

UNITED STATES  
NUCLEAR REGULATORY COMMISSION

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BRIEFING ON TRANSFORMATION AT THE NRC

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MONDAY,

OCTOBER 29, 2018

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ROCKVILLE, MARYLAND

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The Commission met in the Commissioners' Hearing Room at the Nuclear Regulatory Commission, One White Flint North, 11555 Rockville Pike, at 9:00 a.m., Kristine L. Svinicki, Chairman, presiding.

COMMISSION MEMBERS:

KRISTINE L. SVINICKI, Chairman

JEFF BARAN, Commissioner

STEPHEN G. BURNS, Commissioner

ANNIE CAPUTO, Commissioner

DAVID A. WRIGHT, Commissioner

ALSO PRESENT:

ANNETTE VIETTI-COOK, Secretary of the Commission

MARIAN ZOBLER, General Counsel

## NRC STAFF:

DAN DORMAN, Acting Deputy Executive Director for

Materials, Waste, Research, State, Tribal,

Compliance, Administration, and Human Capital

Programs

ANDREA KOCK, Deputy Director, Division of

Decommissioning, Uranium Recovery and Waste

Programs, NMSS

## ALSO PRESENT:

MARIA KORSNICK, President and Chief Executive

Officer, Nuclear Energy Institute (NEI)

DALE ATKINSON, Chief Operating Officer and Chief

Nuclear Officer, NuScale Power, LLC

GEOFFREY H. FETTUS, Senior Attorney, Nuclear,

Climate & Clean Energy Program, Natural

Resources Defense Council

MARK MACNICHOL, International Representative,

International Brotherhood of Electrical

Workers

DANNY BOST, Executive Vice President and Chief

Nuclear Officer, Southern Nuclear

LEE COX, Chief, North Carolina Radiation Protection

Section, Department of Health and Human

Services

BRYAN HANSON, Senior Vice President, Exelon

Generation, and President and Chief Nuclear

Officer, Exelon Nuclear

TODD ALLEN, Senior Visiting Fellow, Third Way

JEFF SEMANCIK, Director, Radiation Division, Bureau  
of Air Management, Connecticut Department of  
Energy and Environmental Protection

DAVE LOCHBAUM

JOSE EMETERIO GUTIERREZ, President and Chief  
Executive Officer, Westinghouse Electric  
Company

HEATHER WESTRA, Consultant, Prairie Island Indian  
Community

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

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9:02 a.m.

CHAIRMAN SVINICKI: Well, good morning, everyone. I call the Commission's meeting to order. Our Commission meets in public session this morning to hear from the NRC staff about the work that they did earlier in the year on transformation topics, and then from two panels of external participants to share perspectives on both the staff's recommendations that they've provided to the Commission, as well as other thoughts that they may have.

I just wanted to provide a little bit of context before we begin. Our Commission intends, over the course of the coming time, to hold a series of meetings on transformation and innovation-related topics. So to the extent today's meeting has a bit of a focus on power reactors and operating reactors, that is not the Commission's exclusive focus, and we're certainly thinking about a lot of other, more expanded topics.

And again, in the coming months, there will be other meetings in a similar vein, sometimes hearing from the staff quite intensively, but sometimes hearing more intensively from external experts and stakeholders. So we look forward to that in the coming months.

The staff has had a paper with recommendations, as I mentioned, before the Commission for some time. And in the time after that paper was delivered, we were joined by two new members of our Commission, Commissioners Caputo and Wright. And as we thought about it as a group, we thought that it's very difficult to recreate all of Mr. Dorman's team's work in terms of meeting with stakeholders, and benchmarking, and you did a lot of external meetings, which perhaps you'll give us a flavor of today in a brief presentation that you will give.

1                   But we thought that the Commission, kind of sitting in  
2                   session like this and hearing from various stakeholders ourselves, was a  
3                   good way for us to get the same sense that the team, the transformation  
4                   team had. So it's not a perfect replication of what you did, but it is our  
5                   version of it.

6                   So we also have a slightly different structure today in that  
7                   the NRC staff will make a very brief presentation about the work that they did  
8                   and the recommendations that are in front of us. We're going to do an  
9                   extremely informal Q&A after that, of just not even rounds of questions, but  
10                  just, if members of the Commission have clarification or points of clarification  
11                  from the staff, because I would say that the stronger focus today is on the  
12                  external stakeholders that we've invited to speak in the other two panels.

13                  So I just thought that today's a little bit of a departure, and I  
14                  wanted to give that context, because the Commission has been talking a lot  
15                  amongst itself about how we want to move forward, and how we can glean  
16                  all of the perspectives that would be most beneficial to us in formulating  
17                  some direction to the staff, and just overseeing and leading the agency's  
18                  efforts.

19                  So with that, I will ask if any members of the Commission  
20                  would like to make any opening comments? If not, Mr. Dorman, again, let  
21                  me, let me thank you, and Andrea, for the work you did in leading the staff's  
22                  efforts earlier this year. We're going to give you a brief opportunity to talk  
23                  about that, and then if we have any questions, we'll let you know. Dan,  
24                  please begin.

25                  MR. DORMAN: Thank you, Chairman. Good morning,  
26                  Chairman, Commissioners. We greatly appreciate the opportunity to come  
27                  here before you today and discuss an overview of the agency's

1 transformation initiative, and the transformation team's recommendations.

2 Could I have the next slide, please?

3 So I will open with an overview of the team's charter and  
4 scope, and the vision for the agency's transformation initiatives, ongoing  
5 activities, and next steps. Andrea Kock was the deputy team leader for the  
6 transformation team, will cover the details of how the team engaged our  
7 stakeholders and developed the specific recommendations in the paper.  
8 Next slide, please.

9 In January of this year, the Executive Director for  
10 Operations at the time, Vic McCree, formed the transformation team. The  
11 task tasking was a self-initiated proactive effort to enhance our  
12 effectiveness, efficiency, and agility in meeting our mission through  
13 identifying potential transformational changes to NRC's regulatory  
14 framework, culture, and infrastructure. The tasking demonstrated the  
15 agency's strong self-initiative to take the actions necessary to transform our  
16 regulatory approaches.

17 In accordance with the tasking, the 14-member team  
18 narrowly focused on transformation that enables the safe and secure use of  
19 new technologies. The team was made up of diverse staff from multiple  
20 offices, with different areas of expertise, and represented all levels of NRC  
21 staff and management. Several members of the team, in addition to myself  
22 and Andrea Kock, who served as team leader and deputy team leader,  
23 respectively, are here today, and I would like to take a minute to  
24 acknowledge them.

25 I'll ask that the team members who are here, please stand  
26 up as I call your name. Margaret Bupp, Richard Chang, Zahira Cruz, Lisa  
27 Dimmick, Candace De Messieres, Robert Gladney, Matt Hiser, Diane

1 Jackson, Laura Kozak, Mike Mangefrida, Tim Mossman, Barbara Sanford,  
2 and Mohamed Shams. Thank you, everybody, for your participation in the  
3 team and all the contributions that you've made to our success.

4 This team engaged in a broad, engaged a broad range of internal  
5 and external stakeholders to gather ideas for transforming our regulatory  
6 framework, as well as to learn about approaches that have led to successful  
7 transformation at other organizations. Our tasking was intended as a first  
8 step toward transformation, upon which to build additional transformational  
9 changes. This was reflected in this relatively short 90-day timeline, which  
10 the team had to develop strategies to enhance and sustain a  
11 transformational organizational culture, and to identify specific areas to  
12 consider for transformation.

13 Specific areas we were asked to look at in our tasking  
14 included digital instrumentation and control, advanced fuel technology,  
15 advanced reactors, new materials and manufacturing methods, and big data.

16 Although no idea was off the table, the team's efforts were focused on  
17 evaluating transformational changes in these areas. Next slide, please.

18 The NRC has a strong regulatory framework that has  
19 served us well, and is a gold standard for regulation of current technologies.  
20 Our regulatory practices to date have ensured public health and safety for  
21 over 40 years. Regardless of what actions the NRC takes to transform, the  
22 NRC's mission will remain unchanged, and I have the utmost confidence that  
23 the agency will continue to be successful at ensuring safety.

24 We have been an exceptional regulator due to a strong  
25 safety culture, organizational values, and our principles of good regulation.  
26 While we preserve those foundational elements, we need to integrate them  
27 into a culture that embraces change and the pursuit of better ways to do our

1 work in order to fulfill the vision of the transformation effort, which is to  
2 become a modern risk-informed regulator.

3 Central to the staff's recommendations is a sense of  
4 urgency, that modern risk-informed regulation can't wait. This sense of  
5 urgency was a foundational theme expressed in the team's interactions with  
6 our stakeholders, which grew to an extraordinary energy and support within  
7 the agency for the team's efforts. This energy is driven by a recognition that  
8 new regulatory practices are necessary if we are to be successful in the  
9 future, rather than an unnecessary barrier to the safe use of new technology.

10 While there is much we do not know about the future, we  
11 do know that the technologies that we will regulate in the next 40 years are  
12 different from the technology that we have regulated for the last 40 years.  
13 As the team completed its work, it became clear that the key transformation  
14 necessary is cultural, and that the NRC is at a crossroads that will determine  
15 whether the future of the agency is one that embraces changes in the  
16 industry that we regulate, or increasingly becomes an unnecessary barrier to  
17 new technology.

18 We also found that success, as a regulatory body, is not  
19 possible by continuing to apply the existing approaches in the face of new  
20 technologies. The team recognized that the cultural transformation to focus  
21 our efforts, and those of our licensees and applicants, on the most important  
22 issues is central to any transformation initiative.

23 The specific initiatives we proposed aim to reframe key  
24 aspects of our regulatory framework to enable that risk-informed focus, while  
25 responding with agility to technology developments in a global environment,  
26 as those developments create opportunities for the communities that we  
27 regulate.



1                   Andrea Kock will discuss the process the team followed to  
2 evaluate ideas and develop the four recommendations the team presented  
3 to the Commission in SECY 18-0060, achieving modern risk-informed  
4 regulation. Successful implementation of these recommendations will  
5 represent the beginning, not the final step, in a more modern risk-informed  
6 approach to regulation.

7                   It is adoption of the regulatory approaches behind the  
8 recommendations, as much as the implementation of the recommendations  
9 themselves, that will ensure that we are successful in fulfilling our vision of a  
10 modern risk-informed regulation. In this way, it is just as much about the  
11 journey toward learning to transform as it is about implementation of specific  
12 recommendations. Next slide, please.

13                   I'll now transition to actions that are ongoing related to  
14 transformation, and the staff's planned next steps. Upon completion of the  
15 SECY paper, the staff developed a plan to communicate the team's  
16 recommendations to internal and external stakeholders, and that accordance  
17 with this communication plan, the staff notified States, regional States, and  
18 Tribal Liaison Officers, and the public about the availability of the SECY  
19 paper, once it was public.

20                   The staff has begun to implement some transformational  
21 ideas that are not dependent on the recommendations before the  
22 Commission for consideration. For example, the team sent about 100 ideas  
23 related to the reactor oversight process and the enforcement process to the  
24 responsible offices for consideration.

25                   In addition, about 300 of the ideas that were not fully  
26 evaluated by the team were sent to the Agency Innovation Forum for  
27 consideration. The transformation team also developed a change

1 management plan to guide the agency on taking specific actions to sustain  
2 the cultural changes that are necessary to transform our regulatory  
3 approaches.

4 The agency has already begun to foster a transformative  
5 culture through the development and implementation of the leadership model  
6 and the innovation program. As we move forward with our efforts, the staff  
7 plans to leverage both the leadership model as a vision of transformational  
8 behaviors and attitudes, and the innovation program as the agency's formal  
9 process for identifying and evaluating new ideas.

10 Elements of the leadership model related to  
11 transformation, such as innovation and risk tolerance and receptivity to new  
12 ideas will be integrated into leadership development and human capital  
13 processes. If the Commission approves the staffs' recommendations, the  
14 staff will develop a detailed implementation plan as the next step in  
15 transformation.

16 This concludes my remarks. I'll turn it over to Andrea to  
17 discuss the team's approach to the evaluation of the ideas we received, and  
18 the development of the team's recommendations.

19 MS. KOCK: Thank you, Dan. Good morning, Chairman  
20 and Commissioners. I'm going to cover the process that the team used in  
21 developing its recommendations that are before you for consideration. Next  
22 slide, please.

23 The NRC has historically been very successful at making  
24 changes necessary to adapt to our external environment. The team built on  
25 these previous efforts to gather lessons learned and identify potential areas  
26 of change. The team also solicited input from stakeholders on activities to  
27 transform our regulatory approaches and methodologies that have been

1 successful at transforming other organizations. These interactions included  
2 internal discussions, as well as meeting with several external stakeholders.

3 We also held a public session at this year's Regulatory  
4 Information Conference to gather stakeholder input. To ensure even those  
5 that we did not specifically meet with had an opportunity to share their ideas,  
6 we established a resource mailbox dedicated to the receipt of transformative  
7 ideas. Next slide, please.

8 As a result of the team's outreach, over 800 ideas were  
9 received and analyzed. The team identified a number of common themes  
10 regarding ways in which the NRC could transform our regulatory framework  
11 to better prepare the agency to regulate new technologies.

12 An overarching theme that emerged from the outreach  
13 efforts is the need for systemic and expanded use of risk and safety insights  
14 in decision making.

15 Out of this theme, the team identified the need to  
16 appropriately scale the scope of review and the level of detail needed from  
17 an applicant to enable the staff to make licensing decision consistent with  
18 the standard of a reasonable, rather than absolute assurance of adequate  
19 protection of public health and safety.

20 In spite of the agency's long history on risk-informed  
21 regulation, the most prominent theme that we heard was the need for  
22 continued progress in this area.

23 The second theme related to decision making, specifically,  
24 the need for decision making that is not bound by current processes, and  
25 focuses on timeliness, as well as safety, while remaining bound by  
26 legislation, and guided by the principles of good regulation.

27 The team also received a significant amount of feedback

1 on the need for more performance-based regulations. And lastly, the team  
2 heard from our stakeholders, a need to better acknowledge the licensee's  
3 primary responsibility for the safety of their facilities by permitting licensees  
4 to make more changes to their facilities without NRC approval, while still  
5 maintaining safety.

6 These themes are tasking to focus on new technologies,  
7 and the specific areas we were asked to evaluate largely shape the team's  
8 recommendations in the paper. The team evaluated every idea against  
9 objective criteria. Of the over 800 ideas that were evaluated, over 200 form  
10 the recommendations in the staff's paper, and almost 400 of the ideas were  
11 included in the paper in some form. About 100 ideas were referred directly  
12 to the agency offices for consideration.

13 In addition, the team coordinated closely with the Agency  
14 Innovation Forum to forward the remaining approximately 300 ideas to the  
15 Forum for consideration. In doing this, the team ensured that every idea  
16 was evaluated, and those that were not acted upon by the team in some way  
17 are being considered in other agency processes. Next slide, please.

18 The staff's recommendations would involve specific and  
19 significant changes to our regulatory framework, while maintaining our  
20 mission of ensuring safety. It is through the implementation of the staff's  
21 recommendations, if approved, and future similar changes that the cultural  
22 shift that is necessary for our future success will occur.

23 In SECY 18-0060, the staff recommended four  
24 transformational changes to the agency's regulatory approaches. The first  
25 recommendation is to develop agency-wide process and organizational tools  
26 to expand the systemic and qualitative and quantitative risk and safety  
27 insights in the agency's licensing processes.

1                   This recommendation was developed in response to the  
2                   significant feedback we heard from our stakeholders regarding the need for  
3                   the agency to make additional progress on the use of risk insights.

4                   Implementation of the recommendation would focus the  
5                   agency's resources on the most safety-significant issues, and reduce  
6                   unnecessary burden on our licensees, while maintaining safety.

7                   The recommendation would build on several ongoing  
8                   initiatives in this area, and the recommendation would specifically involve  
9                   expanding the use of qualitative and quantitative risk insights to scale the  
10                  scope and depth of licensing reviews, providing guidance on making a  
11                  finding of reasonable assurance based on an entire system, rather than at  
12                  the component level, balancing the uncertainty of new technologies with  
13                  their expanded safety benefit, expanding the ability to leverage existing  
14                  internal and external information, such as operating experience, third-party  
15                  approvals, and the use of consensus standards, and using organizational  
16                  tools to facilitate timely decision making.

17                  The second recommendation is to revise 10 CFR 50.59,  
18                  changes, tests, and experiments, and comparable sections of the  
19                  regulations, which are the current regulatory requirements that define the  
20                  criteria by which licensees determine whether they make changes to their  
21                  facility without NRC approval.           The revisions would provide a voluntary  
22                  alternative that would provide additional flexibility for our licensees to make  
23                  facility changes without NRC approval while ensuring safety and security.

24                  This recommendation was based on feedback from our  
25                  stakeholders that the current requirements are not sufficiently clear about  
26                  which facility changes, including the adoption of new technologies, require  
27                  prior NRC approval.

1                   Further, feedback from our stakeholders indicated that the  
2                   current criteria are not risk-informed, and may result in licensees completing  
3                   screenings for facility changes, and/or the NRC reviewing amendments at a  
4                   very low safety significance.

5                   It is important to note that while this change would allow  
6                   greater flexibility, the licensee would remain responsible for following its  
7                   regulations, complying with its license, and ensuring that the plan is safe.

8                   The staff's third recommendation is to develop an optional  
9                   performance-based technology inclusive regulation as an alternative  
10                  approach for licensing of non-light water reactors. The team heard from our  
11                  stakeholders that while the staff has been very successful in licensing new  
12                  reactor technologies under the current set of regulations, which are largely  
13                  based on large light water reactors, performance-based technology inclusive  
14                  regulations would most effectively enable the licensing of the diverse new  
15                  reactor technologies of the future.

16                  The staff's fourth recommendation is to develop a new  
17                  regulation to define high level performance-based safety design principles  
18                  for digital instrumentation and control systems.

19                  Internal and external stakeholders indicated that the IEEE  
20                  603 standard, currently referenced in the regulation, is adequate to assess  
21                  safety. However, relying on the standard as the primary method to  
22                  demonstrate compliance may not provide the desired flexibility for a new  
23                  digital instrumentation and control systems.

24                  The staff's recommendation reflects the need to make  
25                  progress in this area in the short-term through developing guidance to define  
26                  high level performance-based safety design principles that can be submitted  
27                  as an alternative approach, currently provided in the regulations. In the

1 long-term, the staff recommends a rulemaking that incorporates these high  
2 level performance-based safety design principles into the regulations.

3 The staff's recommendations balance the need for  
4 changes to our regulatory framework through rulemaking, with the need to  
5 make near-term changes outside of the rulemaking process to demonstrate  
6 the agency's willingness to approach regulatory issues in a new way.

7 I would also like to emphasize that although the  
8 recommendations in the paper apply to specific agency programs, the  
9 risk-informed mindset that is necessary to ensure our future success applies  
10 to every program, regional and corporate office, and every individual at the  
11 NRC.

12 Thank you, Chairman and Commissioners, for the  
13 opportunity to present the staff's recommendations and approaches. Dan  
14 and I would be happy to answer your questions.

15 CHAIRMAN SVINICKI: Well, thank you again, very much.

16 I will just open the floor. Are there any colleagues who are eager to ask a  
17 question? I can ask a question. If I don't get a finger raised in a moment, I  
18 will go ahead. Well, thank you both, again, for that.

19 So it sounds like about 800 different ideas were put  
20 together, and then 400, Andrea, you said, are reflected in some way, and  
21 imagine that's through kind of a binning process. A lot of them are similar or  
22 the action it would take as a result of the idea has the same starting point,  
23 and then 300 ideas went to the Innovation Forum, and 100 ideas were  
24 otherwise referenced to the organizations that do that.

25 Is there any, as the staff moves forward, of course the  
26 transformation team came together, did this work, and now people have  
27 returned to their day-to-day assignments.

1                   And again, I align with the view that a transforming and  
2 innovating organization has to embrace it throughout the organization, so it's  
3 difficult to stovepipe it or have it off to the side. But is there, or does the  
4 staff contemplate the creation of any sort of centralized clearinghouse that  
5 we would be able, when we're writing the history of this chapter of NRC, we  
6 would be able to say these were efforts and activities that were associated  
7 with the transformative efforts, Dan?

8                   MR. DORMAN: yes. The -- thank you, Chairman. The,  
9 we have a forum right now, so we have the Agency Innovation Forum as the,  
10 as a clearinghouse for ideas, not just from this team, but also any other  
11 ideas that come up in other contexts within the agency. So we do have that  
12 forum.

13                   I will add, pending the Commission's direction, it will be  
14 important that we dedicate resources to implementation of any initiatives that  
15 the Commission approves. The key to success of transformation is to move  
16 forward on both fronts, the current mission and the transformation effort.

17                   If you fail to keep up with the current mission while you're  
18 transforming, you'll fail before you transform. But if you wait until a lull in the  
19 current mission until you engage the transformation efforts, then you may  
20 never get to the transformation efforts. And the success of both the current  
21 mission and the transformation is, relies on dedicating the appropriate  
22 resources to both efforts concurrently.

23                   CHAIRMAN SVINICKI: Okay, thank you. Does anyone  
24 else have a question? Commissioner Caputo?

25                   COMMISSIONER CAPUTO: I have a question. So as I  
26 read through the slides in preparing for the meeting, I thought of the NRC's  
27 value of excellence, and as descriptors, self-aware and continuously



1 improving takes leadership and organizational courage to produce the  
2 candid self-assessment reflected in the transformation paper and in your  
3 comments this morning.

4 While we, on the Commission's side, may all have different  
5 ideas about what our next steps should be, recognizing the need for change  
6 is the first step, and it's often the hardest and the boldest step, so I  
7 commend you and your team for starting us down this path.

