

UNITED STATES

NUCLEAR REGULATORY COMMISSION

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BRIEFING ON STRATEGIC PROGRAMMATIC OVERVIEW OF THE NEW

REACTORS BUSINESS LINE

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THURSDAY,

JANUARY 24, 2019

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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 10:00 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 L. ZOBLER, General Counsel

NRC STAFF:

ANNA BRADFORD, Deputy Director, Division of

Licensing, Siting and Environmental Analysis, NRO

FRED BROWN, Director, Office of New Reactors

MARGARET DOANE, Executive Director for Operations

WILLIAM JONES, Director, Division of Construction

Oversight, Region II

JOHN MONNINGER, Director, Division of Safety

Systems, Risk Assessment, and Advanced

Reactors, NRO

ROBERT TAYLOR, Director, Division of Licensing,

Siting and Environmental Analysis, NRO

1 PROCEEDINGS

2 10:04 a.m.

3 So, as they are taking their seats, let me note that we now are  
4 conducting a Commission Meeting on the Strategic Programmatic Overview of  
5 the New Reactors Business Line. These are a series of examinations of  
6 different substantial programmatic areas of the Agency's business.

7 And this morning the topic is the New Reactors Business  
8 Line. We will hear from one panel this morning of NRC staff. Again, this is a  
9 discussion of the Agency's progress and activities.

10 So I welcome all of the staff panelists. It looks like they  
11 mostly have their papers in order. Although the first speaker is still -- okay. All  
12 right. There we go. Okay.

13 So the staff panel will lead off with the Executive Director for  
14 Operations, Margie Doane. Margie, please lead off the staff's panel. Thank  
15 you.

16 MS. DOANE: Good morning, Chairman and -- am I close  
17 enough to the mic? There we go. Good morning, Chairman and  
18 Commissioners.

19 Today representatives of the Office of New Reactors and  
20 Region II will brief you on the important activities in the New Reactor Business  
21 Line.

22 Over the last year, the new reactors program has successfully  
23 addressed the challenges of a fluctuating workload, a changing industry, and

1 first-of-a-kind technology. In addition, it has been forward-thinking, anticipating  
2 additional shifts in workload, and identifying better ways of accomplishing its  
3 mission.

4 The processes being developed today are forging new ground  
5 and will establish the necessary framework for future applications.

6 In the area of licensing, the New Reactor Business Line is  
7 successfully addressing the challenges of a first-of-a-kind review of a small  
8 modular reactor design while implementing innovative improvements to the  
9 licensing process.

10 Meanwhile, the staff has improved its approach for the  
11 oversight of the final stages of the Vogtle construction project and its transition  
12 to operations through the implementation of the Vogtle Readiness Group.  
13 You'll hear a lot about this, sometimes called the VRG or the -- well, that's how -  
14 - VRG.

15 We are also well underway in preparing for licensing the next  
16 generation of advanced non-light water reactors. Through its foresight and  
17 innovative thinking, the New Reactor Business Line will enable the review and  
18 licensing of new technologies with a strong safety focus and clear regulatory  
19 requirements.

20 At the same time, the business line is proactively planning  
21 adjustments to its organization and staffing as it anticipates the completion of  
22 major projects, as well as the upcoming merger of NRO and NRR.

23 And I would note that when you -- many of the innovative

1 ideas that you hear today and many of the messages and the thinking going  
2 forward on these new applications and novel issues are also transitioning  
3 through other offices. Other offices are learning from these new approaches.

4 So, okay. Next slide, please. I would now like to introduce  
5 the NRC team at the table who will talk about these important aspects of the  
6 business line. Fred Brown is the Director of the Office of New Reactors. He  
7 will provide an overview of the strategic direction of the business line.

8 Rob Taylor is the Director of NRO's Division of Licensing,  
9 Siting, and Environmental Analysis. He will describe the licensing activities for  
10 large light water and small modular reactors.

11 Next to him is Anna Bradford. She is the Deputy Director of  
12 the Division of Licensing, Siting, and Environmental Analysis. She will talk  
13 about the staff's initiatives to modernize the licensing review.

14 Bill Jones, the Director of the Division of Construction  
15 Oversight in Region II will discuss the progress and oversight of Vogtle  
16 construction.

17 And finally, John Monninger, the Director of the Division of  
18 Safety Systems, Risk Assessment, and Advanced Reactors, will discuss the  
19 staff's effort to be ready for advanced reactor reviews.

20 And with that, we appreciate the opportunity to discuss these  
21 important issues with you. And I'm going to now turn it over to Fred Brown.

22 MR. BROWN: Thank you, Margie. Good morning, Chairman  
23 and Commissioners. If I could start on slide 5, please.

1                   Within the New Reactor Business Line, we strive to stay  
2 focused on doing the work that is in front of us, planning to make the future  
3 better, and to be prepared to handle unexpected changes.

4                   In general, we have received fewer applications than we had  
5 expected even a couple of years ago. And we are continuously assessing our  
6 resources and out-year budget plans to reflect that reality. While the general  
7 direction and workload is downward, agility is still required as we do anticipate  
8 receiving some previously unexpected work in the near term.

