UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

+ + + + +

NUCLEAR POWER PLANT DECOMMISSIONING

+ + + + +

PUBLIC MEETING

+ + + + +

TUESDAY

JULY 15, 2014

+ + + + +

ROCKVILLE, MARYLAND

+ + + + +

The Commission met in the Commissioners= Conference Room, 1st Floor, One White Flint North, 11555 Rockville Pike, Rockville, Maryland, at 9:00 a.m., Allison M. Macfarlane, Chairman, presiding.

PRESENT:

ALLISON M. MACFARLANE, Chairman

KRISTINE L. SVINICKI, Commissioner

WILLIAM D. MAGWOOD, IV, Commissioner

EXTERNAL PANEL:

KATHLEEN FOX, FEMA

CHRIS RECCHIA, VDPS

RALPH ANDERSEN, NEI

DANIEL STODDARD, Dominion

WAYNE NORTON, Yankee/DPC

DAVID VICTOR, San Onofre CEP

NRC STAFF:

MARK SATORIUS, EDO

DREW PERSINKO, FSME

LOUISE LUND, NRR

MARK THAGGARD, NSIR

ROBERT ORLIKOWSKI, Region III

P-R-O-C-E-E-D-I-N-G-S

(9:03 a.m.)

CHAIRMAN MACFARLANE: Sorry. The elevators were slow this morning. I don=t really understand it. It=s summer, people are away, but they=re all here, apparently.

It=s good to see a good crowd. Hope everybody is doing well this morning.

Today we are going to have a briefing on the status of nuclear power plant decommissioning. The safe and effective regulation of decommissioning nuclear power plants is an important and I think timely topic for us here at the NRC, seeing how over the past few years we have had a number of plants announce decommissioning.

There are different issues that surround the closure of nuclear reactor plants. These include several license amendment actions to reflect changes in the plant, exemptions needed to multiple emergency planning and security requirements, or requested anyway, a focus on decommissioning and spent fuel management funds, and increased interest in the involvement of communities and states surrounding nuclear power plants that are decommissioning.

Many of the regulations that we have in place at the moment are actually designed for operating reactors and don=t consider the different nature of the reactor once it goes into permanent shutdown and defueling. So efforts to address these challenges were initiated actually by the Commission previously, about 14 years ago, but were delayed due to higher priority work.

So today I am very interested to hear from all our

panelists on both the panels that we will see, their views on this topic.

So the first panel is an external panel, which includes Kathleen Fox, who is Deputy Assistant Administrator for the National -- for National Preparedness at the Federal Emergency Management Agency; Chris Recchia, Commissioner, who is from the Department of Public Service from the State of Vermont; Ralph Andersen, who is the Senior Director for Radiation Safety and Environmental Protection at the Nuclear Energy Institute; Dan Stoddard, who is the Senior Vice President for Nuclear Operations for Dominion Power; Wayne Norton, who is the President and Chief Executive Officer of Yankee Rowe and Connecticut Yankee, the Chief Nuclear Officer of Maine Yankee, and the Chair of the Decommissioning Plants Coalition; and David Victor, who is the Chairman of the San Onofre Community Engagement Panel.

After the first panel, we are going to have a short break, and then we=ll have a second panel which will be the NRC staff.

Let me remind you to keep to your timelines for -- during your talks. You=ll see there is little colored lights that will come on, because we have a lot of people to get through, and I=m sure we have a lot of questions to get through. So we want to be timely. And try to avoid, as I tell everybody all the time, the use of acronyms, so that we can all understand what people are talking about.

Before we go on, let me see if either of my Commissioners have any comments.

COMMISSIONER SVINICKI: Thank you, Chairman. Just briefly, I want to add my welcome and thank all of you for being here. Some of you have traveled substantial distance, but I think, as

the Chairman has noted, this is a very timely topic to be discussing today. And I really look forward to engaging with this panel and with the staff.

And I would say I think FEMA and NRC are okay acronyms.

CHAIRMAN MACFARLANE: Yes.

COMMISSIONER SVINICKI: We will allow our guest --

CHAIRMAN MACFARLANE: We will allow those. Yes, yes.

COMMISSIONER SVINICKI: -- from FEMA. I just want her to know, because she=s got FEMA and NRC a lot in her statement.

All right. Thanks.

CHAIRMAN MACFARLANE: Okay. All right. Well, with that, let=s turn the panel over to Ms. Fox.

MS. FOX: Great. Thank you. And I appreciate the indulgence. Otherwise, my statement would take twice as long.

So, Madam Chairman, and members of the Commission, good morning, and thank you for the invitation to today=s meeting. My name is Katie Fox, and I am the Acting Assistant Administrator for the National Preparedness Directorate at the Federal Emergency Management Agency.

I appreciate the opportunity to speak here today regarding FEMA=s role in the decommissioning process, which is to support offsite jurisdictions in their responsibilities to identify and

prepare for the threats and hazards that pose the greatest risk to their communities. We look forward to working with the NRC and its licensees in supporting our state, local, and Tribal partners, throughout any upcoming decommissioning processes.

FEMA=s radiological emergency preparedness, or REP, program has been developed with the goal of planning and preparing for a single risk, commercial nuclear power plant incidents. It is in support of this goal that FEMA=s Technological Hazards Division provides oversight and guidance to offsite jurisdictions in their emergency preparedness responsibilities.

The historic partnership between FEMA and the NRC is built on a memorandum of understanding that establishes a framework of cooperation and describes how FEMA provides findings on the adequacy of offsite emergency preparedness to the NRC, which is often referred to as reasonable assurance. In determining reasonable assurance that the health and safety of these communities will be maintained during and after an emergency, FEMA, along with its state, local, and Tribal partners, employs a variety of methods.

These methods can include biennial exercises, staff assistance visits, and the annual letter of certification process. The NRC subsequently uses FEMA=s determination to verify and maintain the emergency preparedness conditions under which the facility's license was issued.

For over 35 years, the partnership between FEMA and the NRC has resulted in state, local, Tribal, and industry stakeholders forming a collaborative and coordinated team to provide for the safety

and security of citizens residing in the 10- and 50-mile emergency planning zones surrounding these plants.

Together we provide regulations, guidance, and policy that direct the planning, training, and exercising activities of the participants of this program. In sum, these joint activities have ensured that offsite jurisdictions have the capability and resources to prepare for the risk posed by a nuclear power plant.

Of course, effective preparedness is not an end state; it is a process. As threats and hazards evolve, so, too, must planning capabilities and resources. In recent months, four nuclear power plants -- Kewaunee, Vermont Yankee, Crystal River, and San Onofre -- have indicated the intention to enter the decommissioning process and are currently at various stages of petitioning the NRC for exemptions. If granted, these exemptions could remove regulatory requirements and allow for changes in offsite radiological planning.

Decommissioning a power plant could impact the risk profile of a jurisdiction and, as such, might impact both offsite and onsite emergency preparedness programs. As a facility undergoes decommissioning, both FEMA and the NRC expect that surrounding jurisdictions will respond to any changing risk conditions with appropriate adjustments to their plans, capabilities, and resources.

In order to do so, it is imperative that state, local, and Tribal stakeholders be provided with timely and accurate information regarding the changing risk conditions at the facility. This type of information will then enable offsite jurisdictions to comprehensively analyze and understand the threats and associated risks that they face.

One methodology commonly employed is the Threat and Hazard Identification and Risk Assessment, or THIRA process, which examines a community=s threats and hazards of greatest concern and identifies the capabilities required to assess those risks -- to address those risks.

We will continue to support offsite organizations as they adjust their plans, capabilities, and resources to the changing radiological threat.

While a decision reached by the Commission regarding the Kewaunee power station exemption will be specific to that site, it may establish guidelines for upcoming exemption requests. Our goal is to continue our decades-long collaboration with the Commission and its licensees throughout any decommissioning process, and ensure that careful attention is given to the effects on state, local, and Tribal jurisdictions, effects that will likely include adjustments to emergency plans and resources prior to any potential exemption approvals taking effect.

Much has changed since decommissioning last occurred in the 1990s. In the years since, we have seen an evolution in the fundamental approach to emergency preparedness. In light of evolving emergency preparedness doctrine, FEMA stands ready to assist the NRC in development of decommissioning guidance that will allow for secure and resilient communities, prepare to protect against the full spectrum of threats from natural to adversarial.

It is with the foundation in the mandate given to FEMA 35 years ago, the principles of the National Preparedness System, and

the partnership between FEMA and the NRC, that we look forward to continuing to work closely with the NRC on decommissioning activities.

We strongly encourage the NRC and its licensees to work with their state, local, and Tribal communities in their determinations of risk, threat, and public safety. Continued and synchronized engagement among all parties throughout any decommissioning process is a logical extension of existing partnerships and is necessary to provide for the health and safety of all citizens.

Thank you again for the opportunity to engage on this issue, and I look forward to discussion in today=s meeting. Thank you very much.

CHAIRMAN MACFARLANE: Great. Thank you.

Okay. Now we will turn to Mr. Recchia.

MR. RECCHIA: Thank you very much. Chairman Macfarlane, and the Commissioners, thank you for the opportunity to be here. I very much appreciate it. And for Vermont, we are entering into a new phase in our relationship with the Vermont Yankee Power Plant. And I want to cover -- I am really looking forward to mostly discussion, so I want to cover a few issues, but then welcome your questions and the opportunity to have a discussion.

Right now, you know, what I can share with you are very limited experiences in terms of the nuclear decommissioning in general, the lessons we have learned so far transitioning from an operating plant into one that is closing, both in terms of the economic and environmental and radiological issues that you all have to deal with.

Our hope is that we get to expeditious decontamination

and dismantlement. There are a lot of obstacles in that way, some of which you guys can help us with and some which we can help you with. And I look forward to an active partnership between the state and the NRC in getting to that end.

In that light, I have a couple of suggestions that I think are squarely within the NRC purview to do, if you see so fit. But let me just take a moment to describe a little history about where we are in Vermont. Vermont willingly hosted the plant for 40 years in its original license location, and I=m a little sad to say that I was 11 years old when the plant started, and I lived in Brattleboro. And I didn=t think that, as an 11-year-old, I would be here 42 years later talking to you about this. But I=m glad to do it, so it has been an interesting experience.

At the end of this period in 2012, during its 40-year license, you know, NRC granted an extension for an additional 20-year renewal. That was over Vermont=s objections. We felt like the plant had served its purpose, lived out its useful life, and our energy future was in a completely different direction.

Since 2012, we have not purchased any power from the plant, but we have continued to host it. Entergy=s decision to move forward and close changed the relationship that we could have with them, and I will say that I think it has been a productive one since then. That is to say, I think you know we reached a settlement agreement with Entergy on how to -- some commitments to move forward, things that we would not have been able to regulate, but things that we could negotiate, and that was a productive path for us.

We do have a certificate of public good process that

deals with, is the project needed and serves the public interest? And of course non-radiological issues associated with the site over time. The Public Service Board did grant a CPG, a certificate of public good, for the operation period now between 2012 when the original license was to expire and the end of this year.

There are a lot of challenges associated with moving forward, though. I think that, you know, we are glad about the settlement. There are things we would have liked more help with, frankly, from the NRC that we felt we were not in a position to negotiate a stronger deal for the State of Vermont. Nonetheless, I think we have done pretty well.

I think what is needed is a -- if possible, and I think it is possible, is a commitment from NRC to engage with the states and give a real opportunity for us to review, comment, and have you respond to key stages in this.

And one, for example, is the -- can I use the acronym PSDAR? Because you guys know -- the Post-Shutdown Decommissioning Assessment Report. That is going to be the key guiding document for the transition from operation to shutdown and how decommissioning is going to occur.

Vermont would very much like to be able to provide comments to that, which we know we can, but we would really like NRC to engage with those comments and respond to them and have Entergy respond to them. And that piece feels like it is lacking right now. The PSDAR comes in; if 90 days pass, the plant is able to go forward. And there may not be any comment from NRC or staff. There are public

meetings or public hearings and the ability to provide comment, but that may not -- if there is no response, that is of concern.

So the other thing that I would say is that, you know, it is particularly important in this case, because of the increasing number of merchant facilities. It is a very different animal than it was a regulatory or regulated entity when the plant was first constructed.

So, then, kind of moving on to issues associated with the decommissioning fund I think is another role that the states need to have there, and we would ask for your help on. The decommissioning trust fund, in the case of the Vermont Yankee plant now that it is a merchant facility, the fund has been entirely funded by rate payers when it was a utility-owned project. And we have an interest in how those funds are expended.

I think we have concerns about exemptions that would occur after closure to allow expenditures from that fund that otherwise wouldn=t be allowed by rule, things like expenditures for spent fuel management or emergency planning or support. Those are things that, particularly for merchant facilities, we=ve got to figure out a way for those to be funded during the operational lifetime of the plant and to cover the period post-closure.

And, you know, along those lines, in terms of exemptions from emergency preparedness -- and I know you folks don=t want to revisit this issue, but the spent fuel management issue is really critical to the citizens of Vermont. We do think there is a difference between fuel stored in a pool and put in dry cask. We think it=s a difference between an active system that requires human

intervention and paying attention, and a passive system, more passive system, that Vermonters feel better about.

We would like fuel to be moved as expeditiously as possible from the spent fuel pool to dry cask. We think that in the case of a merchant facility that should be being done on a regular basis during operation, and upon closure, within five to seven years, when it=s safe to do so, for the remaining fuel.

So funding for that needs to be ensured during the operation of the plant, and we want to be partners in assisting NRC, and Entergy in this case, to getting prompt DOE reimbursement for the expenditures based on the responsibilities that the Federal Government has taken on in that.

So the other quick thing I want to mention is that we have established a Citizens Advisory Panel. In Vermont, we had a legislative panel that existed since Entergy bought the plant in 2002 that was primarily made up of Commissioners such as myself, the Agency of Natural Resources, Department of Health, and some legislators. And we have now expanded that statutorily to add a lot of citizen focus.

The original responsibilities of that panel were to look at all things nuclear, including our relationship with Texas in the Texas Compact for Low-Level Radioactive Waste. It has now been redirected and focused entirely on decommissioning of the Vermont Yankee plant. And it has gone from seven members to 23 members. We haven=t met yet. The full panel hasn=t been established, but we hope to do so later this fall, and I look forward to trying to run a meeting of 23 members.

Anyway, I thank you again so much for the opportunity to be here, and look forward to your questions.

CHAIRMAN MACFARLANE: Great. Thank you.

Mr. Andersen.

MR. ANDERSEN: Thank you, Chairman Macfarlane, and thank you, Commissioners Svinicki and Magwood. I very much appreciate the timeliness of this topic. Clearly, we are where we were.

Just as an aside, I was industry=s lead during the last round of decommissioning, and had similar interactions at that time with the previous Commission. So this is déjà vu all over again in a number of ways.

If I could bring up my slides. Thank you.

I have chosen today to focus primarily on transition issues, and that is primarily because from our previous experience, and even from our current experience, the conclusion is is that the framework overall has served well in assuring health and safety throughout the decommissioning process.

We viewed the transition issues as probably the area for largest potential improvement on the part of the NRC, because things of necessity are being done more on an ad hoc basis rather than by rule.

Our colleague from Vermont mentioned, for instance, in the funding area that things have to be done by exemption rather than by rule. So that=s where the focus of my comments will go.

Next slide, please.

We would like to suggest that perhaps there are three

phases of opportunity for addressing the current transition issues that are in place. First of all, we think it would be helpful to create an opportunity for stakeholder engagement, and all together to take an integrated approach to looking at the current situation in regards to transition issues and to get stakeholder input into how the NRC might improve that process.

We have suggestions of ours, clearly, but we think both an integrated approach to all the transition issues and involving all of the stakeholders together would be the right way to move forward with some of those potential improvements.

In the mid-term, NEI is planning to develop an industry guideline for the transition process, and we are doing this with our current interactions that we are having in public meetings with the NRC=s interoffice group that is looking at these issues. And we will ultimately be seeking endorsement of that guideline from the NRC, that it is consistent with NRC policy and positions and regulations. And we see that as something that could serve until such time, hopefully, that rulemaking occurs.

And, finally, in the longer term, we very, very much advocate promulgating an integrated risk-informed rulemaking to cover these issues. And as I will say a little later, we think that the SECY-00-0145 is pretty close to it. It=s something that could be, in our view, readily updated through, again, a stakeholder engagement process and actually move fairly directly to a rulemaking plan.

The key would be to ascertain changes that have occurred since 2000, and, additionally, look at wrinkles that might be

popping out of the current experience, so one would want to accumulate a little more experience in the current context to make -- to test that SECY paper and see how it should be updated.