8 For me, transformation means we strive for continuous  
9 improvement to keep up with change. Transformation shouldn't simply be  
10 another project to be completed. It should lead to a new way of operating.  
11 For the agency to be successful, I believe we should focus more on results  
12 to drive improvement. So Dan, you discussed the urgency of risk-informing.  
13 How do you envision incorporating that into our daily practice?

14 MR. DORMAN: Thank you, Commissioner. It, I think  
15 there's, I talked about the energy as well as the urgency, and the hundreds  
16 of ideas that we received from the NRC staff had, the predominant theme in  
17 there was risk-informing. I think there's a significant appetite in the  
18 organization to achieve this vision of focusing our efforts, as well as those of  
19 our licensees and applicants, on the most important activities. So we need  
20 to build that into our structures and processes.

21 The, I think the desire to get to that culture exists, but we  
22 have, the first initiative that's identified in the paper to apply that to our  
23 licensing processes, and to apply risk insights, not only to the regulatory  
24 decision that we make at the end of the process, but the organizational  
25 decision that we make at the beginning of the process in terms of how much  
26 effort and where we're going to focus our effort on a review is a good first  
27 step in that.

1 I think the other initiatives that we, that we laid out here will  
2 help also to go a long way toward more performance-based and  
3 risk-informed regulations in key areas where the technology either has  
4 evolved, like digital I&C, or is evolving, like advanced reactors. And then,  
5 engaging that in the conversation around everything we do on a concerted  
6 basis, over an extended period is ultimately what's going to transform the  
7 culture.

8 COMMISSIONER CAPUTO: Thank you.

9 CHAIRMAN SVINICKI: Commissioner Wright?

10 COMMISSIONER WRIGHT: Thank you. Good morning,  
11 and congratulations to your Red Sox.

12 MR. DORMAN: Thank you.

13 COMMISSIONER WRIGHT: And it's a sad day too,  
14 because baseball season's over.

15 MR. DORMAN: Yes sir.

16 COMMISSIONER WRIGHT: So -- and Andrea, welcome.

17 Good, it was a good presentation by both of you here. Broad question, in  
18 the things that I've during, you know, my career, and whatever it's been, on  
19 the business side or the government's side, when you get to transformation  
20 or modernization, I mean, you've got to have a vision, right? Because you,  
21 what are we transforming to?

22 So with, and I think Commissioner Caputo mentioned this  
23 last week, it's the end game. If you don't know what your end game's going  
24 to be, how do you know you're getting there?

25 So can you talk to me a little bit about, you know, how  
26 you're, because I know you're not transforming just for transforming's sake.  
27 What is the end game here? What are you really trying to get to?

1 MR. DORMAN: So I think it really comes back to what I  
2 said about what we've done for the last 40 years is not what we'll be doing in  
3 the next 40. We have spent over 40 years at this agency effectively  
4 regulating large light water reactor technologies. What we have before us, I  
5 don't know exactly what it will be.

6 We will, for the next couple of decades, I expect, still have  
7 the largest fleet of commercial reactors in the world, and we need to keep  
8 our attention on those. But what will come over the next 20 years is going  
9 to be very different technology than that.

10 So we built Part 52 out of the Three Mile, after the Three  
11 Mile Island accident, and we're working on finishing the first reactors under  
12 the Part 52. I think we need to take the, those regulations were still built for  
13 a large light water reactors.

14 We need to look at first principles of safety principles, and  
15 get those embedded in the regulation in a performance-based way, and give  
16 the staff the agility, under those performance-based regulations, to develop  
17 guidance to address those safety principles and whatever technology comes  
18 before us.

19 In the digital I&C environment, we have a regulation that  
20 currently provides by, incorporated by reference, a specific standard from  
21 1991 to regulate digital I&C technology. We've been successful with that in  
22 terms of the deployment of digital I&C has been done safely. It's been done  
23 with a tremendous amount of burden, and a tremendous amount of  
24 frustration within the Commission, within the staff, and within the industry  
25 that we regulate.

26 As we look at other organizations, so we went out, we  
27 benchmarked with Naval Reactors, with the FAA, and with FDA, and found

1 that there are other approaches that have been more successful with digital  
2 instrumentation and control, and we can apply those. I think the  
3 recommendation in the rulemaking is, again, to take that rule, take it up to  
4 the first principle's level of safety, and then we can build in guidance,  
5 including maintaining the existing standard, because we heard very clearly,  
6 both in the digital I&C, and in the advanced reactor community, that we have  
7 processes that we are making work, and people who have invested in  
8 engaging us in those processes don't want to change in midstream. But we  
9 think there are better ways to do it that we can implement through guidance  
10 with greater agility and more responsiveness to the developing technology.

11 So ultimately, I think the end game is the culture that we  
12 talked about of risk-informing, but also taking our regulations in key areas to  
13 a more performance-based, first safety principles, and then building out the  
14 details of that in guidance and in the engagement with the applicants.

15 COMMISSIONER WRIGHT: Thank you.

16 MS. KOCK: Can I just add to what Dan said? I agree  
17 with everything Dan said, of course, but our vision was modern risk-informed  
18 regulation, but I mean, as you point out, what does that mean? And to me,  
19 it goes back to what Dan said about, it's as much about the ideas behind the  
20 recommendations as the, as much as the recommendations themselves.

21 So what do I mean by that? When you look at providing  
22 our licensees additional flexibility to make changes to their facilities without  
23 NRC oversight, using risk insights to drive our decision making.

24 So we came to you with four specific recommendations,  
25 but if you look at the themes or the approaches behind those  
26 performance-based regulations, I think that's what we meant when we were  
27 thinking about what our vision was, is as much the approaches behind those

1 recommendations as the specificity of the recommendations themselves.  
2 And that's, to us, I think, what we meant by the cultural change that's  
3 needed.

4 CHAIRMAN SVINICKI: Anyone else? Yes,  
5 Commissioner Burns.

6 COMMISSIONER BURNS: Thanks, Dan and Andrea. I  
7 say, actually, Dan, you kind of hit me hard. You said you don't want to do,  
8 we don't want to do things like we did last 40 years. Well, I've been here 40  
9 years now, and so it's time for me to go.

10 All kidding aside, it said, you know, I appreciate the  
11 emphasis and the, and the thoughtfulness I think the staff has brought to this  
12 project. What, I know it's within what you've said, but what I want to, I think,  
13 emphasize, looking back on those 40 years, this is not the first time we have  
14 thought about transforming or reforming, or whatever. I can think back  
15 on times, and we've looked at the post-TMI era. Going to TMI, we weren't  
16 focused on human performance. That wasn't as important as the machine.  
17 That was a reform coming out of TMI. We look at, you know, what was one  
18 of my former bosses, Ken Carr, Admiral Ken Carr's major emphases, the  
19 maintenance rule, and that got us over this unending debate between  
20 safety-related and important to safety components, because the focus as  
21 what does it do in the machine? Why is it important to maintain?

22 We look at the ROP at the end of the 1990s, and into the  
23 early 2000s. So what I want to say is that there are a number of these  
24 things, and I'll take a hard look at 50.59 particularly, because we have  
25 stumbled over 50.59 on occasion over the years.

26 I'll take a hard look at these things, and I think, you know,  
27 again, I commend the staff for moving forward, looking at these, not only

1 these ideas, but the other, the other things within the innovation context.  
2 And we'll, you know, as I say, the journey begins. Thank you, Chairman.

3 CHAIRMAN SVINICKI: Thank you. Anyone else?  
4 Okay. Well, again, let me thank you, and I appreciate that you asked the  
5 members of the team who are present here today to stand. Thank you all  
6 for your efforts as well. You had a very short timeframe.

7 And I would just say that what Andrea said resonated with  
8 me. When you look at the paper, maybe the title doesn't do it justice. But  
9 when you look at kind of the enterprise, the thought process that the staff  
10 went through, that leaves a stronger impression with me than the  
11 recommendations themselves, which are very, you know, logical and  
12 coherent and make a lot of sense.

13 But I think what it reflects, often when people say, "Here's  
14 where I ended up," you get a sense of the journey that they went through,  
15 and I just appreciate it. I think that the paper for me provides a very strong  
16 foundation on which the Commission can build, so I thank you, as the team  
17 leaders and all the members of the team.

18 And with that, we will reset now for the Panel 1  
19 participants. Please come to the table and we'll be putting your name tents  
20 up here. So if we can -- but thank you, Dan and Andrea, again.

21 (Pause.)

22 CHAIRMAN SVINICKI: Well, I want to begin by thanking  
23 all of the Panel 1 participants who are here today. I don't get creative if I  
24 don't need to, so I will recognize you to present in the order from my left to  
25 right, in the order in which you are listed on our scheduling note.

26 And under that framework, we will begin with Maria  
27 Korsnick, who is the President and Chief Executive Officer of the Nuclear

1 Energy Institute. Maria, please proceed.

2 MS. KORSNICK: Great. Thank you very much. Thank  
3 you, Chairman and Commissioners, for the opportunity to speak with you  
4 today. The topic of transformation is a critical topic for the industry as much  
5 as it is for the regulators.

6 The idea that the NRC's transformation team just  
7 presented should in fact be commended for developing the report. It is  
8 obviously a very careful study. I would say one of the challenges that we  
9 find is that we want to make sure that the scope is very broad and not  
10 narrow.

11 NEI submitted a report back in March as an example that  
12 gave more ideas for the concept of transformation. We definitely think the  
13 recommendations that the staff is making are headed in the right direction.  
14 We just want to make sure, as you heard in the conversation that we just  
15 had, that the -- it's related to the adoption of new technologies, and we think  
16 transformation and fact is a much broader conversation.

17 I have some slides. I'm wondering if they're going to show  
18 up. Okay. The first slide, I would just ask that we take a step back and  
19 look back over the last several decades. Today our plants are achieving the  
20 highest capacity factors in their history, and you can also see on this graph  
21 core damage frequency, and we would show that it's -- the risk is at its  
22 lowest level.

23 The industry and the regulator are to be commended for  
24 this. The early reduction in risk related to the individual plant evaluations,  
25 that middle section of reduction, go back to what Commissioner Burns spoke  
26 of, which was the maintenance rule, and there have been additional  
27 modifications and focus areas of the plants that have helped gain the

1 reduction that we see.

2 This is performance-based improvement and risk. If I  
3 were to step back and look at risk, there is really two components. There is  
4 a structural component and a performance component. So in addition to  
5 this performance improvement that you're seeing, we'll say there is a  
6 structural improvement in safety margin, and that is really driven from the  
7 time that you invented the safety goals and the safety objectives and you  
8 had a view of how much margin that the industry has had.

9 There was actually significantly more margin than that in  
10 existence. That's the topic of a paper that we recently sent to the EDO,  
11 Margie Doan, on October 18th. An EPRI report also recently highlighted the  
12 significance of this.

13 So separate from the performance improvement, the  
14 structural improvement, those combinations together show a very, very  
15 significant amount of safety margin exists today. And we look at that and  
16 say that this needs to be incorporated in terms of how regulation is done.

17 On the next slide, you can see that there are statements  
18 by the NRC staff and recognition by members of the staff that they  
19 acknowledge that to uphold the NRC's principles of good regulation and  
20 acceptance of a greater degree of risk and uncertainty in areas of low safety  
21 or risk significance is needed.

22 These changes to the agency's philosophical  
23 underpinnings are critical. We get it: risk is never zero. More  
24 requirements aren't necessarily better. We all agree that over evaluating  
25 issues leads to unnecessary delay in resources spent on areas of low safety  
26 significance.

27 The more that the regulator pays attention to these areas,



1 the more that the industry has to respond. And it creates a cycle of  
2 inefficiency that diverts from areas that are in fact truly significant.

3 On the next slide is our recommendation. We really  
4 recommend that the NRC decision-making begin with a practical  
5 determination of risk and safety significance. Imagine if you will a pre-filter  
6 that can be applied, such that all processes should be changed to allow off  
7 ramps for issues of low safety importance to be dealt with quickly and  
8 efficiently.

9 So all incoming conversations, if you will, have a  
10 conversation relative to their significance of risk. And where it is considered  
11 insignificant, less time and energy is spent on it.

12 Some examples for off ramps for issues of little  
13 significance include the amount of effort spent today to determine and  
14 address white findings. Should be far less detailed and far less labor  
15 intensive.

16 As plants implement 10 CFR 50.69, inspection resources  
17 should not be focused on equipment categorized as low safety significance.  
18 And as the chapters of the standard review plan are applied to new plants,  
19 as we progress through construction, the overall safety significance must  
20 drive the level of regulatory review.

21 The staff's recommendations align very well with this  
22 concept. However, again, they are focused on some targeted areas in the  
23 regulatory framework, and we really think to achieve broad transformation  
24 we need all regulatory processes to incorporate this early and critical  
25 evaluation of risk in the context of our current understanding about the level  
26 of safety.

27 Thank you, and I look forward to your questions.

1 CHAIRMAN SVINICKI: Thank you very much.

2 Next we will hear from Mr. Dale Atkinson, who is the Chief  
3 Operating Officer and Chief Nuclear Officer of NuScale Power. Please  
4 proceed.

5 MR. ATKINSON: Good morning, Chairman and  
6 Commissioners. I appreciate the opportunity to provide some feedback.  
7 We at NuScale are obviously exercising the design certification application  
8 process, I think have a lot of insights to offer.

9 Overall, what I -- let's go ahead and pull up the first slide,  
10 please.

11 So I'd like to provide initially a discussion about those  
12 items that are successes, frankly, and that's our review is going quite well.  
13 The schedule is being maintained for the bulk of the application, and I think  
14 key to this is the communication that we have at all levels with the staff and  
15 with NuScale. Kind of remind you, that really builds on experience in the  
16 pre-application timeframe with consideration involvement.

17 The activities of the Office of New Reactor Executives has  
18 been quite positive, frankly. I bring your attention to the memo from August  
19 29th of this year clarifying review expectations, and it brings to light the  
20 discussion about how to evaluate reasonable assurance and adequate  
21 protection. And those I think are going to be the key to many of the  
22 comments you hear today, how those get implemented.

23 In particular, though, the open dialogue on our issues has  
24 been key to maintaining the process moving forward.

25 I'll point to some other key successes. We have been  
26 through the electrical systems design piece, particularly absence of  
27 safety-related 1E AC or DC power. That went very well. Control room and

1 licensed operator staffing. Considering we have 12 reactors operating from  
2 a single control room, that has gone quite well. And in digital  
3 instrumentation and control, that licensing topical report, we went through in  
4 about 18 months very smoothly.

5 I would also point out that in TVA Clinch River analysis that  
6 is underway, that has used our information and supports that, you know, any  
7 actual impact would be within the site boundary. We consider that to be an  
8 insight of what the Commission is likely to deal with, not only with our design  
9 but other advanced designs.

10 If we can go to the next slide, please, and talk about some  
11 of the challenges. So building on the other comments, we don't consistently  
12 realize the benefit of design safety. Recall that in our application we have  
13 submitted a design that is innovatively passive.

14 Unfortunately, what happens sometimes is the innovative  
15 solutions to what were the historical vulnerabilities can result in a motivation  
16 and raise the bar to have something else to analyze and keep digging. I  
17 think the initiative of people to make sure they're not missing something is  
18 natural and responsible, but I go back to the discussion about safety  
19 significance, adequate protection, and those discussions.

20 Another thing is the level of detail. We're in a digital age  
21 now. So rather than delivering a truckload of Bankers Boxes, we deliver  
22 digital files, and that -- it makes it in many cases very easy to get incredible  
23 quantities of data. And while that in itself might be useful in some areas, it  
24 tends to show up in non-safety-significant areas as well, and it just creates a  
25 significant burden.

26 In looking from a high level, the framework doesn't really  
27 cover the safety holistically. And, you know, not to get into all of the details,

1 but, you know, we are discussing a design that has a core damage  
2 frequency of three times  $10^{-10}$ . I think sometimes we get a little derailed with  
3 discussions about things that were an issue perhaps in the past.

4 And then that leads to inadequate consideration of risk in  
5 the application and those review processes. The consequences are that it's  
6 -- it's harder to get innovative safety enhancements through, and sometimes,  
7 as a designer, there is -- there can be a desire or, rather, a situation where a  
8 less safe alternative might be easier to get through the design process.

9 And we have -- we have worked very hard to avoid those,  
10 but they can be a more expeditious way to get through the review process.

11 I will point out that review costs, as a result, are significant.

12 We do estimate well in excess of \$60 million, probably \$65 million or more,  
13 not counting the pre-engagement costs. Then, as I mentioned, it can create  
14 a lot of detail which can be a lifetime of burden for an applicant.

15 So for transformational needs with regard to risk-informed  
16 regulation, I think our experience indicates how difficult that can be and  
17 encourage the Commission to continue those efforts of transformation. And  
18 I think it's going to be an urgent need to address that, given our lessons  
19 learned with the new applicants.

20 I think it would be helpful to clarify the scope required in  
21 the application. We did turn over 12,000 pages in initial application and a  
22 lot of material that followed. And I guess as we move forward I'd like to  
23 offer that NuScale is happy to pilot change concepts, and I look forward to  
24 engagement with the Commission on this.

25 Thank you.

26 CHAIRMAN SVINICKI: Thank you very much.

27 Next we will hear from Mr. Geoff Fettus, who is senior

1 attorney for the Nuclear, Climate & Clean Energy Program at the Natural  
2 Resources Defense Council. Please proceed.

3 MR. FETTUS: Thank you, Chairman, and members of the  
4 Commission. We are honored to be here today.

5 Is that better? Thank you. Sorry. I've done this before.

6 We want to commend the staff on a thoughtful effort, but  
7 we are unclear on several specifics and we urge you precisely to not turn  
8 this process into a vehicle for deregulatory efforts, and that's really where  
9 our concern is going.

10 I want to echo what Commissioner Burns said. There are  
11 some significant areas where there are precise concerns, and I'll detail those  
12 quickly.

13 First slide, please, and the next slide. We will just go right  
14 to it.

15 The specific text of concern, and it's in Enclosure 5 and  
16 pages 6 and 7, and it's a long discussion of streamlining safety and  
17 environmental regulations.

18 As this Commission knows, NRDC has been before it  
19 before talking about the current licensing process is an unproductive set of  
20 procedural hurdles that consumes months and years and taxes the  
21 resources of all of the parties, both industry as well as the citizen  
22 intervenors, but most importantly often doesn't get to the merits of what  
23 needs to be addressed.

24 And we have a different view on the staff's assertion of  
25 compliance with NEPA, and I'll just go that one quickly as one example of  
26 where this could be a concern and the idea of streamlining.

27 When a draft or final EIS is produced by staff, parties can

1 file new or amended contentions "when there are only data and conclusions  
2 in the environmental assessment or any supplements that differ significantly  
3 from the data or conclusions in the applicant's documents."

4 This specific requirement places a potential error-inducing  
5 premium on the staff's EIS to demonstrate consistency with the  
6 environmental report, even if that report has significant flaws, thereby  
7 insulating the EIS from further challenges.

8 In other words, flaws in the ER that are not previously  
9 identified by the intervenors in a 60-day window are likely to be preserved  
10 and replicated in the EIS with the official endorsement of the NRC's own  
11 rules. And in a streamlined context, that is even more troubling.

12 I spoke about this at the RIC this past year, and I'm not  
13 suggesting a return to notice pleading in this kind of instance. But the  
14 60-day window makes it likely serious issues can be overlooked. I could go  
15 on, as all of you know, on NEPA, but I want to quickly get to some other  
16 issues.

17 But to finish on the NEPA issue as well as the safety, to  
18 bring it back to the transformation, to suggest a need for streamlining right  
19 now when instead we think the focus should be on not altering the safety  
20 and licensing processes tool, and should be focused on allowing for a  
21 meaningful and better intervention process, that will dramatically serve the  
22 credibility of the regulator and your Atomic Safety and Licensing Boards  
23 much better.

24 Next slide, please.

25 10 CFR 50.59, as Commissioner Burns noted, is one of  
26 significant concern for us sharing -- sharing the echo, or at least echoing. I  
27 don't know precisely what he is going to say, but I might have an idea.

1 Outsourcing more oversight to voluntary decision-making we think is headed  
2 in the wrong direction, and I'll just give you one example.

3 In the final San Onofre Generating Station proceeding of  
4 2012 and '13, the Board, the Atomic Safety and Licensing Board -- I believe  
5 it was Judge Hawkens, Chief Judge Hawkens -- described the difficult  
6 questions before it as "This Board must consider the following connate  
7 factors, whether SCE's startup request, if granted, would permit SCE to  
8 operate, one, in a manner that deviates from a technical specification in its  
9 existing license; two, beyond the ambit or outside the restriction of its  
10 existing license; or three, in a manner that is neither delineated nor  
11 reasonably encompassed within the prescriptive terms of its license."

12 As we read this potential transformation objective, it is  
13 puzzling and not clear what the NRC would have -- and that the NRC would  
14 have in many instances awareness of the precise contours of individual  
15 changes that now would be made entirely voluntary.

16 Staff even acknowledges in Enclose 5 that a key concern  
17 is the risk that even though the proposed changes are grounded in current  
18 principles of risk categorization, altering the threshold or scope for regulatory  
19 review may be perceived as less safe.

20 This is the precise kind of situation that we would suggest  
21 to you is an extraordinarily difficult task for your Atomic Safety and Licensing  
22 Boards, the public, the States, or any other relevant stakeholders. Simply  
23 removing the staff from this oversight or weakening the staff's role we think  
24 is, again, headed in the wrong direction here.

25 Next slide, please.

26 I will quickly move on from advanced reactors to just  
27 suggest that juxtaposing a new licensing framework for advanced reactors,

1 at the same time suggesting curtailment or lessening NEPA and safety  
2 obligations, is headed in the wrong direction.