9                   For instance, NuScale has indicated that they plan to submit a  
10 topical report for a power uprate for their small modular reactor. In the area of  
11 advanced reactors, there is increasing vendor community interest in pre-  
12 application topical report reviews in calendar year 2019.

13                  We are also working closely with the Department of Energy to  
14 monitor the potential for previously unexpected advanced reactor workload in  
15 the next few years. And I would mention that that latter work is principally  
16 focused on skill development and knowledge management in the advanced  
17 reactor area.

18                  As our workload declines and staff retire or leave the Agency,  
19 we are also mindful of the importance of capturing the lessons that we have  
20 learned and the improvements that we have made so that they are not lost.

21                  Slide 6, please. I'd like to acknowledge our partner offices  
22 that aren't presenting at the table this morning. The Office of Nuclear Security  
23 and Incident Response is a key player in both our licensing reviews and also in

1 developing policy options and rulemaking activities for small and advanced  
2 reactors.

3 The Office of Research supports our current licensing reviews  
4 and is instrumental in developing the analytical tools for advanced reactors.  
5 The Office of Nuclear Material Safety and Safeguards has a lead on the fuel  
6 cycle aspects of advanced reactors. The Office of Nuclear Reactor Regulation,  
7 or NRR, performs many aspects of our licensing review within the business line.

8 The Office of General Counsel supports every aspect of our  
9 mission. And the Advisory Committee on Reactor Safeguards has been very  
10 flexible in working with us to schedule the many subcommittee and full  
11 committee level meetings that we have with them.

12 The remainder of the panelists will provide you more detail on  
13 our accomplishments and the current status of our projects. I simply want to  
14 assure you that in all of our activities we attempt to live to the Agency's  
15 principles of good regulation, including reliability, efficiency, and openness, as  
16 indicated on this slide, and also clarity, and independence.

17 Slide 7, please. While the work in the business line is  
18 decreasing as we finish some projects, the work that remains is very important  
19 to our applicants, licensees, and the public. And it is our responsibility to  
20 maintain or even improve our level of performance as we get smaller.

21 Within the Office of New Reactors, or NRO, we have been  
22 consolidating and merging work units for over a year now with more  
23 consolidation planned in 2019.

1                   We have consolidated from five technical divisions down to  
2 three divisions. And we are planning on merging our administrative service  
3 organization into NRR's equivalent organization this summer.

4                   We have eliminated four branches through internal  
5 consolidations and have pre-merged two other branches into NRR. We have  
6 also consolidated our information technology staff into the Office of the Chief  
7 Information Officer. We remain on track to fully merge NRO and NRR by the  
8 end of March of next year.

9                   Notwithstanding the attrition in staff and managers, the people  
10 in the business line have continued to stay focused and to perform high quality  
11 work in a timely way.

12                  Ho Nieh and I and our leadership teams continue to be  
13 focused on ensuring that our quality and timeliness is not negatively impacted  
14 during this time of organizational change, including the merger and the period  
15 after the merger occurs.

16                  Slide 8, please. I appreciated Margie's opening comments  
17 about the performance of the business line. I think that she accurately  
18 characterizes the majority of what the involved staff have done and are doing.

19                  At the same time, I am fully aware that we can do even more  
20 to improve ourselves, our processes, and our products. To that end, you'll hear  
21 from the other speakers this morning, particularly Anna, about some of the  
22 areas that we are focusing our improvement initiatives.

23                  In addition to the more process-focused discussion that we'll



1 discuss this morning, you will also receive a number of information papers and  
2 policy papers in the coming months that document how we are trying to be, are  
3 being agile and transformative in our thinking about technical issues and some  
4 past staff approaches and policy approaches.

5 These papers and our approved, or our proposed guidance  
6 updates will help ensure that our current philosophy is enduring.

7 With that, I'd like to turn the presentation over to Rob Taylor to  
8 start the more detailed discussions.

9 MR. TAYLOR: Slide 9, please. Thank you, Fred. Good  
10 morning, Chairman and Commissioners.

11 As you're aware, this past fiscal year saw continued changes  
12 in the nuclear industry that have contributed to an ongoing need to refocus our  
13 new reactor licensing and construction oversight work within the business line.

14 The New Reactors Business Line has embraced the need to  
15 reshape and modernize our programs and processes to ensure that we  
16 continue to complete our ongoing licensing activities in an effective and timely  
17 manner that accomplishes our safety and licensing mission.

18 The business line has successfully identified and  
19 implemented new approaches to reaching our reasonable assurance findings  
20 that have enabled sustained, timely progress in our licensing activities.

21 Slide 10, please. I want to take a few moments to summarize  
22 some of the business line accomplishments this past fiscal year before we  
23 discuss where the new light water reactor licensing activities are headed in the

1 coming year and beyond.

2 When we briefed you last year, you may recall that the staff  
3 had concerns over the ability to achieve its 42-month review schedule for Korea  
4 Hydro and Nuclear Power's APR1400 design certification application due to  
5 challenges in achieving timely resolution of issues with the applicant.

6 Today I am pleased to say that through extensive staff and  
7 applicant efforts, including the development of novel approaches to the  
8 remaining challenging issues, the staff completed its first design certification  
9 review within 42 months and issued the standard design approval for the  
10 APR1400 in September 2018.