Next slide, please.

In regard to the transition, as mentioned earlier, fundamentally the bulk of the regulations simply do not recognize the difference between an operating plant or a shutdown plant, at least not in regard to being articulated within the regulations themselves. There is a reduction in risk. If nothing else, you have removed all of the potential events and vulnerabilities that are associated with an operating nuclear power plant or with a power plant with fuel in the reactor vessel, and you have done so permanently.

So, again, in that starting point, whatever one=s considerations of risk associated with spent fuel pools, that element of risk is gone, totally and completely.

We see the exemptions as necessary for the transition now. They=re appropriate. And, actually, when we look at how they are going forward, you know, it appears that everyone is making the credible best effort to make the process as efficient as possible, but it remains ad hoc nevertheless.

We also think that both previous experience -- and we have a wealth of that -- and the current experience we have should iteratively help facilitate improved efficiencies in that process.

Next slide, please.

In regards to the interim guidance that I referred to, I mentioned we have an NEI task force currently in effect that has

representatives from all the plants that are currently involved in decommissioning and also those that anticipate they will be involved in decommissioning in the near future.

And that group is engaged in a series of meetings with NRC=s staff counterparts in the form of the interoffice group that is working on these transition issues. And, of course, our focal point is through the branch that has been established within NRR.

Our intent is to capture the experience as we go to develop an NEI numbered guideline, and then ultimately to provide that guideline for NRC endorsement. And that would serve, then, as the road map for future plants entering into decommissioning to address transition issues until such time as there is rulemaking that would codify those ad hoc efforts.

The thought there is that could extend all the way to include templates and other things that would hopefully match up with the expectations of the NRC staff, and of course definitely will as NRC develops interim staff guidance for how they would review these various documents that come in currently.

Next step, please. Next slide.

In regards to the integrated rulemaking, I=d simply note, having been involved in the process at that time, we were all pretty much set to go and then things happened in our external universe that caused a whole lot of things to be put on the back burner, including this.

But the direction at that time to the staff in an IOU that I consider still in effect is that the Commission directed that the staff

should submit the revised paper to the Commission after they have had a chance to digest those significant events that were occurring, primarily 9/11 and its aftermath. And of course now we may have additional experience that needs to be considered in that.

So we have always considered the SECY-00-0145 as having been tabled, not gone away. And so I encourage its use as a base for moving forward with the idea of rulemaking. And we would be a lot farther along in the process than typically we might be were it conceivable to be built.

I would like to go to my last slide, in conclusion. We do have substantial experience. NRC knows how to regulate the decommissioning, knows how to implement the license termination rule. We have a very good understanding of the things that need to be looked at especially carefully throughout that process. But I would make the simple point that most of the plants yet remain to be decommissioned in the future.

I know an issue that we ran into from the last round is a waning priority with the idea of, gee, now we don=t have a lot of plants entering into decommissioning. In fact, the thought was we would be building a whole lot of new plants. But I would say this time around we need to make sure that we hang on to it and understand that somewhere along the line it makes sense to do what you need to do to accommodate the 100-plus plants that have yet to come into decommissioning.

However, that might be spread out over time, and the key is we have all of the right groups and people involved now with the

interest to get the input that you need to inform your decisions in that regard.

We think that the opportunities for near- and long-term improvement are timely. We think they are readily available. And so our focus is to assign the priority and the resources to capture what we can.

One final comment I wanted to make is I would suggest that going forward, with future rulemakings of any kind that have applicability to nuclear power plants, there really needs to be a box that gets checked in which that rule is considered against a defueled decommissioning plant for its unintended consequences or its implications.

And I would advise that any rulemaking to Part 50 automatically ought to fall into that checklist of things that are looked at and considered in the rulemaking plan. How will this affect plants at various stages in decommissioning -- defueled, no fuel in the spent fuel pool, and ISFSI-only. That would save us an awful lot of problems in the future if we took on that board as a process issue.

Thank you very much. I appreciate your time, and I look forward to your questions.

CHAIRMAN MACFARLANE: Thank you.

Mr. Stoddard.

MR. STODDARD: Thank you. I do have a series of slides.

CHAIRMAN MACFARLANE: I think you may have to press the red button.

MR. STODDARD: I do have a series of slides. Thank you.

Good morning, Madam Chairman, Commissioners. I appreciate the opportunity to speak with you today and share with you Dominion=s experience in the transition from operating to decommissioning at our Kewaunee Power Station. And I sincerely hope it will be helpful to you, to the staff, and to the industry.

Next slide, please.

Kewaunee is the first station to transition to a decommissioning status in a number of years, and in some respects it is unique. Kewaunee is a relatively small, single unit station, and at the time of its permanent shutdown was performing very well from an operational and safety standpoint. The decision to shut down and decommission Kewaunee was a purely economic one. The station=s size, its location, and its lack of a power purchase agreement resulted in the station operating at a significant loss.

I can=t help but take this opportunity to once again express my admiration for the people at Kewaunee. From the time of the shutdown announcement, through the final months of operation, through the shutdown and defueling, and into the transition to decommissioning, they have continued to perform at the highest level and have conducted themselves with a degree of professionalism that has not only earned the respect of their fellow Dominion employees, but of the industry.

Next slide, please.

The station and the NRC staff have worked very hard

to manage this transition in a way that continues to ensure the health and safety of the public. There are, however, a number of challenges that have faced -- both groups have faced in conducting this process in an efficient manner, challenges that point to gaps in the current regulatory framework in the transition to decommissioning.

These challenges are the result of a process that in some areas is largely undefined -- the fact that a number of operations-oriented regulations simply do not fit a decommissioning station, and problems with the use of past precedents that in some cases has become dated due to changes in the regulatory environment.

These challenges have unnecessarily burdened the NRC staff and the licensee, and have resulted in avoidable expenditure of funds from the decommissioning trust fund. A regulatory process that recognizes up front the significantly reduced risk from a decommissioning station would avoid many of these challenges.

Next slide, please.

Some specific examples where regulations do not address decommissioning, and, therefore, require a large number of exemptions, include emergency preparedness and security, use of the trust fund for spent fuel management, and the minimum insurance coverage requirements.

Because regulations for emergency preparedness are written for operating stations and do not address the significantly reduced accident sequence possibilities, and, therefore, significantly reduce risk, in the case of Kewaunee over 60 specific requirements had to be addressed through the exemption process. Relief from physical

security requirements will involve a similar use of the exemption process.

Regarding the trust fund, the regulations do not recognize that funds for both radiological decommissioning and spent fuel management are contained in a single fund and that cost studies performed to ensure adequacy of the fund address radiological decommissioning, spent fuel management, and site restoration. Use of these funds for spent fuel management, therefore, required an exemption.

Reductions in insurance coverage also require an exemption, since the regulations do not address the reduced risk associated with a decommissioning station. Recognizing these reduced risks up front would allow for a much more efficient process.

Next slide, please.

A well-defined regulatory framework would maintain public health and safety while reducing or eliminating the need for these exemption requests, freeing up both licensee and NRC staff resources to work on activities that have a higher safety benefit.

Next slide.

In addition to the need for exemption requests to address specific regulations, there is also confusion regarding the applicability of certain regulations. I won=t go into each and every example; just a couple.

In the case of cyber security, the regulations as written could well result in stations in similar situations being treated differently. For example, the rule does not apply to licensees who were not

operating as of November 2009, but does apply to those who ceased operations after that date, even though plant conditions may be essentially the same. An appropriate sunset clause would address this particular rule.

Regarding the emergency preparedness change process in 50.54(q), changes to the staffing and equipment have been interpreted as though the emergency plan needs to be capable of addressing the full spectrum of accidents to which an operating plant would be susceptible.

What this interpretation means in practice is that prior NRC approval is required to eliminate positions responsible for such things as core analysis or to cease maintaining equipment, such as containment radiation monitors, even when fuel has been permanently removed from the reactor.

These requirements have no safety benefit and distract the licensee and the staff from focusing on higher priority activities.

Next slide.

Finally, due to gaps in regulations governing the transition process, both the NRC and Kewaunee staff have attempted to understand and rely upon prior precedents. Due to concerns with changes in standards, confusion over the basis for past precedents, or the lack of clarity in the regulations themselves, precedence has been inconsistently applied.

The requirements for operator licenses under 50.54(m) provide a good example. Based on the wording of the regulations, and

benchmarking of previously decommissioned facilities, Kewaunee personnel did not believe the regulation applied and determined that an exemption request would not be required.

The staff disagreed and stated that an exemption would be required, after which Kewaunee submitted the exemption request. The staff later determined and communicated in writing that no exemption was required.

Questions regarding the applicability of past precedents also impacted the approval of Kewaunee=s certified fuel handler training program, resulting in additional information requests and delays in program approval.

Next slide.

The bottom line result of limited guidance, confusion regarding applicability of specific regulations, and questions regarding the use of precedents, is it's significant additional interface, travel time, and review time and resources are required to deal with exemption requests, time and resources that could be devoted to activities that have greater safety significance.

A measure of this resource requirement can be seen in review fees for license amendment requests and exemption requests for Kewaunee having in excess of $1 million per year. That represents not just an expenditure of trust funds, but it also represents an opportunity cost for the NRC staff and for the licensee staff.

Once again, I appreciate this opportunity to speak with you and share our experience. I also want to take this opportunity to thank the NRC staff for their diligence, their open communications, and

their obvious commitment to get this process right. I believe the Kewaunee experience shows that there would be significant benefit from better definition in the regulatory process for the transition from operations to decommissioning.

It is our recommendation that an integrated regulatory framework and guidance be developed, including interim guidance where appropriate, based on the reduced risk associated with a permanently shutdown reactor. Previous rulemaking efforts provide a reasonable starting point for this effort.

Thank you.

CHAIRMAN MACFARLANE: Thank you very much.

Mr. Norton.

MR. NORTON: Thank you. First, Madam Chairman and Commissioners, I would like to thank you for this opportunity to share my experiences on decommissioning. As I have spoken to the Commissioners in the past on decommissioning lessons learned, I started with the premature shutdown of Maine Yankee back in 1997 and went through the completion of Connecticut Yankee and Yankee Rowe in 2007. So I spent 10 years of my life decommissioning commercial reactors, terminating the license, and now I am managing the long-term responsibility for spent fuel storage at all three sites.

I do have a series of slides, if you could put those up, please.

I would like to start by saying I remain active in the industry as it relates to decommissioning, and almost everybody I speak to that is responsible for managing the decommissioning project

has read the EPRI lessons learned document, which was largely developed through Maine Yankee experience. And everybody wants to talk about going cold and dark, and spent fuel pool islands, and all of the things that we did physically to make the projects successful.

But my talking points here today are more focused on the programmatic approach to making and laying the groundwork for successful decommissioning, not specifically tied to the technical challenges and the project-specific challenges that each of these projects will face.

With that being said, all of these projects are different, so what worked at Maine Yankee might not work at SONGS or Kewaunee or other projects specifically, but I do think that establishing the framework for success is identical or certainly similar to all of these projects.

First slide, please.

This is just a few photos from the Maine Yankee experience. I won=t bore everybody with the details, but it does show pre-decommissioning, decommissioning activities. I guess the most impressive one is the one on the bottom right which shows the facility is fully decommissioned, license terminated, restored to greenfield, with fuel still onsite unfortunately. And you=ll see the similar photos for Connecticut and Yankee Rowe, and I=ll skip through those, please, on to the lessons learned.

Setting the stage for success, from my experience, success requires a clear vision for these projects from the onset. Where is it you are trying to get to? Gaining stakeholder acceptance

from regulatory alignment on that end state. It requires clearly effective management of risk and change. You=ve heard everybody speak today about the risk element of decommissioning and how that changes, and just the nature of these projects is constantly changing.

As a result of that, the licensee needs to have a very strong project management team and be able to effectively transition from maintenance and operations to the project approach while effectively managing, always the case, safety, ALARA compliance, and cost and schedule.

On the matter of vision, the project from the onset should be focused on establishing a clear end state and project goals for these projects. Where is it you=re trying to get to? And what are the measures of performance that you are going to establish for these projects?

We all have the regulatory decision to make and the business decision to make to a large extent on DECON versus SAFSTOR. Clearly, a critical decision in the onset.

License termination approach, those that watched Trojan go through the process of terminating their license with structures still standing versus the Maine Yankee approach where the buildings were demolished first and final status survey happened after the fact. Again, another critical approach.

Unrestricted release for radiological and chemical contaminants. You know, those are decisions that have to be made. A lot of people, when they talk about decommissioning, they talk about it in the context of terminating the NRC license, which is obviously a

significant responsibility for the sites. But to truly have a greenfield site, you=ve got to deal with the non-radiological contaminants at these sites, and RCRA closure, and those are significant challenges.

Obviously, we have to deal with used fuel strategy and how we are going to deal with spent fuel, and in what configuration we are going to leave it in for the period of decommissioning until the government performs and removes the fuel from the site.

Next slide, please.

Stakeholder engagement -- it=s the one that when I talk to everybody I tell them it=s actually the most important, as they want to talk about internal segmentation. I always back them up and say, "Talk to me about your community engagement panel. Talk to me about how you are engaging your regulators and your community and your public and your workforce." From my perspective, extremely critical first step in moving forward with these projects.

Getting early alignment with your stakeholders on your vision, where are you going to take this project, what is the definition of end state, extremely critical. And I am certainly not trying to represent that we did it right every time at the Yankee companies, because these are lessons learned, and we had some missteps.

And specifically in Maine we paid the price for running too fast before we had gotten alignment with all of our regulators and stakeholders, and were fortunate enough to be able to back up and correct that without significant impact.

But the other piece to this is that engagement is a continuous one. Once you get the buy-in, you are not done. Things

change. These projects are very dynamic, and you=re going to encounter things that you don=t expect and you need to continue to remain engaged.

Engagement of the community is critical. At Maine, we instituted a Community Advisory Panel right out of the gate, and it bode very well for us.

Again, as I stated, keeping the regulators involved in the process, and making sure that you don=t forget the workforce, everybody tends to focus externally and get all of the buy-in from stakeholders and all of their regulatory agencies, and the workforce is usually the last to know what is going on and the least informed. I would advocate that the opposite of that should be true.

Regulatory alignment I have spoken about to some extent already.

Next slide.

Again, engaging the regulators early in the process, alignment with the regulators on the end state is critical. And when I say "the regulators," I=m talking NRC, I=m talking EPA, I=m talking state. Again, when you get into RCRA closure, as I identified here in one of my bullets, you are either with the EPA, or your state, with delegated authority. It is a significant element of the work, and you need to engage with your states to achieve alignment there.

One of the things that I think is critical to regulatory alignment with the plan and the approach is I also believe it is fundamental to stakeholder confidence. When we had our public meetings, we had the NRC, the state, the EPA there communicating

with the public in those forums. Although some may not have 100 percent reliance in our regulators, the vast majority of the public has great confidence in our regulators, and having an alignment with the regulators in that forum is extremely critical.

Next slide, please.

The risks on these projects do change. They change immediately from shutdown, obviously, as you have heard us talk about, and alignment with the regulator on how that should manifest itself in regulatory changes is important. And they continue to change as the project goes, be it fuel out of the pool, resins offsite, you know, elimination of other radiological hazards, et cetera. And, therefore, the regulatory requirement should necessarily change accordingly.

The other thing, when you go through this process and there is significant change -- again, back to the workforce. This is a new dynamic for the workforce as well. This is foreign to them. Most people at these operating plants are used to maintaining and operating a nuclear facility. Tearing it down is foreign to them, and that process needs to be managed effectively. Using past experience from industry and the regulators is key to success.

I mentioned earlier strong project team. It is critical to have a strong project management team on these projects, again, recognizing that there is still nuclear principles and fuel and operational elements to the work. Yet these are large, complex, challenging projects, often contracted to various contract entities for various scopes of work, some large scale, some smaller scale.

I would still encourage utilities to keep a strong project

team. I went through a bankruptcy of a prime contractor and the termination of another one, so you need to be prepared for whatever.

Independent oversight is another key I think to success. INPO is no longer involved once you shut down, and you need to somehow engage independent oversight to support your work activities and gain knowledge and experience from experts, and we did that, again, at Maine Yankee as an example.

One of the last points I want to make is we are serving many interests. We appreciate that there is compliance requirements and regulatory requirements, but we all do have an obligation to our rate payers, or to our shareholders in the case of merchant plants or otherwise, but we do have to still perform these jobs efficiently and cost effectively, and they can be done without a sacrifice to safety and quality.

Run out of time, so I=ll thank you again for the opportunity to present, and look forward to questions and answers.

CHAIRMAN MACFARLANE: Great. Thank you very much, Mr. Norton.