3 Final slide. The digital instrumentation, which is a terrible  
4 word to say when doing testimony, and controls, we understand that this is  
5 an area where there is -- obviously, with decades of change, there needs to  
6 be some evolution. But we found that the transformation memo fails to ask  
7 and answer some fundamental questions on this aspect of transformation,  
8 which have significant -- which have significant implications for safety and  
9 security.

10 Are the standards outside of the currently used IEEE  
11 standards more or less prescriptive? After all, IEEE 603-1991 defines  
12 minimum functional design criteria for the power instrumentation and control  
13 portions of nuclear power generation -- of nuclear power generating station  
14 safety systems are their example of newer DI&C systems that aren't  
15 demonstrated to meet IEEE standards but are so desirable as to call for  
16 transformation of NRC's basic approach.

17 SECY-18-0060 provides no real-world case studies at this  
18 point. And, in principle, the regulator should not adjust standards to  
19 accommodate the vendor's business model.

20 In summary, cybersecurity is a dynamic problem, that we  
21 agree that things that are -- the digital systems that are secure today may  
22 not be secure tomorrow. There is an IAEA program that this month involved  
23 training where participants tested their skills on mockups of digital systems  
24 common in today's facilities.

25 NRDC is concerned that introducing regulatory change  
26 and uncertainty in minimum standards for digital instrumentation and control  
27 can have negative consequences for your mission to protect public health



1 and the environment.

2 Thank you, and I look forward to your questions.

3 CHAIRMAN SVINICKI: Thank you very much.

4 Next we will hear from Mr. Mark MacNichol, who is an  
5 international representative of the International Brotherhood of Electrical  
6 Workers. Welcome, and please proceed.

7 MR. MACNICHOL: Good morning, Chairman and  
8 Commissioners. My name is Mark MacNichol. I'm an international  
9 representative with the International Brotherhood of Electrical Workers, work  
10 in the Utility Department in Washington, D.C.

11 The IBEW appreciates the opportunity to address the  
12 issues before you concerning digital instrument and control systems.

13 I have 25 years' experience in the nuclear industry as a  
14 non-licensed operator at the St. Lucie Nuclear Power Plant. During my  
15 tenure at St. Lucie, I have seen commercial nuclear industry change for the  
16 better. The improvement in technology has been good for the industry,  
17 FPL, and the IBEW.

18 The technological changes not only made it easier to  
19 operate Units 1 and 2 at St. Lucie, but it also made transient conditions  
20 easier to identify and recover from abnormal system parameters. By  
21 making transient conditions easier to identify and mitigate, the safety margin  
22 improves for the public, the worker, and the site.

23 One of the biggest advancements with commercial nuclear  
24 sites has been the control of reactor water level. The use of digital reactor  
25 level controls allows easier control of reactor water level.

26 SECY-18-0600 discusses considering other standards to  
27 use for making decisions on alternative digital instrument and control

1 systems. The IBEW encourages the Commission to consider systems  
2 outside the current IEEE standards used at commercial nuclear power  
3 plants.

4 The foreign nuclear industry currently uses alternative  
5 digital instrument and control systems safely at their nuclear plants. Both  
6 the NRC and the IBEW believe the public's safety and welfare are  
7 paramount. The IBEW would not ask the NRC to consider any changes  
8 that would decrease the safety margin of the United States nuclear power  
9 plant fleet.

10 The IBEW represents approximately 65 percent of the  
11 operating commercial nuclear sites in the United States. The IBEW is  
12 asking the NRC to consider all available options for digital instrument and  
13 control.

14 As we discuss these changes today, the U.S. commercial  
15 nuclear industry is facing many challenges. Unfortunately, a huge  
16 challenge is the expense to build new commercial nuclear power plants or  
17 update the existing fleet.

18 Working together with the Commission and the IBEW can  
19 reduce the cost of construction and maintenance to ensure there is a future  
20 with nuclear power plants at the forefront of power generation industry.

21 Over the course of the last few years, we have seen  
22 nuclear power plants close, even though they have years remaining for their  
23 operating license. Future shutdowns are coming, and one reason for those  
24 closures is due to high cost of operating a commercial reactor in the U.S.

25 It is important to the IBEW that the U.S. remains the world  
26 leader in nuclear power industry. The NRC plays a huge role and has a  
27 great responsibility and must be aware how its regulations impact and can

1 determine the future of our industry.

2 In closing, I would like to say with cutting edge technology  
3 rapidly changing in our world we need to continue to be competitive in our  
4 commercial nuclear industry.

5 Thank you for your time this morning.

6 CHAIRMAN SVINICKI: Thank you very much.

7 Next we will hear from Mr. Danny Bost, who is Executive  
8 Vice President and Chief Nuclear Officer at Southern Nuclear. Please  
9 proceed.

10 MR. BOST: Thank you. Thank you. Good morning,  
11 Chairman Svinicki and Commissioners. I really appreciate being here today  
12 for Southern Nuclear as well as -- as well as our industry, to provide  
13 perspective on transformation at NRC.

14 We can go ahead and put the first slide up, please.

15 Transformational change is an important topic that really  
16 strikes at the core of our nuclear industry needs right now. A lot of the  
17 things that I am going to say you have heard from two or three other  
18 speakers already, and I have also heard a couple of Commissioners talk, so  
19 I think we are -- we are all coalescing on what the issues are here pretty  
20 well.

21 There has been significant improvement in the operating  
22 fleet over the last 30 years. Maria noted that in her remarks.  
23 Commissioner Burns, I heard you speaking about some of the programs that  
24 we put in place in the '90s, and I really think that resulted in some of these  
25 improvements that we have.

26 So it is really not a question, as Maria said, of -- of how we  
27 improve safety. It is really a question of, how do we -- how do we

1 modernize our approach and maintain safety where we've got it? We've got  
2 to maintain our safety.

3 So specifically, how do we identify those things that can  
4 impact safety, and then establish a framework for NRC activities to be  
5 focused on providing a reasonable assurance of adequate protection of  
6 public health and safety?

7 The regulatory framework has not been significantly  
8 updated to provide for the efficiencies that are now available through the  
9 advances of communications and technology. A lot of changes. And there  
10 has been a lot of significant improvements, and we have talked about those.

11

12 I'm not going to go through those, but we have had our  
13 Delivering the Nuclear Promise Initiative. We continue to work that and  
14 move forward to become more efficient. We want to become more effective  
15 in application of resources and remain competitive with other -- with other  
16 forms of energy.

17 So, additionally, we have had some recent work by NRC  
18 and with the Electric Power Research, and we have talked about higher  
19 safety margins. So there are significantly higher safety margins now than  
20 previously thought, and these improved safety margins will lead to a better  
21 understanding of actual safety significance.

22 In our view, SECY-18-0060, Achieving Risk-Informed  
23 Regulation, is an important first step in beginning the discussions to improve  
24 efficiencies in the regulatory process. However, we believe the stated intent  
25 of the SECY, the focus on new technology, is too narrow.

26 So we think you need to take a look at Attachment 6, look  
27 at fleet improvements, such as updating the regulatory oversight process,

1 and that is put down as a future transformation activity. And we would take  
2 the position that transformational change in fleet regulatory processes could  
3 and should move forward today.

4 Next slide, please.

5 Bryan Hanson is on the next panel, and Bryan is going to  
6 address the needs of operating fleet. Most of my focus this morning is  
7 going to be primarily on Part 52, the AP1000 design, and specifically the  
8 Vogtle 3 and 4 construction program.

9 Certainly, transformational change is not just applicable to  
10 the operating fleet, but it is also applicable to this construction program.  
11 With a proven understanding of safety margins, some regulatory processes  
12 that were seen as having a possible safety benefit during original licensing  
13 are now recognized to have little to no safety benefit.

14 As these inefficient regulatory processes are identified,  
15 Vogtle 3 and 4 is engaging with NRC, with NRO, and Region II staff to deal  
16 with them in an efficient manner. So we are going at them one at a time.

17 And it should be noted, if I looked at the regulatory history  
18 of Vogtle 3 and 4, they have had an excellent compliance record during the  
19 six and a half years of construction, since the first rebar was laid on the  
20 nuclear base mat. And also, ultimately, the AP1000 passive safety features  
21 result in enhanced overall safety margins.

22 Early on, Vogtle 3 and 4 took the construction lessons  
23 learned in NUREG-1055 and put a strong focus on regulatory compliance  
24 during construction. And Southern Nuclear recommends that we take these  
25 initial activities and recognize them as a platform to pilot additional  
26 transformational initiatives that will integrate risk-informed decision-making  
27 into the existing licensing and inspection processes.

1                   One additional element I will touch on, the AP1000 design  
2                   relies heavily on digital instrumentation and control. We talked about that  
3                   this morning. Digital I&C provides significant safety enhancements to our  
4                   existing nuclear power plants as well.

5                   Southern Nuclear is looking at modernization of the fleet  
6                   with the use of digital I&C technology for reactor protection, plant process  
7                   controls, and we believe this modernization is key to the long-term viability of  
8                   the fleet.

9                   So we think it's essential that the NRC proceed with  
10                  finalizing the regulatory structure for digital I&C to allow the latest technology  
11                  to move forward with existing fleets.

12                  Next slide, please.

13                  So, to summarize, we need to continue to evolve the  
14                  current regulatory process for construction of Vogtle 3 and 4 in such areas  
15                  as inspections and license amendments. I do commend Fred Brown and  
16                  his NRO staff for their openness, their transparency, regulatory agility. They  
17                  have been very good at engaging us in each of these areas.

18                  Going forward, we believe these efforts will establish the  
19                  foundation for additional transformational changes that will advance  
20                  risk-informed decision-making by Southern Nuclear and the staff, and  
21                  ultimately this effort could and should benefit all Part 50 and Part 52  
22                  licensees.

23                  So that concludes my remarks, and I look forward to your  
24                  questions.

25                  Thank you.

26                  CHAIRMAN SVINICKI: Thank you very much.

27                  And as the final presentation on this panel, we will hear

1 from Mr. Lee Cox, who is the Chief of North Carolina Radiation Protection  
2 section of the Department of Health and Human Services of the State of  
3 North Carolina. Or is it a commonwealth or is it a state?

4 MR. COX: A state.

5 CHAIRMAN SVINICKI: It's a state.

6 MR. COX: Yes, ma'am.

7 CHAIRMAN SVINICKI: Okay. Of the State of North  
8 Carolina. Please proceed.

9 MR. COX: Chairman Svinicki and Commissioners, thank  
10 you for the opportunity to address you today on these important  
11 transformation recommendations.

12 Next slide, please.

13 Before diving into the recommendations, I would like to  
14 reflect on our own experience with transformation. With good intentions,  
15 North Carolina, like the NRC, found that reinventing itself was essential in  
16 staying relevant with changing technology.

17 We both went into great detail of risk-informed and  
18 performance-based methodologies, and agency initiatives like your  
19 leadership model, to better position the programs for success in the future.

20 We, too, focused on agency success. How can we  
21 embrace new technology while becoming more efficient and effective while  
22 ensuring safety and security? When engaging the stakeholders, we soon  
23 realized that the public and the licensees really didn't care about our  
24 success. The public was laser-focused on their safety and their cost of our  
25 transformation.

26 While the regulated community was widely focused on  
27 bringing products and services to the marketplace safely at a profit while

1 complying with government mandates, while they are differing priorities, they  
2 are not opposing missions. Hearing this, we knew we had to incorporate a  
3 value added regulatory consideration.

4 You get to the same place, but we learned that our focus  
5 could not solely be on agency success. One example of this in the material  
6 world is the accommodation of emerging medical technologies. Working  
7 together in the promulgation of 10 CFR 35.1000, the states, and the NRC  
8 allow for new technology to be used while the rulemaking process occurs to  
9 formally incorporate the requirements into the CFR.

10 Next slide, please.

11 Moving on to the recommendations, it is encouraging that  
12 the NRC has recognized the benefits of a less prescriptive regulatory  
13 structure when considering digital instrumentation and controls, and more  
14 flexibility and technology that could enhance safety. Not only is this culture  
15 shift positive, the NRC might consider becoming the leader in this  
16 transformational recommendation. We are in support of an underlying  
17 regulatory structure supporting safety system retrofits that would proactively  
18 address obsolescence issues and otherwise generally improve safety.

19 Reliance on -- reliance on old and familiar systems is  
20 nothing new. We did this. There is comfort in historical knowledge and  
21 experience. The NRC's reliance on analog systems reminds me of our own  
22 agencies ignoring technology when it comes to responding to radiation  
23 emergencies.

24 This includes still sending in humans in the most  
25 contaminated and highest radiation fields to obtain samples so leaders can  
26 make protective action recommendations for the general public. We have  
27 become comfortable with that practice, and it fit nicely into existing FEMA



1 requirements and expectations.

2 In our own transformation, we knew that we had to be a  
3 champion of change and created our drone program to supplement field  
4 radiation and survey team activities to reduce radiation dose.

5 The following slide and video will give you a glimpse into  
6 this world.

7 Next slide/video, please.

8 (Whereupon, a video was played.)

9 MR. COX: Next slide, please.

10 Continuing on with the rest of the recommendations, we  
11 are in support of the NRC transformation with regard to licensing reviews,  
12 revising 10 CFR 50.59, initiating optional performance-based technology  
13 inclusive regulation for non-LWRs.

14 Next slide, please.

15 Additional views. Regarding additional views of  
16 transformation in the reactor oversight process, the NRC should consider  
17 ways to reduce their footprint in the baseline inspection program when no  
18 major gaps are identified, allow licensees to use structured rigorous  
19 self-assessments to supplement this reduction in both reactor and material  
20 regulatory structure, incorporate more remote review of electronic  
21 documents, and utilize the onsite effort for areas of greater safety  
22 significance, as pointed out in your SECY paper.

23 And, finally -- next slide, please -- in closing, I saw  
24 firsthand during Hurricane Florence how a reactor can be brought back  
25 online safely after shutdown when industry, NRC, FEMA, state and local  
26 government, work together to provide needed power to a suffering public.  
27 Like in this example, there can be no losers if the NRC transformation is to

1 be a success.

2 To address Commissioner Wright's question of the end  
3 game, the public, industry, and NRC have to feel that this transformation was  
4 a win for all, with safety and safety culture being the main focus.

5 Thank you for your time. I'll be glad to take any questions.

6 CHAIRMAN SVINICKI: Thank you very much, and thank  
7 you to all of the panelists. As is our practice, we will -- we rotate the order  
8 of recognition for questions, and we will begin with Commissioner Burns.

9 COMMISSIONER BURNS: Thank you all for the  
10 presentations and the comments. I realize that in this short time it is really  
11 -- it's sort of like a touch and go on -- on a number of these issues because  
12 there is a lot -- a lot to be thought about and a lot for us to take into  
13 consideration as we do it.

14 Again, sort of building a little bit on my reflection at the  
15 beginning of the meeting, you know, I understand, you know, what we have  
16 is what I would -- sort of a classic tug and pull in terms of the regulator and  
17 the regulated. You have a little bit of that.

18 You have I think internally, as I reflect, again, on the  
19 agency, you have processes in terms of how things are reviewed, how things  
20 are looked at, that accrete extra steps, extra focus sometimes, and at times  
21 -- you know, as I say, I think we have done this in the past, you step back  
22 and say, "What's the value added?" That ultimately you do need to make  
23 sure that we are carrying out in a responsible manner the safety and security  
24 responsibilities that the agency has, but how we do it is sometimes  
25 something, you know, that merits looking at.

26 I think of, over the years, for example, rulemaking. I  
27 remember having a -- sort of a give and take with Commissioner Ed

1 McGaffigan about, you know, how many -- and it's almost like, you know,  
2 can you name this tune in how many notes. How long does it take to do a  
3 rulemaking?

4 And we see that now. He said, "Oh, my gosh, it's so  
5 long," and whatever, which is to me unacceptable. That's -- you know,  
6 there are areas I think where we can move faster.

7 But having sort of reflected on that, maybe I would point  
8 out one other thing. I'll ask Ms. Korsnick, clearly, in terms of the slide you  
9 put up in terms of our industry performance with respect to availability and  
10 operation of plants has greatly improved since the 1980s as well as the  
11 overall safety in terms of the reduction in core damage frequency.

12 And that -- I think that -- I understand how that  
13 underscores a focus on particular -- you know, particular improvements in  
14 terms of what we are looking at, or adjustments -- I wouldn't say necessarily  
15 improvements -- adjustments to what we may be looking at.

16 But one -- one of the things I think you do get, and this I  
17 say -- I would call a tug and pull -- is to the extent that you have -- there are  
18 still some, what I'll call poor or less-than-ideal performers within the industry  
19 itself. So how does that -- how do those general statistics affect how you  
20 would -- do approach your oversight program?

21 You still need -- and, again, the context being you still  
22 need to look at performance of the industry of individual licensees, and  
23 where individual licensees are not doing as well as they should be doing or  
24 are not complying. So how -- how does that inform? How would you see  
25 that that informs where we should be going?

26 MS. KORSNICK: So I think I understand your question to  
27 say that even within an overall industry that is performing very well, there are

1 still lower performing plants or plants that need some additional attention.

2 And, you know, obviously, we think that that is warranted  
3 as well. If the performance of a plant indicates that additional inspection  
4 hours and additional attention be applied, as you know, you pay attention to  
5 those as a regulator. The industry itself pays attention to that from a  
6 self-regulation perspective.

7 And so we believe that that is warranted. The challenge  
8 that we find ourselves in is with this very significant level of margin we  
9 continue to have conversations that take not only regulator time and  
10 attention, but if you're paying attention to it, the industry is paying attention to  
11 it, for many conversations that don't warrant that level of effort.

12 And so our suggestion, really, is one of follow all of the  
13 rules that we have in place today. But if we put this risk pre-filter, if you will,  
14 up front and acknowledge that something is of very low safety significance,  
15 create, if you will, an off ramp -- an off ramp that the regulators can follow, an  
16 off ramp that the industry understands -- so that you can document whatever  
17 it is that happened, but this off ramp essentially says, "And we have  
18 evaluated the risk significance, understand it is incredibly low, and,  
19 therefore, X."

20 Now, what X is depends on, obviously, what the process  
21 is. But this is not in any way trying to forgive plants that have challenges,  
22 that need additional attention and need additional inspection, but, rather,  
23 looking across the entire industry where more time, energy, and effort is  
24 being expended than is, quite frankly, needed.

25 COMMISSIONER BURNS: Okay. Thanks.

26 Mr. Atkinson, you know, I would say it's always tough  
27 being the first one down the -- down the slope. So, you know, in some

1 respects, congratulations, or condolences to you on that. But I do  
2 appreciate, and I know on some of the drop-ins that you had, sort of the  
3 perspectives you had in areas where perhaps -- in terms of looking at the  
4 licensing reviewing process, that there might be some better way -- better  
5 ways to do it.

6 One of the things, in terms of your comment -- your  
7 comments is sort of the -- sort of the temptation to do it the easy -- you talk  
8 about the temptation to do it the easy way rather than the way you -- that you  
9 think of as potentially innovative and getting -- you know, getting a better --  
10 you know, basically a better technology out there.

11 So just to sort of refresh us, how do you see -- how do you  
12 see that -- the change that we ought to think about in terms of not being a  
13 barrier for that kind of innovation?

14 MR. ATKINSON: I think -- I appreciate the question. I  
15 think it really gets to the crux of the problem with both NuScale, with a high  
16 level of innovation, and with, you know, the other advanced reactors coming  
17 down the pike here.

18 I think fundamentally, if you look at the regulatory  
19 framework and what the staff is asked to evaluate against, if you build off --  
20 you know, build on the idea of the design-specific review standards that is  
21 adopted for that technology, then you can spend your time where it's truly  
22 important add value.

23 What we find is, you know, the staff has a process to get  
24 through. That process requires, you know, answering certain questions,  
25 doing certain things, that may not, frankly, be important or safety significant  
26 to an advanced or innovative design. But they have a need to -- to check  
27 the box if you will.

1                   Now, to the credit of the Office of New Reactors, it worked  
2 very well with us I think in identifying how they intend to navigate those  
3 things. But, you know, the bottom line is it's a lot of work. It's a lot of work  
4 for the staff and then for the applicant to deal with things that don't  
5 necessarily have safety significance but are part of the process.

6                   So my comment on that would be really take a look at the  
7 specifics that the staff is being asked to evaluate against and make sure  
8 they are appropriate for the design under consideration. Some of them just  
9 simply are not safety significant or they really don't have much to do with the  
10 design and are the result of a logic from back in the '70s or so.

11                   We find ourselves going back to documents from the '70s  
12 trying to figure out what was really being asked and how that has changed  
13 over the years. When we have a large innovative change, is it still  
14 applicable? And I can tell you those are very active discussions that we are  
15 having weekly with the staff.

16                   COMMISSIONER BURNS: Okay. And I know in terms  
17 of the other work that is being done in the -- you know, in terms of  
18 positioning the agency or potential applications for advance design, some of  
19 that -- that is continuing.

20                   I wanted to ask, in the little time I have left, in terms of --  
21 maybe Mr. Bost and maybe Mr. MacNichol, and actually, Geoff, you piped in  
22 on digital, too, but the interesting thing for you is whether you are feeling  
23 somewhat bipolar in terms of -- in terms of the review because you've had --  
24 been going through Southern, both in the -- with the AP1000 digital review  
25 there, but also trying at the existing Vogtle units or Southern units going  
26 through it.

27                   I guess what -- maybe even reflect on this -- if there is a

1 difference in the decision-making strategies in these areas, and what do you  
2 think -- what do you think the one area might -- may be what you've gone  
3 through in the AP1000, the new review, what that would contribute to the --  
4 looking at retrofitting on the existing plants.