11 The picture on this slide reflects the standard design approval  
12 signing ceremony with representatives of KHNP.

13 To resolve the challenging issues, the staff reassessed what  
14 information needed to be included in Tier 1 for structural aspects of the design  
15 and how to creatively complete an accelerated review of the probabilistic risk  
16 assessment performed by the applicant.

17 In completing this review on schedule, the staff gained  
18 valuable insights and lessons learned that are being applied to the ongoing  
19 review of the NuScale design certification.

20 Going forward, the staff is pursuing a direct final rulemaking  
21 approach for the APR1400 design certification rulemaking. This approach,  
22 coupled with streamlining the development of the rulemaking package, has the  
23 potential to shave months off the schedule.

1 Slide 11, please. During this past fiscal year, NRO issued 50  
2 licensing actions to the Vogtle licensee on a schedule that supported  
3 construction activities. This included a number of novel actions that have  
4 simultaneously maintained safety and reduced construction impediments for the  
5 licensee.

6 One recent example was the staff's review of a license  
7 amendment to update the containment pressure analyses for Vogtle 3 and 4  
8 units. This review had a direct correlation on construction need as the licensee  
9 is considering whether modifications could be made to the air baffle design prior  
10 to installation.

11 The construction need schedule drove the staff to develop a  
12 comprehensive review plan that included pre-submittal meetings and early  
13 review engagement through public meetings and audits.

14 The staff's technical review approach focused on the most  
15 safety and risk significant elements of the change and what was necessary to  
16 demonstrate reasonable assurance that regulatory requirements were satisfied.

17 Despite the novel and complex nature of the licensing action,  
18 the staff's efforts resulted in a high quality review that was completed months  
19 ahead of the licensee's construction need date and only required minimal  
20 requests for additional information.

21 In addition to refocusing on how we achieve our reasonable  
22 assurance findings, the staff has implemented enhancements to how we  
23 consider and process requests for additional information for our reviews.

1                   Our enhanced RAI process issued last summer has  
2 reinforced the staff's focus on safety, security, risk, and environmental  
3 significance of issues we are reviewing to ensure that each RAI is necessary to  
4 reach our reasonable assurance finding. Anna will provide more details on the  
5 changes in our processes during her presentation.

6                   Slide 12, please. The staff's environmental and safety  
7 reviews for the Clinch River early site permit are on track to be completed  
8 months ahead of schedule, months ahead of the established schedules, in part  
9 due to a more focused and efficient review process.

10                   Specifically, the staff's environmental review is on schedule to  
11 be completed within 24 months from issuance of the Notice of Intent to the Final  
12 Environmental Impact Statement.

13                   Early in the Clinch River review the staff instituted a series of  
14 audits to understand the applicant's approach to assessing the siting aspects  
15 related to geology and hydrology as well as environmental scoping. These  
16 early interactions enhanced the staff's understanding of the application and  
17 reduced the need for requests for additional information.

18                   The picture on this slide shows an NRC technical expert  
19 analyzing core borings to identify and focus his review on the most significant  
20 geological features at the site.

21                   To date, the staff has seen an 80 percent reduction in the  
22 number of RAIs for this review when compared to prior ESP reviews. In  
23 addition, the interactions with the applicant have been frequent and effective at

1 resolving staff questions.

2 In December of 2018, the staff presented its safety evaluation  
3 with no open items to the Advisory Committee on Reactor Safeguards. And in  
4 a letter dated January 9th of this year, the ACRS has recommended that the  
5 ESP be issued.

6 This included its novel review of the applicant's proposed  
7 exemption to current emergency planning requirements based on a dosed-  
8 based, consequence-oriented approach.

9 This approach, if approved, would establish a methodology  
10 that could be used by a future combined license applicant to establish an  
11 appropriate plume exposure pathway emergency planning zone that is  
12 consistent with and based upon the U.S. Environmental Protection Agency  
13 Protective Action Guide dose criteria for early phase protection actions in the  
14 unlikely event of a severe accident.

15 In accordance with the Commission direction and SRM SECY  
16 15-0077, the staff undertook this review in parallel with the ongoing associated  
17 rulemaking.

18 If this approach is ultimately approved after the mandatory  
19 hearing, a future combined license applicant could establish a smaller  
20 emergency planning zone once it had selected its reactor technology and  
21 provided justification that the parameters in the plant parameter envelope were  
22 satisfied.

23 Slide 13, please. The staff continues to make substantial

1 progress on the NuScale design certification review. In April of 2018, the staff  
2 completed the phase 1 preliminary safety evaluation on schedule. The staff is  
3 presently in phases 2, 3, and 4 for various chapters of the review and  
4 anticipates completing the majority of the phase 2 review in accordance with  
5 the May 2019 public milestone.

6 To date, the staff and NuScale have identified 29 highly  
7 challenging issues warranting enhanced management attention. For each of  
8 these issues, the staff and NuScale have had routine public engagement  
9 focused on resolving the issue.

10 The picture on this slide reflects a multi-office team of NRC  
11 staff visiting the NuScale control room simulated to gain hands-on experience in  
12 its novel design that has informed the staff's ability to make its reasonable  
13 assurance finding.