Professor Victor.

MR. VICTOR: Thank you very much. Madam Chairman, and members of the Commission, thanks for the opportunity to talk today about the experience with decommissioning, young as it is, at San Onofre, and in particular about the role of the community engagement panel at San Onofre, which I chair.

My full testimony is part of the record, and so I am not going to read from that, but instead what I=d like to do in my time this

morning is focus on five points that might help draw out some larger lessons in some areas where all of us can move forward.

The first is that I speak today as an individual who happens to be Chairman of the Community Engagement Panel, and that is because the panel, by design, doesn=t make any decisions. We don=t have formal oversight authority. We are not responsible for making decisions. Our purpose is to open a conduit, a two-way conduit, between the community and the co-owners of the facility.

And I think one thing I have learned so far is that the lack of decisionmaking authority is crucial to whatever success we have had so far, because we are not focused on making decisions, but we are, instead, focused on making that conduit work, and in particular making the conduit work in both directions.

There are 18 members. It is a large group, but they represent lots of different communities and perspectives, and more than half of the members are elected officials. I have learned a tremendous amount in particular working with the elected officials in this process, including the mayors of many of the communities most closely located to the plant.

One of the most important design features, something we learned from the Maine Yankee experience I think principally, is that we were spun up very, very quickly, and that was so that the community engagement panel could be involved in making comments on the early regulatory filing. So I was a little concerned to hear that the process -- if I understood your earlier comments, the process in Vermont is not yet spun up to allow this, because so much happens in that first year or so

after the decision to close a plant has been taken.

The second of the five comments I want to make concerns irradiated fuel, spent fuel. We are only six months old. Nearly all of our time as a panel has been focused on the spent fuel issue. This is clearly very important. It is clearly very emotive. And it is also kind of a swamp, and I am concerned as Chairman that we be able to move on and talk about other issues as well and keep some perspective on the larger process of decommissioning, including issues such as the decommissioning cost estimate, emergency preparedness, and so on.

One thing the Nuclear Regulatory Commission and other regulatory bodies could do to help us on this is to help articulate a strategy for spent fuel, in particular issues surrounding so-called high burnup fuel, a strategy around what we know, what we don=t know. I mean, this is an area where the information is still evolving; we should be honest about that. And to help the public understand how we are going to adapt to new information, and also, crucially, what are the tradeoffs? Not only tradeoffs about cost, which frankly almost nobody wants to talk about, but tradeoffs about timing and safety, and so on.

Some of the things people are focused on would involve big delays in moving the fuel out of the pools and into cask, and I think almost nobody in the community wants those kinds of delays, and yet the logical consequence of people not making decisions are those kinds of delays.

Related to that is obviously the issue of long-term storage, and that is, you know, one of those -- not storage, long-term

disposal. You know, that is one of those things that we are just not going to get fixed, and that=s a larger question of national policy where the policy is just a disaster.

I don=t know what NRC can do to help us on that front. I do -- I have come to the view that the question of consolidated interim storage, in particular for decommissioned plants, is really of paramount importance, and maybe we could have an additional push on that front.

The third of the five things I will -- the five comments I want to make is that I have learned a lot over the last six months or so. And as somebody coming to this not as a nuclear industry insider -- in fact, quite the opposite -- and looking at this from fresh eyes, the entire process of decommissioning doesn=t feel like it has a strategy or a grand strategy.

And I think Mr. Andersen=s comments were in this regard, and as were Mr. Stoddard=s comments, and I certainly would echo those. It is fragmented. There is a heavy reliance on exemptions. It is not entirely clear which direction things are going. I really welcome Chairman Macfarlane=s opening comments emphasizing that the Commission is putting a fresh focus on this after other topics obviously intervened over the last 14 years.

That seems very important, and then obviously a lot of technical questions around rulemaking, and so on, and one needs to get on with that business. At the same time, I would urge you to please help us in these communities understand with some plain English articulation of what the strategy is as to what is going on, because the community right now just has no idea what the actual strategy is from a

regulatory point of view.

They don=t really know what happens, what=s important, what is not important. And it would be very helpful to try and articulate that, because absent that articulation, people=s views about this strategy are basically refracted through their views of trust in the regulatory institutions.

And so while we just finished a poll of all 18 members of our community engagement panel, asked them how things are going, and the people who trust the regulatory process are fine, and the people who don=t aren=t. And there is very little extra actual information being injected into that process. So I think the Nuclear Regulatory Commission could help enormously on that front, and several of the previous comments are resonant with that.

The fourth of the five comments I want to make concerns a process. One thing that I have been struck by is that as we spun up the community engagement panel, we made a very special effort to focus on common goals. And we have at San Onofre, and at many other plants, a history of members of the community, for understandable reasons, of pulling in lots of different directions, some opposed, some in favor, lots of different points of view. And that is understandable and that is democracy and that=s life.

And we have tried to emphasize in the community engagement process the need to focus on areas where we all pull together. And I think so long -- so far that has worked fairly well. There are still a lot of raw edges around this, but I have -- my experience has been that focusing on these common goals, which is I

think maybe harder to do in an operational plant, but is crucially important in a plant that is undergoing decommissioning, that that=s very important.

And the fifth and last comment I want to make just concerns, how do we know we=re doing a good job? I am struck by how much time members of this panel are spending on this process -- 18 people, plus staff, and so on. All of them are volunteers. People going to every single meeting, we have quarterly meetings which last three hours, and some of them seem to last an eternity.

We have workshops associated with every meeting, and everybody is there. It=s extraordinary.

I am concerned that we able to keep that momentum, and I think part of that is that people need to feel that their time is being used well. And I don=t know -- and here I would welcome advice from people who have been through this experience in other plants -- I would welcome advice on, where do we really have the greatest tangible outputs.

In some sense, the greatest successes of a process like the community engagement panel are things that are not observable. They are things that don=t go wrong. They are processes where the conduit works correctly in both directions. But it is hard to tell somebody, when they have given up dinner with their family a couple of times a month to go to meetings, and spent a lot of other time on this process, "Well, yeah, you=ve made a contribution because a dog didn=t bark."

And so I am spending a lot of time right now trying to

identify areas where we as a panel are making tangible improvement in the actual process of decommissioning. I am encouraged by that, but I do sense that that is going to be a very important part of getting basically a volunteer institution to continue to be effective.

Thank you very much.

CHAIRMAN MACFARLANE: Thank you very much.

Okay. That was a very good session, and now we are going to have some questions. We will start off with Commissioner Svinicki.

COMMISSIONER SVINICKI: Thank you. Well, again, thank you to each of you for your really insightful comments today, and I think the panel has a lot of different perspectives and experience base. Some of you were 11 at one point, and others of you have been in this for a couple of decades now working on decommissioning. So I think it is useful, and I noted some of you taking notes as other participants presented ideas today.

I want to begin by acknowledging that I observed the same as some of you that it is interesting in life that a certain amount of times when you make a prediction about how the future is going to look, and you decide that working on something is not a priority, it is interesting that oftentimes it turns out that all of the circumstances change upon which you based that prediction.

And so, you know, four plants having early shutdown is maybe something that you could handle on an ad hoc basis. It would be suboptimal, but you could do it. But if a lot of the economists are correct, and this may be that other plants are going to face similar

economic circumstances and join these plants in decommissioning, then NRC will have to take this serious relook at whether or not an ad hoc process going forward is simply so inefficient. Although it would be manageable, it is probably not the best use of everybody=s resources.

So I think that that does put the rulemaking that was tabled certainly back before the Commission to decide, and I will ask the NRC staff panel, you know, what do they estimate it would take to reengage that, and we need to relook at that tabling of that, which I think was legitimate based on what people predicted at the time but certainly needs to be relooked at now.

I do think there was a little bit of contrast in the presentations, because I thought I heard from Mr. Andersen thematically a conclusion that, you know, we know how to do this. There is an experience base. A rulemaking certainly -- I think Mr. Andersen advocated that a rulemaking would be a more efficient way to proceed to get some of the case-by-case ad hoc processes codified into a rulemaking framework.

But then Mr. Stoddard, you know, I thought indicated that maybe some of the guideposts for decisionmaking are not clear, and that even precedent has been inconsistently applied at times. So it seems like although that might be a little bit of a different emphasis from both of you, certainly a rulemaking would help with both of those characterizations of events.

And then I thought it was interesting that Mr. Norton acknowledged, you know, what worked at Maine Yankee might not

work at Kewaunee -- I think that=s what you said -- and that there are case-specific elements. So then I go back to Mr. Andersen=s suggestion that as part of all Part 50 rulemaking -- I hope I=m characterizing this right -- that we might want to I think you said check a box, that we made some consideration of any rulemaking change to plants that are in shutdown.

You know, I pledge to think more about it. I don=t know what it would look like. But immediately in my mind I start asking some questions about that, because I think that rulemaking is really an art form. It=s like writing statute. There is a very specific way it has to be written. And although it=s clear to see that that suggestion of having all Part 50 issue analysis have some consideration of what about decommissioning, it might be really clumsy to do.

And so I think we need to think about that a little bit. Again, Mr. Norton said, you know, not to that point, but I think highly relevant, the risk changed immediately and throughout the project. So how do you build that framework into rule language, which we don=t want to say, "At this state of decommissioning, the rule takes this form. And at that stage" -- I think we want to keep the appropriate flexibility, and so I appreciated Mr. Norton=s comment from that standpoint, that what worked at one place might not work at another.

We do need to have a case-specific application and a risk-specific application. Maybe that=s a better way of putting it. So that=s -- you know, again, I appreciate all of these suggestions, and we need to think about how some of this would work in practice.

I know some of you have deep experience on

decommissioning, so you might find my experiences are probably to you appallingly anecdotal. But, you know, I visited a place like Trojan. I=ve been to sites where active decommissioning was going on -- Zion and Humboldt. But you go to a place like Trojan, I think the view of the NRC staff was, does she really understand? She really wants to go to Trojan.

I went there for the purpose of seeing something at that state. But as some of the personnel who had been there talked to me about it, it seemed to me that some of what made sense for them not only wouldn=t make sense in other places, but may not even be available now, and so I wonder, too -- I talked about how life is curious and you decide that you don=t need to address something, and then 15 years later you find out it=s a vital need, and you wish you had done it.

But I think this country might have a different experience on these decommissionings that are starting now than we had, you know, 20 years ago, 25 years ago. There=s things like availability of low level waste disposal capacity, so there is technical issues. But I wonder -- I think there are some societal changes. There is new engagement tools, new communication tools.

So I think that the lessons learned and the experience is really vital, and I think it will be beneficial for projects now if they can tap into the remaining folks prior to their retirement who might be able to give us some firsthand experience of what this was. But I think also we need to be adaptive about some of the -- it=s a different world. You know, everything keeps changing in our country. So I think that is going to make this really interesting as we move forward.

So maybe I will pose a two-part really general question, and this will be my question to anyone on the panel who would like to react to this, is that, you know, under the presumption that some of you have direct experience and some of you have certainly studied the history of other decommissionings, what do you think are the key points of departure between those experiences and these plants we are talking about today that are entering this process, perhaps to be joined by others in the near future?

And then, given those points of departure, if you feel there are any, what do you think are the key one or two things that we need to adapt going forward? So I would just ask anyone who wants to jump in on that. And it can be technology, it can be changed national circumstances, or changed policies, or it could be other engagement and societal issues. Would anyone like to jump in?

MR. ANDERSEN: I=ll just offer up a few. I think that the -- what hasn=t been thoroughly assimilated yet is the emergence of merchant plants. So that might be one consideration that needs to be factored into considering generic approaches and its relationship to funding, to PUCs, and state engagement, and so forth.

I think that another area is, as you had alluded to, the transparency and public engagement and state engagement processes. I think those deserve a very careful look to see whether the way we did things in the past is appropriate to the present.

I also think that we need that consideration of the changes in models that might be undertaken for decommissioning. Zion is the obvious example of something that I don=t think we

anticipated 20 years ago. It was going to be the operator licensee that would then decommission the facility. So understanding what differences arise from that, how that might affect things.

But I would stress that I think the commonality in regard to looking at a potential rulemaking is, look at where the rub points are that directly relate to health and safety. There is a myriad of other issues that one could get lost in. But the key role that NRC plays is just this steadfast focus on, what is its relevance to protection of public health and safety?

And, in my mind, in looking at each of these issues, that is the best way to scale it and the best way to disposition it is just to keep that very narrow focus.

Others will bring in other points of view, and so my last comment would be that one thing that was lacking in the past -- and I think we would benefit from in the future -- is that collective engagement of stakeholders. It is very useful for me to be at the table with a larger number of stakeholders, and I think more opportunities like that, not Commission briefings necessarily but workshops, to get broad input would answer your question much better than the five or six of us will today.

COMMISSIONER SVINICKI: Okay. Thank you. Would anyone else --

MR. RECCHIA: Can I just add to that? I really appreciate Mr. Andersen=s point about the merchant facilities, because I think that is probably one of the fundamental changes here. And I also am pleased that it seems universal that we all agree that

rulemaking, as a structure, sounds like it would be extremely helpful.

That said, I think the four plants that are currently shutting down are going to feed into that process rather than benefit from it, right? Because those of us who have been regulators for a long time know how long it takes to do good rulemaking. So that will be a while. And we look forward to helping, you know, influence that. But I don=t think we will wait for the rulemaking, right?

COMMISSIONER SVINICKI: Okay. Thank you.

MR. RECCHIA: I think that the issue of -- and Mr. Norton=s point about knowing what the end state is is really key, and Vermont finds itself, in all fairness, and Entergy as well, we don=t know what the end state is or how soon it will occur, because it is funding -- fundamentally funding-dependent because it is a merchant facility and not a regulated utility facility. In other words, I can=t go back to ratepayers and say, "You know what? We need another 100 million in order to accomplish this goal in the timeframe we are looking for."

And so the end state is unclear. You know, we know ultimately where we=re going to get to, but we don=t know when. So to plan for it is very, very difficult. And I think that is the fundamental change for the merchant facilities, that we need the ability to know that the adequate funds are there in a timely way to get to where everybody wants to get to for spent fuel management and decommissioning dismantlement and decontamination and site restoration.

And I do disagree that the funds were necessarily all established with that in -- with those three things already in mind. I think each trust fund is different, and certainly Vermont=s has some

conditions in there that make it difficult to just say, "Oh, yeah. It=s okay to just use it for those things."

And then, the end state being you want to get there as quickly and safely as you can, so that the site is available again does require a balance of when to spend what. You know, if I knew that -- I would be a lot less resistant to expenditures for spent fuel management and getting fuel out of the pool into dry cask if I knew that reimbursement from DOE was coming -- forthcoming quickly. But if I take -- if we take $100 million out of the fund and I don=t see it again for 10 years, then that delays the ultimate decontamination and dismantlement, and it delays site restoration, all of which, as was pointed out, the RCRA issues are very, very critical. Those are state interests. We are not going to be able to plan for those effectively if everything is a moving target.

So I do think the focus on the difference between merchant and utility is really critical to understand how to move this forward.

COMMISSIONER SVINICKI: Okay. Thank you. I=m over my time.

Thank you, Chairman.

CHAIRMAN MACFARLANE: Thank you.

Commissioner Magwood?

COMMISSIONER MAGWOOD: Thank you, Chairman. And thank all of you for appearing with us today and giving us your comments. It was a very interesting diversity of views, but also a lot of commonalities, and perhaps more commonality than I might

have expected.

But before asking questions, let me, you know, just give a special welcome to Ms. Fox. Early in my career, I had to spend a lot of time working with FEMA staff, and I learned a lot from them about the REP program, the emergency preparedness, and gained a pretty intimate understanding about the philosophy behind it.

So I appreciate what you and your colleagues do. So, you know, welcome and thank you for coming here today.

And also, Mr. Stoddard mentioned -- as he knows, I was in the Kewaunee control room the day that the plant was shut down for the last time, and I wanted to echo his observations about the Kewaunee staff. I toured the plant the day before the shutdown, and one would never have known that that was the last full day of operations. I mean, everyone was just -- was professional and cheerful and positive about what they were doing, and focused on their work.

And it was just -- it was impossible to see the difference, really, until the end of that day when I sat down with some of the staff and had a chance to talk with them, and then you could see how emotional they were about the situation.

But the last day, as the control room staff brought the plant down, extraordinarily professional, and everything I have heard about what has happened since then just echoes that. So, you know, real applaud for those --

MR. STODDARD: Thank you. Thank you very much.

COMMISSIONER MAGWOOD: -- folks. Thank you.