5 MR. BOST: Yeah. I will tell you the biggest difference  
6 that I see, Commissioner Burns, is if you looked at the new construction, if  
7 you looked at the new design, it's to a completely different set of new criteria.

8 And there has -- there has been an awful lot of work getting it to this point,  
9 but -- but it was following a process to get there.

10 And when I go look at our existing fleet, it was put in under  
11 different rules and a different -- different set of approvals. And when we go  
12 to change that, we're having to try to satisfy two things. We have to satisfy  
13 what we originally had, and now we're trying to bring in the newer  
14 technology, which in many cases doesn't satisfy -- it's an improvement, we  
15 all agree it's an improvement, and this is what we all need to go forward and  
16 do.

17 But in our rules, we say we have to satisfy the original, and  
18 the new doesn't -- I mean, so that's -- that's what I see the difference  
19 between the new construction that we have and retrofitting in the existing  
20 fleet. The existing fleet is still trying to -- trying to meet things that were set  
21 up originally for those units as opposed to, let's look at the total benefits and  
22 the total improvements that we're going to get out of the new system and go  
23 with that.

24 COMMISSIONER BURNS: Okay. Yeah. Thanks. And  
25 I'll close there. I think the interesting thing is this is, again, one of the areas  
26 I think the challenge -- and maybe the challenge has gone too long -- where  
27 we have to marry -- you know, there is sort of a stability in change if you will.

1                   The maintaining, you know, the -- you know, maintaining  
2                   ability to our -- you know, basically the regulatory construct, where allowing  
3                   some innovation or change. And I think that's the -- that's the hard nut to  
4                   crack sometimes.

5                   Thank you, Chairman.

6                   CHAIRMAN SVINICKI: Thank you, Commissioner Burns.

7                   Commissioner Caputo, please proceed.

8                   COMMISSIONER CAPUTO: Good morning. Open and  
9                   collaborative discussion is vital to our success in this effort, so I want to add  
10                  my thanks for your time and thoughtful contribution today.

11                  Ms. Korsnick, on slide 2, you showed how the industry  
12                  safety has improved from 1992 levels, and both EPRI and NEI have issued  
13                  reports on risk insights that reference NRC's state-of-the-art reactor  
14                  consequence analysis, also known as SOARCA.

15                  Both papers conclude there is far greater safety margin to  
16                  the NRC safety goals than previously understood. How would you  
17                  recommend the NRC use those risk insights holistically to inform regulatory  
18                  decisions?

19                  MS. KORSNICK: Thanks, Commissioner Caputo. Yeah.

20                  I agree with the statement that you've made, and, again, reflect that there is  
21                  a structural improvement that has been made since the safety goals and  
22                  safety objectives have been -- and some of the things that you reference, the  
23                  EPRI reports, et cetera, really address that structural change, which is  
24                  giving, again, even more margin than the performance improvement that the  
25                  industry has gone through.

26                  And I really think we need to take that on. And as I  
27                  stated, I think we need to evaluate each system, quite frankly, as we go



1 through the regulatory process and have a view as to whether or not the  
2 issue, whether it's a white finding, whether it's a yellow finding, whether it's a  
3 change in a KPI, I would even suggest it could be applied to different  
4 professional opinions.

5 So I don't even think it just applies in regulatory space. I  
6 think there is a -- there is a creative way to create a pre-filter, if you will, of  
7 risk. And I think the insights of the SOARCA can actually apply in some  
8 cases to maybe seismic analyses, et cetera, that we should have a view of  
9 whether or not the conversation that we're having needs the time, energy,  
10 and effort, or if it's of such low safety significance that in fact it can be well  
11 documented, but we can move on.

12 COMMISSIONER CAPUTO: Thank you.

13 Mr. Bost, we recently received a letter from NEI restating  
14 concerns about licensing impacts during construction. And I know the New  
15 Reactor Office recently resolved the Tier 2\* issue, but the letter suggests  
16 that more could be done.

17 As I understand it, there are additional situations where  
18 you can't proceed with construction because it becomes apparent that you  
19 can't build precisely in accordance with the licensing basis, even though you  
20 will ultimately meet the relevant ITAAC.

21 Are there lessons from Part 50 that could be applied here  
22 to reduce the destructions to construction?

23 MR. BOST: Thank you for that question, Commissioner  
24 Caputo. As you know, one of the bigger things that we have been looking  
25 at with Part 52 is, to put it quite simply, we have to stop. That's what we  
26 have to do. So if we're -- as we construct the plant, we must maintain the  
27 plant in accordance with the license at all times. That's the way it is

1 interpreted now. And if there is something that needs to be changed, and it  
2 meets certain levels, then we have to stop.

3 That is really causing a lot of problems in building a  
4 nuclear power plant that takes a long time to build in the first place. What  
5 we really believe is that those things have to be looked at. They have to be  
6 resolved. They have to be taken care of.

7 But we should be able to do that by some other timeframe,  
8 whether it's by ITAAC or whether it's by some other -- some other milestone,  
9 we should be able to move through and take care of those, as opposed to --  
10 and there are examples where whether we had a rebar that was off by a little  
11 bit of spacing, we have to stop.

12 We've got to go get that resolved first. We don't disagree;  
13 we've got to go fix it. We've got to go resolve it. It has to be evaluated and  
14 fully covered, but we shouldn't have to stop the construction activity while we  
15 do it. And the difference between that and Part 50, in Part 50 everything  
16 was at risk. So, I mean, that was completely the other way, which we didn't  
17 want. We wanted to have the license up front. That's what we wanted to  
18 do.

19 But the way we were interpreting, to have to maintain  
20 construction within the license basis 100 percent of the time, it makes things  
21 very difficult. And I think that's the piece we could get from Part 50 and  
22 figure out how we could do that without having such a large impact on  
23 construction.

24 COMMISSIONER CAPUTO: Thank you.

25 Mr. Atkinson, you mentioned on slide 3 that the level of  
26 detail we require creates lifetime significant regulatory burden to manage the  
27 licensing basis. Can you just go into that in more detail, how that creates a

1 lifetime burden?

2 MR. ATKINSON: Sure. Well, for exactly the example  
3 that you cited there. For a licensee, after startup, then the inclusion of  
4 details that aren't necessary to support a safety finding create a burden on  
5 the licensee to change those as well, the administrative and licensing  
6 processes it takes to do that.

7 And so what we are suggesting is that the requirement to  
8 provide levels of detail on non-safety systems and other things creates a  
9 burden on the licensee for ultimate maintenance of that level of detail as  
10 provided in the approved documentation with the Commission.

11 So, you know, it is really our intent to figure out how to,  
12 frankly, remove data that isn't important to the safety finding, and those are  
13 discussions that we are really initiating now going forward, because we -- we  
14 have answered -- provided data, you know, with individual staff requests for  
15 additional information that, you know, in our opinion, is significantly beyond  
16 what is really necessary for a safety finding in many areas and shouldn't  
17 then become the maintenance burden of a licensee down the road to live to.

18 COMMISSIONER CAPUTO: Thank you.

19 Mr. Cox, you discussed the use of rigorous  
20 self-assessments. Some stakeholders would compare that to licensees  
21 grading their own exams. Would you please discuss in more detail how you  
22 think self-assessments can be done effectively?

23 MR. COX: Sure. Like in the materials world they have  
24 the process called IMPEP, Integrated Materials Performance Evaluation  
25 Program, in our state, like other states, we will continuously do  
26 self-assessments based on the criteria set out by the NRC throughout the  
27 year. And I think that like in industry in the less risk-significant areas,

1 industry is also doing this because we always forget, as -- or I do -- I'll say I  
2 do because I'd like to take credit for, you know, keeping North Carolina safe,  
3 but it goes back to us and scrapyards, our relationship with scrapyards.

4 Scrapyards aren't regulated, but yet they spend hundreds  
5 of millions of dollars in radiation protection equipment -- detection  
6 equipment, so that a radioactive source doesn't get into their mill stream  
7 because -- not because they are regulated or because, you know, I'm -- I'm  
8 requiring them to do it, but it's because they don't want to contaminate, you  
9 know, millions of dollars of equipment and also contaminate their end  
10 products that they will be selling to the general public.

11 So I think for us self-assessment is -- is an ongoing thing.  
12 I think in the nuclear power industry it is as well. And I think it can be used  
13 effectively in less risk-significant areas.

14 COMMISSIONER CAPUTO: Okay. Thank you.

15 Mr. MacNichol, I would just like to say thank you for your  
16 employees and their dedication to performance excellence and safety. I  
17 think that's often a collection of unsung heroes that are doing hard work  
18 every day and making sure that they do it safely.

19 Is there anything else, any other words of advice that you  
20 didn't have time for in your opening statement that you'd like to add now?  
21 Any further reflections?

22 MR. MACNICHOL: No. No, nothing else. And you're  
23 welcome.

24 COMMISSIONER CAPUTO: Okay. Thank you.

25 CHAIRMAN SVINICKI: Thank you very much.

26 Next we will hear from Commissioner Wright. Please  
27 proceed.

1 COMMISSIONER WRIGHT: Thank you, and thank you  
2 all for your presentations. When you get to be third or fourth or fifth, you  
3 have to be a little bit more agile in your questioning, so you --

4 CHAIRMAN SVINICKI: That's why we rotate the order for  
5 questioning.

6 (Laughter.)

7 COMMISSIONER WRIGHT: And I appreciate that. So in  
8 that vein, it was mentioned in the previous panel -- we heard Dan Dorman  
9 mention that the NRC is at a crossroads and that he mentioned the need to  
10 be agile. And then, Danny, you mentioned the -- I think the words were  
11 "regulatory agility." And I guess I want to know if you can maybe just go in  
12 a little bit more detail about, what does that regulatory agility look like?

13 And maybe not just -- on the ground, you know, with your  
14 -- maybe with the inspectors, with the program there, and here in -- you  
15 know, in the Ivory Tower in Rockville, what do you look for? What does that  
16 mean?

17 MR. BOST: The regulatory agility that I was speaking to  
18 was specific to construction. And as we evolve through this Part 52, I think  
19 it applies to Part 50 and a lot of the other things that we do as well.

20 And the way I see the agility is is the willingness to look at  
21 a different way of doing it, and then going and putting the things in place that  
22 you need to do to go do it -- and I can give some examples here. I think  
23 Brian is probably going to talk ATF, so I won't talk about that today.

24 But it's -- but that's something where it is going to -- it is  
25 going to need some regulatory agility to go and implement. It's very difficult.

26 It normally takes a very long period of time, and we're looking for that to be  
27 done on a much faster -- but obviously it has to be absolutely as safe a

1 basis. So it's going to require some change in our thoughts and a change in  
2 the way that we -- that we do business.

3 COMMISSIONER WRIGHT: Thank you.

4 I was going to come to you in a little bit with the same  
5 question, but put it in another context. You had mentioned in your  
6 comments, Maria, that the vision, the transformation initiative, was broader.  
7 And you gave a little bit high level. Can you maybe tie these maybe a little  
8 bit better together? Can you give me some more meat on that bone?

9 MS. KORSNICK: Sure. Let me maybe best describe it in  
10 a mental image, if you will. So when we talk about margin to the safety  
11 goal, in the letter that we set in to the EDO in October, we used an example  
12 that says the amount of margin to safety goal, for example, for the  
13 green/white threshold was essentially equating to 15 -- a stack of paper 15  
14 stories high.

15 So if you can imagine a stack of paper 15 stories high, and  
16 our conversation over a green/white threshold in the significance  
17 determination process is the thickness of one piece of paper. So that gives  
18 you a view, if you will, of the time, energy, and effort that we're having a  
19 conversation on relative to its significance.

20 Now, given that you get a white finding at a plant, that  
21 requires a 95-001 inspection to clear it. That takes about a year worth of  
22 effort at a plant to the tune of about a million dollars.

23 So I think that begins to kind of paint a perspective on  
24 things to say if in fact we had an earlier conversation that said that that really  
25 wasn't risk-significant, a whole lot of people could spend their time more  
26 wisely.

27 COMMISSIONER WRIGHT: Thank you.

1                   In that vein, although, you know, safety is premium, so that  
2                   is our number one focus here at the agency, but one of the things coming  
3                   from a state background -- and, Lee, you as well at the State of North  
4                   Carolina, cost is also something that we have to at least look at.

5                   We don't have to -- you know, given -- given it's a low  
6                   safety or no safety risk, if we've got two choices and one is much -- much  
7                   less expensive, we probably should opt for that because of the ratepayer, if  
8                   for no other reason, because in the end that is who is paying for it.

9                   And I'm not sure personally that that always happens, but  
10                  -- so, Lee, one, I appreciate your work on behalf of the State of North  
11                  Carolina, but more important with the Organization of Agreement States.  
12                  Commissioner Burns and I were there in August, and you're very active, and  
13                  you're very respected.

14                  And you seem to have a really good grasp on some of the  
15                  things that we're going to have to be dealing with here, and you're coming at  
16                  it from a different perspective, because in the end, you know -- and I love the  
17                  way you mentioned that in North Carolina the agency success wasn't the --  
18                  that wasn't the real issue because when it's received by the customers and  
19                  the ratepayers and the people, that -- the utilities, that your success wasn't  
20                  important, but it's how you went about adding that value and the regulatory  
21                  value and I really appreciate that.

22                  So in your view, just looking at what you said, do you  
23                  believe that our standard, the NRC standard that we have of reasonable  
24                  assurance of adequate safety, do you believe that we are in -- some of the  
25                  things that we are involved with you, do you think that we are -- we are  
26                  meeting that standard, or are we exceeding that somehow going toward  
27                  more zero risk? Which can be at times more costly, too.

1 MR. COX: Yes. Just in my experience in the materials  
2 world and the NRC as co-regulators, I believe you are, you know, meeting  
3 that standard of reasonable assurance. But in reading -- and I also come  
4 from a reactor background, and just reading all of the SECY papers and  
5 looking into what has -- has been demanded, I think it may have shifted  
6 more over to absolute assurance in the reactor world.

7 But, you know, I appreciate our partnership with the NRC  
8 and the open communication and highly respect you for what you do, and all  
9 of the staff. I mean, they are tremendous people, very educated, very, you  
10 know, professional in how they deal with us as co-regulators.

11 So I think in the materials world they are meeting that  
12 standard of reasonable assurance. And, again, we go back to ALARA.  
13 You know, and ALARA has a cost, you know, component to it. So as low as  
14 reasonable assurance, you've got to look at, well, what is reasonable and  
15 what is the cost of that.

16 So, anyway --

17 COMMISSIONER WRIGHT: Do you -- and, Maria, I'll take  
18 any comments on that, too, with you as well. Do you think that this -- in  
19 addition to that, do you -- and anybody here -- do you think that the staff's --  
20 the transition team's recommendations are helping in that regard toward, you  
21 know, meeting our core mission? Do you think we're getting back to that  
22 basic, or do you have any -- do you think that, at least an initial first step, do  
23 you see that?

24 MS. KORSNICK: I will say that we have seen some very  
25 promising signals from some of the new leadership or leadership that is in  
26 new positions within the NRC. I will just say an openness to look at things  
27 afresh, and I do believe that within the staff, in my presentation we had a



1 couple of quotes. I mean, I do think that there is some openness within the  
2 staff, quite frankly.

3 I think anybody would just like their job to be efficient and  
4 effective, and I think that there is sort of good groundwork, if you will,  
5 groundswell that could come together to help inform a transformation.

6 My biggest challenge is that with any change -- change is  
7 always difficult within any organization, and so it's really one to -- to sort of  
8 keep fostering. Clearly, we are all interested in a very safe industry and  
9 high-performing plants, and at the same token, sort of unravel some of the  
10 stronghold, if you will, that regulation has around innovation that, quite  
11 frankly, this industry very much needs.

12 And so not to focus it just on sort of new things, but to  
13 focus it on even some of the day-to-day stuff, because if you're freeing up  
14 that time, energy, and effort, again, it can be better spent elsewhere.

15 COMMISSIONER WRIGHT: Okay. Thank you.

16 I yield back.

17 CHAIRMAN SVINICKI: Well, thank you all. As I listened  
18 to the presentations on this panel, I was thinking of my time on this  
19 Commission. Senator Carper of Delaware has been very senior on one of  
20 our congressional oversight committees, and I would characterize that he is  
21 a pretty pragmatic person about a lot of things, and he says, you know, that  
22 NRC does a lot of things right, but you don't want to find yourself in a  
23 circumstance where you're arguing over like a catalytic converter when  
24 someone is building a Tesla.

25 And it just -- you know, the relevance -- if you're not  
26 watching what is happening in the world outside your doors, the relevance of  
27 where you have your focus can sometimes shift, so you do need to be

1 mindful of that. Of course, you don't want to compromise the strength of  
2 what you have been doing.

3 I have sat with any number of NRC staff, sometimes as  
4 they are getting ready to retire, and for some of them they are a little bit  
5 plagued. Maybe that is a dramatic word, but they are aware of the fact that  
6 the strength and rigor of our regulatory system does not, in all instances,  
7 create an incentive for operating reactors to invest in and introduce things  
8 that are not needed for regulatory compliance, even if -- this is the plaguing  
9 part -- even if they would enhance operational insights.

10 Mr. MacNichol talked about that. Operators and  
11 employees like digital I&C because it gives them some indicators. We  
12 always think about the control room, but the truth is it can give you indicators  
13 for surveillance, it can have a really pervasive benefit to reliability and safety,  
14 and I think those two go hand in hand in many ways.

15 And so, you know, people have known that if you have a  
16 pretty deterministic and prescriptive regulatory framework, the truth is you  
17 are not creating an incentive, and so certain safety enhancements are  
18 foregone because of the rigor of what you require.

19 And I think that has long been NRC's drive towards  
20 risk-informed and performance-based regulation. It is intended to provide  
21 an atmosphere within which things that were not compelling but would  
22 improve safety, there would be some sort of incentive, if you will, for those  
23 things to be adopted at plants, or at least there wouldn't be a suppressing  
24 effect of having to go through the regulatory uncertainty.

25 We see this, of course, in a very prominent way in SMRs  
26 and advanced reactors, and Mr. Atkinson was talking about, you know, they  
27 could put forward a design with additional safety enhancements and

1 innovations, but there is a regulatory uncertainty associated with that.

2 So designers do kind of an uncertainty, a risk-reward  
3 tradeoff. You don't want a really protracted review schedule. You are  
4 trying to maintain interest in your design and investment in it. So these  
5 kinds of tradeoffs get made.

6 So I know that to those who would say I don't know what  
7 NRC's sincere interest in this would be, I think we do realize that the  
8 enterprise as a whole can become safer and more reliable if we have the  
9 right threshold of regulatory engagement.

10 Now, the interesting thing is, not just Maria's presentation  
11 with the core damage frequency declining over time, but INPO can present  
12 similar charts to that. INPO was of course created after the Three Mile  
13 Island accident in this country, and they monitor a lot of metrics that go  
14 outside the regulatory framework.

15 But you can get the counter-logic that says, "But it is your  
16 regulatory framework that drove those reductions in hazard, and, therefore,  
17 proceed with great caution if you are going to change anything about the  
18 regulatory framework."

19 Now, my thinking is, if the thing you are regulating is  
20 simply not as hazardous as it was 20 years ago, I don't find a strong  
21 justification for a failure or an unwillingness to look at the regulatory  
22 framework and if it's right-sized.

23 So I think your presentations pointed out to me that if all of  
24 these things were really straightforward and easy, anybody could do it. But  
25 that's why our journey towards performance-based risk-informed regulation  
26 has been multi-decadal.

27 I see, though, that kind of the pace of change outside our

1 doors is happening at a pace that I think that we realize, as Commissioner  
2 Burns I think was pointing out, you don't evolve in a really linear fashion.

3 You have times that you go through a little bit of a step  
4 change. The reactor oversight process creation I think was that kind of step  
5 change. I've heard a lot about the maintenance rule. I haven't studied that  
6 quite as thoroughly, but I think the staff sees opportunity here and wants to  
7 have a relevant framework that is focused on the right things.

8 I looked at our Project Aim journey and thought that there  
9 were three elements to it. The first was, are we even focused on the right  
10 things? And we looked -- we did a fairly comprehensive look at the  
11 activities underway. We assessed which were returning value to us and  
12 which were not. A number of activities and initiatives were -- went in an  
13 orderly closure and were truncated as a result of that.

14 I think we got partway into the second element, which is a  
15 little more complicated, and it says, okay, now I'm focused on the right  
16 things. Are the processes that I'm using the most efficient ways to carry,  
17 though? Do they serve me well? Are they the right processes to carry out  
18 the new priorities and the things that we're working on?

19 The third element I am not sure we really got to under  
20 Project Aim, and that would be once you're doing the important things and  
21 your processes are the right processes to carry those out, the last thing is,  
22 am I structured as an organization in a way that is efficient and effective for  
23 doing those things?

24 So I think, in my view, there is opportunity space for NRC  
25 in all of these -- all three of the components to take -- kind of continue -- to  
26 have continuous improvement and evolving here.

27 An area that does interest me a lot, but I am not an expert

1 practitioner, is NEPA. Mr. Fettus, you mentioned this. Geoff, thank you for  
2 participating in today's meeting.

3 As I just look across government and across presidential  
4 administrations, it seems like there has been a pretty universal focus. But  
5 the way that agencies that comply with NEPA today, the processes have  
6 become kind of ponderous and long. The documents that are produced, I  
7 have to say as one of those ultimate decision-makers, you know, I go  
8 through our EISs and it seems very little meaningful content for the amount  
9 of effort that has been put into it.

