too, in terms of the R&D part. We are the safety regulator; we have to give

judgment to say are these types of concepts going forward.

We recently had a very good workshop with the Department of Energy where we invited in people who are looking at this type of innovation, and there are things we can do with DOE, staying in our appropriate roles, that look at what are the types of safety issues that are different than the light water technology, and we are doing some of that.

Senator Whitehouse. Would you agree as a general proposition that regulatory agencies have ways to preadapt regulatory processes to emerging technologies so that the emerging technology doesn't have to face a regulatory regime that was developed for an old technology but, rather, a more welcoming, equally rigorous, but welcoming in terms of fitting the new technology? I would love to know what steps you have taken to change the manner in which modular reactors will be certified in advance of this clearly oncoming means of giving us some clean power.

Mr. Burns. Well, let me make two quick points. First, with respect to the NuScale design, they are coming in under what I will call the design certification process, and there has been a dialogue with them as they prepare to submit the application to make sure that both sides' expectations meet. So that is one thing.

The second thing I would say, and this is an item that came

out of that workshop, is whether we are prepared to do more. While we are not giving the final license, if you will, the final certification, I think we can be responsible about making step-wise decisions that signal and indicate to developers and investors that we have looked at this aspect of the technology, we have issued a topical report or review on it, and that that looks okay, you can go to this step. That is the type of thing that they are looking for. I think within our framework we can do that because I would agree with you, we need to be adaptable.

Senator Whitehouse. Thank you, Chairman.

Senator Inhofe. Thank you, Senator Whitehouse. Senator Fischer?

Senator Fischer. Thank you, Mr. Chairman.

On July 15th I joined in a letter with Chairman Inhofe and other members of this committee to the Commission expressing concerns based largely on defense of NRC's existing backfit rule. This rule provides that before a new requirement can be added to an existing license facility, the NRC must demonstrate that the new requirement would result in a substantial increase in the protection of public health and safety, and that the direct and indirect costs of implementation for that facility are justified in view of this increased production.

Commissioner Ostendorff, what policies or procedures are in place at the Commission level to ensure that the backfit rule is

consistently applied in staff analysis and recommendations?

Mr. Ostendorff. Senator Fischer, thank you for the question. If I may, let me address this in the context of a recent Commission decision I think that is very important. I referred to it in my opening statement, and that is the Mitigation of the Beyond Design Basis Event rulemaking, which brings together in one rule a large number of Fukushima-related action items.

Our regulatory framework is predicated upon two essential notions. One, adequate protection. If something is required for adequate protection, then we don't take cost into account, period. And I wanted to say that because I know there was an exchange earlier Commissioner Baran had on this topic with Senator Boxer. Added protection, no costs are considered.

If it is a lower safety issue, such as it does not rise to adequate protection, then it becomes under the backfit rule, is there a substantial safety enhancement that passes a cost-benefit analysis. In the Mitigation for the Beyond Design Basis Event rulemaking, which overall the Commission approved that rule, there is one small part of it that the majority of the Commission did not approve because it did not pass the cost-benefit analysis test using quantitative analyses, which were available, and that is the requirement for severe accident management guidelines.

So I would say that the staff made a recommendation to the Commission in the spirit of an open collaborative work environment. We do not want to stifle the staff coming forward with a recommendation. At the end of the day, when it comes to the backfit rule, it is the Commission that makes the final decision. That is what we have done.

Senator Fischer. Okay. Thank you.

Commissioner Baran, I see you nodding. Did you have comments you wanted to add to that?

Mr. Baran. I don't think so. Commissioner Ostendorff mentioned severe accident management guidelines and that was a situation where I disagreed with my colleagues. I thought the staff's analysis was the right one there. What we heard from both the staff and from our advisory committee on reactor safeguards was that the staff's quantitative analysis wasn't a complete picture of all the safety benefits of requiring SAMGS, as they are called. In other words, the staff didn't have all of the tools they would need to do a complete quantitative analysis that captured all the safety benefits.