You know, just one thing. I found -- I appreciate Mr. Recchia=s comment at the end of his reply to Commissioner Svinicki about the simple practical truth is that even if we started a rulemaking today, it probably would not benefit the four reactors that we are currently thinking about, which means that we will have to deal with the exemption process.

And I just wanted to see if there is anyone at the table now that thinks that there is an inherent safety issue with the exemption process. We hear a lot of talk about that. I just wanted to see if there is anyone here that thinks there is a safety issue.

MR. RECCHIA: Okay. Again, not as a nuclear professional, but as a, you know, regulatory body, I would just say I think there is a fundamental difference between an operating plant and a closed plant. I think there is a fundamental difference in safety between the operating reactor and the spent fuel stored pool, and then, in turn, dry cask. I think they need to be treated -- I think the risks change over time, and they need to be treated differently.

We do not agree with the blanket exemption from on/off, like one -- you know, one day you=re -- you had full emergency preparedness mode, and the next you are exempted, you know, after the 15 months of the fuel being in the pool. So I would -- I will intend to -- intend to work with Entergy cooperatively to try and figure something out that works for us.

A blanket exemption across the board, the way the staff has proposed, in my mind is not helpful. And I would ask that,

really, for exemptions of this, particularly until rulemaking is established and we have -- and you=ve got those options, I think state input and agreement by the state, frankly, should be a consideration for the Commission in granting those exemptions.

I agree that the mechanics are such that exemptions are going to be needed, because you are not in an operating mode. And we want to understand what those are and be helpful, so that the plant can focus on the things that are important to focus on and not be trying to follow rules that really don=t apply anymore.

But we also think there is a role for a phase-in and a phase-down of, like, emergency planning and a transition from the state fueled reactor to ultimately fuel and spent fuel in dry cask.

So thank you for asking that question. We would welcome the opportunity to work cooperatively on what exemptions are appropriate at what time. But we are really nervous about a blanket -- the blanket guidance and blanket exemptions that don=t incorporate state=s concerns.

COMMISSIONER MAGWOOD: Okay. I appreciate your comment. When the staff comes to the table, we=ll make sure the staff has a chance to give -- since they are here, they will be writing their answer now.

MR. RECCHIA: Yes.

COMMISSIONER MAGWOOD: Mr. Andersen, you wanted to react to that?

MR. ANDERSEN: In direct response to your question, I don=t think that we perceive that there is a health and safety

issue, but we do think that the process itself raises a confidence issue that is perceived, then, as potentially a health and safety issue. And it goes like this.

By definition, when you request an exemption in these processes associated with decommissioning, you are reducing the number of things you are doing, and you are reducing the number of people that are doing them, and you are reducing the extent of instrumentation and equipment that you have available to you. So everything is perceived as not having to do things anymore.

What I find missing in communication is, what=s left? And I think the impression has been created that, for instance, someone broadly speaks about emergency preparedness exemptions, and the conclusion people draw from that is, "Oh, you=re not going to have emergency preparedness anymore," when in fact you have a very robust emergency response capability for onsite that is totally commensurate with the analyzed risk associated with the defueled shutdown plant.

And I don=t think that=s communicated very effectively. We have a 24/7 response capability. We have notification capability. We are integrated with the comprehensive emergency plan offsite. We have 24/7 fire response capability. We have our ongoing interfaces with local law enforcement, and fire departments, and so forth. None of that is articulated in the process. It just sounds like it is all gone.

So, you know, what I would offer is that articulating better that this is a change, not an elimination, would go a long way to

helping people better understand what the health and safety aspect of it is. It=s hard to get there now.

COMMISSIONER MAGWOOD: Okay. Mr. Victor, you wanted to jump in?

MR. VICTOR: Thank you very much. I=m not qualified to answer the question directly as to whether the exemptions create a health or safety risk. But I would just urge that on this exemption of exemptions, on the issue of integrated rulemaking, that we not let the administrative law and procedure become kind of a tyranny over how we spend all of our time.

In my view, the Commission really needs to also articulate a view as to what it is doing strategically, including what remains, and do this in a way that the community understands. And the content for this is already in some of the letters that have been exchanged, for example, between Chairman Macfarlane and some members of anti-nuclear coalitions, some Senators. So all of the material is there, but I think the public right now doesn=t know how to think about this, and so then they read the word "exemption," they don=t understand what is left.

It all seems like an end run around some normal process, and there are good administrative and procedural reasons for that end run until there is some kind of integrated rulemaking. But that view, that integrated view, has not been articulated.

Thank you.

MS. FOX: I would just add, from FEMA=s perspective, our mission is to support our state and local partners.

And so, you know, similarly, I am unqualified to discuss the actual health and safety risks, but would just say that we rely heavily -- and, really, our success rises and falls on support to our state and local partners.

And so we would just advocate that it is really they who figure out what that risk is to their communities and advocate that they be, you know, heavily involved in discussions and decisions about it.

COMMISSIONER MAGWOOD: Okay. All right. Thank you very much.

Mr. Andersen, you mentioned that you are developing guidance documents that would sort of integrate the story in a way that the industry would be able to establish I guess a more -- more of a regular practice based on the exemptions. When do you think that will be done, and when will that be available for NRC review?

MR. ANDERSEN: Well, the schedule is partially dependent on the rate of experience that we gain going through this -- going through this learning curve. But right now our target is end of 2014, this year.

COMMISSIONER MAGWOOD: This year.

MR. ANDERSEN: To have a draft.

COMMISSIONER MAGWOOD: Okay.

MR. ANDERSEN: And then we=ll want to socialize that draft with certainly the NRC staff and other stakeholders. It was understood at the outset by -- when we put the group together that there would be a diminishing return for the plants currently in the process. So we are basically treating them as the lead plants to help inform that.

The other element that would go with it are the two interim staff guidance documents being developed in EP and in security. Obviously, those documents would not only inform the industry guideline, but the industry guideline, in theory, should rest upon those two final documents. So that will drive the schedule a little bit as well. That=s why I say a draft by the end of the year, and then we will have to take the time we need to finalize it.

COMMISSIONER MAGWOOD: Okay. Excellent.

With five seconds left, I think I will relinquish. Thank you, Chairman.

CHAIRMAN MACFARLANE: Thanks.

Okay. My turn. So we have had an interesting discussion so far, and I=m impressed that you -- many of you have pointed to the fact that we basically don=t really have any proper regulations or framework to deal with these decommissioning plants, regulatory framework.

And I would posit that this stems, in general, from our tendency to ignore the back end of the fuel cycle, probably largely because it doesn=t make money. But that=s the state that we=re in, and I think that that also ends up reflecting where we are as a nation with regards to the final disposition for spent nuclear fuel.

Nonetheless, I didn=t realize that INPO is not involved after shutdown. That=s very interesting. We=ll have to take that up at --

MR. NORTON: That was our experience.

CHAIRMAN MACFARLANE: Yeah. INPO is no

longer involved with you guys?

MR. STODDARD: They are no longer engaged in a plant evaluation process. We certainly have other independent oversight that we do there for --

CHAIRMAN MACFARLANE: Right. Right. Well, that=s interesting. I=ll be seeing Admiral Willard next week, so I=ll ask him about it.

But I=m curious, Mr. Norton, you went through this process with a number of plants where -- without the regulatory framework that everybody else is calling for now. Was that okay? Would you have preferred to have a proper regulatory framework in place, where you had a clear -- clearly defined strategy, where there was a clearly defined strategy of how to go through this process?

MR. NORTON: Certainly. We were in the same position in =97 --

CHAIRMAN MACFARLANE: Right.

MR. NORTON: -- when we prematurely shut down Maine Yankee, and Connecticut in =96, where we were engaged in the exemption process as we are today still as ISFSIs. And it was part of the driving force for the 2000, you know, proposed draft rulemaking initiative that was taking place at the time, because we did agree that there was a more efficient way to do it. But at the time, we had the exemption process and we utilized it.

I can=t speak to the efficiency of it today versus what we experienced, but we were reasonably successful in going through that process. I think it was done very safely, and the success of the

projects I think are a testament to that. But I think we did realize at the time that it is not the most efficient to go.

I don=t -- I=m not a licensing expert, so I can=t say how to best resolve that, but it does strike me that there are fundamental risk steps and decreases that could be captured in rulemaking that would allow things to be resolved more efficiently than the exemption process.

CHAIRMAN MACFARLANE: Okay. Okay. Well, we=ll take this up again, as Commissioner Magwood said, with our staff panel in a moment.

Let me turn to community engagement, and I think it=s -- you know, I=ve heard -- met with Mr. Norton a number of times and been very impressed with your experience at all the Yankees.

MR. NORTON: Thank you.

CHAIRMAN MACFARLANE: And I=m interested to hear about your experience as well. I=m interested that you guys in Vermont already established a community engagement panel. So I have a couple of questions around this.

Traditionally, these community engagement panels have been established by the licensee. Should they be established by the licensee? Should they be established by somebody else? You know, you=ve had a variety of folks on the panels. I mean, what should the panel makeup be? And should NRC require the existence of these panels? Is this a necessary item for decommissioning? Do you guys have one at Kewaunee?

MR. STODDARD: We do not have a community engagement panel at Kewaunee.

CHAIRMAN MACFARLANE: Why not?

MR. STODDARD: We meet very frequently with the local stakeholders. We update them --

CHAIRMAN MACFARLANE: And who are the local stakeholders?

MR. STODDARD: The state, the localities, the cities around there, the counties. We meet with them routinely.

CHAIRMAN MACFARLANE: You=re talking about the elected officials.

MR. STODDARD: We are talking about the elected officials, and we attend meetings there where the community is involved, and we have a very positive relationship with the community. Both leaders and the members of the community there, they have -- they have expressed essentially no concerns about the decommissioning process. The biggest concern that we hear from the communities there is related to the tax --

CHAIRMAN MACFARLANE: Okay.

MR. STODDARD: -- base, and then some with the loss of jobs.

CHAIRMAN MACFARLANE: Thanks. I have limited time, so I have to rush through my questions here, because I have a whole lot.

But I want to hear from others of you as to whether -- who should establish these community advisory boards and --

MR. VICTOR: So ours is licensee-driven. I don=t know what the counter factual would have been. There have been two

big advantages to having this driven by the licensee. One is they own it, so they know it has to be successful or it should hopefully be successful. And the second is speed.

I think less than a month passed between putting together most of the members of the Commission and the formal announcement, and then less than a month passed from the formal announcement to the first meeting.

CHAIRMAN MACFARLANE: It did take a while to get to that point.

MR. VICTOR: So it took a while to get to that point. But, you know, if you had -- if one had asked some arm=s-length institution in the community to do that, and put all of this together, my guess is it would have been a slower process. In any case, that=s an impression looking back.

You asked about whether this should be required. This seems to be best practice in the industry, although not followed everywhere. My instinct right now is that requiring this would actually probably be harmful in the sense that you would then have to write the rule in some way. And I think each of these different communities have had a different kind of relationship with these plants, and different kinds of stakeholders, and so on, size.

And I don=t know if we know enough right now to write the rule. We probably know enough right now to, I would think, make this best practice in all instances, although I look forward to learning more about the Kewaunee experience.

Last point is on membership. I think a balance in

membership is crucially important. Otherwise, you get the folks who have been most active on these topics dominating these processes. And I have learned a lot, frankly, from the people who speak less at our meetings, but are worried about a wider range of topics.

It has been very, very important to get people on the panel who have some experience of working in panels, because otherwise I can only imagine how inefficient our meetings would be if we didn=t have that kind of practical experience.

CHAIRMAN MACFARLANE: Mr. Norton, do you have a view?

MR. NORTON: I agree with everything Mr. Victor said, and I would add, I think for us certainly my experience, having it licensee-driven, did create a responsibility and a sense of ownership for ensuring that this process was efficient and effective. But, again, I do think one of the -- one of the critical attributes of it, as David indicated, was having some diversity on the board itself or the panel itself.

We did have anti-nuclear activists, we had school teachers, we had housewives, we had a whole cadre of experience and knowledge that we took advantage of. I do think it is clearly a lesson learned and a best practice, from my perspective, but, again, each community is slightly different. I mean, you see different levels when you went from Maine to Connecticut to Massachusetts of involvement, engagement, participation. I had many an advisory panel meeting in Massachusetts where it was me talking to the CAP. So --

CHAIRMAN MACFARLANE: Okay.

MR. NORTON: -- it really does depend, I think.

CHAIRMAN MACFARLANE: Yeah. It=s an organic thing.

MR. NORTON: It is very much.

CHAIRMAN MACFARLANE: Do you have --

MR. RECCHIA: Real briefly, I will just add our panel evolved from a statutorily created panel, and it became still a statutorily created panel. I think that was necessary in Vermont, to be honest with you.

CHAIRMAN MACFARLANE: But now the licensee doesn=t have anything to do with this panel.

MR. RECCHIA: The licensee has seats on the panel, and also have committed to supporting the panel, at least technically, and I=m working on financially. But my department has agreed to support the panel financially.

And I think in Vermont, because of the relationship that had occurred there, just a purely licensee-generated panel would not have had the acceptance that this needs to have, and the membership is defined in statute --

CHAIRMAN MACFARLANE: But will the licensee listen to the panel? I mean, that was what I was impressed by with the Yankee experience is that the licensee really -- you really listened to what the panel said. I mean, you made significant changes because of it.

MR. NORTON: Yes. I mean, I think in that regard we had I think an extremely competent and respected group of individuals on the panel, and we would have been remiss not to listen to

them.

MR. RECCHIA: I think that I expect that they will -- that this is going to be an interactive process where they will listen to the panel. They recognize --

CHAIRMAN MACFARLANE: What happens if they form their own panel?

MR. RECCHIA: They are not going to do that. They have said that they only want one panel, and they participated in the statutory revisions that were necessary to get this one, so I expect this is it, and they are supportive of it. And I think that time will tell whether the panel has effective influence or not.

I mean, I think listening to the panel is really about -- I think Mr. Victor said this best, which was this is about a conduit of information to come and go, so that they can hear what the community is interested in and respond to that. It=s not going to be providing recommendations or, you know, criticisms or, you know, it might provide some suggestions that hopefully between my department and the licensee we will be able to work through.

CHAIRMAN MACFARLANE: Well, it sounds like there is actually a lot of detail here to pull out about, what are the best practices, how to get information that both sides listen to, et cetera.

MR. RECCHIA: I would agree. And I=d just say, I agree that requiring it at this point is probably counterproductive, at least for us at the moment.

CHAIRMAN MACFARLANE: Did you want to say one more thing?

MR. VICTOR: I just want to say very briefly, one of the things we have learned very quickly is the need to document the issues as they come up, because a thousand things come up, and part of demonstrating value from the panel, and also just keeping all of those things straight and our agenda straight, has been a very clear documentation of all of the issues that come up, what happens to them, and then links to papers that show how the licensee has responded. That seems to have been enormously valuable.

CHAIRMAN MACFARLANE: Okay. So my time is up. Let me see if my fellow Commissioners have further questions.

Yes?

COMMISSIONER SVINICKI: I just had one question for Dr. Victor. I, again, really appreciate your responses to my colleagues. At the end of your remarks in your presentation, you talked about keeping folks interested for the longer haul, that they are giving up kind of impressive and astonishing amounts of elective free time right now. But, of course, you=re in kind of early stages.

And so not being a decisionmaking body, it seems to me that it will be -- there will be a diversity of definitions of how these people will define what was the successful and useful -- "all of this time I gave up" when they are looking at it in the rearview mirror. So is it -- do you think that coming to a common set of things to advocate for, is that one of the chief benefits?

Or you said you had done some surveying of your 18 members. What have been some preliminary insights from that?

MR. VICTOR: Well, so far -- and, again, these are

early days -- so far people universally are very happy with how the process is going, and they feel their time is being well spent. I think a big part of that is the licensee has been enormously responsive to these questions that get raised, and that I think has been quite valuable.

People are going to view success or failure of the panel in different ways. I expect that completely. I do think that if we can continue to document all of the things that have come up, and what we have done with them, and where the responses have happened -- and there may be some areas like on choice of casks or on spent fuel management strategy, where we actually do see big differences in what the licensee does.

I think that will be enough to satisfy enough people that their time is well spent, but it is -- when you look around the table, it is an extraordinary amount of time that people are spending as -- completely as volunteers.

MR. NORTON: Yes. I think I would add to that, and I know Mr. Victor is going to talk to Marge Kilkelly, who was our longstanding Chair of the Maine Yankee CAP, to get some feedback on this. But from the licensee perspective, this ties back for me to establishing the end state and the project objectives up front, engaging this panel in that. And I think the Maine Yankee CAP took pride and measured its accomplishments based on the accomplishment of the project goals in total.