10 And so I was going to ask you, Mr. Fettus, because you do  
11 work across a number of different agencies -- and I'm sure you've at some  
12 level seen the same kind of desire to make the process a bit more, for what  
13 is being put into it, could it be more meaningful for all of those who are  
14 engaging in it?

15 Is there any agency or department that has good thoughts  
16 or has done something that you would recommend to NRC to look at?

17 MR. FETTUS: Thank you for the question, Chairman.  
18 Sure, actually, I could -- I could -- and I didn't come prepared for that  
19 particular question, but it's a terrific one. But I could point to some aspects  
20 of NRC EISs where, believe it or not, we have been quite happy, as well as  
21 energy department, as well as DoD EISs. And I'd be happy to circle back  
22 with you on exactly where we think people have done things right.

23 But I think one of the challenges -- and I think you  
24 articulated it well when you talked about treading very carefully when you do  
25 have a history and culture of safety, of success, and what has driven that.  
26 And, of course, you would have to pull a million threads to figure out which  
27 particular one was.

1                   But there is a -- there is a clarity that needs to be  
2                   necessary when you have, as Commissioner Burns said, wide range of  
3                   performers. And you don't want to take the authority away from staff to  
4                   articulate what is necessary, what is safe, and a strong, clear standard will  
5                   allow for that.

6                   With the NEPA process, where it has gotten ponderous, I  
7                   think the NRC problem that you face is the entire hearing and licensing  
8                   process is, from our perspective, such a -- I think we used the phrase  
9                   several years ago "a large moat," or you could use "high walls," whatever  
10                  metaphor you'd like to use.

11                  But it's so difficult to entertain that the focus that could  
12                  happen from a much more transparent, simpler intervention process, that  
13                  has more on ramps and I think would actually allow both staff, industry, and  
14                  the relevant stakeholders to get to the issues, because we share your  
15                  frustration that there are issues where we didn't need 20 pages on that, but  
16                  we're missing an entire 20 pages on what we think the whole -- the whole  
17                  area is.

18                  So it's a very thoughtful question. We think the process is  
19                  also right now part of what has happened where NEPA -- too much gets put  
20                  in to make it bulletproof, for lack of a better term, when the issue should be  
21                  on what are the real environmental harms here.

22                  CHAIRMAN SVINICKI: Well, thank you for that. And,  
23                  again, I know it was a bit of a question that one would want to give thought  
24                  to. If there is something that you would like to provide, I would be keenly  
25                  interested in any kind of the best practices or things that you could point us  
26                  to.

27                  Again, I think we are working in our swim lane, but you

1 engage on a lot of different -- different agencies on different environmental  
2 topics and NEPA approaches. So I think that that would be helpful.

3 And, again, I -- I'd just like to say for myself there has been  
4 some comment about the agency shouldn't think narrowly. The  
5 transformation team took on reactor topics and future technologies. It's my  
6 sense that the Commission is not confining itself to that. I certainly am not.

7 So I do appreciate all the perspectives that we heard here  
8 today, and I will now recognize Commissioner Baran.

9 COMMISSIONER BARAN: Thank you all for being here.  
10 It has been a good discussion I think so far. I want to begin with a few  
11 questions on the first couple of the staff's transformation recommendations.

12 The first one is broad and it's to expand the use of risk  
13 insights in licensing reviews in ways that would affect the scope of our  
14 reviews. And this is really talking about beyond the current initiatives that  
15 the staff is taking.

16 I think it's obviously valuable to consider risk insights in our  
17 licensing processes, but there is a lot to unpack in this recommendation.  
18 The paper says that the staff would make a more limited effort on issues  
19 viewed as less significant, and this would have a significant impact on the  
20 length and detail of both the safety and environmental documents resulting  
21 from streamlined staff reviews. And I read that as much shorter. They  
22 would be much shorter safety documents, much shorter environmental  
23 documents.

24 Geoff, I will start with you. You were kind of touching on  
25 this a little bit in your conversation with the Chairman. What do you think  
26 about this idea? You were talking about it a little bit through the  
27 adjudicatory lines. But if we just take a step back and talk about kind of the

1 length and level of detail of safety documents and environmental documents,  
2 what do you think about something that is much shorter, less detailed?

3 MR. FETTUS: Well, short doesn't always mean worse,  
4 but sometimes it does. And the less detail in an environmental context is  
5 often highly problematic. What we worry about is when the NEPA process  
6 becomes so focused on becoming bulletproof that it becomes a rote process  
7 and there is tiered documents on tiered documents on tiered documents,  
8 and there is no real engagement with, why would somebody, whether it's a  
9 county, a municipality, a state, a public interest group, why would somebody  
10 have a concern on X, Y, and Z?

11 And that lack of attention to the detail where it -- where the  
12 pressure that comes from the top of the agency hasn't focused on telling  
13 staff, do the thorough job, and do what the CEQ regulations require, which is  
14 that thorough, detailed, hard look.

15 And I think the idea of streamlining, especially when we  
16 sort of face a new frontier on a whole host of issues -- and by the way, that  
17 goes across agencies. I'd say that to a number of agencies. As you -- I  
18 think several of you articulated, technology is changing so fast that NEPA is  
19 actually well equipped to do its job should it get the right impetus from the  
20 decision-makers on high, and detail and hard look is at the heart of NEPA  
21 prior to making decisions. So that's where I'd emphasize.

22 COMMISSIONER BARAN: Another aspect of this  
23 recommendation in the paper is -- and this is something that Maria noted.  
24 Actually, she had it in one of her slides. I think it talks about accepting more  
25 uncertainty and risk in areas characterized as being of low safety  
26 significance. What do you think about that?

27 MR. FETTUS: I think that gets into the area where I



1 would echo the Chairman and say tread very carefully, because departure  
2 from a long-established safety system that has had, just as Maria's slides  
3 demonstrated, some significant measure of success, the San Onofre  
4 Generating Station steam turbine issue that I brought up from several years  
5 ago is a superb example of where that would have been, without some  
6 significant quarrel from the public, been done entirely in-house.

7 And under this transformational system, depending on how  
8 it evolves -- and, again, we don't know how it is going to evolve. This is the  
9 first step.

10 I would have some significant concerns that staff wouldn't  
11 -- staff may not have even been -- I mean, obviously, with steam generators I  
12 don't think that would have been the case, but there are other things -- and  
13 we could speculate until we're blue in the face, but there are other ways  
14 where basically we don't want to see staff disempowered by this process to  
15 -- and not have those clear standards and criteria that have driven good  
16 safety results.

17 COMMISSIONER BARAN: This discussion I think is  
18 starting to get a little bit into really sort of -- into some overlap, but it starts to  
19 get into the second recommendation that staff had about revising NRC's  
20 50.59 regulation to provide licensees additional flexibility to make changes to  
21 the plants without prior NRC approval.

22 And it looks like the staff is contemplating a couple of  
23 things here, fewer changes requiring license amendment requests and fewer  
24 changes requiring even screenings under the regulation. What do you think  
25 about that?

26 MR. FETTUS: And it's the screenings, right there, that I --  
27 I think that's getting into the heart of what I was having some concern about,

1 where if you go back and reread -- and I actually did this weekend, to go  
2 back and refresh my memory -- Judge Hawkens' decision in 2013, 50.59 on  
3 the SONGS issue, on whether or not there should be a public proceeding,  
4 the 50.59 discussion was at the heart of what he wrote about, and it was the  
5 screenings.

6 Now, that was a different articulation of what we're  
7 describing here, but, once again, I would tread very, very carefully with the  
8 idea of removing or potentially removing the staff from a whole host of things  
9 where I am quite sure the staff is very capable of saying, "No, we don't need  
10 more on that. You can go forward here."

11 But having the staff have that initial decision rather than  
12 what this potentially portends, again, we don't know where this is going yet,  
13 we haven't seen a draft rule, but this potentially portends removing the staff  
14 from a wider swath, which I think is unwise at this time, really anytime.

15 COMMISSIONER BARAN: Let me ask some questions  
16 about some of the concepts that aren't in the staff's paper, aren't among the  
17 four recommendations. Lee, I thought maybe I'd start with you.  
18 Commissioner Caputo asked you about licensee self-assessments in lieu of  
19 NRC inspections, and it sounds like -- I gleaned from your comments you  
20 thought this could work in certain areas of low safety significance.

21 There is -- you know, there are proposals out there by  
22 some stakeholders suggesting that NRC turn inspections over to licensees,  
23 allow credit for licensee self-inspections rather than NRC inspections --  
24 self-assessments, rather -- for baseline engineering inspections as well as  
25 radiation protection, emergency preparedness, and security.

26 Would North Carolina support that?

27 MR. COX: So I haven't slept in two days, so when I

1 answered Commissioner Caputo's question about self -- rigorous  
2 self-assessments I didn't formulate a good answer. If I may, a rigorous  
3 self-assessment that -- that would be on the licensee to do, but there would  
4 be confirmation from staff on that confirmation and verifying that  
5 self-assessment.

6 So that's what I envisioned as would help reduce the  
7 footprint, which takes a lot of time from -- when the NRC comes onsite to our  
8 agency to -- during the IMPEP audit, and I'm sure that everyone knows that  
9 in the utility world that -- and these gentlemen can speak more to it -- that we  
10 -- we spend a lot of time preparing for your footprint onsite. And any way  
11 that that can be reduced through rigorous self-assessment, have staff  
12 confirm and verify that self-assessment in a much more meaningful, less  
13 obtrusive way onsite, would be helpful I think.

14 COMMISSIONER BARAN: Okay. Let me --

15 MR. COX: And that's in the material world and industry.

16 COMMISSIONER BARAN: Thanks. Let me ask you  
17 about another proposal, and that's for NRC to conduct fewer baseline  
18 inspections for plants that are performing well. The basic premise of  
19 baseline inspections has been that these are the minimum inspections that  
20 should be performed for every plant. So this would be a really significant  
21 change over the current paradigm.

22 If a plant in North Carolina had been in column 1 for a  
23 period of time, would the state support NRC conducting less than the  
24 minimum oversight of that plant?

25 So, for example, would the state support NRC reducing  
26 inspection hours to 20 percent below the current minimum level?

27 MR. COX: Well, I think, you know, forgive me, but I'm not

1 that familiar with column 1 because I'm not in that world. But --

2 COMMISSIONER BARAN: So kind of best-performing  
3 column.

4 MR. COX: Okay. So I think that's -- that embodies the  
5 performance-based concept and culture. I mean, even in our world, if a  
6 licensee has -- in licensing, if they haven't -- a typical licensing frequency is  
7 five years. If they haven't had a violation in their last several inspections,  
8 we will allow them to go to a 10-year licensing renewal process. And the  
9 NRC also does that in the -- in the materials world.

10 So I think we would support for good performers -- and it  
11 goes back to Commissioner Burns' question about, you know, how -- not all  
12 licensees are like -- their performance record is not all alike. So those you  
13 would pull more strings and not allow those I guess lack of -- or less  
14 oversight.

15 COMMISSIONER BARAN: Let me --

16 MR. COX: Do more oversight.

17 COMMISSIONER BARAN: Just -- I'm running out of time,  
18 but I am curious to hear what others think about this. I mean, I will just be  
19 honest, my worry on this is that if we conduct -- if NRC conducts less than  
20 the baseline inspection level of performance that to date has been  
21 something that is for every plant, if we do that -- if we go below the baseline  
22 for plants that are performing well, we are going to see the performance of  
23 those plants decline.

24 That's my concern, that we'll see kind of cyclical  
25 performance where a plant does well, it's performing well for a while, NRC  
26 performs less oversight, licensees take their foot off the pedal, and we see  
27 performance decline, and we just kind of go up and down, up and down.

1                   That's one concern I have about this. Do others have  
2 thoughts about that? I mean, Geoff, it sounds like you --

3                   MR. FETTUS: I share it. I mean, that's at the heart, and  
4 I would -- I would defer to my colleague, Dave Lochbaum, up there who will  
5 be on the next -- who will be on the next panel on the safety issues. But  
6 those clear standards -- I mean, the NRC staff and the Commission and the  
7 industry that had a gigantic role in those actual initial standards that you're  
8 going by now designed those baseline minimum standards for a set of  
9 reasons. And to go through departure from those standards, again, I would  
10 tread carefully.

11                  COMMISSIONER BARAN: Maria, I'm interested in your  
12 thoughts on this, too, because you -- you had a comment earlier that was  
13 really in the context of low safety significance. So I'm not suggesting you  
14 were saying it for just this purpose, but you had a comment along the lines,  
15 "If NRC is paying attention to it, industry is paying attention to it."

16                  And that's kind of my concern in this face, you know, that if  
17 we're talking about less than the baseline level of inspection, if we're paying  
18 less attention, are licensees going to pay less attention? Are we going to  
19 see performance decline? Do you have thoughts about that?

20                  MS. KORSNICK: Yeah, I do. You know, on the chart  
21 that I showed earlier, I would say clearly the industry has matured over the  
22 many years of experience that we have. And in maturing, you know, one of  
23 the things that we have done, really, across the board is very, you know,  
24 rigorous processes, et cetera.

25                  So I would challenge that from a, you know, sort of  
26 day-to-day operation it is not like if the NRC is not looking over their  
27 shoulder, sort of they are not focused, if you will, you know, on the right

1 things. I would really ask us to step back and just say, you know, the world  
2 has changed a bit over these decades of performance improvement. And  
3 so what required an inspection or what required somebody to be onsite to  
4 see it, you know, 10, 20 years ago, there is just other ways to do it now.

5 Think about the digital that we have been talking about and  
6 sort of different instruments that can be put in place, and there is all kinds of  
7 information that can be gathered. That information can be assessed.  
8 There is sort of other ways to evaluate performance that doesn't necessarily  
9 require boots on the ground necessarily to go look at things.

10 So I would just suggest that there is ways to see into a  
11 plant that doesn't necessarily have to do with onsite inspection hours, that  
12 we should look at ways to be effective and efficient. And when I made the  
13 comment earlier that says when the NRC pays attention to it, then the  
14 licensee necessarily does, and I appreciate the angle with which you are  
15 applying that, the reverse is also true.

16 When the NRC pays attention to something that is  
17 relatively insignificant, it absolutely requires the licensee to do it because we  
18 have to respond to it. We have to engage in the conversation. And at the  
19 heart of that is, if we're all spending time, energy, and effort on things that  
20 aren't so important, what we are missing?

21 And so part of this whole thing, if we do it right, quite  
22 frankly, is it actually focuses both the regulator and the industry on  
23 conversations that are more appropriate.

24 COMMISSIONER BARAN: Well, thanks for -- you know, I  
25 appreciate everyone's view on that. I'm not sure in my mind I see baseline  
26 inspections that same way, but, again, I appreciate your thoughts. Thanks.

27 CHAIRMAN SVINICKI: All right. Thank you all again.

1 And we will take a break now until 11:10 when we will reconvene with the  
2 second panel. Thank you.

3 (Whereupon, the above-entitled matter went off the record  
4 at 11:05 a.m. and resumed at 11:14 a.m.)

5 CHAIRMAN SVINICKI: All right, I call our meeting back to  
6 order. If you'd please take your seats.

7 I thank the presenters for our second panel. And I will  
8 once again just recognize you for your presentations in the order in which  
9 you are listed on our scheduling announcement.

10 So, consistent with that, we will begin with Mr. Bryan  
11 Hanson who is the senior vice president of Exelon Generation and president  
12 and chief nuclear officer of Exelon Nuclear. Mr. Hanson, please proceed.

13 MR. HANSON: My first learning from the first panel was  
14 how fast that clock goes, so I have to keep an eye on that pretty quick.

15 (Laughter)

16 MR. HANSON: Thank you, Chairman and  
17 Commissioners for the opportunity to discuss Exelon's perspective on the  
18 NRC transformation today.

19 We applaud the NRCs significant undertaking and  
20 appreciate the thoughtfulness with which Dan, Andrea and the people  
21 recognized today, have approached this effort. And although there are  
22 certainly areas that can be improved, the NRC has the appropriate  
23 regulatory principles and policies in place to effectuate its important safety  
24 admission today.

25 In our view, the key to NRCs transformation lies in  
26 ensuring the staff has the appropriate tools and cultural mind set to carry out  
27 those policies.

1                   Next slide please. I had the chance to address the  
2 Commission at the July 2016 stakeholder meeting where I spoke about the  
3 importance of risk-informing the Agency's decision making. And today is  
4 much the same, as you've already heard.

5                   As Maria highlighted, today our plants are operating more  
6 safely and reliably than any time in the industry's history. And we know now  
7 the margins to the NRCs quantitative goals are far greater than originally  
8 expected.

9                   Is with that knowledge in mind, that the NRC should apply  
10 risk insights to appropriate prioritize and focus on safety significant issues.  
11 As an initial matter, we should remember that the probabilistic risk  
12 assessment models are part of the overall risk informed decision-making  
13 framework.

14                   So when making decisions, the NRC should focus on the  
15 overall framework rather than on the tools, specific tools, supporting that  
16 framework. Obviously being an agile regulator as discussed earlier.

17                   Developing the risk-informed decision-making framework  
18 should incorporate our knowledge about the substantial margin to safety  
19 goals. That knowledge should be the guidepost for the extent to which NRC  
20 challenges the risk tools like PRA models.

21                   We do believe when it comes to PRA models themselves,  
22 rather than maintaining its own model, the NRC should validate licensee's  
23 models and then hold us accountable for using them correctly. That would  
24 facilitate a more efficient approach to incorporating risk insights, while  
25 maintaining the independence that is necessary to execute the NRC's  
26 mission.

27                   For example, we spend millions of dollars as an industry to



1 update our models each year. We collaborate and share best practices  
2 across the industry, they're informed with realism by all of our plant  
3 functional groups.

4 As an example, one of our facilities, we had used the  
5 risk-informed model to identify installing a pipe with two valves that  
6 cross-connected aux feed systems between the units, resulted in a  
7 double-digit safety improvement in the core damage frequency.

8 Equally identified that building just a small concrete berm  
9 around a safety related bus in one of the plants reduced the risk, again, by a  
10 double-digits safety margin, to protect it from an internal flooding or a pipe  
11 issue.

12 So, realistic credit for flex, treatment of common cause  
13 factors and human reliability assessments are additional areas where  
14 risk-informed decision-making should be improved.

15 Unnecessary conservatism and risk does not advance  
16 safety, rather it diverts attention to less safety significant issues. We see  
17 that a lot in our debates of white findings, as Maria highlighted.

18 One continuing challenge we face with implementation of  
19 risk-informed initiatives is with the latest is TSTF-505 regarding risk-informed  
20 completion tech spec times. We recently were informed that the Staffs  
21 approval is, once again, being delayed until the end of November. And if  
22 this day holds true, it will have been two years since the Staff originally  
23 suspended these submittals.

24 The history of this effort does not instill confidence in our  
25 Agency's full commitment to embracing the risk insights.

26 As Danny mentioned this morning, the licensing of  
27 accident tolerant fuel lead test assemblies has been another challenge from

1 a risk perspective. It's a very low safety significant issue, yet the Staff and  
2 Industry have spent substantial resources on the appropriate regulatory  
3 pathway.

4 While we appreciate the Staff's effort, it's indicative of an  
5 area where risk principles are perhaps not being applied as intended. We  
6 should embrace technology such as ATF and digital instrumentation and  
7 controls, which enhance plant safety and efficiency, rather than create  
8 burdens to it.

9 As an example, following the issuance of the RIS on digital  
10 instrumentation and controls, we began immediately working on digital  
11 controllers for control room chillers, to replace the 40 year technology. It's a  
12 small investment, to validate the regulatory process will be true.

13 Next slide please. Another area where the current  
14 understanding of safety margin risk insights can improve as the NRC  
15 processes a regulatory oversight process, as Maria highlighted, detailed in  
16 NEI's September 19 letter to Mr. Nieh, we proposed 27 enhancements to the  
17 ROP that are consistent with our current knowledge on risk.

18 As one example, the proposal is to revise the ROP action  
19 matrix to reflect normal plant operations with baseline core damage  
20 frequency to be ten to the minus five and ten to the minus six per year.  
21 Again, recognizing substantial margin to the safety goals.

22 This enhancement would promptly close white findings  
23 upon successful completion of follow-up actions. It would also redirect  
24 95-0011 inspections to yellow or red findings, such that the supplemental  
25 inspections impact is more commensurate with the safety significance of the  
26 underlying issue.

27 Not only are these proposals more commensurate with

1 risk, they would also help the public and other stakeholders better  
2 understand the relationship between the NRCs colored findings and the true  
3 risk and safety significance of those findings.

4 Another proposal outlined in NEIs recommendation is to  
5 reduce baseline inspection hours as Commissioner Baran highlighted. It's  
6 consistent with risk-informed in the ROP and that it would take into account  
7 a plants high safety performance while still ensuring appropriate NRC  
8 oversight.

9 So, in closing, the NRC's transformation not be a  
10 wholesale recreation, but rather a return to first principles. And thank you  
11 for the opportunity.

12 CHAIRMAN SVINICKI: Thank you, Mr. Hanson. Next,  
13 we will hear from Dr. Todd Allen in his capacity as a senior visiting fellow for  
14 Third Way. Dr. Allen, please proceed.

15 DR. ALLEN: Good morning. And thank you for allowing  
16 me to join the conversation this morning.

17 So, next slide please. So, as my opening comment I just  
18 wanted to say that I'm pleased at the conversation about the NRC has  
19 improved greatly over the last three years.

20 Both the NRC becoming decidedly more transparent,  
21 communicative, and flexible in its approach and the advance reactor and  
22 current industry stakeholders being very engaged. I'd say compared to  
23 three years ago just, the conversations sound much more positive and better  
24 and I appreciate that.

25 Next slide please. A half century ago nuclear was a  
26 technology on the rise. We were building plants at the rate of 30 per  
27 decade, and it eventually capped out at around 20 percent of our electricity.