So, from my point of view, the staff, therefore, appropriately did a qualitative analysis to supplement the limited quantitative analysis, and when they did that analysis they found that it was a substantial safety enhancement. But as Commissioner Ostendorff pointed out, and I completely agree with

this, it is ultimately a Commission decision about whether or not to accept that analysis, accept that recommendation. The staff's job is to lay out all of their analysis in a way that is transparent and understandable for decision-makers and for stakeholders, and I think they did that here, and then the Commission made a decision about it.

Senator Fischer. Commissioner Burns, as we look at the rulemaking process, I think really a critical first step in addressing the impacts when we look at a new regulatory requirement to be verified is to be safety significant and cost justified, and that is required by the NRC's backfit rule. But we have seen the NRC staff proposals that fall short of that. In fact, the NRC IG has noted, "The agency may be vulnerable to errors, delays, wasted effort, and flawed decision-making because of the limited experience of its cost estimators. It also increases the potential to make less than optimal rulemaking decisions because the NRC Commission uses regulatory analysis to determine whether to move forward with rulemaking."

Do you agree that the Commission should, I guess, more closely scrutinize rulemaking initiation and how those rulemaking processes are prioritized so that you can better use staff time and resources on proposals that are brought forward by the staff?

Mr. Burns. There is certainly an important role for the

Commission in rulemaking, and one of the things I have done, we are expecting a paper from the staff very shortly, is taking a look at steps to assure greater involvement at more critical points in time of the Commission and rulemaking. So we will be deliberating on that over the next few months. But I would agree with you, Senator, it is important for our leadership role to assure that we take as a Commission a hard look at rules that we propose to impose.

Senator Fischer. Well, I thank you for that, and I agree with you. I think it is especially important that the Commission provide scrutiny at the initiation of the rulemaking process. So thank you very much.

Thank you, Mr. Chairman.

Senator Inhofe. Thank you, Senator. Senator Markey?

Senator Markey. Thank you, Mr. Chairman, very much.

More than a year ago Senator Sanders and I wrote the Commission about why NRC's economists were improperly prevented by their supervisors from asking Entergy questions, about whether Entergy had the financial resources to, if needed, deal with the safe operation of its reactors. In the Commission's response to us, NRC maintained that there was no "direct link between safety and finances." It is time to revisit that statement.

The Pilgrim Nuclear Power Station in Plymouth,

Massachusetts, was recently placed in NRC's least safe operating reactor category because of repeated unplanned shutdowns and other safety problems. There are only three reactors in that category, and every single one of them is run by Entergy. In fact, of the 10 reactors Entergy operates, only four are currently rated as being in NRC's safest categories.

Moreover, financial analysts are openly saying that it isn't economical for Entergy to continue to operate Pilgrim and other reactors.

Do any of you disagree that if NRC staff wants to renew their request to you so that they can receive detailed financial information from Entergy in order to determine whether Entergy has the money needed to safely operate its reactors, that they should not be allowed to do so? Mr. Chairman?

Mr. Burns. There may be an appropriate circumstance in which we would do that. I would say on a day-to-day basis I want our inspectors in the plant looking at how activities are being carried out at the plant. I think that, for us, is the primary way to do it.

I am not particularly familiar with the letter you and Senator Sanders sent, but, again, if there is an appropriate basis for us to do so, certainly we could do so.

Senator Markey. I think this is a very suspicious situation, Mr. Chairman, when Entergy has three reactors in the

same category and every single one of them is an Entergy plant, in this lowest category, and that analysts are wondering whether or not Entergy has the financial capacity to run the Pilgrim plant, that we give to the NRC staff the ability to be able to make that determination as to whether or not the financing capacity is there. Would you agree that that makes some sense?

Mr. Burns. Again, I think there are circumstances in which it may be appropriate to do that. Whether that is here or not, I won't say.

Senator Markey. Okay. Commissioner Baran?

Mr. Burns. But I want our inspectors on the ground.

Senator Markey. Okay. Commissioner Baran?