14 In addition, NRC senior managers meet with NuScale  
15 executives on these topics quarterly. These meetings provide executives from  
16 both organizations the opportunity to discuss the review progress, to identify  
17 emerging issues, and to establish priorities and timelines for the resolution of  
18 regulatory topics to keep the project review on schedule.

19 Through this extensive engagement, the staff and NuScale  
20 have resolved 13 issues, conceptually aligned on a path forward for another 11,  
21 and are continuing to engage to develop alignment on a resolution for the  
22 remaining 5.

23 For one of these challenging issues, the alternate source

1 term, the staff recently held a public meeting where it communicated the results  
2 of its detailed review of the Commission regulations and policy that may provide  
3 an opportunity for the applicant to pursue a novel approach that recognizes the  
4 enhanced safety features of the design.

5 NuScale is assessing the staff's feedback and is evaluating its  
6 path forward with plans to present the staff a proposed approach by the end of  
7 this month.

8 While substantial progress has been made on the review, the  
9 staff has identified a few issues. The delays in resolving these challenging  
10 issues may result in not fully meeting the phase 2 schedule.

11 Last week the staff issued a letter to NuScale identifying the  
12 issues that may not meet the milestone and plans further engagement on each  
13 of these issues. Nevertheless, the staff has confidence that the timely  
14 resolution of these issues will support the overall 42-month schedule.

15 Slide 14, please. The New Reactor Business Line remains  
16 focused on improving our ability to complete our licensing work in a more  
17 efficient and effective manner.

18 As we mentioned last year, to better coordinate our licensing  
19 activities at the Vogtle site, the business line is continuing to conduct quarterly  
20 scheduling and status meetings between NRC division level management and  
21 executives from Southern Nuclear Company to monitor progress of licensing  
22 activities tied to construction at the site.

23 These so-named licensing activities readiness meetings

1 provide an opportunity for both the NRC and Southern Nuclear Company  
2 management to be both tactical and strategic in establishing priorities and  
3 schedules for resolving topics that are tied to construction at the Vogtle site.

4 In addition, we are ensuring our licensing activities are  
5 effectively coordinated with our construction oversight activities through the  
6 Vogtle Readiness Group and the integrated project plan, which is focused on  
7 ensuring we complete all the activities necessary to support the timely transition  
8 to operations for the Vogtle reactors.

9 Using information from our annual business plan, discussions  
10 with current and potential applicants, we don't expect to receive applications for  
11 new light water reactor early site permits or design certifications in the near  
12 term.

13 However, based on these discussions, we do expect that one  
14 potential applicant for a combined license application may engage NRC in pre-  
15 application activities this spring.

16 Nonetheless, for fiscal year '19 we expect to maintain a large  
17 but decreasing base load of work resulting from a steady flow of license  
18 amendments related to the Vogtle construction efforts, the NuScale design  
19 certification, the MHI US-APWR design certification, the General Electric-  
20 Hitachi APWR renewal, and the TVA Clinch River early site permit application.

21 In addition to those, the business line recently received the  
22 license transfer request for the Bellefonte Units 1 and 2 construction permits.

23 The business line will continue to be involved with Agency



1 supported international efforts on licensing, construction, and operations topics  
2 on both large light water and small modular reactors via the multi-national  
3 design evaluation program as other regulators, as well as other regulators'  
4 activities and forums.

5 This concludes my portion of the presentation. Anna Bradford  
6 will now discuss our initiatives to modernize our light water reactor reviews.

7 MS. BRADFORD: Thank you, Rob. Good morning,  
8 Chairman and Commissioners. I'm going to follow up on some of the key  
9 messages that you just heard from Rob regarding our licensing improvements.

10 Today I will tell you how we are proactively implementing  
11 initiatives to increase the effectiveness and efficiency of our reviews for new  
12 reactors via improving our processes, transforming our licensing framework,  
13 and applying original thinking and lessons learned from previous reviews to  
14 issues that are in front of us.

15 Next slide, please. We have taken a hard look at our  
16 processes to find where we can make improvements to our approaches, while  
17 still ensuring adequate protection, in order to provide flexibility for both industry  
18 and staff while ensuring effective use of resources.

19 As you know, requests for additional information, or RAIs, are  
20 an important tool for staff to use during licensing reviews. In order to make sure  
21 that the RAIs we issue are of high quality, we took a hard look at our RAI  
22 process in 2018.

23 This internal review was conducted by a cross-discipline team

1 of NRO and NRR staff. And it found that the vast majority of the RAIs we had  
2 issued were of high quality.

3 The team also had recommendations that resulted in  
4 enhancements to our office instruction, our electronic RAI system, and in  
5 training to our staff. We have assured ourselves that our RAIs are necessary,  
6 have a clear regulatory basis, and have a focus on safety, security, and  
7 environmental protection.

8 Having an appropriate basis and focus results in benefits to  
9 the staff, applicants, licensees, and other stakeholders. It allows us all to spend  
10 time on those issues that are the most important to our regulatory findings. And  
11 we will continue to monitor the effectiveness of our RAIs in the future.

12 Next slide, please. Another process we have recently  
13 assessed was the use of audits of the applicant within our review of TVA's  
14 Clinch River application for an early site permit.