1                   That cap may have come, I think, from two reasons. One,  
2                   the current light water reactor technology may have met its, what it can do in  
3                   current market roles, and I think also that there's a public perception issue  
4                   that makes it difficult sometimes for new deployment of nuclear.

5                   But right now we're on a case where it's a strong desire to  
6                   keep the 20 percent going. Next slide please.

7                   But there's also this set of advance reactor developers who  
8                   feel very strongly that there are new markets, new products that can be  
9                   brought online. And I think from a regulatory standpoint that that becomes  
10                  challenging because it's not a single product anymore it's multiple products  
11                  with multiple functions and multiple timelines. And addressing that  
12                  becomes complicated.

13                 Next slide please. I think the second challenge, relative to  
14                 transformation is, to ensure that it's not just at the leadership level, that the  
15                 leadership is consistent and it gets down to the staff level.

16                 As a former senior executive at a national laboratory, I  
17                 know very well that lots of nuclear engineers view the future through the  
18                 rearview mirror, right? That the way we've done things is the way we'll  
19                 always do things and I think that mind set makes it very difficult to move  
20                 forward.

21                 And so one of the challenges I think you'll have in this  
22                 transformation is to ensure that it's believed and embraced by the staff and  
23                 that you can recruit people that are excited by that new vision.

24                 Next slide please. The last thing I want to talk about is  
25                 this public perception issue. I like using pop culture as a way of recognizing  
26                 what people think about us. And this is very typical.

27                 It's a 1950s movie but for a long time there has been this

1 sense that this industry needs to be controlled and that there needs to be a  
2 protector there. And I think that the regulator, in many cases, has been  
3 seen as that protective force. And it's important that you continue to have  
4 that positive view point.

5 Next slide. So I'll just leave sort of feeling that our, I think  
6 that there are grand themes in all of our transformation.

7 The first is that the vendors, investors, and consumers  
8 need to believe that you can regulate at what I'll call the pace of commerce.  
9 I tried to choose those words carefully because I'm just trying to say that  
10 there is many different people with many different ideas and many different  
11 timelines, and being ready to have discussions with them, when they're  
12 ready, is critical to keeping them on track and evaluating them fairly.

13 The second are that all these initiatives need to ensure  
14 that you can recruit and maintain staff. When young people look at things  
15 like, how long does it take to decide how to look at digital technology and  
16 then they're looking at things like advance manufacturing and data analytics  
17 and big computers and all the things that are changing in technology and  
18 could be brought into nuclear, I think they have to see that the NRC is the  
19 place that's willing to embrace that and address those challenges if you want  
20 to get them to work there.

21 And then lastly, I think, you're in a position of saying we're  
22 looking at things differently and this idea that no one gets the sense that that  
23 means that you're backing off in any way from protecting public safety is  
24 important, right? It's changing to be more effective but it's not moving away  
25 from that important public job that you have.

26 So, I appreciate you allowing me to come here and  
27 hopefully that's helpful. Thanks.

1 CHAIRMAN SVINICKI: Thank you very much, Dr. Allen.  
2 Next, we will heard from Mr. Jeff Semancik who is the director of the  
3 Radiation Division Bureau of Air Management within the Connecticut  
4 Department of Energy and Environmental Protection.

5 And since I have a complicated name, if I have  
6 mispronounced your name please correct me. Thank you and proceed.

7 MR. SEMANCIK: No, you got it right, that's fine. And I  
8 thank you all for allowing me also to participate in the conversation with the  
9 local and state entities.

10 And I hope I bring some perspective to you. Maybe it's a  
11 little bit uniquely informed. I'm not a career state regulator. I spent 23  
12 years in the commercial nuclear industry and four years in the nuclear Navy.

13 And as I listened to some of the conversations here, I can  
14 honestly say I've done 50.59 evaluations. I've installed and designed and  
15 tested digital I&C systems, I've been a licensed operator starting up the  
16 Navy's first digital reactor.

17 And I've also been on shift as a licensed senior operator  
18 for the NRC when we've had challenges to those systems and had to  
19 respond to them. And I've also been a station director who's had to make  
20 classifications when those systems have failed.

21 So, with that, the state does applaud implementation of  
22 changes that resulting a more efficient regulatory process that maintains  
23 important safety and security, as well as protection of the environment.

24 However, a little bit of a caution. Your urgency to  
25 transform, we often think of Silicone Valley has the hub of innovation and all,  
26 but remember, a culture that starts with a moto of, move fast and break  
27 things, is probably inconsistent with what we want to do.

1                   In the language, in the policy note and some of the  
2 language I've heard some of the panel members here, it gives me some  
3 cause to pause a little bit because it could imply that there's an assumption  
4 that we're too safe right now or that we're least safe enough. And these are  
5 the words I hear of overly conservative excess safety margins. Those types  
6 of words.

7                   The other ones I kind of hear that give me pause is, a  
8 couple of times I've heard that the Agency must accept more risk. And I  
9 kind of remind you that those of us who live in the vicinity of nuclear power  
10 plants would argue that we accept the risk and that the Agency evaluates  
11 that risk but we are the ones that have to accept it, we're the ones that have  
12 to live with it.

13                   So, the first part of that I would say is, first of all, I think risk  
14 needs to be managed, not accepted. In other words, there are factors that  
15 you can offset and move and adjust in order to maintain that level of risk or  
16 improve that level of risk.

17                   And while you can relax one requirement, there may be  
18 alternative ways to do it. So, an example would be, if I've got a digital I&C  
19 system, maybe I'm not in redundant systems anymore, maybe I'm in triple  
20 modular redundant systems and I add additional components to improve that  
21 risk profile.

22                   Secondly, I'd also offer that my risk model would add  
23 another factor that's not in your triplet model that the NRCs use, and that's  
24 the probability of detection. And I think Commissioner Baran has spoken of  
25 that a few times.

26                   I would argue that you need to maintain that probability of  
27 detection in order to ensure that you can properly see the faults and the

1 events that may be occurring.

2 The other point I'd make is that, as we move forward, the  
3 need to engage with local stakeholders, we bear the risk and the  
4 consequences so it's important that you engage with us in that. And that  
5 includes the use of the best science available.

6 When you deal with risk, you have to also accept the good,  
7 the bad, and the ugly. And I appreciate Bryan's examples of areas where  
8 they've identified areas of higher risk that need to be mitigated. And that's  
9 important that we move forward in that same vein.

10 If you look for a risk-based approach, that also means that  
11 certain things that we've grown accustomed to in our nuclear life, single failure  
12 criteria, existing design basis, those things may not bear out. If you have an  
13 existing design basis, define the risk of the external event is significantly  
14 higher, than we would expect a risk-based, or a risk informed regulatory  
15 process, that action would be taken in those as well.

16 So, again, and finally, I would encourage the NRC to  
17 continue to engage with local stakeholders. There's some room in there for  
18 you have mentioned tiger teams or you mentioned other expert panels.

19 Those could be useful ways to engage local experts who  
20 not only add stakeholder buy in, but they do provide significant insight,  
21 perhaps on specific issues to that locality. An example might be, in the  
22 flood plain protection, in those areas we may have experts that are more  
23 tuned to that than you are.

24 And with that I thank you, again, for the time.

25 CHAIRMAN SVINICKI: Thank you very much. Next, we  
26 will hear from Mr. Dave Lochbaum. And we were joking that his name card  
27 is very empty because he has recently, I think, stepped back from a very



1 noteworthy career in nuclear safety, including a period of time as an NRC  
2 employee.

3 But his invitation today is a reflection that I think all  
4 members of our Commission have worked with you over the course of time  
5 and over the course of years and we look forward to hearing your  
6 perspective, your long observer of NRC processes. So, Mr. Lochbaum,  
7 private citizen, please proceed.

8 MR. LOCHBAUM: It was a personal transformation.

9 (Laughter)

10 MR. LOCHBAUM: Good morning. I appreciate this  
11 opportunity to share my views on this topic. Slide 2 please.

12 The NRC has been able to respond to changing  
13 landscapes in timely and effective matters in the past. The tasks now  
14 before the Agency is not to figure out how to replicate this ability but to  
15 formally integrate such measures into its tool kit so as to expand their use in  
16 the future.

17 A key to successful transformations involves managing the  
18 gap between perception and reality. In my opinion, SECY-18-0060 did not  
19 describe how that gap would be managed during the proposed  
20 transformations.

21 Slide 3 please. This eye chart lists the 52 times when  
22 U.S. reactors remain shut down for longer than a year while armies of  
23 workers corrected bunches of safety problems. All but the first two  
24 year-plus outages occurred on the NRC's watch.

25 Slide 4 please. I researched all 52 year-plus outages and  
26 didn't find anywhere the owner knew or even suspected the depth and  
27 breadth of the accumulating safety problems. When reality replaced

1 perception, it took a while to re-close the wide gaps it had formed.

2 The key lesson here is that the ROP manages the gap  
3 between perception and reality better than SALP had done. There were 44  
4 year-plus outages during SALPs 20 years compared to only two year-plus  
5 outages in ROPs 19 years.

6 ROP has elements that can be equally successful  
7 managing the gap between perception and reality during transformations.

8 Slide 5 please. ROP evaluates performance in discrete  
9 areas frequently, thus better managing the gap between perception and  
10 reality and preventing it from widening too far.

11 The NRCs transformation and non-transformation efforts  
12 would both benefit from timely and objective assessments that guard against  
13 perceptions wandering too far from reality.

14 Slide 6 please. Davis-Besse was perceived to be a top  
15 safety performer under SALP, getting all ones in its latest category.

16 Slide 7 please. Because the NRC perceived Davis-Besse  
17 to be a top performer, it reallocated oversight resources to non-top  
18 performing reactors in Region III. The ROP reflected this destined  
19 misperception rather than actual performance.

20 Slide 8 please. The reality showed safety problems that  
21 had been present at Davis-Besse for years.

22 The red finding was for a condition believed to have been  
23 present for at least six years while the yellow finding was for a condition that  
24 existed for over a decade. Both the plant owner and the NRC allowed the  
25 gap between perception and reality to significantly widen. Neither did so  
26 intentionally or due to incompetence, but the consequence was the same.

27 Slide 9 please. Turning the gap from the gap of the past

1 to the gaps of the present and the future, the NRC and the industry  
2 frequently evaluates situations with very narrow gaps between their results.  
3 Different persons applying different methods can and do research, reach  
4 very similar outcomes.

5 Slide 10 please. But the NRC and the industry have been  
6 unable to agree when evaluating high-risk conditions resulting from greater  
7 than green findings.

8 These Grand Canyon sized gaps are largely attributable to  
9 the industry placing greater reliance on compensatory measures taken when  
10 installed components fail. Regardless of cause, the NRC and the industry  
11 must see eye-to-toe, are currently seeing eye-to-toe instead of seeing  
12 eye-to-eye.

13 That's got to be corrected if risk-informed regulatory  
14 transformations are to be successful.

15 Slide 11 please. The sheer volume of changes underway  
16 propose that the NRC complicates managing the gap between perception  
17 and reality.

18 Will an adverse trend be masked by the newness of a  
19 revised performance yardstick? If the Commission directs the Staff to  
20 develop processes and tools that expands systematic use of risk insights,  
21 the staff should also be required to develop explicit methods for managing  
22 the gap between perception and reality.

23 Slide 12 please. In 1996, right before I joined UCS, I was  
24 on a team of contractors conducting vertical slices of safety systems at  
25 Salem, prior to an NRC readiness restart inspection.

26 The team leader told us to assume the systems were all  
27 messed up and challenged us to bring him that evidence. Prior to that task I

1 had faithful described the many links in the safety chains. The team leader  
2 refocused me on finding the weakness link in the chain and assessing that  
3 strength.

4 Tasking two team with entirely different charters and then  
5 comparing their results can shed light on the size of the gap between  
6 perception and reality, as transformation occurs. Thank you.

7 CHAIRMAN SVINICKI: Thank you very much, Mr.  
8 Lochbaum. Our next presentation will be from Mr. Jose Gutierrez who is  
9 president and chief executive officer of Westinghouse Electric Company.  
10 Please proceed.

11 MR. GUTIERREZ: Thank you very much, Chairman  
12 Svinicki, and Commissioners for giving us the opportunity to speak to you  
13 today and to share our opinions on this important topic at this NRC  
14 transformation.

15 We are in a time of a rapid and continuous changes these  
16 days. Maintaining a status quo is not necessarily the best way to support  
17 safety or quality in organizations.

18 But this is interesting that we are talking about the NRC  
19 transformation but also we, the Industry, we have transform our results.  
20 And it's not only operators but also all of us, as vendors or suppliers, to  
21 acknowledge that we have to go through that transformation.

22 We have been working a lot on continuous improvement  
23 and we got significant success in that. And the NRC went also through that  
24 process and obviously improved significantly.

25 That probably is the time for going beyond that and going  
26 through a real transformation that we are talking about here today.

27 It's true that there are new technologies out there that can

1 help us significantly in improving safety. And I'm going to use a very simple  
2 example.

3 Cars today are really computers. And those cars are  
4 significantly safer than the cars that we were driving 20 years ago. It's a  
5 very specific simple example that is telling us that incorporating new  
6 technologies, changing the way we were with those technologies could help  
7 us to improve safety and being significantly more efficient.

8 We see that also in some reactors. I'm not going to do  
9 marketing of my company, but today in operation, using digital technologies  
10 that are significantly safer than the currently operating fleet, that is really  
11 safe. But also the way that the reactors operate is a significant change.

12 With all of that, what I'm trying to say is that we need to  
13 embrace change. And also what was said this morning, that bringing that  
14 change is helping us to modernize our approach to safety, it's not reducing  
15 the safety levels but the opposite is raising the bar on safety.

16 We believe that also the Industry, as well as the NRC, has  
17 accumulated this significant experience through 34 years. And then going  
18 today through risk-informed performance based, they took driven decisions  
19 as to the right way to do.

20 I'm not going to expand on that because that has been  
21 expanded, that has been already discussed in detail by other panelists.

22 Obviously, we support also the very broad vision of all of  
23 this, incorporating everything related to the fuel cycle with the new fuel  
24 designs, the new reactors, advance reactors, digital technology, but not only  
25 the digital instrument control, but also using detailed technology across the  
26 plants to improve safety and efficiency, the new manufacturing technologies  
27 and also using all of that through the license renewal or processes

1 specifically.

2 And I have to say that, through the fuel cycle facilities that  
3 sometimes have been treated, not necessarily differently to the nuclear  
4 power plants.

5 With all of that, what I would like to emphasize here is  
6 important of the cultural change. Because our experience through the  
7 transformation that Westinghouse is working on, just changing procedures,  
8 just changing regulatory process is not enough.

9 We need to go through a cultural change, change in  
10 behaviors, in order to be sure that those changes are really sustainable  
11 going forward. And in that regard, it's critical leadership.

12 I was very happy listening this morning when Mr. Dorman  
13 was talking about a new leadership model for the NRC. There is nothing  
14 that can be done with changes in leadership.

15 And going through concepts like accountability,  
16 predictability, transparency, all of that. But also, something that was  
17 mentioned before, we have to go through that process engaging the Staff  
18 because without engagement of the Staff nothing should be possible.

19 In that regard, my recommendation, based on our  
20 experience is, bringing some external help in order to challenge the status  
21 quo, to help develop those new leadership models and working in changing  
22 culture across the organization. That is our experience and mentioned,  
23 suggested this morning to you. Thank you very much for the opportunity.

24 CHAIRMAN SVINICKI: Thank you very much, Mr.  
25 Gutierrez. And the final presentation on this panel will be provided by Ms.  
26 Heather Westra, who is the consultant to the Prairie Island Indian  
27 Community. Please proceed, thank you.

1 MS. WESTRA: Thank you, Chairman Svinicki,  
2 Commissioners. I'm Heather Westra, I've been working for the Prairie  
3 Island Indian Community in some way shape or form for about 25 years.

4 Very pleased to be here today to talk about transformation  
5 of the NRC from the community's perspective. Very glad to hear that there  
6 will be other public meetings on this topic, and specifically as it relates to  
7 other parts of the NRCs mission.

8 As folks touched on before, we have a really strong  
9 relationship with the NRC, both at the headquarters level and at the regional  
10 level. And that's something that we really value.

11 And that's something that we developed over, working  
12 hard over the last 25 years. And it really makes our jobs at the Prairie  
13 Island Indian Community a lot easier. And a relationship is based on mutual  
14 respect and a shared goal of protecting people in the environment.

15 Let me see, second slide I guess. Just want to briefly  
16 orient everyone to the Prairie Island Indian Community within the State of  
17 Minnesota. About 35 miles Southeast of the Twin Cities on the Banks of the  
18 Mississippi.

19 The Prairie Island Mdewakanton Community, or those who  
20 were born of the waters, have lived on Prairie Island for countless  
21 generations. The tribe's current land base is about 3,000 acres, including  
22 land and water.

23 Next slide. As you can see, the Prairie Island Nuclear  
24 Generating plant and it's ISFSI are located just a stone's throw from the  
25 community's primary residential area, government center, its gaming  
26 enterprise, which is the largest employer in the county, next to the church,  
27 the community center, elder center, et cetera. It's literally right next to the

1           tribe's homeland and base of operation.

2                           And since the plant went online it's been a constant source  
3 of concern to not only community members but the tribal council. And as  
4 such, we've been engaged with the NRC, at least since I've been onboard  
5 since 1994, on issues related to the power plant.

6                           We were a cooperating agency for purposes of developing  
7 the EIS for the re-licensing of the reactors and a cooperating agency for the  
8 EA, for the ISFSI license renewal.

9                           Next slide please. And then just a brief overview. For  
10 your information, Prairie Island Indian Community is one of 566 Federally  
11 recognized tribes in the United States. There's 36 federally recognized  
12 tribes in Region III and 275 tribes in Region IV. Which is quite a lot.

13                           Each tribe should be considered a unique governmental  
14 entity with its own structure for leadership, land based criteria for  
15 membership, language, cultures and traditions. You may hear other terms,  
16 Indian tribes, nations, bands, webelos, rancherias, villages, communities, but  
17 they all refer to the same thing, a federally recognized Indian Tribe.

18                           And the tribal leadership structure may be different as well.

19                           You may have chiefs, governors, presidents, tribal council, the community  
20 council, but it's all the same thing, it's the governing body of the tribes.

21                           The tribes should be thought of as sovereign entities with  
22 the ability to exercise jurisdiction over its land and people. Each tribes land  
23 base may be different, large or small, established by a treaty or executive  
24 order or through trust land acquisition.

25                           But in all cases, each federally recognized tribe has  
26 regulatory jurisdiction over its land. And it should be noted that there are  
27 differences among tribes and that there is no one size fits all when it comes



1 to interacting and consulting with tribes.

2 Next slide. I wanted to say that we're very appreciative of  
3 the NRCs efforts to develop and implement a tribal policy statement and  
4 tribal protocol manual that will guide the Agency's interaction with Indian  
5 tribes. And that's something that we have been advocating for many, many  
6 years, so we're very glad to see it come to its fruition.

7 With regard to the principles in the tribal policy statement,  
8 the most important one is that the Agency will uphold its trust relationship  
9 with Indian tribes. And that means that the United States Government has  
10 a legally enforceable fiduciary obligation to protect tribal sovereignty,  
11 self-determination, tribal lands assets, resources and treaty and other  
12 federally recognized and reserved rights.

13 With regard to interaction with tribes, we expect a  
14 government-to-government relationship and early consultation with the  
15 Agency before actions have been taken, before Agencies have been, I  
16 mean, decisions have been made by the Agency.

17 I'd like to reiterate the importance of  
18 government-to-government relationship with federal Indian tribes. As I said,  
19 there's no one size fits all when it comes to working with tribes. The key is  
20 flexibility and early consultation.

21 Outreach is more than just sending a letter, posting  
22 something in the Federal Register or expecting folks are going to come to  
23 the RIC. It's just, it's not going to happen. So, send a letter but maybe  
24 follow-up with Staff.

25 And then the last slide is the recommendations that we  
26 have. And that this relates to the tribal policy statement and the tribal  
27 protocol manual that we'd like to see if fully implemented and integrated in all

1 programmatic areas.

2 And that, ensure that NRC Staff are familiar with the two  
3 documents, new Agency documents. Guidance documents include tribes  
4 as a stakeholder not just states and counties.

5 That staff assign to power plants, to power plants with  
6 tribes located within the ten or 15 mile EPZ, should be required to attend  
7 training on interacting with tribes. Like to see a recognition that tribal  
8 interests and rights extend past reservation boundaries. And you'll  
9 understand that through direct and early consultation.

10 Many tribes have treated protected rights on their seeded  
11 lands, on their aboriginal lands. And you won't know about that unless you  
12 engage with the tribes on a government-to-government basis early on in the  
13 process.

14 So, a couple of recent examples, the Dewey Burdock case  
15 where artifacts were found miles from reservation lands but were going to be  
16 impacted by the licensing action.

17 The Holtec EIS consultation. We're very concerned about  
18 the transportation impacts.

19 Cultural risk. We'd like to see the Agency recognize that  
20 traditional cost benefit models don't include potential impacts or risk to tribal  
21 culture and traditions.

22 And then finally, one thing that I would also encourage  
23 Agency to do, and this is a no cost thing, to encourage the licensees to  
24 interact with tribes. We have a very good working relationship with Xcel  
25 Energy, and that really helps with our understanding of how the plant works,  
26 how the ISFSI works, where the safety is.

27 And if that's something that you can encourage your

1 licensees to do, I think you'll be better off for it. Thank you and I look  
2 forward to any questions.