Rather than having a separate subset of, you know, performance metrics, if you will, for a CAP, we were perfectly aligned, that the safe, efficient decommissioning of the nuclear facility was

critical and appropriate, and that was how we all measured ourselves. And they were part and parcel to that process. We didn't necessarily carve anything out special. We were all in this together.

And we started with alignment of those goals and those objectives and that mission, and from there we all measured ourselves.

CHAIRMAN MACFARLANE: Commission Magwood?

COMMISSIONER MAGWOOD: Yes. Thank you, Chairman.

Just one thing that Dr. Victor said -- by the way, Dr. Victor, really appreciate your statement today. I thought it was very informative, very helpful.

But one thing that he mentioned previously was about whether this was an industry best practice to have organizations like this. And so I look at NEI, which is supposed to be the place where these best practices comes together and get disseminated. Are you doing anything in this area? Are you doing anything with community engagement?

MR. ANDERSEN: Actually, we already did. This was a major issue in the license termination rulemaking. NRC actually initially proposed the requirement for CAPs. So this was a unique situation where the agency actually entirely reversed itself based on stakeholder input. Everyone agreed it was a good idea, so we actually formulated a series of workshops on this topic, and actually articulated this as one of the good practices that is captured in the -- we used EPRI

to capture our Tribal knowledge in this area. So that's an integral part of the EPRI guidance.

I believe most of those documents were made publicly available and are actually in the public document room. But I would -- I would just point to the fact that, one, there is a rich regulatory history on the decision that the Commission then actually reached to decide that for unrestricted release there would not be a requirement for that. Everyone recognized the value of stakeholder engagement, but trying to codify it and get it right for all situations, I think the agency understood that wasn't practical.

So, yeah, we have addressed it over and over again as a best practice and captured it in our literature that all of the plants are using now. The first thing Kewaunee did was pull up all of the EPRI documents that document our history, and in that is also our discussion of basically the good practice for stakeholder engagement.

COMMISSIONER MAGWOOD: What is the vintage of that?

MR. ANDERSEN: I beg your pardon?

COMMISSIONER MAGWOOD: What is the vintage of that guidance?

MR. ANDERSEN: The vintage is progressively from about 1999 to about 2004, 2005. And now we will capture -- but what EPRI has done with this program has gone international, so now we're capturing international experience and we will also integrate this next wave of experience there.

So we will -- once we've gotten through this process,

undoubtedly we will end up with a revised, updated set coming out of this. But it really is intended to be the cookbook for the person that wants to shut down and decommission their plant.

COMMISSIONER MAGWOOD: Okay. Thank you very much.

Thank you, Chairman.

CHAIRMAN MACFARLANE: Okay. So I have three hopefully quick questions while I have you all here.

All right. Mr. Stoddard, you guys at Kewaunee recently made a decision I believe to complete transfer of your spent fuel from your pool to dry casks by 2016. Right?

MR. STODDARD: That is correct.

CHAIRMAN MACFARLANE: Right. So what factors influenced that decision?

MR. STODDARD: The primary factor when we evaluated that was it's the -- is the reduced cost of getting the fuel out of the pool and onto the pad.

CHAIRMAN MACFARLANE: It's much cheaper.

MR. STODDARD: It's much -- it's an economic decision that we made to get the -- and then it opens up other options for us down the road to get that -- reduce that risk, reduce the staff, get the fuel onto dry cask storage.

CHAIRMAN MACFARLANE: Okay. So you didn't worry about exposures, occupational radiation doses to your workers.

MR. STODDARD: Well, to say that we didn't worry about occupational radiation exposures --

CHAIRMAN MACFARLANE: I don't mean it like that.

MR. STODDARD: -- we always worry about occupational radiation exposures, but we evaluated that in our decision.

CHAIRMAN MACFARLANE: I have a -- the next question I was going to ask is about SAFSTOR, because the reason that the category of SAFSTOR -- the option of SAFSTOR exists has largely been based on the argument that you reduce occupational doses to workers significantly if you wait 50 years.

So I'm wondering if that's really relevant anymore, or if we have practices now that are much safer and it's -- so it's not such a relevant issue.

MR. STODDARD: We believe it's relevant for the radiological decommissioning of the plant, because over that time the dose rates do go down in the plant as you are -- as you would be decommissioning and dismantling, doing the radiological decommissioning of the station. Dose rates do go down, so there is an improvement.

CHAIRMAN MACFARLANE: So does that mean that workers get a much greater dose in decommissioning a plant, from decommissioning the other bits and not transferring the spent fuel from the pools to dry cases?

MR. STODDARD: Well, the fuel is going to have to be transferred at some point or another, either -- so --

CHAIRMAN MACFARLANE: You wait a little longer; it gets a little cooler.

MR. STODDARD: I think significant -- yeah. There

will still be -- we will still get dose when we transfer the fuel at a later timeframe. There is more dose from -- certainly from the overall decommissioning of a station than there would be from just moving the fuel. We have a lot of practice and a lot of experience in moving fuel now.

CHAIRMAN MACFARLANE: So we have numbers on that?

MR. STODDARD: I don't have the numbers available to me right now.

CHAIRMAN MACFARLANE: Maybe NEI has the numbers on that. Mr. Andersen?

MR. ANDERSEN: The numbers are actually in the underlying NRC analyses that supported the rulemaking that created SAFSTOR. What might be an effective exercise would be to take a look at those and update those. At the time, the assumption was that about 95 percent of the worker dose would be avoided.

As far as relevance -- now, the health physicist in me has to step forward. You know, our focus is at a very, very small level in terms of the ability to avoid radiation dose. So it is always going to be relevant, whenever you see --

CHAIRMAN MACFARLANE: Right.

MR. ANDERSEN: -- a difference between Value A being bigger than Value B. But what I would say is this. That factors into an overall decision; it doesn't make the decision.

CHAIRMAN MACFARLANE: Right. No, but I think it's -- you know, I think you're right; it is interesting to update it.

Practices are different now than when, you know, the rule was made.

MR. ANDERSEN: While that's true, there is a substantial amount of exposure. We're talking several hundreds of person-rem. So it's not a trivial amount by any stretch of the imagination. It's much more than the average plant now receives during a year of operation.

So there are substantive differences despite the improvements in the technologies. And, obviously, the technologies will continue to evolve. But it is always fundamental that if you have ways to reduce the source term, those need to be taken into account as well. And then, that goes into a larger business decision as to what makes the most sense.

CHAIRMAN MACFARLANE: Might have to look into that some more.

And this brings me to the last question, which is for both of you. Are merchant plants different? So you brought this up in your testimony, and Mr. Andersen mentioned it as well, you know, maybe we should be treating merchant plants differently, and so I just want to understand how.

MR. RECCHIA: Well, I think fundamentally the issue of the financing of what happens when is, as we are discovering with a merchant plant that has been merchant for about 10 years, I will say I don't think we prepared for that adequately, because they -- the licensee would say there is no funds available other than the decommissioning trust fund. And I've already explained why that doesn't work in some cases.

Whereas with Maine Yankee or something like that, when you've got the ability -- not that you like to go back to ratepayers, but if they -- if there is a common goal of, look, we want to do this in an expeditious way, and it's going to cost this amount, are you willing -- do you need -- you know, is it appropriate to pay that extra amount to get that work done, it's at least a clear process. So I think that's the fundamental change that has occurred.

If I could roll back the clock to when I was 11, I would do that. No, I actually wouldn't, but I would -- I would -- from the time the plant became merchant, I would have planned for some of these expenses that occur in this transition that are not decommissioning but not operational, and figure out how to finance those.

MR. STODDARD: You know, I would just comment that it is easy to exaggerate the difference between a merchant plant and a plant that is in the rate base. It is accurate to say that you can't go back to the ratepayers when you have a merchant plant like you could if you had a plant that was in the rate base, but you certainly can go back to the state government, for example, if there was a strong public desire and a public need to take a different path.

But, for example, our decommissioning trust fund is fully funded, and all of the decommissioning costs, including spent fuel management, will come out of the decommissioning trust fund, which is no different than what we would do for our regulated plants.

CHAIRMAN MACFARLANE: Mr. Andersen, do you have any views? No?

MR. RECCHIA: Can I just say it's a matter of timing in

the sense of, oh, our decommissioning fund is fully funded, too, as you would interpret it that way, with the fuel sitting there for 50 years and the --

CHAIRMAN MACFARLANE: Right.

MR. RECCHIA: -- funds sitting there for 50 years to grow over that time, which is not acceptable to Vermonters.

CHAIRMAN MACFARLANE: Okay. Okay. Well, thank you very much for the discussion this morning. I really appreciate you all appearing here this morning and joining in.

And we will take a five-minute break to switch panels.

(Whereupon, the above-entitled matter went off the record at 10:45 a.m. and resumed at 10:54 a.m.)

CHAIRMAN MACFARLANE: Okay. I think we will get started. Just a second. When everybody sorts themselves out. All right. Now we are ready for the staff presentations on decommissioning. And I will turn things over to Mark Satorius, our Executive Director of Operations.

MR. SATORIUS: Good morning, Chairman. And good morning, Commissioners. I note that I don't have to swing my head so far for the Commissioners that we have here today. I need that exercise. Thank you, Commissioner.

Staff is here today to brief you on the status of the power reactor decommissioning processes at the NRC with a special focus on the four plants that within the last year or so have opted to cease operations and move into the decommissioning phase. Next slide please.

The decommissioning program at the NRC has a long and successful history. After the 1997 issuance of the license termination rule and associated reactor decommissioning regulations, the Staff invested a significant amount of time in the late 1990s and the early 2000s developing improved guidance for implementing the new regulations.

The staff's investment produced a more efficient and effective process for both licensees and the NRC and resulted in significant increase in the number of license terminations and active decommissioning work as shown by this slide.

Decommissioning activities involve several NRC offices. The level of involvement depends on the stage of decommissioning and decisions made by the licensees regarding the immediate dismantlement or the entrance into a SAFSTOR mode where major decommissioning activities are delayed for some period of time.

The decommissioning process will be more fully described later during this meeting by my colleagues here at the table. But efficient interactions among the multiple players during all phases of decommissioning is important to continued success of the program.

Slide 3. These efficient interactions have never been more important than now when the staff is being challenged by having four reactors prematurely shut down in a relatively short period of time.

To address this, the staff has taken several actions to deal with the current as well as the future potential for additional shutdowns.

These actions include consolidating the project management responsibilities for all reactors transitioning to decommissioning into one branch in the Office of Nuclear Reactor Regulation before being transferred to the Office of Federal and State Materials Environmental Management Programs or FSME.

Forming an interoffice decommissioning transition working group to identify and prioritize current and future challenges as well as to improve communications across offices and act as a focal point for decommissioning improvements.

Third, developing interim staff guidance in tandem with ongoing licensing reviews for security and emergency preparedness issues. And finally, identifying potential regulatory improvements and past lessons learned that could be implemented in future ruling activity or through enhanced guidance documents.

This continuing level of effort by the staff should ensure that the four prematurely shut down units currently transitioning into decommissioning will do so successfully, building on the experience of the past using the tools currently available to make the process as straight forward and efficient as possible.

Thank you. And I look forward to the remainder of the meeting as well as from your questions. I now turn it over to Andrew Persinko to my far right from the office of FSME. He will further discuss decommissioning processes and improvements implemented as a result of earlier experience with power reactor decommissioning. Drew.

MR. PERSINKO: Thank you, Mark. Can I have my

first slide please? Okay. Thank you. Good morning, Chairman. Good morning, Commissioners. As Mark said I'm going to be discussing this morning the decommissioning process, some process improvements as a result of earlier reactor decommissionings.

And also I will be discussing FSME's role during the transition from an operating reactor to a decommissioning reactor. Next slide.

This slide shows the decommissioning process including opportunities for public involvement, which is defined in 10 CFR Part 50. And it's further described in several decommissioning procedures.

The major steps include when the licensee submits two certifications. One certification is a Cessation of Operations and that has to be done within 30 days of permanent shutdown. And a certification that the fuel has been permanently removed from the reactor vessel when that activity is completed.

A Decommissioning Report follows, more formerly known as the Post Shut Down Decommissioning Activities Report. And here's where I'm going to use an acronym, PSDAR. It's required to be submitted within two years following permanent shutdown.

As required by regulation, we will have a public meeting near the site normally within 60 days of receipt. And the purpose is to discuss the licensee's overall plan for decommissioning.

The licensee can commence major decommissioning activities after 90 days after submitting the PSDAR. And the decommissioning must be completed within 60 years. At least two

years before the planned termination of the license, the licensee must submit a License Termination Plan.

We will then hold a public meeting again as required by regulations and to offer an opportunity for a hearing. At the completion of the decontamination, the licensee will conduct final radiological surveys to verify that the facility meets regulatory requirements for release.

NRC will perform independent verification surveys to confirm the licensee's results. Finally we will terminate the license at the completion of the decommissioning process.

Staff's levels of effort during the process are influenced by the licensee's decommissioning approach. With increased licensing and inspection activities occurring during transition and active decommissioning as well as when spent fuel is being transferred to dry cask storage.

As already mentioned, the decommissioning process involves several NRC offices. And the interactions among the offices is governed by office procedures, which dictate the roles of the various offices throughout transition and through the decommissioning process.

The decommissioning process also offers opportunities for public involvement and stakeholder interaction. In addition to the required public meetings related to the submittal of the PSDAR and the License Termination Plan, staff has participated in additional public interactions related to Kewaunee, Crystal River and SONGS 2 and 3 which will be discussed a little later.

Next slide. The decommissioning process has been used successfully to decommission seven power reactors since the implementation of the License Termination Rule in 1997 and ten reactors overall.

The decommissioning activities at these facilities included decontamination and dismantlement of radiologically contaminated components or structures and remediation of the surrounding site to levels acceptable to NRC.

In some cases, where required, licensees also met more restrictive state requirements. All of the facilities were released for unrestricted use according to the License Termination Rule. In many cases, though not required by NRC, the licensees also removed structures and equipment at the facility.

Next slide. As of today, staff is managing 17 permanently shut down power reactor units that are in various stages of decommissioning. Specifically progress is being made at three reactor units that are actively being decommissioned.

These units are the Zion 1 and 2 and Humboldt Bay. Ten reactor units are in SAFSTOR, not counting the four units that recently shut down. And the four units that recently shut down in 2013 that are transitioning to decommissioning are doing so in a physical configuration as well as through licensing.

Crystal River and Kewaunee plan to enter SAFSTOR according to their PSDARs while SONGS 2 and 3 is not expected to submit their PSDAR until later this summer, so their strategy is still being developed.

Vermont Yankee has announced it's intention to shut down by the end of 2014. And Oyster Creek has indicated that it will shut down in 2019.

In addition to these 17 units, additional permanent shutdowns could be expected over the next five years based on publically available information, which the staff will then manage as needed.

Thanks to the long history of the decommissioning program, Staff has implemented several improvements based on experiences during previous decommissioning activities including several ongoing guidance document updates and implementation of the new rule focused on decommissioning planning during operation.

Some highlights of the other lessons learned include operators should work with the stakeholders to establish expectations for the end state use of the site. Maintain communications throughout the decommissioning process.

Keep records of any spills or other contamination during operation, which will improve site characterization upon decommissioning upon cessation of operations. And include flexibility in the decommissioning plans to allow for changes.

These lessons learned have been incorporated into several guidance documents and will be continued to be integrated across the decommissioning process.

For the four transitioning sites previous industry lessons learned were leveraged into the creation of some type of community outreach program to engage locally affected parties

throughout the process.

The activities range from the formal as we've heard, the formal community engagement panel at SONGS for the more informal decommissioning open houses hosted by Crystal River.

The interactions seek to keep the public engaged and informed throughout the process. Next slide.

Until the project management function transfers from NRR to FSME, FSME's main role has been to support communication among the various stakeholders during the decommissioning transition process.

As mentioned on the previous slide, to date NRC has sponsored several public meetings including the end of cycle and annual assessment public meetings at Kewaunee and Vermont Yankee, PSDAR meetings at Crystal River and Kewaunee, and a public meeting at SONGS to discuss the decommissioning process.

In addition, during the last year the staff has supported numerous Congressional staff briefings and Senate hearings and has met with state and local government officials as well as with non-governmental organizations to discuss decommissioning issues.

Our intent is to make sure that all parties have a clear understanding of the process, are given an opportunity to have their opinions heard and their questions answered and to insure that a path forward is well established for successful completion of the decommissioning.

We feel that the goal is achievable thanks to a decommissioning process that is well defined and has been

successfully used in the past, the dedication of the NRC offices involved in the transition efforts and the ongoing efforts to engage and interface with the public and other stakeholders throughout the decommissioning.