Mr. Baran. Well, if the NRC staff thinks there is a nexus between underinvestment at a plant and safety problems at that plant, I think they should get the information they need to address that issue.

Senator Markey. I agree with you.

Do any of the other commissioners disagree with that?

Mr. Ostendorff. Senator, just a comment. I had a chance, in June of this year, to visit Pilgrim, and I appreciate that one of your staff from Massachusetts attended that visit with me, and we spent a lot of time with the licensee looking at their operating performance. Subsequent to that visit, two months later, our staff made the recommendation to place them in

column 4, as you noted in your comments. I would just observe that having spent quite a bit of time, along with other commissioners and senior staff, looking at this particular issue at Pilgrim, we have not assessed that there is a nexus between plant investment and operating performance.

Senator Markey. Commissioner Baran, every time a reactor gets placed in a lower safety category by NRC, it gets subjected to more inspections and requirements, and those cost the industry money. There is currently a proposal in front of the Commission that would basically allow reactors to experience more safety problems before they fail into NRC's second worst safety category for operating reactors. Is that your read of the new proposal?

Mr. Baran. The Commission is currently deliberating on whether to increase the number of white findings, or low to moderate significance findings, in the same cornerstone necessary to put a plant in column 3, so the proposal is to increase that from two findings to three findings, which would raise the bar for column 3.

Senator Markey. My experience with nuclear power plants is that they age, and what has happened here is that each one of these plants keeps requesting an extension so that they can continue to operate longer and longer. But the older the plants get, the more problems they have; and the industry historically

has tried to avoid having to make the additional investment in safety, because that is cost for them that they don't want to have to have factored in, the lifetime cost of keeping these plants safe.

So, from my perspective, I just think that the NRC should listen to their staff, they should allow them to do the financial analysis of whether or not the actual overall financial well-being of Entergy is in any way inhibiting their investment in the safety procedures that are needed, given the fact that Entergy has such a high percentage of the plants in America that are considered to be the least safe operating reactors in America.

So that is my request to the Commission. I think you should give them permission, and I think we will get the answer we need. This linkage between financial viability of a corporation and the investment they make in safety. It is pretty clear here it is an issue that has to be answered, and soon.

Senator Inhofe. Thank you, Senator Markey. Senator Barrasso?

Senator Barrasso. Thank you very much, Mr. Chairman.

Chairman Burns, the EPA has proposed a rule to set forth groundwater protection standards for uranium recovery facilities. I believe the EPA proposal ignores the successful

40-year history of in situ recovery projects. It imposes numerous overly stringent standards that would jeopardize the future of the uranium recovery industry in the United States. I believe the EPA is once again asserting power over another area of the economy, even though they are not the primary agency that Congress created to manage and oversee uranium production. That role belongs to the NRC.

So while I recognize EPA has some standard setting authority under the Uranium Mill Tailings Radiation Control Act, it is my understanding the NRC is charged with determining how to implement these standards, and the question is has the NRC adequately looked at this issue.

Mr. Burns. Thank you, Senator. I think we have looked at the issue with respect to the proposed changes to the EPA regulations, I think in 40 CFR Part 192, and our general counsel has submitted commentary with respect to that.

Senator Barrasso. Do you feel the NRC was adequately consulted on the rulemaking?

Mr. Burns. I think we had an opportunity to provide input, which we did, on it. That is what the general counsel's letter does.

Senator Barrasso. Any other members want to jump in on that, whether the NRC was adequately consulted?

Mr. Ostendorff. I would just add that I think the NRC and

EPA have a very solid ongoing working relationship. We have, however, as an agency, identified concerns with perhaps their regulatory footprint going into our jurisdictional issues in dictating how certain methods are to be used by our licensees, and that causes us concern. But I think we understand the EPA will be talking to us about our concerns here in the near future.

Senator Barrasso. Because I know the NRC has indicated in a July 28th letter to the EPA that the proposed rule "may encroach upon the NRC's authority." So I wonder has the NRC met with the EPA specifically to discuss the concerns. You said you are going to meet with them in the near future? What is the plan on that based on that July 28th letter?