15 As you heard from Rob, we are ahead of schedule in  
16 conducting that review. And we wanted to determine what had contributed to  
17 that schedule's success.

18 Therefore, even though the Clinch River review is not yet  
19 complete, we performed a quick assessment to capture lessons learned so that  
20 they could be applied to other reviews.

21 In our assessment, among other things, we found that audits  
22 were leveraged more than RAIs in order to better understand the application.  
23 This approach was efficient and effective and was a contributing factor for

1 meeting and exceeding review schedule milestones.

2 We identified several features that led to the success of these  
3 audits. And we will incorporate those features into our office procedures to  
4 ensure that they are used for future audits.

5 In particular, the staff scoped the audits in a way that focused  
6 our effort and licensee efforts to address specific questions. This contributed to  
7 having audits with clear outcomes.

8 Staff issued very comprehensive and specific audit plans with  
9 detailed information needs to the applicant several weeks to a month before the  
10 audit took place at the applicant's facility. This detailed plan helped to ensure  
11 that the applicant had the necessary contractor resources and information  
12 available for the audit to be successful.

13 We also issued comprehensive audit summary reports that  
14 discussed how our information needs had been addressed. Such reports are  
15 essential for documenting and demonstrating transparency with respect to staff-  
16 applicant interactions and audit activities.

17 In other words, an audit should be auditable so that interested  
18 stakeholders can understand how staff elicited information during the audits  
19 and how regulatory outcomes and findings were tied to audit activities.

20 While audits were heavily leveraged successfully for the  
21 Clinch River ESP review, they were not intended to obviate the need for RAIs or  
22 public meetings. RAIs and public meetings have been and will continue to be  
23 important methods for staff to obtain additional information for application

1 reviews.

2 Next slide, please. Larger efforts that are starting now have  
3 the potential to transform the regulatory framework for future licensing reviews.  
4 One of those efforts is the 10 CFR Part 50 and 52 Rulemaking.

5 As you are aware in SECY 15-0002 issued on January 8,  
6 2015, the staff proposed a number of policy and regulatory updates to ensure  
7 consistency in new reactor licensing reviews regardless of the licensing process  
8 an applicant chose to use.

9 The staff's intent is to ensure that equivalent designs  
10 submitted for review under either Part 50 or Part 52 are assessed against  
11 consistent technical standards that yield outcomes with equivalent  
12 demonstrations of adequate safety, security, and environmental protection.

13 In September 2015, the Commission approved the staff's  
14 recommendation to conduct rulemaking to further align the requirements of Part  
15 50 and Part 52 and further regulations to reflect the lessons learned from recent  
16 new reactor licensing activities.

17 Although Part 52 is not a new regulation, some parts of it  
18 have been exercised for the first time only in the last few years, for example, the  
19 application of the regulation during construction of a reactor, the renewal of a  
20 design certification, and the application for a combined license that may rely on  
21 a design certification that needs revision.

22 And although we are early in the process, we are taking a  
23 hard look at the issue of standardization and whether we should rebalance the

1 need for standardization versus the need for flexibility for applicants and  
2 licensees.

3 Both extreme standardization and extreme flexibility have  
4 benefits and drawbacks. And we want to make sure that we in the industry are  
5 maximizing the benefits while also focusing on safety and maintaining  
6 appropriate finality.

7 The staff started work to define the scope with a draft  
8 regulatory basis at the beginning of FY19. In an effort to clearly define the  
9 scope, the staff conducted a Category 3 public meeting earlier this month. This  
10 afforded interested stakeholders an opportunity to provide the staff feedback on  
11 areas of the regulation that could be improved.

12 The staff anticipates the completion of these scoping activities  
13 in late March 2019 followed with timely communication of any recommendations  
14 on revising the proposed scope to the Commission. The staff will work on  
15 development of the draft regulatory basis after receiving Commission direction  
16 on any changes to the scope of the proposed rule.

17 Next slide, please. Another effort underway for transforming  
18 the regulatory framework is the modernization of our Standard Review Plan with  
19 efforts starting in August 2018 and currently underway. Both Part 50 and Part  
20 52 require applicants for certifications, licenses, and license amendments to  
21 address the SRP.

22 Given this general requirement and the breadth of topics  
23 addressed in the SRP, this has resulted in the staff's tendency to address all

1 aspects of the SRP in the safety evaluation report rather than plan an  
2 appropriately focused review of the specific application or technology.

3 Additionally, the information requirements between the  
4 various types of applications, for example, a design certification or a combined  
5 license, is not clearly differentiated.

6 Lastly, the SRP has grown to reflect lessons learned and  
7 operating experience, which has resulted in the SRP becoming a beneficial  
8 knowledge management tool. However, this has had some unintended  
9 consequences with respect to defining the appropriate scope and level of detail  
10 of a review and its documentation in a safety evaluation report.

11 As described in its 2018 memorandum titled Expectations for  
12 New Reactor Reviews, NRO's vision is that the scope and depth of the NRC's  
13 review should be customized to reflect the specifics of the particular application.

14 NRR has a similar desire.

15 The staff's end goal is to have an SRP that effectively  
16 supports making a determination on the scope of the review and documentation  
17 appropriate for any specific application.