3 CHAIRMAN SVINICKI: Thank you, Ms. Westra. And  
4 thank you to all the Panelists. We'll begin the questions, again, with  
5 Commissioner Burns.

6 COMMISSIONER BURNS: Well, thank you again for the  
7 presentations. Some different, but similar perspectives I think, as we had in  
8 the first panel.

9 I want to start off, since Ms. Westra was the last speaker,  
10 but your presentation reminded me, and Mr. Semancik's and Mr. Cox's, on  
11 the first panel, the importance of our engagement with other governmental  
12 organizations as we conduct our business and fulfill our response, fulfill our  
13 responsibilities. The importance of those relationships, I think the  
14 importance of those, that communication.

15 I think in terms of the efforts this Staff has made with the  
16 Commission's encouragement and endorsement, particularly in the tribal  
17 area in the last few years. I think really since, during the period that I had  
18 left and before I came back and sort of came to fruition have been very  
19 important. So I wanted to put that, sort of emphasize that as I began.

20 Again, sort of my impression there is, as I said at the  
21 beginning of my remarks on the first panel, there is this, I think, tug and pull.  
22 There's this tension between regulation and allowing the regulated to  
23 operate within, for the purposes that they're created.

24 Which is, generate electricity, create fuel that may be used  
25 in generating electricity, look at Mr. Gutierrez here for Westinghouse. Using  
26 materials and medical, other types of context.

27 So, again, it comes back to this theme, where is that sweet

1 spot, or if we never achieve that sweet spot, do you get sort of close enough  
2 to it.

3 I'm interested in the comments, I think particularly Mr.  
4 Hanson and Mr. Lochbaum with respect to, when we think about baseline  
5 inspection but also the ROP process. So, I have maybe a couple of  
6 questions for you two and then maybe go into some other areas.

7 But, Mr. Hanson, can you describe for me, how would you  
8 view, what I'm trying to get is maybe a little more clarity or granularity with  
9 respect to the adjustments to the baseline inspection program that you're  
10 describing?

11 MR. HANSON: I think I'm on now. Yes, okay. Well, the  
12 baseline inspection program, as Commission Baran alluded to, minimum  
13 oversight.

14 We think the standard for minimum oversight or minimum  
15 inspection standard could be altered based on performance. Just as you  
16 would if your new car insurance premiums accepted.

17 There's other ways to monitor performance by utilizing, A,  
18 your resident inspector program is a tremendous value asset at both the  
19 plants. And they have great capability and very strong and robust.

20 The processes are much more mature in the nuclear  
21 industry today. So, I think there's applicability for the NRC to allow  
22 licensees to conduct more self-assessments, as we alluded to earlier. Like  
23 we do in the operator training program today.

24 We do it in the security program where we demonstrate the  
25 even higher standards than what we would be attested to in the  
26 force-on-force drills, we do it in the emergency planning programs.

27 So, I think the licensees have demonstrated their ability to

1 use our own assessment program to drive us to higher standards through  
2 continuous improvement.

3 COMMISSIONER BURNS: Okay. Again, one of the  
4 issues, I'm going to look back and, again, reflecting on when I walked in here  
5 in terms of what the enforcement program was, enforcement was, and  
6 there's a lot of issuing tickets, if you will.

7 MR. HANSON: Yes.

8 COMMISSIONER BURNS: I mean, severity levels one to  
9 severity level five. Issuing civil penalties, particularly in the reactor area.

10 I will say the one, a positive benefit, it really actually made  
11 me understanding licensing bases and tech specs and things like that with  
12 respect to the program, but I recognize that I think where the Staff got to it  
13 says, that the enforcement program, this goes into, tied into a SALP, wasn't  
14 getting us ahead of the curve so to speak. Which is, to what the ROP,  
15 again, no system is perfect, but has tended to do.

16 So, how would you see, in a system that basically  
17 encourages, rewards good performance, how do you adjust for that where  
18 that performance isn't so good? How do you see that?

19 MR. HANSON: Well, I think as Maria highlighted earlier, I  
20 think those plants that don't perform well, where NRC resident inspectors  
21 identify performance issues in violations, that those plants should be held  
22 accountable and would be subjected to more violations. Or to more  
23 inspection hours.

24 I think there's tremendous pressure, both industry  
25 peer-to-peer pressure, pressure through INPO and then finally, the third tier  
26 is the NRC. But the internal pressures to improve performance be more  
27 self-aware, self-correcting, and a continuous improvement cycle is

1 paramount to the success of our industry.

2 And so I think we could create the venue to do what you're  
3 worried about. But I'd also just add, finally, amongst all the many  
4 transformation things proposed in the transformation paper, if we're still  
5 talking about baseline inspections in 2025, still having that debate because  
6 all the other initiatives have been acted upon and we have a risk-informed  
7 regulation culture, I think that would be okay, Commissioner.

8 COMMISSIONER BURNS: Okay. So, one of the things  
9 that, with respect to, when you look at response, and I appreciate what your,  
10 your description of how you view adjusting for, accounting for a poor  
11 performance, is it really a matter so much at a baseline program or is it really  
12 adding the follow-up that you get from focusing on areas where performance  
13 has deteriorated or performance isn't up to snuff under industry standards or  
14 our standards?

15 MR. HANSON: well, I think the resident inspectors  
16 provide more intense follow-up than we do see in baseline inspections in  
17 other regions, for example.

18 I think the regional inspections entail a number of  
19 contractors so then we see special concerns or nits around the particular  
20 people they use. And that carries on from site, to site, to site, where in fact I  
21 think the NRC resident inspectors provide much more valuable feedback and  
22 follow-up.

23 COMMISSIONER BURNS: Okay, thanks. And, David, I  
24 wanted to follow-up on your comments. I think, I struck me as one of your  
25 concerns was about making major changes, say for example, the reactor  
26 oversight program, while you're doing a whole bunch of other things.

27 And also about, once you do these kind of changes, you

1 sort of step back and see what you've tweaked and what the outcome is.  
2 Do I have that right, and anything you want to add along those lines?

3 MR. LOCHBAUM: The analogy I always use in the past, if  
4 I was a straight A student, which is hypothetical, but if I was a straight A  
5 student and decided to stop studying for tests, going to class and doing  
6 homework, because I'm a straight A student, if I did all those at the same  
7 time I probably wouldn't be a straight A student again. So you need to work  
8 those in, make sure that its effective and then expand that effort.

9 You can undertake them all at once as long as you had the  
10 metric to make sure that the right goals were being achieved and no  
11 unattended consequences were cropping up. I just didn't see where the  
12 metrics were to make sure that --

13 COMMISSIONER BURNS: Right.

14 MR. LOCHBAUM: -- the course is great, the destination is  
15 great, nobody can argue that that's not a destination worthwhile achieving,  
16 it's, will you get there or would you be sidetracked.

17 And I didn't see anything in there that, the course,  
18 mid-course corrections, if necessary, would be detected and corrected  
19 before too bad an outcome was achieved.

20 COMMISSIONER BURNS: Okay. What did you think  
21 about Ms. Korsnick's off ramp concept, which I haven't fully sort of, I'm not  
22 sure I fully understand this yet, but --

23 MR. LOCHBAUM: I fully embrace it because that would  
24 kick out most of the license amendment request because there is no safety  
25 at all involved with any of those. So those go right out the window right off  
26 the bat with that pre-filter.

27 COMMISSIONER BURNS: Okay.

1 MR. LOCHBAUM: Don't waste any NRC resources  
2 reviewing all those silly license amendments they send in.

3 COMMISSIONER BURNS: Okay.

4 (Laughter)

5 COMMISSIONER BURNS: All right. And, Dr. Allen, I  
6 appreciate you being here and I appreciate your comments regarding where  
7 to Staff.

8 I think, and I know with my encouragement, my  
9 assessment from taking a hard look at myself with respect to potential  
10 licensing approaches for the advance reactors, where there has been  
11 improvements.

12 You talked about encouraging a vibrant staff here at the  
13 NRC, I don't know whether that means a younger staff or a more caffeinated  
14 staff or what, but how would you suggest we target that and what is it we  
15 need to do?

16 DR. ALLEN: I guess all I was trying to suggest is that if I  
17 look at the goals in the transformation, right, it requires you to not, you need  
18 somebody that wants to embrace that in the views, advance technology, new  
19 approaches, as being a positive thing and wanting to dive in and make those  
20 changes as opposed to somebody who is perfectly willing to take a look at  
21 the way we've done things in the past, grab the checklist, follow things.

22 Because it takes a certain mind set. And it's usually the  
23 straight A students sometimes. Or at least the enthusiastic ones.

24 And I think if you're not seeing it as a place that wants  
25 those people, that will make their careers exciting, there is plenty of places  
26 they can go. And I think that's what I was trying to get at.

27 COMMISSIONER BURNS: Okay. And I'm wondering,



1 are there other places you see in government where that perhaps they're  
2 serving as a model for that?

3 MR. LOCHBAUM: I guess the first one that comes to  
4 mind is the difference between DOE and ARPA-E.

5 COMMISSIONER BURNS: And?

6 MR. LOCHBAUM: ARPA-E.

7 COMMISSIONER BURNS: Okay.

8 MR. LOCHBAUM: There's this big sense that ARPA-E is  
9 doing things, that they are aimed to get things to market, that they are  
10 outcome oriented and they will make a difference. And you don't see that  
11 same level of excitement around DOE. So I think that, to me, is the first one  
12 that comes to mind.

13 COMMISSIONER BURNS: Okay, thanks very much.  
14 Thank you. Thank you, Chairman.

15 CHAIRMAN SVINICKI: All right, thank you.  
16 Commissioner Caputo, please proceed.

17 COMMISSIONER CAPUTO: Hi. I will start with Mr.  
18 Hanson. Obviously a very thought-provoking line on your slide about  
19 reducing baseline inspections.

20 So, I guess I'll start with, by adding my observation, that  
21 we've been using the ROP for almost 20 years, that obviously when it was  
22 developed it was a very thoughtful and deliberative process that lead to its  
23 institution. So obviously anything we need, anything we decide to do there  
24 in terms of changes or enhancements should be proceeded with, very  
25 carefully and very thoughtfully.

26 But that said, I also don't believe that just because it's  
27 been that way for 20 years means that it should stay that way for another 20.

1                   So, with that in mind, you've mentioned how safety goals,  
2 margins safety goals have increased, Ms. Korsnick mentioned her  
3 observations about margins to safety goals being greater than previously  
4 understood and noting the Industry's safety improvement over the last 20  
5 years.

6                   Would you please discuss in a little bit more detail how you  
7 think this may provide a basis for considering a reduction in baseline  
8 inspections?

9                   MR. HANSON: Well, I think the basis would be that,  
10 again, we have gone through baseline inspections for, as you said, many,  
11 many years. And as we continue to go through the same programs and  
12 look at them again, example, equipment of qualification program, fact  
13 program, et cetera, we have found issues but of very low safety significance.

14                   In fact, all the findings in the last three years from the  
15 design basis assurance inspections have all been green. And I think with  
16 the right intention, the issues should be uncovered through licensee  
17 self-assessments. And when they are they're corrected.

18                   And as we approach that, I think that would be the basis  
19 for which we should be able to reduce baseline inspections. A greater  
20 reliance on licensee self-assessments.

21                   Licensee self-assessment deals into the corrective action  
22 program which is still very healthy at all the plants. Some 10,000 issue  
23 reports issued at all the plants. Whether it's the Coke machine that doesn't  
24 work or whether it's a test that didn't perform as expected.

25                   And I think all those are reviewed by the plant staff and  
26 with a very critical eye towards improving safety. And then we use that  
27 combined with the insights we get from our PRA models to make some of

1 the changes that I suggested, where we focus our energy and our resources  
2 on safety significant issues. Like improving core damage frequency by  
3 double digit percentages.

4 COMMISSIONER CAPUTO: Thank you. Mr. Gutierrez,  
5 Slide 4 of your presentation states, sharing and evaluating of budget  
6 execution data will promote efficiency gains. Would you please discuss a  
7 level of budget execution information you currently see and your thoughts of  
8 how sharing additional detail could help us better target our resources and  
9 improve efficiency and enhance our programs?

10 MR. GUTIERREZ: Yes. I think that basically what I was  
11 talking about was that during the years we, as Industry, we have been  
12 accumulating a significant experience and data in many different areas that  
13 will help us to self-inform what we have to do in a much better way. And all  
14 that experience is helping us and helping the NRC in improving what we are  
15 doing.

16 And I think that the programs that Mr. Hanson has been  
17 explaining in many of the programs, should help the NRC to understand how  
18 we are running our businesses and how we are performing our duties in a  
19 much better way than have been done in the past.

20 COMMISSIONER CAPUTO: Okay.

21 MR. GUTIERREZ: I'm not sure if I have responded to  
22 your question but it was --

23 COMMISSIONER CAPUTO: So, is it sharing of your  
24 budget data with us or our --

25 MR. GUTIERREZ: I was not talking --

26 COMMISSIONER CAPUTO: -- data with you?

27 MR. GUTIERREZ: I was not talking about --

1 COMMISSIONER CAPUTO: Okay.

2 MR. GUTIERREZ: -- budget.

3 COMMISSIONER CAPUTO: Budget execution?

4 MR. GUTIERREZ: No, I was talking about execution of  
5 our duties under our programs more than a data thing.

6 COMMISSIONER CAPUTO: Okay. Another question.

7 MR. GUTIERREZ: Sure.

8 COMMISSIONER CAPUTO: You mentioned your view of  
9 the Commission's needs, needs a policy on forward fitting when considering  
10 new regulatory requirements. Would you please discuss in more detail  
11 what's needed and how such a policy would be beneficial to safety?

12 MR. GUTIERREZ: What we have been discussing today  
13 is that in the terms of regulation, is using the risk-informed regulations  
14 important to use the performance-based regulations important.

15 And using those things will provide focus on the low safety  
16 significant, I'm sorry, will provide focus on the high significant RICs and high  
17 significant issues and providing less to the low significant issues and will  
18 help the NRC to be focused on what is a real value in terms of safety.

19 I think that we have been spending a lot of time in Industry  
20 in doing self-assessments, for instance. I personally believe that there is  
21 significant in more volume in self-assessments than in external outage.  
22 Generally speaking, okay?

23 I know that the NRC is doing very good outage, but in their  
24 own way, but self-assessments are significantly much more important. Why  
25 not putting the focus on their organizations to do really, to have really  
26 various robust and solid, robust and solid, sub-performance programs done,  
27 putting the focus on some of the things. The type of example that we can

1 elaborate more.

2 COMMISSIONER CAPUTO: Thank you. Mr. Hanson,  
3 the NRC Transformation Team focused on initiatives to enable the efficient  
4 and effective licensing of accident tolerant fuel, do you have any additional  
5 recommendations for actions the staff could take to further enable the  
6 implementation of ATF?

7 MR. HANSON: Well, I would say pick a regulatory path  
8 and stick to it. I think as the Industry were given the different directions, one  
9 utility chose one direction, my utility chose another direction because of our  
10 uncertainty or concern about the ability of the staff to actually execute one of  
11 those paths directly.

12 So, for me, the larger concern is, given that we are having  
13 trouble getting approved, ATF LTA assemblies, there is no way in the world I  
14 would undertake the risk, the economic risk, of trying to license a whole  
15 reactor core, given the regulatory uncertainty in the processes.

16 So, I would hope that the staff would do a self-critic of the  
17 challenges the Industry faces and make the changes. I don't have specific  
18 recommendations, Commissioner, other than two different processes, we're  
19 getting two different outcomes. Or one process, we're getting two different  
20 outcomes.

21 COMMISSIONER CAPUTO: Well, that's a very candid  
22 observation, thank you for that. Dr. Allen, go Wisconsin.

23 Given your work on advance reactors, you've been looking  
24 at this and the Agency's processes for years, would you please give your  
25 assessment of whether you think our current efforts are on the mark or do  
26 you see areas for improvement in preparing a license advance reactor?

27 DR. ALLEN: Sure. And just to disappoint you, I'm going

1 to Michigan in January, sorry.

2 MR. HANSON: Yes.

3 COMMISSIONER CAPUTO: Well, nobody is perfect.

4 (Laughter)

5 DR. ALLEN: I would say so far, my answer would be that  
6 I think the Commission is on the trajectory. In all my discussions with the  
7 advance reactor developers.

8 This is my initial comment. Going back three years where  
9 they were all just complaining, right, and I think they were complaining  
10 without engaging actually. They got in there, and all the ones that have  
11 engaged with you, come back saying that you're doing the right things,  
12 you're making the right changes.

13 They may not be totally happy, right, but they're happy with  
14 the trajectory and I think that's all good. And I think the ability to say we  
15 might need to do things differently because they're different technologies  
16 and things is there, right.

17 So, so far, I think I've been really pleased actually.

18 COMMISSIONER CAPUTO: Okay, thank you. Ms.  
19 Westra. So, you commented about the need for outreach beyond just  
20 sending letters and public meetings, heading to the RIC.

21 MS. WESTRA: Yes.

22 COMMISSIONER CAPUTO: What other types of  
23 outreach do you think have been the most productive in your experience?

24 MS. WESTRA: Well, there's a new organization that's  
25 engaging tribes on NRC issues. It's the Tribal Radioactive Materials  
26 Transportation Committee and then there is the Nuclear Energy Tribal  
27 Working Group.

1                   And so, those are bringing together tribes that are  
2 interested in primarily DOE activities because they're going to be impacted  
3 by shipments of fuel at some point, but also interested in NRC activities if  
4 they're within ten or 50 miles of a reactor or they're interested in mining sites  
5 or in ISFSI.

6                   And so, NRC folks have been coming to our meetings and  
7 engaging with the tribes. And I understand that somebody from the  
8 Catawba Nation recently came and meet with NRC folks. And that was  
9 actually through our engagement with the Catawba Nation.

10                  But we, you know, for us it was just picking up the phone.  
11 Hey, did you know, this is coming, they're getting a yellow finding, this is  
12 why.

13                  And recently there was an issue at the plant regarding a  
14 foundry issue that happened in the fabrication of some of the, I guess the  
15 reactor parts, years ago.

16                  And so, on the surface that could have presented a real  
17 cause for concern, but we had NRC folks actually call us and talk to us and  
18 we had a conference call and they kind of walked us through what it was all  
19 about. And then when it was resolved or the issue was closed they let us  
20 know.

21                  And the same is, as I said, just dealing with the licensee  
22 also on a regular basis. But there are opportunities for your agency to  
23 interact with tribes.

24                  Now, we'd be glad, we, Prairie Island, would be glad to  
25 help facilitate that as well. There are just more and more tribes that are  
26 becoming more and more aware of the NRCs activities and how it could  
27 potentially impact their communities and their rights that they have.

1 COMMISSIONER CAPUTO: Okay, thank you.

2 MS. WESTRA: Yes.

3 CHAIRMAN SVINICKI: Thank you. Commissioner  
4 Wright, please proceed.

5 COMMISSIONER WRIGHT: Thank you. So, I've been  
6 sitting here thinking where I was going to go with my questioning because  
7 most of them have been asked again.

8 (Laughter)

9 COMMISSIONER WRIGHT: But, I'm a little cerebral on a  
10 couple of things. I've heard from Mr. Gutierrez, he mentioned that baselines  
11 can change otherwise, I think he referred to the automotive industry, we'd be  
12 doing things differently.

13 I've heard Mr. Hanson speak about it, that baselines can  
14 change. And because of technology or whatever.

15 Is it, and I'm going to ask just, I guess, in general, is that a  
16 general agreement among the panelists here that baselines can change  
17 over time? Does anybody have any, does anybody not agree with that?

18 MR. GUTIERREZ: I think that we have to see things  
19 evolving. We cannot be with, in the same position when we see the  
20 tremendous changes in the technology and what the technology can bring to  
21 a couple of our plants in the benefit of safety, reliability, quality and all of  
22 that.

23 When I was talking about introducing digital technologies,  
24 not only instrumentation control but making all the components in the  
25 nuclear power plant digital, having sensors and operators collecting  
26 information on a continuous basis. And then that will change the way the  
27 plant is maintained, the plant and inspections are done, the way the



1 operators are managing the plant, the way the Nuclear Regulatory  
2 Commission can get information.

3 What we see is that there is tremendous opportunities for  
4 changing, embracing those technologies and at the time that we improve  
5 safety. It's a very simple high-level statement.

6 COMMISSIONER WRIGHT: Mr. Lochbaum.

7 MR. LOCHBAUM: I would answer the question a slightly  
8 different way. A few years ago, the NRC revisited its baseline edits,  
9 baseline enhancement program.

10 That was going into it with a zero-sum outcome. If any  
11 additional inspections were identified, they had to be cut elsewhere so that  
12 the baseline efforts stayed the same.

13 I thought that was a good approach because you just dilute  
14 the effort to the detriment of both the licensees and the NRC Staff.

15 So, I think there's ways, the baseline changed in how it  
16 was done, but it was not done to just add resources. Throw more resources  
17 at it. Which is an easy thing to do, but it's a trap to fall into.

18 COMMISSIONER WRIGHT: Yes. Yes, sir.

19 MR. SEMANCIK: Yes, I would just caveat to say that in  
20 addition to baseline is changing, standards and expectations can change as  
21 well. And so what may have been acceptable, especially in the public  
22 realm, what was reasonable and adequate, may no longer be reasonable  
23 and adequate.

24 From a Red Sox fan, what was reasonable and adequate  
25 in 1986 when the ball was going through Bill Buckner's leg was completely  
26 different than what is reasonable and adequate now.

27 (Laughter)

1 MR. SEMANCIK: So, at a higher level of performance we,  
2 in the public, expect a higher level of continued performance.

3 COMMISSIONER WRIGHT: So, since you stole the  
4 baseball analogy, because things to me, I'm a very simple life, things either  
5 go to baseball or they go to cancer.