Mr. Burns. My understanding from our general counsel is that we met on preliminary basis, but there is the intention to have future meetings on the subject.

Senator Barrasso. Because a 2009 NRC memo from staff entitled Staff Assessment of Groundwater Impacts from Previously Licensed In Situ Uranium Recovery Facilities states that the staff is unaware of any situation indicating that the quality of groundwater at a nearby water supply well has been degraded, any situation where the use of a water supply well has been discontinued, or any situation where a well has been relocated because of impacts attributed to an ISR facility. So the

question is has there ever been a leak that you know of from uranium in situ recovery facility that impacted drinking water?

Mr. Burns. Not that I am aware. I could check with our staff.

Senator Barrasso. Okay. That is the recent staff report from a couple of years ago.

So, Chairman Burns, in April I asked you about the length of time that it should take to review an application for a new uranium recovery facility, and your response you concluded was I think this is an area I am willing to look at and see. We are trying to do a better job. And I agree with you.

This is what we found from information that we requested from the NRC. By our math, the agency takes an average of three years to review an application for a new facility; one application took five years. I mean, that is longer that it took for the NRC to issue the licenses for the new nuclear plants in Georgia and South Carolina.

So uranium recovery licenses are for 10 years, and there has to be a reapplication for a renewable. We found the NRC sometimes spends five years deciding whether to grant the 10-year license extension. So a company spends about half of its time paying for license reviews.

Is a uranium recovery facility as complicated as a nuclear power plant? And if not, why should it take a comparable, if

not longer, amount of time to review a license application than it does for a nuclear power plant?

Mr. Burns. I think, Senator, in some of the circumstances the requirements on consultation under the National Historic Preservation Act, those requirements, because of the consultations, have to be done with local Tribes, those have been extensive.

What I understand from talking to our staff, a couple areas where I think we have seen some improvement in that area is, one, encouraging the license applicant to have dialogue with local community. Second, we have been focused also on improving our processes with request to this consultation process. We issued recently a tribal protocol in terms of helping our communications. I think that is going to help in that area, but it is something I think we can continue to work on.

Senator Barrasso. So finally, then, would a longer license duration, rather than the 10 years, a longer duration, help the NRC manage its workload better?

Mr. Burns. That is a possibility. We would have to take a look at that.

Senator Barrasso. Thank you.

Thank you, Mr. Chairman.

Senator Inhofe. Thank you, Senator Barrasso.

Senator Boxer, I think you want to submit something for the

record.

Senator Boxer. Yes. I just wanted to thank you for this hearing and thank the Commission and all of our colleagues.

I ask unanimous consent to place in the record an explanation of the rulemaking that Senator Barrasso talked about. We want to make sure that the water is safe when you have this uranium mining. I think the EPA could go either way; they could do a rule under the Uranium Mill Tailing Radiation Control Act or under the Safe Drinking Water Act. So I just want to put that in the record.

Senator Inhofe. Thank you. Without objection, it will be in the record.

[The referenced information follows:]

Senator Inhofe. Let me just say to the four commissioners, first of all, thank you for being here. You are doing a good job in some areas, but the big concern that gave birth to this hearing is that when you are looking at operating reactors dropping down from 105 to 99, licensed action going down from 1,500 to 900, material licensees 4,500 to 3,200, licensed renewals 43 percent down at the same time, there should be cuts in the budget commensurate with this lighter workload.

I know that Project Aim is supposed to be helping us to do that, but I don't think anyone on our side over here is satisfied with the progress that we have made so far, and I want to make sure that you leave with that message and that you continue on this and come up in a very short period of time with better results that respond to what we refer to as the workload and financial concern. And I thank you very much for the hearing today. Thank you, Chairman Burns.

Mr. Burns. Thank you.

Senator Inhofe. We are adjourned.

[Whereupon, at 10:58 a.m., the committee was adjourned.]