18 The end result of this effort is an SRP that will better support  
19 a more technology-neutral, performance-based regulatory structure.  
20 Modernizing the SRP will support the staff in being flexible and innovative in our  
21 reviews and will reduce the tendency to limit our thinking to only previous ways  
22 that we have conducted our reviews.

23 This, of course, does not obviate the importance of

1 considering separate guidance that may be applicable to advanced reactors.

2 Next slide, please. Finally, we are applying original thinking  
3 to issues that are before us and learning from those where appropriate.

4 One recent example is our review and approval of a license  
5 amendment request from Southern Nuclear Company regarding change to Tier  
6 2\* information.

7 The license amendment request requested a criteria-based  
8 evaluation process to determine whether a proposed departure from Tier 2\*  
9 information during construction would require prior NRC approval.

10 This was a first-of-a-kind request. And there is no established  
11 guidance to provide acceptance criteria for the staff's review.

12 Instead, staff considered the licensee's proposals in the  
13 context of current regulations with a mindset of ensuring adequate protection of  
14 public health and safety.

15 After some revisions to the proposal that satisfied our position  
16 that safety-significant information should not be affected, we approved the  
17 request and issued the amendment. We are using lessons from this review in  
18 our other license amendment request reviews.

19 Additionally, the staff has historically interpreted the words  
20 reliably controlling reactivity changes in GDC 27, combined reactivity control  
21 system capability, as requiring the ability to achieve a long-term shutdown  
22 condition.

23 Due to unique features of the NuScale design, the core can

1           become recritical following a successful shutdown under certain conditions.

2                           While this condition required an exemption to GDC 27, the  
3           staff considered how the novel design features of NuScale, such as core  
4           cooling systems that do not rely on electrical power or external coolant makeup  
5           capability, contribute to the overall safety of the design.

6                           The staff then developed a set of higher level performance  
7           criteria documented in SECY 18-0099 that could be used as acceptance criteria  
8           to support the exemption review.

9                           Although the review in this area is still ongoing, it provides a  
10          good example of the staff considering approaches to safety that depart from  
11          past regulatory practice.

12                          Lastly, we developed an original approach for the structural  
13          information contained in Tier 1 of the APR1400 design certification application.  
14          The applicant, KHNP, did not want to include detailed structural information in  
15          Tier 1 because such inclusion could lead to challenges during the construction  
16          phase if changes needed to be made.

17                          The NRO technical staff had several discussions with KHNP  
18          staff and considered alternate methods for providing reasonable assurance of  
19          adequate protection of human health and safety and the environment in the  
20          design while allowing an appropriate level of flexibility in the construction phase.

21                          The end result was the use of a ratio, of design load per  
22          design capacity, rather than specific dimensions. Similar to the Tier 2 Star LAR  
23          that I just described, this was a first-of-a-kind approach that allowed for both



1 flexibility and adequate safety. And it may serve as a precedent for future  
2 structural reviews.

3 The staff is also considering other options regarding the  
4 structural details associated with design certifications and plans to send forward  
5 a policy paper in the coming months.

6 Thank you for your attention. I will now turn the presentation  
7 over to Bill Jones.

8 MR. JONES: Good morning, Chairman and Commissioners.  
9 Last year I presented to you that the inspections at the Vogtle site were  
10 appropriately focused, timely with respect to the licensee's construction  
11 activities, and were coordinated with the licensee's ITAAC closure notices, and  
12 that we were taking advantage of opportunities to move inspection activities  
13 forward to mitigate potential high inspection demand periods.

14 Today I can affirm that we are continuing to perform in this  
15 manner. We are taking advantage of the processes we have established and  
16 improving our oversight activities through innovative means.

17 Much like last year, the landscape has continued to change. I  
18 previously discussed the Vogtle Readiness Group development. And today you  
19 heard from Rob about the licensing review meetings that his division is leading.

20 Our experience over this last year is that the Vogtle  
21 construction schedule has moved to the left in several areas. The processes  
22 and programs we have in place have kept pace with the changing schedule.  
23 The metrics we established, several of which are public, reflect this.

1                   We took additional actions this last year to more efficiently  
2                   and effectively coordinate the Agency's activities. I will be describing how we  
3                   are better coordinating our activities through the integrated project plan later in  
4                   my discussion.

5                   A notable activity this last year were the rotations that were  
6                   facilitated within the New Reactor Business Line. I recently completed a  
7                   rotation as the Director of NRO's Division of Construction Inspection and  
8                   Operational Programs. And I benefitted substantially, including the coordination  
9                   of activities between divisions and offices.

10                  Next slide, please. DCO has the leadership, inspection  
11                  experience, and skills needed to accomplish the inspections to the 103(g)  
12                  finding and then on through commercial operation.

13                  The staff utilizes the one-for-two approach where practical to  
14                  credit inspections at both units based on the inspection at the other unit.

15                  The NRC recently completed an assessment of inspection  
16                  activities where it determined that a reduction in the inspection hours  
17                  associated with the quality assurance program was warranted.

18                  DCO is supported through a very qualified staff capable of  
19                  meeting the changing inspection landscape. We have seen that for the staff  
20                  that have left DCO that the remaining staff had the depth of inspection  
21                  experience necessary to provide for any gaps and that they are quickly filled.