Thank you. I will now turn it over to Louise Lund from the Division of Operator Reactor Licensing in NRR who will be discussing the decommissioning transition process and the potential for future enhancements.

MS. LUND: Okay. Thank you, Drew. And good morning Chairman and Commissioners. We've heard a lot about the transition process from the last panel. And as you know, NRR has the project management lead for the transition process. Slide 13, please.

As has been our practice for plans that have previously decommissioned, staff and NRR processes licensing actions that transition a licensed plant from one that contains provisions for plant operations to one that is representative of the decommissioning status of the plant.

As Drew pointed out, this process begins with a licensee submits its certifications for permanent shut down or removal of fuel.

The current regulations contain few provisions for automatically removing operating plant requirements that are no longer necessary in a decommissioning plant after the plant has made its certification that it has removed the fuel and intends to terminate the license.

Consequently, as you've heard this morning licensees

have had to submit licensing actions, namely exemptions and license amendments to modify the license to reflect their decommissioning state.

It is only after the processing of those actions and the issue of the decommissioning technical specifications, which take about two years, that management of the plant's operating license is transferred to the Division of Waste Management and Environmental Protection in FSME for the longer term period of decommissioning activities.

It should also be said here that the risk of an off site radiological release is significantly lower. And the types of possible accidents are significantly fewer at a nuclear power reactor that has permanently ceased operations and removed fuel from the reactor vessel than at an operating power reactor.

The license amendments and the exemptions submitted by the licensee following the decision to decommission reflect a significant reduction in radiological risk for a power reactor undergoing decommissioning.

Since the last plants that were decommissioned in the 1990s, there have been new and revised regulatory requirements for operating plants, namely new emergency preparedness and security rules and recent orders as a result of Fukushima, which also need to be considered for their applicability in decommissioned plants.

As a result, there is a larger number of licensing actions for the recently shut down plants than for plants previously decommissioned. The suddenness of having four reactors

permanently shutting down in a relatively short period of time with another expected at the end of the year has added to a heavy existing licensing workload.

However, the staff has provided a higher level of priority to the decommissioning licensing actions from the routine licensing actions in recognition that the decommissioning trust funds are intended to cover decommissioning activities and not operating plant requirements, and it's generally followed the standard timetable and processes for licensing actions, some which require environmental assessments and public comment periods.

Despite needing to navigate the changes to the regulatory requirements since the 1990s and the current heavy licensing workload, staff has still managed to work the licensing actions in a timely fashion though not to the very aggressive schedules that some of the licensees had initially requested and desired.

The staff has worked through many issues with the Kewaunee submittals and is focused on preparing high quality safety evaluations that can be used as templates as appropriate for other plants as well.

Slide 14 please. The staff has made significant progress on processing and issuing licensing actions that have already been submitted, mostly though submitted by Kewaunee and Crystal River thus far with Kewaunee being the lead plant for working out the details and most of the reviews.

Just to give you an idea of the associated workload, there have been about 60 licensing actions submitted two days before

decommissioning sites including a few from Vermont Yankee and around ten more could be submitted in the next few months.

That's a little bit different than what the speaker note said because we just updated it. Exemptions from multiple regulations are counted as one action in the above numbers.

To the maximum extent practical the staff used precedence from the previous decommissioned plant evaluations as a basis for the current reviews while incorporating additional new and revised regulatory requirements, mostly new emergency preparedness and security rules.

Additional technical work, like the updated spent fuel pool studies and new guidance into the reviews. As licensing actions are issued for the first plant, we have observed that the staff gains efficiencies for subsequent plant reviews.

However, in line with what Commissioner Svinicki mentioned earlier, the submittals have not all been identical so you can't exactly use everything as an exact precedent. So let me give you some examples of recently issued licensing actions.

The staff approved certified fuel handler training programs at Kewaunee and Crystal River and are currently reviewing the application for San Onofre. The staff issued an amendment for Kewaunee that supported an upcoming transfer of spent fuel from the spent fuel pool to dry cask storage.

The staff issued an exemption for Kewaunee related to the disbursement of the decommissioning trust funds. And the staff rescinded orders issued to Kewaunee and Crystal River following the

accident at Fukushima.

In addition as the staff performed it's technical review and asked questions of the licensee regarding proposed changes, some licensed actions or portions of licensing actions were found not to be necessary.

As a result, these actions have been removed from the amendment or exemption request or the request was withdrawn in its entirety. There has been a strong external interest in the exemption request particularly for emergency preparedness and security.

For the emergency preparedness exemptions, the exemptions still consider what is necessary to achieve the underlying purpose of the rule.

In the case with decommissioning, the exemptions are requested because the regulations do not provide an automatic way to reflect the reduced scope present in a decommissioned facility in comparison to an operating plant.

So exemptions are used to modify requirements to reflect what is necessary to be protective of the public considering a decommissioned state of the plant.

The next speaker, Mark Thaggard, will discuss the emergency preparedness and security exemptions in more detail. In the particular case with the emergency preparedness exemptions, the staff needs the Commission to approve the staff's proposal to grant the exemptions.

The staff has evaluated the Kewaunee emergency preparedness exemptions on their merits and sent a paper to the

Commission with their technical evaluation requesting that the Commission approve the staff's proposal to grant the exemptions.

Slide 15, please. I'd now like to discuss what improvements have been and could be made to the transition process. As you have heard already from the external panel and also from the EDO, the staff's introduced many internal coordination activities to improve the review process.

NRR has centralized the licensing activities into one program management branch in NRR and NRR and FSME jointly established an interoffice working group with affected offices to insure that the short and long term solutions to licensing and inspection challenges are developed and well-coordinated and also to enhance communications.

This working group makes recommendations for guidance development, interfaces with external stakeholders and organizations and has discussed the need for future rulemaking.

There was a proposed integrated nuclear power plant decommissioning rulemaking in the year 2000 that covered emergency preparedness, insurance, operator staffing and safeguards.

SECY-00-0145 described the rulemaking and it was returned to the staff without the Commission voting pending completion of a supporting technical analysis, which was published as NUREG-1738.

A subsequent SECY was provided to the Commission, SECY-01-0100, which provided options and recommendations. However in the light of the circumstances of 9/11, which happened that

year, the EDO at that time sent a memo to the Commission recommending withdrawal of SECY-01-0100.

As a result, the licensees continued to modify their plant licenses as they transition to decommissioning by using exemptions and amendments as you have heard from many of the panelists today.

The staff recognizes that the transitioning process could be improved by relying less on the exemption and licensing amendment process for changing the license to reflect the plant's decommissioning state.

Recognizing this, the staff has added a place holder on the Common Prioritization of Rulemaking list for a proposed integrated nuclear power plant decommissioning rulemaking. The proposed rulemaking screened as a medium priority.

However in the interim, the processing of the licensing actions for the lead plant has provided a clear roadmap for the other plants that will be submitting licensing actions for decommissioning as well as for the staff processing the licensing actions for the other plants in house.

The staff will use lessons learned from these initial transitions to further improve the process and identify efficiencies for staff and licensees. I'd now like to turn the presentation over to Mark Thaggard, who can discuss the emergency preparedness and security reviews in more detail.

MR. THAGGARD: Good morning, Chairman, Commissioners. Excuse me. As Louise pointed out, the Office of

Nuclear Security Incident Response role in review of decommissioning plants is to look at proposed changes to the licensee's security and emergency preparedness programs.

Can I have the next slide? Excuse me. When a nuclear power plant is operating under our regulations the licensee is required to have a security program to protect against threats up to and including the design basis threat.

This is to insure prevention of significant core damage and also to insure protection against radiological sabotage of the spent fuel pool. In the area of emergency preparedness we require that the licensee have both formal on-site and off-site emergency plans in place.

Once the fuel is removed into the, moved into the spent fuel pool, the scope of the required security can be reduced because there is not longer a need to prevent significant core damage.

However the licensee must continue to demonstrate a strategy to protect against radiological sabotage of the spent fuel pool.

And the threats that the licensee has to protect against for that spent fuel pool are the same as when the plant is operating. So the changes that we're looking at in the security area for decommissioning plants primarily reflect a reduction in the key components of the facility that need to be protected.

In the emergency preparedness area the, both the licensee and off-site state agencies have emergency plans, which they use to prepare for accidents at operating plants that could lead to off-site radiological impact.

But once the fuel has been moved to the spent fuel pool, the risk is primarily associated with the spent fuel pool. And as I'm going to discuss later in my presentation, the scope of the emergency preparedness program can be reduced because there's a lower risk to the public at that point.

However, the licensee must maintain a formal on-site emergency plan. Can I have Slide 18? Our regulations actually give licensees flexibility to make changes to their security program as the facility transitions from an operating to a decommissioning status.

We received a number of requests for exemptions from the security requirements as well as license amendments. And there have been changes that the licensees have made to their security plan using under 50.54(p).

In terms of the exemption requests, they cover a number of topics including reducing the security staff, combining the central alarm station and the secondary alarm station, removing requirements for suspending security measures during severe weather.

These are just a few examples but as Louise pointed out, the staff has made significant progress in reviewing these various licensing activities.

Our overall approach is to consider changes to the security program in an integrated fashion. As opposed to looking at things individually we look at it in an integrated fashion with a clear understanding of the overall protection strategy at the site, considering things such as scenario response time lines and equipment that may be needed for successful mitigation.

A full understanding of the changes in the security program is important to insure that whatever changes are being made, it's not going to affect the security that's needed at the site while it's going through decommissioning but also the ultimate end state of the site when it's, you know, when it's finished so we're looking at both of those.

Can I go on to Slide Number 19? The current emergency preparedness exemption requests that we're looking at including that for the Kewaunee station, are consistent with those that have been previously granted.

The staff assessment for the Kewaunee exemption request is in SECY-14-0066, which is currently before the Commission for consideration. The primary accident scenario that could lead to a significant radiological release, once the fuel has been off loaded would be a zirconium fire, which we're had a lot of discussion about.

And this would be associated with a beyond design basically event. But prior research is consistently concluded that the spent fuel pools are robust structures that are likely to withstand severe earthquakes and other credible challenges.

I'd just like to point out that if there is a loss of cooling in the spent fuel pool, it's expected to take several days to uncover the fuel, so we believe that this will give the licensee adequate time to take appropriate measures.

And if there's a leak in the pool, even if we don't account for the time to drain the pool, there still should be several hours available for the licensee to implement mitigative measures.

One key aspect of the staff assessment of the exemption request is to carefully consider how long the fuel has been in the pool and how long it would take for a zirconium fire to occur so that we can determine whether or not there will be sufficient time for the licensee to implement appropriate measures if it became necessary.

I should also point out that we are going to put as a license condition that the Licensee have mitigation strategies to be able to maintain cooling of the spent fuel pool, which is currently required under 50.54(hh)(2).

And in the unlikely situation where it becomes necessary, we think that there will be adequate time for the state and local governments to carry out off-site protective measures.

They have comprehensive emergency management plans to cover a number of different types of emergencies. And there's ample data to show that off-site response organizations can effectively carry out protective actions even evacuations for a wide range of severe events.

And at the time that the facility, at the time that we would grant the exemption, the risk associated with the facility would be significantly less than during operation.

So we believe that this will allow a smooth transition to reliance on the comprehensive emergency management plan. As I mentioned earlier, the licensee will be required to maintain an on-site emergency plan.

This will include having the ability to coordinate the response of on-site or off-site organizations, for example, firefighting or

getting medical assistance.

It would also include having the ability to classify the emergency and notify designated off-site authorities. Although at this stage we wouldn't expect the classification to be higher than the alert level.

If there is a release, we don't expect the off-site doses to exceed the Environmental Protection Agency Protective Action Guidelines.

The last thing I'd like to point out on this slide is that one key aspect of allowing the removal of the off-site emergency plans, we are counting on an effective security program being maintained at the site to prevent the radiological sabotage.

And as I noted earlier, you know, the staff is carefully reviewing any proposed changes to the security program to be sure that we maintain a high degree of confidence that there will be effective security at the site.

Can I have Slide 20? The Staff is developing interim Staff guidance for both security and emergency preparedness. These guidance documents are intended to allow more efficient and consistent reviews of future exemption requests.

The guidance documents are being developed concurrent with our licensing reviews. I will note that the Emergency Preparedness Interim Staff Guidance is further along.

It's being developed using past precedence from the prior decommissionings as well as insights from the current reviews. We published a draft of the document earlier this year and received

significant comments which we're currently working to address.

One of the common comments that we receive is that the off-site emergency planning should not be removed until all the spent fuel has either been put into dry cask storage or removed entirely from the site.

So our current plans are to finalize the Emergency Preparedness Interim Staff Guidance by the end of the year. The security Interim Staff Guidance is still in the early stages of development.

Given significant changes to our security requirements following 9/11 we're somewhat limited in terms of being able to rely on past precedence.

So this guidance document is being developed primarily based on the current insights that we're getting from the current reviews. We're going to use the same approach as we use for the Emergency Preparedness Interim Staff Guidance in terms of seeking public comments.

And our current plans are to publish a draft of the document by the end of the year. Thank you. I will now turn over the briefing to Mr. Robert Orlikowski. Bob is the Branch Chief in Region III with oversight responsibilities for decommissioning. He will discuss inspection activities.

MR. ORLIKOWSKI: Good morning, Chairman and Commissioners. I'm here to discuss the decommissioning inspection program. In Region III we have five reactor sites in various states of decommissioning.

Kewaunee is in a transitional phase going towards SAFSTOR. Zion is undergoing active decommissioning. Fermi 1 and Dresden 1 are both in SAFSTOR conditions. And La Crosse, is actively decommissioning, but is transitioning back to a SAFSTOR condition.

Next slide please. The decommissioning power reactor inspection program outlined in Inspection Manual 2561, is implemented following the certification date for removal of fuel from the reactor vessel and continues until the license is terminated.

Decommissioning activities may range from relative inactivity all the way to activities that are complex in nature and would require very specialized skills.

The inspection program provides the flexibility necessary for the NRC to ensure that the licensee activities, organizations and controls are effective to provide reasonable assurance that decommissioning can be conducted safely and in accordance with regulatory requirements.

The program also provides transparency through the issuance of publically available master inspection plans and inspection reports. Next slide please. The inspection program is made up of two major elements, core inspections and discretionary inspections.

The core inspections are required to be performed at a decommissioning site with some defined periodicity. Discretionary inspections would include initiative inspections or reactive inspections such as those for follow up on an event.

The core inspection requirements vary depending on

the amount of activity at the site. The inspection manual chapter outlines the requirements depending on whether the site is in a transitional phase, an active decommissioning state, in a SAFSTOR condition or whether the site's performing final status surveys to verify that radiological levels are below the limits for release.

If there's spent fuel store in the pools, an additional inspection activity is also required. There are 12 core inspection procedures listed in the manual chapter. And these inspections review areas such as operations, maintenance, radiation protection, effluent and environmental monitoring, security and spent fuel storage.

There is also an allowance to inform the core inspections with additional NRC inspection procedures such as those used for the reactor oversight process.

There is an effort underway to review, revise and improve the decommissioning inspection procedures. This is a collaborative effort between FSME and the regional decommissioning inspectors. Next slide please.

After a reactor shuts down, the NRC will typically keep a resident inspector on site for a period of about 6 to 12 months. If necessary, the program does allow it to keep a resident on-site for longer with the appropriate management approval.

At Kewaunee we used the site's work activity schedule to develop a master inspection plan and we kept a resident on site for approximately seven months.

Currently for Kewaunee and Zion, the two sites in Region III that have the most activity, we aim to send an inspector on

site for one week of inspection every month.

Our decommissioning inspectors maintain the same safety focus as our resident inspectors. Even though we may not put our boots on the ground every day, our inspectors routinely communicate with the sites to stay apprised of work activities.

Our inspectors will receive copies of all corrective action program documents generated. They also remain cognizant of license amendment requests, updated final safety analysis report changes and plant modifications.

Inspectors also continue to monitor safety culture at sites, which is especially important while a site is transitioning from an operating reactor to a decommissioning reactor.

Communications are a vital part of the inspector's job. Not only do they communicate routinely with the licensee but we also do outreach to external stakeholders. At SONGS, the lead decommissioning inspector, Greg Warnick, routinely meets with public interest groups to maintain an open line of communication.

In Region III, our lead inspector for Kewaunee, Rhex Edwards, our government liaison officer, Harral Logarus, recently met with local government officials to let them know what the NRC is doing for oversight at Kewaunee and to also answer their questions.

In summary, we do recognize the need to improve the inspection procedures and that effort is underway. But the decommissioning inspection program is well defined and provides appropriate guidance, flexibility and transparency.