6 And as a colon cancer survivor and having been through  
7 the program, I appreciate the fact that there was a baseline request that  
8 everybody have a colonoscopy around the age of 50, all right. But I failed  
9 that baseline.

10 But once I was, once I went through the treatment, there  
11 was a new baseline. And unfortunately for the first few years I had to have  
12 a colonoscopy two or three times a year and take that prep two or three  
13 times a year. Talk about a weapon of mass destruction.

14 (Laughter)

15 COMMISSIONER WRIGHT: But, as I improved and had  
16 no polyps or, you know, the baseline changed again. I didn't have to have  
17 the colonoscopy's twice a year or even once a year, I got to move to three  
18 years and now five years. Which I've very thankful for.

19 So I do see myself, baselines change. And I can see it  
20 here too as long as we're staying focused on our mission and that the, you're  
21 using the term rigorous self-assessment. And I think Mr. Cox mentioned  
22 with validation from the NRC in the previous panel.

23 I mean, I think that is, that makes some sense to me and I  
24 want to see it through and see how this thing develops. And I just  
25 wondered, is that kind of the, how you see things that, do you agree with,  
26 with obviously Mr. Cox, in the previous panel?

27 MR. HANSON: I agree with everything you said except

1 for the colonoscopy.

2 COMMISSIONER WRIGHT: Yes, yes.

3 MR. HANSON: But I do. I do absolutely see it that way  
4 and I think you see it in the licensee's attentiveness to the self-assessments.

5 Again, they are much different than they were ten or 15 years ago.

6 The standards by which we hold and grade our operators  
7 in the simulators are different than they were years ago.

8 The students that we employ nowadays coming either out  
9 of tech schools or colleges are smarter than they were before and the  
10 technology we give them to use, procedures that have embedded videos, so  
11 the machines are being put together even better than they were before, is all  
12 part of re-baselining standards.

13 COMMISSIONER WRIGHT: So the transformation paper  
14 which we are here to talk about, that's what this hearing/meeting is about  
15 today, just a basic question, anybody can answer this, they had four  
16 recommendations that were put forward in this paper, did they get it right?

17 Is there anything that you would add? I mean we have  
18 talked about and the Chairman has said we're going to go broader at some  
19 point, but is there something that should have been in this that was missed?

20 Mr. Lochbaum?

21 MR. LOCHBAUM: I was surprised to see that three of the  
22 four recommendations are initiatives involved in rulemaking, which has never  
23 been a fast or nimble activity at the NRC.

24 So Bryan talked about 20.25, rulemakings typically take  
25 close to a decade at the NRC so if a group was trying to oppose any of these  
26 initiatives the first place is to try to kick it into rulemaking space so it seems  
27 like if that was the effort game over, we won that one.

1                   So it just seemed like an odd way to become more nimble  
2 through rulemaking.

3                   COMMISSIONER WRIGHT: Yes. Anybody else? Yes,  
4 sir?

5                   MR. SEMANCIK: Yes, the one piece I saw in there, that I  
6 guess I didn't see in there that I thought would be helpful is I think there is  
7 some level of increased accountability.

8                   You know, I know when I was a licensed operator when I  
9 went to take action in addition to doing the right thing for nuclear safety I  
10 knew I had my personal license on the line with those decisions and that  
11 allowed me at times to make decisions that may have been unpopular with  
12 the plant management even, you know, and I think that's a piece that is  
13 missing in the risk-informed rule, the 50.59 rule, all those areas.

14                  While I appreciate self-assessments my experience with  
15 self-assessments is they are very well received when they are low safety  
16 significant findings but if you use a self-assessment you have a high safety  
17 significance finding.

18                  It's hard to get traction and not get pushback because  
19 there is a lot of pressure in there and, you know, there may be some level of  
20 accountability that would, individual accountability that may help with that.

21                  COMMISSIONER WRIGHT: Did you have anything to  
22 say?

23                  MR. HANSON: Well I was just going to say I think in our  
24 view the senior leaders and the NRC staff are committed to the  
25 transformation.

26                  I think that the challenge that we see as the industry is  
27 that, you know, will the culture, the change, the commitment permeate all the

1 way through the way through the staff.

2 And so while some rule changes may be needed, some  
3 process changes, we think a greater degree and importance on training,  
4 educating, commitment, and accountability around a risk-informed culture is  
5 the most important piece.

6 COMMISSIONER WRIGHT: Thank you. I yield back.

7 CHAIRMAN SVINICKI: Well thank you very much.  
8 There are some at the table their organizations have had significant  
9 experience with transformation or innovation, I am thinking about  
10 Westinghouse, I'm thinking about Exelon.

11 Mr. Gutierrez, I think in one of your slides you made  
12 mention of external help. I think you also verbally made a comment about  
13 that. I'll just candidly admit that I have been of a mixed view on consultant's  
14 reports and other things for organizations.

15 I have been 28 years in government. I have seen a lot of  
16 work products that were paid for that ended up on various executive shelves  
17 and never really got implemented.

18 This agency, however, in the time before I arrived had  
19 Towers Perrin report, which is rather infamous. It's literally referred to as  
20 the near death experience of the NRC.

21 This was about 1997/1998 where Congress demonstrated  
22 a desire to see really significant change at the agency. We saw things like  
23 the ROP and other things I think come out of that process.

24 So there is a consultant's report that I think was really  
25 utilized heavily. I know that Exelon has a lot of innovation I think that they  
26 have brought in-house, so that's another model of -- And, Mr. Gutierrez, I am  
27 not trying to pick apart your statement, but on a different angle on

1 self-assessments you said that they can be more informative than external  
2 assessments, which I think gets to one of my biases.

3 I think if you don't -- It does require a mindset of being able  
4 to step back and be self-critical but if you can do it I think the insights about  
5 what is helpful and corrective are probably more informed if it comes from a  
6 self-assessment because I think often external assessors can help you with  
7 what isn't working well, but their notions of what the cure is are often not the  
8 best cure for the organization that they are advising.

9 So I don't know if you would like to speak to how does one  
10 -- My note was when you mentioned external help I said how to find help that  
11 is helpful.

12 MR. GUTIERREZ: Okay. That is a complicated topic  
13 because we could be discussing for hours. What we see in our experience  
14 is that you are better than anybody else to self-identify the problems you  
15 have.

16 And I am talking about problems with the leadership  
17 model, talking about problems with culture, or operational issues. Nobody  
18 else can do a better assessment than yourself.

19 And you are right, Chairman Svinicki, that many times  
20 when we get a report from an external consultant basically what you are  
21 reading is exactly what you told the consultant already before that and then  
22 you paid millions of dollars for a paper that you already know. I agree with  
23 that.

24 What I am trying to say here is that when you are trying to  
25 change culture, behaviors, a leadership model, you need to bring people to  
26 help you to implement that.

27 Otherwise, if I am trying to change my leadership model I

1 cannot change that model myself. I need somebody else helping me to  
2 change and to move in the direction that has been defined by the  
3 organization is what I am trying to say.

4 If the consultant is asked to help you to identify your  
5 problems it's not working. In my mind the vision, the direction, has to be set  
6 by the organization and bring in some help to make that change sustainable  
7 and to be sure that that change is deployed across the organization, and  
8 sometimes that is not easy to be done by your own self and you need some  
9 help is what is my experience and I think that hopefully the other people will  
10 appreciate that is working in our company.

11 CHAIRMAN SVINICKI: Okay, thank you for making that  
12 distinction. Bryan, would you like to talk about Exelon's efforts?

13 MR. HANSON: Just a little bit. Yes, when we've tried the  
14 consultant approach and you spin the wheel for what kind of mood you're in,  
15 things like that, it didn't work.

16 So it's really, for us it was about leader-led, you define the  
17 standards, you define the enablers, you have the commitment and the  
18 accountability to the plan.

19 You don't satisfy to the lowest common denominator  
20 because that will drive you off the standards you are trying to set and then  
21 you create the experiences, you have the see-to experiences to create the  
22 beliefs and reinforce the beliefs that you are striving for and more  
23 reinforcement of those experiences each and every day will result in the  
24 outcomes you are looking for.

25 CHAIRMAN SVINICKI: Well it sounds like in either case  
26 people are really the key. And, again, at NRC we don't make widgets so  
27 our human capital is our major capital here.

1 Dr. Allan, you did mention we needed to think about  
2 whether or not we can recruit and retain the staff we are going to need. I  
3 will tell you I think the Commission and the leadership here think about that  
4 quite a bit. I don't know that we have the answers for it.

5 I visited a nuclear plant one time that when we got to the  
6 discussion part in a conference room the plant executives featured the fact  
7 that they were minimizing regulatory uncertainty, that they were consistently  
8 approaching things in the way they always had so that they wouldn't cause  
9 any issues with the regulator, and they had invited in their young generation  
10 in nuclear chapter leaders to sit in this discussion and they sat around the  
11 outside of the room and I just remember thinking what would those, you  
12 know, rising professionals think about the fact that if that plant got license  
13 extension or subsequent license extension, and I will admit that this was a  
14 number of years ago, but it was like telling someone isn't this great, you're  
15 going to get grandma's house, you have to keep the shag carpeting, the  
16 wood paneling, and everything else, so you can work here for 25 or 30 years  
17 but you'll never make any kind of impact, you're going to just run this thing  
18 exactly like it's been.

19 And so I think for NRC we don't have quite that dimension  
20 of the problem, but, you know, we do have folks retiring now who designed  
21 the reactor oversight process and Part 52 and other things they are leaving  
22 us and I sometimes look at the leadership here and say what are you telling  
23 the rising professionals here at NRC about their opportunity, what's their  
24 ROP, what impact are they going to get to make.

25 So I don't know if there is any great solutions to this. I  
26 mean employee engagement is an important factor, I think, but some of it is  
27 just hope and maybe it's an atmosphere of saying if I stay here I'll get to do



1 gratifying things and I'll get to leave my mark.

2 I know that sounds a little ego driven, but most people are  
3 motivated by that. Do you have any other thoughts?

4 DR. ALLEN: Just two things. One, I absolutely agree  
5 and I think the fact that you are talking about advanced reactors or life  
6 expectancies beyond anything we thought was possible in the beginning, I  
7 mean you are pushing to do something different and so there is an  
8 opportunity there.

9 But I do think you have to allow them to be part of it. So  
10 as I listened to your story the fact that the junior staff all had to sit around the  
11 outside of the table already indicated to me that they weren't part of it, right.

12 And why did I get engaged and believe that nuclear was  
13 important? Because my first job I was on a submarine and I had no choice,  
14 right. There was no one but us 22-year-olds right there to make this thing  
15 happen, right, and so we come at it with a very different perspective of what  
16 we can do and what's possible.

17 And I found the same problem when I was out at Idaho  
18 National Lab, right. I had senior staff that wanted the development of junior  
19 staff to be a 25-year process, and that's not what they want.

20 CHAIRMAN SVINICKI: Well thank you for that. And I'll  
21 just -- I actually might be deteriorating some of the points I was trying to  
22 make by returning to baseline inspection hours, which I find is probably not  
23 encouraging to some of the NRC staff who might be here and listening and  
24 thinking they had all of transformation on the table set before them and they  
25 ended up most of them returning to baseline inspection hours.

26 But I'll do more thinking about the discussion we had here  
27 today, but I sometimes say, you know, let's flip the logic and see if it makes

1 sense from a different angle.

2 If the ROP were being designed today and baseline  
3 inspection hours were being established based on the kind of core damage  
4 frequency and overall margins and performance we have, if you can never  
5 ever change what we have today or we can only have a zero-sum game and  
6 reallocate the inspection hours to something else if we reduce them, that  
7 says that when we set it up 20 years ago they probably should have been a  
8 lot higher inspection hours.

9 So I just don't, I can't construct the logic around the fact  
10 that it can't ever change depending on the hazard of what it is you are  
11 inspecting.

12 So if it doesn't calibrate I find that actually harder to  
13 construct a logic for that than I do for the notion that we would at least be  
14 open to looking at whether that was the right number of hours -- Yes, I have  
15 talked about the zero-sum game, so please, respond.

16 MR. LOCHBAUM: I participated in the engineering  
17 inspection working group public meetings and they are talking about  
18 changing the engineering inspections to a 4-year cycle and repackaging the  
19 inspections so there is about a 13 percent, if I recall the number correctly,  
20 about a 13 percent reduction in hours hitting roughly the same number of  
21 samples but doing it more efficiently so that they could reduce the number of  
22 efforts, so that's a commendable thing.

23 But also point out why 20 years ago the people who  
24 developed the ROP may not have gotten the baseline inspection right for  
25 today. The plants were also 20 years older so there are further out on the  
26 wear out curve.

27 So, you know, most, as people get older they tend to see

1 healthcare professionals more often, not less often, so as plants get older  
2 cutting back on the baseline inspections is counterintuitive.

3 CHAIRMAN SVINICKI: Well I think, and my time is almost  
4 up, but I take your point about human beings. I would say that the plants it's  
5 -- We don't view as the NRC to my knowledge the granting of a 20-year  
6 extension of a license as a fundamental enhancement of the risk.

7 They are through the Aging Management Program and  
8 other measures that are stipulated for the license extension. So I think we  
9 are attempting to craft a balancing there.

10 I mean whether we are or not is another discussion, but I  
11 think we are attempting to balance that as we move forward. And with that I  
12 will turn to Commissioner Baran.

13 COMMISSIONER BARAN: Thanks. Well thank you all  
14 for being here. I think it's been a great discussion.

15 Dave, as the Chairman noted, you recently left UCS but it  
16 seems you still can't escape us. It sounds like you are going to stay  
17 involved in nuclear safety issues, which is terrific, but I do want to take this  
18 opportunity to thank you for all of the contributions to nuclear safety you  
19 have made over the years.

20 I think we have all benefitted from your knowledge, from  
21 your tough questions, and your constructive ideas.

22 We have you here now and you have been working on the  
23 Reactor Oversight Process issues from very beginning so I want to start at  
24 least by getting your perspective on a few of these suggestions -- That's like  
25 beautiful windchimes -- some of these suggestions changing the --

26 (Laughter)

27 (Simultaneous speaking)

1 COMMISSIONER BARAN: I don't like where this is going  
2 at all.

3 (Laughter)

4 COMMISSIONER BARAN: Some of these ideas for  
5 changing the ROP that have been discussed in the context of  
6 transformation.

7 We have talked a lot so far about this idea of NRC  
8 conducting fewer baseline inspections for plants that are performing well, so  
9 that whatever the minimum is for the nationwide, you know, the plants going  
10 below that if you have been performing well in recent times.

11 You were talking a little bit about this with the Chairman,  
12 but do you think that's a good idea generally to have, we set a minimum  
13 nationwide and say well if you are performing well for a while you can go  
14 below the minimum?

15 MR. LOCHBAUM: And the plant owner would tell us that  
16 they are performing well, is that --

17 (Simultaneous speaking)

18 COMMISSIONER BARAN: I guess the idea is if you are  
19 just in Column 1 for a certain period of time.

20 MR. LOCHBAUM: Well I think the better effort that would  
21 benefit everybody would be to look at the baseline inspection.

22 If that has some fat in there it could be made more  
23 effective, more efficient so that everybody gets a reduced amount I think that  
24 would be the better approach than trying to pick winners and losers,  
25 because as I mentioned Davis-Besse was generally perceived to be a top  
26 performer, the top performer in Region III, and it was the worst both under  
27 SALP and under ROP.



1                   There are also suggestions to quickly close white findings  
2                   so that they don't accumulate to make follow-up NRC inspections optional  
3                   rather than automatic with white findings and for NRC to stop informing the  
4                   public about white findings through press releases. Do you have thoughts  
5                   about any of those proposals?

6                   MR. LOCHBAUM: Well I think white findings are  
7                   important. I believe that the white findings were one of the reasons why the  
8                   number of plants experiencing year-plus outages has dropped so  
9                   dramatically, because there is earlier detection and warning so that if the  
10                  declining performance can be turned around before it grows to epidemic  
11                  proportions.

12                  So I think the white findings are a key factor in that early  
13                  detection and correction phase so I think they should be retained. I would  
14                  agree with Bryan that perhaps there could be mechanisms to close out white  
15                  findings more quickly.

16                  You know, if the problem has been corrected make sure  
17                  that the extended condition is known and bounded then perhaps it could be  
18                  closed quicker.

19                  And as far as the press releases that makes sense also, I  
20                  mean because that has a greater connotation that there is a, yes, I need to  
21                  pack up the family and leave than it really deserves, so that might have merit  
22                  as well.

23                  COMMISSIONER BARAN: Jeff and Heather, I am  
24                  interested in your thoughts. What do you think Connecticut and Prairie  
25                  Island would think about some of these ideas?

26                  You know, again, the ones we have just been talking  
27                  about, reducing NRC inspections below the current minimum level for some,

1 replacing NRC inspections with licensee self-assessment in some areas, the  
2 press release issue on white findings, do you have thoughts about that from  
3 the perspective of your, the Tribe and the local, or the State?

4 MS. WESTRA: And it's kind of --

5 COMMISSIONER BARAN: I think your mic might not be  
6 on.

7 MS. WESTRA: I must have turned it off. It's interesting  
8 that David had talked about the gap between perception and reality because  
9 that is something that we experience all the time and I think that having a  
10 strong relationship with the NRC and the licensee has helped narrow that  
11 gap because when I first started working for the Prairie Island Indian  
12 community, you know, the plant was perceived as this unsafe place and you  
13 shouldn't go near it.

14 But because of having the relationship with both entities  
15 and getting questions answered in a timely fashion that has helped benefit  
16 the community as well.

17 But having said that, I don't think that there would be a lot  
18 of support for anything that is below the minimum if it's packaged in that way.

19 Just coming from, you know, the Prairie Island Indian community that is  
20 right next door I don't foresee that there would be a support for anything that  
21 would be below the minimum.

22 But if there was a better understanding of what this is, how  
23 it would work, what it would look like, you know, through a  
24 government-to-government meeting then that might be, that's probably key  
25 to it, a better of understanding of how it would work and how it would fit  
26 together.

27 COMMISSIONER BARAN: Jeff, do you have thoughts

1 about this?

2 MR. SEMANCIK: Yes. You know, I mentioned before  
3 that, you know, my risk model adds a little probability of detection in there  
4 and, you know, so anything that reduces that to me raises the risk, and so  
5 you have to look at some offsetting ways to do that or how to manage that  
6 risk.

7 You know, one way may be in increasing accountability for  
8 those doing assessments, you know, through some kind of certification  
9 licensing process. It could be improving the transparency of IMPO so that  
10 it's publicly, this aspect of it that is publicly transparent so that there is some  
11 other assurance that helps the public understand that.

12 But, you know, it's a difficult sell and at the local level, I  
13 mean to be fair, I mean just to be quite frank I mean the public barely trusts  
14 you. They certainly don't trust the licensee in most of these cases and, you  
15 know, so we hear a lot about that, for us to check up on it for those reasons.

16 So, you know, I think that's a difficult thing. It's nothing  
17 that can't be changed with improved communications and we work on that,  
18 but, yes, it would be, there would have to be something else besides just  
19 saying you've had, you know, past performance and therefore we can  
20 reduce the frequency, because I think there is still issues that are being  
21 found that the licensee has not identified even in good performing plants.

22 COMMISSIONER BARAN: Some stakeholders have  
23 recommended, and this is one we haven't talked about today, have  
24 recommended eliminating NRC inspections of independent spent fuel  
25 storage installations. Dave or Jeff or Heather, what do you think about that  
26 idea?

27 MR. LOCHBAUM: Well I think with the San Onofre



1 special inspection team report not out yet looking into a recent ISFSI  
2 problem I think that inspection and the findings from that and the  
3 observations from that would be the time to answer that question.

4 It might be that it's not the ISFSI at the licensee's site, at  
5 the nuclear plant site, that needs to be the focus, but there vendor, because  
6 there were some 72.48 issues involved in both of the near misses at San  
7 Onofre.

8 So I think that report will be the good input to a decision  
9 about what changes, if any, are necessary.

10 COMMISSIONER BARAN: Jeff and Heather, thoughts on  
11 that, if NRC stopped doing the kind of basic material inspections we do of  
12 ISFSIs, what would Connecticut think about that, what would Prairie Island  
13 think about that?

14 MS. WESTRA: Well eventually we understand that the  
15 reactors are going to be gone and that it will just be an ISFSI and so we  
16 would want to make sure that there still are inspections and still are people  
17 coming in on a daily or weekly or whatever it is basis to make sure that the  
18 casks are performing as expected.

19 You know, we wouldn't want to see any less, you know. I  
20 mean the nearest residence is 600 yards away from the ISFSI and so there  
21 is a real concern that once the plant shuts down that folks are going to forget  
22 about the ISFSI.

23 So we would want to see a continued presence of  
24 inspectors coming in and reporting on their findings.

25 MR. SEMANCIK: Yes, I would say, you know, with ISFSIs  
26 given the nature of the risk there and certainly within Connecticut, you know,  
27 we get on there as a regular basis and as long as we have a venue to the

1 NRC and to talk to someone to reduce frequency there would probably work  
2 as well as long as we, you know, "we" as the State entity if we saw  
3 something that we had questions on we have an appropriate mechanism to  
4 communicate that and have that and we have a pretty good relationship with  
5 the inspectors in our region with respect to that.

6 COMMISSIONER BARAN: Okay. Thanks for your  
7 thoughts.

8 CHAIRMAN SVINICKI: Well thank you all again to both  
9 panels and to the NRC staff and it was a good discussion and I know the  
10 Commission looks forward to continued discussions in these veins. Thank  
11 you all and we are adjourned.

12 (Whereupon, the above-entitled matter went off the record  
13 at 12:39 p.m.)