22                  An example is a new resident inspector, who has extensive  
23                  AP1000 ITAAC inspection planning and implementation experience as well as

1 operational experience, who replaced an experienced construction resident  
2 inspector who left the Agency.

3 Notably, over the last two years, the overall resident  
4 inspection staff operational experience has increased significantly. The  
5 resident staffing is currently at full complement.

6 Last year DCO established a deputy director with specific  
7 responsibility for the operational and the initial test program inspection plans  
8 development. This group has been very effective at identifying and working  
9 through specific challenges in these areas and in coordinating with the program  
10 office.

11 The individual who will be assuming the test inspector  
12 position will be moving to the site to lead the initial test program activities. This  
13 individual has extensive Watts Bar Unit 2 pre-operational and start-up test  
14 inspection experience.

15 Next slide, please. NRC's construction inspection completion  
16 for the Vogtle units are approximately 47 and 41 percent complete and 21  
17 percent for the operational programs. The NRC continues to implement the  
18 inspection program based on the Vogtle Units 3 and 4 construction schedule.

19 DCO has demonstrated that we are readily able to adapt to  
20 the dynamic construction environment through planned ITAAC and  
21 programmatic inspections.

22 The NRC ITAAC inspections during this last year included the  
23 nuclear island, the numerous structures and modules within the containment,

1 primary containment.

2 The NRC continues to assess the inspection plans as  
3 implemented on Unit 3 and look for opportunities to gain efficiencies without a  
4 decrease in the overall inspection effectiveness on Unit 4.

5 Region II and the NRO established metrics to represent the  
6 different aspects of the ICN review process and the inspection program. The  
7 metrics track performance, reinforce accountability, and communicate issues  
8 needing attention at the appropriate management levels both internal and  
9 external to the NRC.

10 These metrics enhance early engagement of NRO, Region II,  
11 and Southern Nuclear Company's management through the Vogtle Readiness  
12 Group and are a key communication tool.

13 An example of an inspection metric is tracking closure of  
14 ITAAC inspection findings to ensure that they are completed in a timely manner  
15 and do not unnecessarily impact inspection activities around the time of a  
16 103(g) finding. These metrics have also increased our interactions with the  
17 licensee involving open, non-sited violations.

18 Region II is enhancing the inspection performance through  
19 training and oversight in the areas of inspection preparation and report writing.  
20 These activities establish transparency and consistency between inspectors so  
21 inspections can easily be transferred and bundled for efficiency and reinforces  
22 the importance and accountability for timeliness.

23 Next slide, please. The Vogtle Readiness Group, or VRG,

1 success lies in the Agency integrated oversight of the Vogtle project, the  
2 common understanding of program and resource needs, and its ability to  
3 communicate as a single voice.

4 The Vogtle Readiness Group will provide the Agency  
5 continuity during the transition period of Vogtle Unit 3 to operations and in  
6 parallel with the completion of Unit 4 construction and initial dose program  
7 activities. This will include regular communications with the Commission, the  
8 NRC senior leadership, the licensee, and other stakeholders.

9 The Vogtle Readiness Group serves to address the integrated  
10 activities with the licensee to facilitate timely resolution of issues. These  
11 communications do not replace the construction reactor oversight process or  
12 the weekly or other public meetings that occur.

13 The activities of the Vogtle Readiness Group have been  
14 discussed in public meetings. And an increased interaction with the public is  
15 being developed.

16 The Vogtle Readiness Group structure is readily adaptable to  
17 changes in its membership or supporting organizations. Responsibilities of its  
18 members are independent of specific individuals. Each of the NRC offices and  
19 divisions with responsibilities for the construction, transition to operations, and  
20 our operations oversight of Vogtle are represented.

21 Because the Vogtle Readiness Group is informed of resource  
22 needs, milestones, and remaining work, the Vogtle Readiness Group maintains  
23 a forward focus and facilitates activities and resources at an agency level.

1 Consolidation of program offices such as NRO and NRR will  
2 not adversely affect the ability of the Vogtle Readiness Group to maintain its  
3 agency-integrated oversight.

4 Next slide, please. The integrated project plan represents a  
5 first-of-a-kind, detailed overview of the NRC programs and actions necessary  
6 for the 103(g) determinations for Units 3 and 4, their respective transition to  
7 operations, and start-up through commercial operations.

8 The integrated project plan is an innovative tool that serves to  
9 inform on an agency level those activities necessary for the NRC to focus on to  
10 ensure our readiness as the licensee reaches different milestones in their  
11 construction and operation of the Vogtle units.

12 The Vogtle Readiness Group members have designated  
13 representatives who assess the NRC's programs and processes to the  
14 associated licensee's milestones and update the IPP, or the integrated project  
15 plan, regularly.

16 These individuals identify program and other need-by dates  
17 and develop a sequencing of activities with the licensee to ensure a common  
18 understanding and accuracy.

19 One use of the integrated project plan is with the Vogtle  
20 Readiness Group co-chairs and members for alignment of activities that need  
21 to be accomplished and their associated due dates. This plan includes  
22 licensing activities and the licensee's need-by dates, as well as the NRC  
23 programs and procedures needing revision or development.