Finally, the decommissioning inspectors remain

engaged and focused on safety. That concludes my remarks. And I'll turn things back over to Mark.

MR. SATORIUS: Thanks, Bob. And thanks for your presentation and thanks for the presentation of all the panel members. With that, we're ready for your questions.

CHAIRMAN MACFARLANE: Great. Thank you very much. Commissioner Svinicki.

COMMISSIONER SVINICKI: Well, thank you for your presentation. I'll begin with the topic of the proposed integrated rulemaking.

And, Mark, I'll start with you, I mean, this is basic, classic management decisionmaking of saying, well, we can proceed as we're doing now and as we have in the past or depending on what we might predict about the future, we might decide that a use of resources to do this integrated rulemaking is new and higher than it was previously.

Now Louise mentioned something that I was aware of is that the staff has evaluated the integrated rulemaking. It screened out as a medium and for those unfamiliar with, well, unfamiliar with the NRC maybe.

NRC, when it's going to look at something, it has a highly sophisticated analytical basis for looking at it. So if you've never looked at how we prioritize rulemakings, we have an algorithm. We have factors.

We weight those factors. And if I'm describing this at all accurately you develop a score for each proposed activity and then

it's going to bin out based on that score, so it came out as medium as I understand Louise's presentation.

So but, you know, there's other factors here obviously. If the Commission were to decide that something were a high priority it would be a high priority.

And although it's not appropriate for us to be in the business of wagering or, you know, trying to figure out what will happen with premature shutdowns in the future or any kind of shutdowns that might come in a surge.

At the end of the day we need the expertise, the same expertise to contribute their expertise to the rulemaking as is very busy right now for the reactors we have.

So that's why I say it's that classic management thing of saying do I want to try to get ahead of the curve or am I running so fast in place right now that I can't spare it.

And as we heard from the previous panel, the four underway right now, I wasn't really thinking about Oyster, which is Oyster Creek's out there a little bit in the future, probably isn't worth doing a rulemaking for one.

But then again there's a lot of speculation about what might happen. Now curiously enough, Mr. Executive Director for Operations, you and our Chief Financial Officer have recently initiated an effort to try to look at how the agency has previously planned and resourced for these point estimates of the future.

And we're trying to, in a team that you've asked to be led by your Deputy who you've assigned temporarily but full time to lead

an effort of how we could plan more agile strategies for looking at the future.

This may be a classic example of the type of thing that Project AIM is thinking about, this and other emblematic things like this in the past. So, you know, how will the staff, I know you don't have a recommendation on this, but how would the staff approach thinking about maybe making this a higher priority?

MR. SATORIUS: Well, that's a very provocative question and it's interesting --

COMMISSIONER SVINICKI: Why, thank you.

MR. SATORIUS: And I was thinking about that very matter as I was listening to the previous panel where I think one of the panel members had an opinion that what you put together back in 2000, the proposed rule that the EDO pulled back because of 9/11 --

COMMISSIONER SVINICKI: I had a question for Louise on it. It says, what if Staff assesses the relative staleness of that analysis.

MR. SATORIUS: That's exactly where I was going. Because I think the previous panel member stated that what you had there was just perfect, you know, just take that thing and run with it.

Well, we've got 13 or 14 years of some more experience. We're gaining the experience of these four prematurely shut down plants right now that are transitioning into decommission. I would think we would have to look at it.

Well, we'd have to put it back in the rulemaking process. And then we'd have to decide to build on what we already

have and move forward. We still need to do public outreach because that's 13 years ago. So there's a lot --

COMMISSIONER SVINICKI: And we also heard from the previous panel that they think that would be very valuable right now is to engage probably build some education but also have some inputs to any rulemaking processes.

MR. SATORIUS: Well, I'm kind of a process person. I think we're going to have to stick with our rulemaking process. We've done a good job I think in assessing its prioritization. It is what it is.

And I think we would also benefit from maybe the insights of Project Aim's completion here in five or so months or at least that piece of Project Aim.

Once we get the SRM that tells us what the charter is exactly.

COMMISSIONER SVINICKI: Yes.

MR. SATORIUS: But --

COMMISSIONER SVINICKI: But this is the type of thing that the Project Aim outcome should look to inform --

MR. SATORIUS: Sure.

COMMISSIONER SVINICKI: -- situations just like that.

MR. SATORIUS: Absolutely.

COMMISSIONER SVINICKI: Also, I know from previous information from the staff that we do need, this may not be obvious.

It wasn't obvious to me until I was reading some staff

input that we really need NRR expertise as we're looking at these exemption requests because foundationally what you're doing is you're taking something that for an operating reactor we certainly insist upon in saying is this or isn't this appropriate in terms of the stage of decommissioning.

So I had a couple of questions about that. One was about another interesting thought from the previous panel of every time we do rulemaking related to Part 50, we ought to have as part of our process that we've checked a box to make sure that we've kind of baked in some adaptability for a decommissioning reactor.

You heard me express, I did not have a rejection but some skepticism about that that might be very difficult to do because we also heard from that same panel and from some of the staff presenters is that a decommissioning site all you need to do is go to a site that's undergoing active decommissioning. It's extremely dynamic.

MR. SATORIUS: It is.

COMMISSIONER SVINICKI: You can visit one month and six months later you could see certainly a hazard --

MR. SATORIUS: Parts of the plant are gone.

COMMISSIONER SVINICKI: Yes. Parts of it are gone. And the hazard is eliminated. New hazards are created certainly occupational and radiological hazards are created as new areas are accessible.

You almost have to resafety-train people week to week because the hazard is changing so quickly on the site. But, you know, I don't know if anyone with a sophisticated rulemaking expertise would

want to talk about that.

You know, is there some way to be -- this is separate from the integrated rulemaking, but can we on a going-forward basis be baking that into Part 50? I'm not sure.

MR. SATORIUS: It would be difficult. I'd maybe ask Louise if she would -- but I want to do -- your point that every month something different is usually happening in decommissioning.

You can talk to Bob Orlikowski. You know, their focusing now on cask campaigns. So they're focusing on moving fuel out of the spent fuel pool.

So there's limited operations of dismantlement. So you'll get these surges in certain portions where the dismantlement is surged back and fuel handling has surged. And then we'll change after the fuel handling is --

COMMISSIONER SVINICKI: Well, we'll say the most extensively I had to dress out ever for a tour was at Zion because the decommissioning, you know, you've got accessibility to parts of the plant previously inaccessible.

It depends on, well, they use that term rip and ship --

MR. SATORIUS: Yes.

COMMISSIONER SVINICKI: -- which maybe isn't the greatest, most sophisticated term.

MR. SATORIUS: Yes.

COMMISSIONER SVINICKI: But, you know, when you're in a rapid dismantlement phase you have a lot of materials --

MR. SATORIUS: Air born material.

COMMISSIONER SVINICKI: -- Yes. And things like that. So you really have to be conscious of that. But that would seem to me separate and aside from the integrated rulemaking if there were a way to improve our process that allowed us to at least as we undertake changes to part 50 to consider this.

Again, I don't -- I'm just being skeptical because I think it's complicated. I'm not against it. I mean, you know, we need to be walking and chewing gum at the same time, so if we can be improving this because I appreciated that I believe it was Mr. Anderson said, you know, whether or not you have premature shutdowns, your going to have eventual shutdowns of a lot of reactors in the United States because we have more operating reactors than any other country.

And just as a final note I wanted to give the staff an opportunity to respond to Mr. Stoddard from Dominion who had said that in their experience as they have exemptions before the agency, now this was what his slide said, precedent has been inconsistently applied. Now I think that what I heard from the staff's prepared presentation is that's because some circumstances has changed. Security and EP were used as an example of that.

But this notion also, the discussion was, well, we were told -- we thought we didn't need an exemption request. Then we engaged the NRC staff. We were told we did need one.

We submitted it and then we were told we didn't need to and it was withdrawn. Would you like to react to that anecdote?

MS. LUND: Yes. Absolutely. And, you know, if you look at some of the items on that list at, like, for instance, cyber security,

you know, back when we did Zion. You know that wasn't a pressing issue.

There have been various issues that we've worked through and, you know, I think the importance is really the good communication between us and the licensee.

You know, at the outset, you know, and obviously somebody has to be the first after a long period of not having any decommissioning activities in front of us. You know, I think our objective was to try to make sure that we did have a very predictable process and work through those.

But there were changes and we tried to address those. And some of the concerns ended up in that bin. And some things did get withdrawn. Some things we did have to work through the specifics of.

COMMISSIONER SVINICKI: I appreciate that. As he described that I found myself wondering, you know, is this because Kewaunee has agreed to be kind of the pacer for some of these other things.

And the other thought I has was if I'm sitting here next to year and, you know, SONGS says the same thing then that may be when we have some different questions to ask.

MS. LUND: Right. And I'm very pleased to say that, you know, I think there's been tremendous communication amongst the licensees that are the four, you know, that are in this process together to learn from. And also to, to the extent possible, I think some of them have waited to submit something in order to see, you know, what RAIs

we send out, you know, in order to figure out how to best streamline, you know, what the process is at that point.

That obviously is optimum. I also wanted to make a comment about the rulemaking part too. You know, there's a challenge in doing the interim staff guidance also at the same time that you're doing the reviews.

You know, right now for the emergency preparedness that's something that you're doing in tandem. And, you know, for the security we're getting that where the reviews are happening just a little ahead of the ISG.

But I think, you know, when you talk about the rulemaking, you're talking about scope and you're also talking about timing.

And obviously to the extent that we have some of this in place, obviously we're better set up for a regulatory basis for whatever the rule ends up ending up looking like because I don't think it is a matter of just dusting off the old rule and putting it into place.

I think there are, from what I have understood from the staff that worked on the previous rulemaking, that there was a lot of area of commonality and that what's the previous rule was focusing on.

Obviously, you know, you never get to a point where everything is 100% the same. So, you know, that in the end result, even if we've got a very, very good rule, we may end up having an exemption here, exemption there. You know, I mean, it --

COMMISSIONER SVINICKI: Exemptions to our new rule to avoid having exemptions. That will be --

MS. LUND: But --

COMMISSIONER SVINICKI: But I'm with you. I don't take it off the table.

MS. LUND: But the objective is certainly to make it as widely applicable as possible. I just want to throw that out there.

COMMISSIONER SVINICKI: Okay. Thank you. Thank you, Chairman.

CHAIRMAN MACFARLANE: Okay. Commissioner Magwood.

COMMISSIONER MAGWOOD: Thank you, Chairman. And, you know, I appreciate the staff's presentations today. Welcome to Bob. I saw you last week in Region III. And they warned me you'd be here. Appreciate your presentation today.

Commissioner Svinicki covered a lot of the ground from the previous panel but one issue that was, a couple issues that weren't, that she didn't cover I want to try to touch base quickly.

One was the comment from Mr. Recchia from Vermont about the blanket EP exemption. You didn't quite address that. You laid out the rationale for why we take the approach we take.

But I think his thought was why not have come to phase approach as opposed to just, you know, ending the EP planning requirements up front. Can you react to that?

MR. THAGGARD: Yes. First of all I think one thing is that it doesn't happen all at once. I mean, you know, there is a delay in the fact that it takes a while before you can actually allow the exemption to take place.

Like in the case of Kewaunee you're talking about 17 months. But I think Mr. Andersen kind of touched upon the fact that, you know, what we align is actually the exemptions from the requirements they have no longer needed.

There's still a lot of requirements that still that's going to be in place. But the things that we're eliminating are things like some of the early warning systems that you need for addressing like a catastrophic type of emergency, which you're not going to have in this case.

Things such as sirens or the emergency drills and stuff of that nature that you have to really prepare to take immediate action, those are the provisions of the regulation that we are allowing exemptions on. They're not longer going to be needed in this case. And so I think Mr. Andersen I think kind of touched upon that.

COMMISSIONER MAGWOOD: One thing that occurs to me about this is we've now integrated the hostile action element to the emergency preparedness. And one can certainly imagine a scenario where a plant that still has fuel in the spent fuel pool, you know, could undergo some kind of aggressor or assault.

And we would expect that the licensee would coordinate with off-site resources to react to that. But if off-site planning has been terminated, what's the framework to do that now? What -- how do you -- how does that transition?

MR. THAGGARD: Well, the licensee still has to have the ability to communicate with the off-site. So they could still get local law enforcement to come in if they need it.

But there's going to be, as I mentioned before, there's going to be a security force remaining at the site.

The basis behind the hostile action based exercise requirement is primarily so that you, the licensee is in a position to be able to carry out the things that they need to shut the plant down while dealing with a hostile action.

So that situation is not going to happen in the case of a -- when you no longer have a reactor there.

And so that's one of the reasons that we allow that exemption is because the theory behind it is that the licensee needs to be able to demonstrate to us that if somebody got onto the site and they were trying to address dealing with that type of situation, they can also carry out what they need to be able to safely shut down the plant.

In terms of, you know, being able to deal with, like, a hostile action situation, they still have to have their regular security force on the site to protect the spent fuel pool if they get into the situation where it becomes beyond what they're capable of, they still have the ability to be able to contact local law enforcement.

COMMISSIONER MAGWOOD: Yes. But, I mean, the whole point of integrating this through the EP exercises was to enable the off-site resources to engage in coordination with the security force on site in an environment where you might have a potential for offsite releases, and you still have that potential, right?

MR. THAGGARD: Well, we're not anticipating having releases such that you, I mean, the releases that we will be looking at for offsite, you know, there would be nominal doses.

So, but as I indicated, the licensee still has the ability to interface with local law enforcement and we would encourage them to invite the local law enforcement to participate in the exercises that they're still going to have to have onsite.

COMMISSIONER MAGWOOD: I think you're a lifeline here.

MR. WIGGINS: Yeah, Jim Wiggins. I'm the Director of NSIR, Nuclear Security Incident Response. Let's draw out the both of these things together.

When you get to a decommission facilities as Mark has said several times you really have your concerns all centered around a spent field pool, both for safety and security. So there is a legitimate reduction in security that is related to the reduction in the footprint.

That being said, you still have to maintain with high assurance the security of the pool. Simply said, you've got to protect all six sides of the structure. So, that will still remain.

There's elements of the security program that remain that have the external interface. When he talks about local law enforcement, there's liaison activities, there's ability to call in law enforcement or to engage the rest of the government to come in to deal with what's happening at the facility.

From an emergency preparedness point of view on this, I think it's important to make a distinction of what's happened. As Mark has said, we are not significantly relaxing, if at all, what's happening onsite.

Licensees are still required to have a suitable onsite

emergency plan to match the risks provided by the pool.

The high assurance we have in security with regard to that pool puts a cap in terms of how bad you have to be thinking when you're planning this.

We're counting on security to essentially null out the security insult to the pool. We think we can do that. Well, we know we can.

In an EP, it's a subtlety in the language that's important. What the rule says currently in Part 50, EP Rules either 50.47 or Appendix E, it says, currently we hold the licensee accountable for the existence and adequacy of offsite plans that are the part of the state and locals to develop. We use FEMA's input for that, typically. We use FEMA input for that assessment.

We are relaxing that specific piece of the requirement. We're relaxing an accountability of the site licensee for the state of affairs in an EP offsite. It doesn't mean that EP vanished. It doesn't vanish.

If there weren't a nuclear power plant there at all, the states and locals would have to have E Plans. And they do. They have plans to deal with a lot of disasters.

You look in the news. You see railroad accidents and evacuations because of derailments or things like that. Those things don't happen ad hoc. They're planned.

We're just exempting the hard, the current hard connection between the state of affairs offsite and the operations of solely on-sight.

COMMISSIONER MAGWOOD: I appreciate that. I would make the observation that many state and local jurisdictions use the radiological emergency preparedness infrastructure --

MR. WIGGINS: Yes.

COMMISSIONER MAGWOOD: -- to respond to a wide range of incidents.

MR. WIGGINS: Yes.

COMMISSIONER MAGWOOD: Which would no longer exist once this --

MR. WIGGINS: Not necessarily. They don't vanish instantaneously. You would have to presume that the plans evaporated and they don't. The planning offsite doesn't instantaneously go away. It's still there.

If you're looking at a transition process, you know, they work on it continuously. They exercise it every two years. There's still elements of the plan.

Even if it were the case that the licensee doesn't have a plan separate from the radiological emergency preparedness plan, that plan is still available. You can question whether it's being maintained --

COMMISSIONER MAGWOOD: Mm-hmm.

MR. WIGGINS: -- okay, or you can certainly see whether it is being exercised and things like that. But there is a framework that there would be the ability to transition to what we're terming a more comprehensive plan offsite. And that's the transition we're anticipating.

COMMISSIONER MAGWOOD: Probably worthy of further conversation, but appreciate your intervention, Jim.

With the last minute I have, one other issue that was raised was this issue about merchant plants. You don't have financial staff at the table, but can you give us some thoughts, or if there's someone who can react to some of the concerns that were raised, in the next 45 seconds?

MR. DUSANIWSKYJ: There is financial staff. My name is Michael Dusaniwskyj. I'm with, I am economist in the Financial Qualifications and International Projects Branch.

I think, Commissioner, the only way to really answer that question is to remember that all the licensees that we currently have in the fleet were originally licensed to utilities. Utilities have a certain unique financial qualifications and unique financial resources that are available to utilities.

Those plants that were transferred to a merchant basically took on the additional risk and/or credit in order to try to take advantage of a market where the spot price of electricity would be higher than what would be achieved by a utility.

However, the economy has changed in such in a manner that a lot of these merchant plants are currently suffering what I would have to call a little bit of financial distress. Whether or not that will force them to decommission prematurely is really up to time.

As far as the risks associated with them, so far, as far as the decommissioning funding assurance program is concerned, all 100 nuclear power plants currently in operations have achieved

decommissioning funding assurance.

That process continues not only while they are in operations through a biannual decommissioning funding report, but once they go into decommissioning, the decommissioning funds are again looked at on an annual basis to make sure that there are no obvious problems that would curtail the possibility of fulfilling the decommissioning requirements required by the NRC.

COMMISSIONER MAGWOOD: Chairman, just as a follow up to that, just very quickly. One comment that was made in a previous panel was that the D & D, the decommissioning outcome which, you know, do you go to SAFSTOR or do you just go to decommissioning, depend, the concern was that would actually depend on the ability of a merchant operator to fund particularly the D & D activity.

That was a bit different from my understanding about how this works. I wanted you to react to that.

MR. DUSANIWSKYJ: The only problem with that type of a question is that literally it has to be done on a case by case basis, since there are so many possibilities of what a licensee may choose to do as far as their decommissioning plan.

The key document, of course, would be the PSDAR, which I know we're trying not to use, Post Shutdown Decommission Activities Report is a key document that really tells the story quite well whether or not there is reasonable assurance to make sure that there is sufficient funding to do the activities that are required in the regulations, including the possibility, but not necessarily exclusively the only way to

do it, to take care of things like spent fuel management.

The basic reason for that is that in the regulations under 10 CFR 50.75 for decommissioning funding assurance, the licensee is required to put away funds, hard cash of some sort, into a trust. 10 CFR 50.54(bb), which regulates spent fuel management, requires only that a financial plan be put into place.

Usually, that would be executed once they have submitted the PSDAR, which would then require the staff to check whether or not there is reasonable assurance to primarily make sure that the decommissioning activities required by the NRC can be funded.

And if, and only if, there are excess funds above and beyond that, can we acknowledge to the licensee, yes, your plan for using excess funds for spent fuel management is reasonable.

COMMISSIONER MAGWOOD: Okay, I appreciate that. Thank you, Chairman, thank you.

CHAIRMAN MACFARLANE: Thanks. I appreciate you going forward with that, because that was one of my questions. So, thanks, Mike.

Okay, I have a bunch of questions, so let's see. So, just going back to Commissioner Svinicki's first question about rulemaking.

You know, the discussion today, especially with the external panel, it seems we're not in such a great place and I understand now with your discussion with Commissioner Svinicki that, you know, there's this process to how you prioritize rulemaking, et cetera.

But, you know, in 2000 or 2001, whenever it was when the staff pulled the previous rulemaking, you know, we still need this piece. And it's easy again to put this on to the back burner. It's the back end of a fuel cycle. It doesn't happen that much. It's not really going to be such a big safety or, you know, security significance issue.

We, you know, it seems that the process is set up to constantly put this off. So, that tells me that maybe the process is not so healthy in terms of this particular situation.

Maybe the process doesn't really address all possible situations in terms of thinking about rulemaking. And, so, I would like to re-enforce Commissioner Svinicki's comment that Project Aim is an appropriate place to consider this and I do hope that you think about this carefully.

I think we need to do rulemaking. I think it's 2014, we're halfway through it, these reactors have been operating for more than four decades.

What are we doing? Why don't we have a process, you know, that's clear? Because clearly, there's a lot of confusion and it's not just on the public's part. It's on the licensee's part. We don't have a tenable situation here, I would say.

So, other questions. Drew, so the PSDAR, the decommissioning report let's call it for short. Why does the staff even bother to review it, because we don't approve it? And, so, if we don't like it, what do we do?

MR. PERSINKO: We look at it to see that it meets the requirements of the regulation. It's supposed to contain certain

amounts of certain information. Talk about the decommissioning process that the licensee has planned, the plans, the schedules.

It also talks about environmental, to make sure that the environmental report, the environmental assessment that's in place envelopes the decommissioning activities. And it also includes the decommissioning, the site specific decommissioning cost estimates.

So, I mean, it has a function, but we review it to see that it meets the regulations, that sufficient information has been provided. We have a, it's a Reg Guide, I believe, that talks about what should be in a PSDAR.

So, the purpose is primarily to, excuse me, to inform the stakeholders about the plans of the licensee. It was put into effect back in 1996, when this PSDAR license termination plan approach was put into place.

Prior to that, there was a rule in place, put into place in 1988, that did require submittal of a decommissioning plan and that the NRC would approve the decommissioning plan.

But it was found that many of the activities that were done in decommissioning really don't need, it was felt they really don't need staff approval. A lot of these kind of activities really could be done even under an operating plan under 50.59.

So, the rule was changed to not require to the PSDAR license termination plan approach without approval from the NRC of the PSDAR.

CHAIRMAN MACFARLANE: Does the PSDAR include a plan for managing spent fuel?

MR. PERSINKO: That comes in a separate, I think it's a spent fuel management plan, not the PSDAR.

CHAIRMAN MACFARLANE: Okay. And, so, if the licensee deviates from its PSDAR in what we might think is not a good direction, we just sit there and not say anything?

MR. SATORIUS: If they're not in compliance with our regulations, we can use the enforcement process to cite them.

CHAIRMAN MACFARLANE: Okay.

MR. SATORIUS: And they have to respond to that violation and propose corrective actions.

MR. PERSINKO: They would revise their PSDAR if they plan to do something different that what they previously told us.

CHAIRMAN MACFARLANE: Okay. But they have to formally revise it?

MR. PERSINKO: Yes.

CHAIRMAN MACFARLANE: Okay. Do you look at what other countries are doing? What, how do other countries manage, you know, the decommissioning of power plants?

We're certainly not the first ones or the only ones to have ever decommissioned power plants. The Germans are going great guns, I imagine, decommissioning power plants. So, how do we differ?

MR. PERSINKO: One thing, from my understanding, is that our, I mean, if you look at the current rule in 50.82, it's what I would call, it's a very performance-based rule. It specifies the outcome that we desire, certain clean up levels.

CHAIRMAN MACFARLANE: Mm-hmm.

MR. PERSINKO: And it doesn't specify many of the intermediate points. It's my understanding though that foreign, other countries, have a more prescriptive approach to decommissioning and that the intermediate steps actually need approval. That's my understanding.

CHAIRMAN MACFARLANE: Okay. In terms of, let's be more specific, it terms of emergency planning, emergency preparedness. Do other countries do what we do, which is allow the offsite plan to go away after a certain time?

MR. THAGGARD: That I don't know. Do you know, Bob?

MR. LEWIS: Good morning. I'm Robert Lewis, the Director of the Division of Preparedness and Response in NSIR. We participate mainly through the International Atomic Energy Agency and the Nuclear Energy Agency, with our international partners on emergency planning activities.

In essence, we all follow the basic standard. The IAEA issues a standard on emergency planning. We don't identically follow it, but we are reviewed against it and we're compatible.

CHAIRMAN MACFARLANE: Mm-hmm.

MR. LEWIS: We've recently had an integrated regulatory review service mission.

CHAIRMAN MACFARLANE: Right.

MR. LEWIS: We found we were compatible.

CHAIRMAN MACFARLANE: But that was for

operating plants. What about decommissioning plants?

MR. LEWIS: For operating, our review was specific for operating plants.

CHAIRMAN MACFARLANE: Right.

MR. LEWIS: In general, internationally, other countries have planning offsite for more than operating power plants. So, when they transition to decommissioning, they would keep a lot of the planning requirements offsite.

And in the materials program, they have offsite planning as well, that we think we have a commensurate program and safety through what we do in terms of comprehensive emergency planning, but we don't have a formal program for materials licensees or decommissioning licensees ISFSIs.

CHAIRMAN MACFARLANE: Okay. I just want to understand if we're an outlier or not. It would be good to actually get some specific data on other countries and what they do --

MR. LEWIS: Certainly. We can provide that.

CHAIRMAN MACFARLANE: -- just to benchmark ourselves.

MR. LEWIS: There was a recent meeting at IAEA where several countries presented their programs.

CHAIRMAN MACFARLANE: Okay, great. Thank you. All right, let's move on to the SAFSTOR issue.

So, we talked about that a little bit with the external panel. And in thinking about radiological doses to workers, you know, Mr. Andersen from NEI said maybe we should be rethinking or revisiting

numbers that have been calculated, that were calculated a long time ago which are the basis of the SAFSTOR regulation. What's your view on that?

MR. SATORIUS: We'd have to look at it and I'd want to know a little bit more, because I don't know a lot right now, Chairman, to understand when the assessment was performed and what some of the bases were and assumptions that went in on that.

But I would want maybe staff to pursue that. That's what, that would be my piece. I hear the report was made in the 90's so that's probably got --

CHAIRMAN MACFARLANE: Why don't you get up there? I'm sort of playing telephone here.

MR. WATSON: Bruce Watson. I'm the Chief of the Reactor Decommissioning Branch in FSME. Most of the studies were done as part of the decommissioning planning rule and developing it and why it was good for, you could do 60 years and other things.

It was also supplemented for license extension. So, there was another look at it later.

The key foot point I would point out is that, you know, the cobalt-60 still decays at 5.26 years. It is the half life. So, it really hasn't changed.

CHAIRMAN MACFARLANE: The laws of physics haven't changed.

MR. WATSON: Yeah. So, I'm just saying it's, you know, physically and scientifically it hasn't changed. So, the dose rates do go down significantly over time.

CHAIRMAN MACFARLANE: Right. I guess what I've been wondering is if some of the practices in the decommissioning practices at plants have changed over time since that first set were decommissioned, you know, 20 years ago.

MR. WATSON: I would say that the dismantling techniques have improved dramatically.

CHAIRMAN MACFARLANE: Mm-hmm.

MR. WATSON: I think at Maine Yankee they used, and some of the other ones used, a slurry of grit blasting for cutting metal under water. That's now a mechanical process that's done under water. It's what's being done at Zion.

CHAIRMAN MACFARLANE: Mm-hmm.

MR. WATSON: All these contribute to lowering dose.

CHAIRMAN MACFARLANE: Right.

MR. WATSON: It doesn't contribute to the minimization of waste, but it does --

CHAIRMAN MACFARLANE: Lower the dose. No --

(Simultaneous speaking)

CHAIRMAN MACFARLANE: So, that makes me think maybe we should be thinking of rethinking these SAFSTOR numbers.

MR. WATSON: Well, I would think that --

CHAIRMAN MACFARLANE: If they are truly based on, you know, protecting workers.

MR. SATORIUS: I think there's other aspects that allowing material to decay --

CHAIRMAN MACFARLANE: Right.

MR SATORIUS: helps, too, because it reduces expenses for getting rid of material.

CHAIRMAN MACFARLANE: Yeah, I'd really be interested in actual total volumes.

MR. SATORIUS: Correct.

CHAIRMAN MACFARLANE: And seeing those numbers. So, I'd be interested in revisiting this a bit. Learning more about it, so, we can visit about this more.

Let me stop and see if anybody else has further questions. No. I have one more question, or set of questions about the spent fuel pools. You thought you were going to get away without that, didn't you? Yeah, well, sorry.

Okay, so let's talk about, I hate these numbers, NUREG-1738, the technical study of spent fuel pool accident risk at decommissioning nuclear power plants, which has been used to look at these EP exemptions requests.

So, this study was done before 9/11. It was done before Fukushima. It was done before a number of important events. In light of that, isn't it necessary now to update this study?

MR. THAGGARD: Well, I think, I don't know that the fact that it was done before 9/11 really plays a lot into it, because it was a generic assessment and they didn't really consider security aspects, so.

CHAIRMAN MACFARLANE: Well, that's the whole point, isn't it?

MR. THAGGARD: Well, I'm not so sure if they

updated it today that they would consider security even today.

Typically, from my understanding, most of the spent fuel studies, they usually don't look at that because there's so many variables associated with that. And that's one of the reasons that we don't discount the fact that you still need to maintain security at the site, simply because it hasn't been --

CHAIRMAN MACFARLANE: Right. But, you know, I know that you're confident that the security prevent attacks and maybe it'll prevent many, but it may not prevent all. There are some that, you know, that we just, are just beyond the capability of a security force to prevent.

MS. UHLE: This is Jennifer Uhle. I'm the Deputy Director of the Office of Nuclear Reactor Regulation and if we go back to the specific question of whether we need to update NUREG-1738, in essence we have in the spent fuel pool study that was done by the Office of Research and we had a previous Commission meeting on that

NUREG-1738 has, and as indicated in the document, it does have a lot of conservative assumptions. It was done to do a simplified study to determine if emergency planning and also insurances could be reduced in the decommissioning phase.

And so, you know, the overall conclusion from the staff's review was, yes, they can be although the licensees themselves have to justify that.

And, in fact, if we look at, say, what Kewaunee had done, is their fuel has been in the pool for quite a while, since, excuse me, since they had been shut down. When they look at reducing their

proposed EP, that it would have been in two years or so when they project out.

So, they did an adiabatic heat up. So, that means all of the decay heat is going into heating up the fuel.

No heat being removed by any means, and then they showed the amount of time that it would take for the fuel to get to anywhere near the temperatures needed for a zirconium fire. And, therefore, that justified in their submittals is that's why they --

CHAIRMAN MACFARLANE: Well, this is the ten-hour criterion that you're referring to?

MS. UHLE: Yes, right.

CHAIRMAN MACFARLANE: Why is it a ten-hour criterion? Why isn't it an eight-hour or 24-hour or 72-hour criterion?

MS. UHLE: Well, the ten-hour criteria is used to the idea that, you know, reasonably, that we would expect offsite support to be provided and, in addition, that emergency planning would have taken place to get the people in the area to be outside of the plume, if one were to occur.

Although, the calculations that they provided, that very, very simplistic approach clearly shows that there is not a risk to public health and safety.

So, I would, to answer the question whether 1738, the spent fuel pool study really is the update. However, the licensees at this stage in submittals have not opted to use that. They've been opting to use a very, very conservative approach.

CHAIRMAN MACFARLANE: So, let me ask another

question. Is there a point after which a spent fuel pool fire is not possible?

MS. UHLE: Yes.

CHAIRMAN MACFARLANE: Okay, and where's the analysis that supports that?

MS. UHLE: Well, obviously, the timing of the decay heat dropping, it's going to be a plant specific analysis that would show that. It would be a function of the loading pattern of the fuel, but there is an ignition temperature, if you want to call it that, in which case the zirconium oxidation rate decreases to the point that it can't sustain itself. In other words, normal natural heat release is --

CHAIRMAN MACFARLANE: Isn't that important to know? I mean, should either we or the licensees perform that analysis?

MR. UHLE: Well, no, --

CHAIRMAN MACFARLANE: So we know what that point is?

MS. UHLE: Well, no one -- again, it's going to be plant specific.

CHAIRMAN MACFARLANE: Right, I know, so, we can ask the licensees to perform that --

(Simultaneous speaking)

MS. UHLE: If a licensee were to use that as their justification for why they believe that, you know, EP could be reduced, then of course they would have to show that. But at this stage, no licensee has provided that as their basis.

CHAIRMAN MACFARLANE: But I'm asking why don't we do that calculation or ask the licensees to do that calculation? Not just to base that EP decision on, but to understand the risks?

MS. UHLE: I would say specifically we don't have a regulatory requirement for that because we believe that would be out of the justification that they do provide is adequate to provide adequate assurance of public health and safety.

CHAIRMAN MACFARLANE: Okay, okay. All right, I will stop there. So, no further questions or comments?

All right, thank you very much for the discussion. And thank the, and let me thank the external panel again. And we will now be adjourned.

(Whereupon, the above-entitled matter went off the record at 12:14 p.m.)