1                   The integrated project plan addresses common activities for  
2                   Units 3 and 4 as appropriate, but also differentiates the timing activities that  
3                   Unit 3 is expected to be engaged to start-up testing into full power, while Unit 4  
4                   is completing construction, pre-operational testing, and its own start-up testing.

5                   Next slide, please. The NRC's established infrastructure  
6                   maintains continuity of activities up to the 103(g) decision for both units and on  
7                   through start-up testing.

8                   The use of Construction Inspection Program Information  
9                   Management System, or CIPIMS, and a verification of ITAAC closure  
10                  evaluation status voices and now the integrated project plan that I previously  
11                  discussed and continues to support the activities 103(g) finding.

12                  The staff has developed an office instruction that will be  
13                  implemented by NRO and/or NRR for the activities leading up to the 103  
14                  decision. This office instruction describes the steps and provides templates for  
15                  Commission memorandum informing the Commission of the status of regulatory  
16                  activities in the final year of construction for Part 52 licensed facility and other,  
17                  and for taking the actions necessary to make the 10 CFR 52.103(g) finding.

18                  Next slide, please. During the last year, the NRC witnessed  
19                  fuel load and the subsequent start-up testing program implementation at  
20                  Sanmen Units 1 and 2.

21                  The NRC has benefitted tremendously from having NRC staff  
22                  with strong operational and testing backgrounds at the Sanmen site during the  
23                  final months of construction and during the initial test program implementation.

1                   We returned with unique insights into the plant layout and  
2 system interactions. After each exchange, the NRC's Technical Training  
3 Center, the TTC, incorporated the insights into our training material and  
4 presentations.

5                   The value of these lessons learned was demonstrated in a  
6 just-in-time training for the inspectors on the latest trip. This training prepared  
7 the inspectors for the expected system responses and to validate the inspection  
8 procedures we had developed.

9                   We observed in-plant activities related to the start-up testing  
10 program at Sanmen. These include first plant only testing and 20 major start-  
11 up tests.

12                  The lessons from our observations have been further included  
13 in the Technical Training Center training provided to DCIP for inclusion in our  
14 guidance and inspection documents, and to further inform the Division of  
15 License and Site Evaluation reviews.

16                  Now I will turn my discussion over to Mr. John Monninger.

17                  MR. MONNINGER: Thanks, Bill. Good morning, Chairman  
18 and Commissioners. I'm pleased to provide an overview of NRC's readiness to  
19 license advance reactors.

20                  We previously briefed the Commission last April on this topic.  
21 Just last week we issued a SECY-19-0009, which provides a status of our  
22 advance reactor program. That document will be issued publicly very shortly.

23                  Today I'll briefly discuss some of those activities we



1 completed this past year and our plans for our next year.

2 Next slide please. There continues to be heightened interest  
3 in advance reactors from a broad range to stakeholders, including developers  
4 and potential applicants, nuclear advocate organizations, federal agencies such  
5 as the Department of Energy, Department of Defense and the National  
6 Aeronautics and Space Administration, and the Congress.

7 While maintaining our independent regulatory mission, we  
8 continue to engage a wide variety of stakeholders to stay abreast of evolving  
9 interests, to facilitate the planning of our work, and to inform the modernization  
10 of our regulatory framework.

11 This slide highlights the broad range of the advance reactor  
12 developers and designs under considerations. The designs cover a range of  
13 power levels, coolant types, and core characteristics.

14 In response to NRC's regulatory issue summary, five  
15 developers informed us of their intent to be in regulatory interactions. We're  
16 actively preparing to review applications and we're engaging developers  
17 through pre-application interactions.

18 In addition, we continue to provide information on NRC's  
19 flexible, end-stage licensing processes described in our regulatory review  
20 roadmap. This flexibility provides developers and applicants with a range of  
21 financial, technical and application readiness.

22 Our formal pre-application interactions with Oklo began in  
23 November 2016 on their micro fast reactor design. And with X-Energy in

1 September of last year on their pebble bed high temperature gas reactor design  
2 and with Kairos Power in October of last year on their pebble bed molten  
3 fluoride cooled reactor.

4 We anticipate additional pre-application interactions this year  
5 in receiving one more applications in the next three years. We continue to  
6 closely monitor work by the Department of Energy, such as assistance to  
7 developers and potential plans for a new test reactor as these activities may  
8 impact the pace and direction of technology development.

9 Next slide please. We continue to modernize our regulatory  
10 framework consistent with our vision and strategy for advance reactors and our  
11 implementation action plan. Working closely with our partner offices in NRR,  
12 NSIR, Research, NMSS, and OGC, we've made significant progress this past  
13 year in executing our plans and goals.

14 For example, under Strategy 2 we completed an initial  
15 screening of computer codes that had the potential to be used for analysis of  
16 advance reactors. And we will make decisions this year on the codes needed  
17 for NRC regulatory purposes.

18 Under Strategy 3 we engage with stakeholders on the  
19 industry led licensing modernization project. We issued a preliminary draft  
20 regulatory guide, which provides guidance for our technology inclusive, risk-  
21 informed and performance-based approach to inform the licensing basis for  
22 advance reactors, and the content of applications for licenses, certifications and  
23 approvals. We will continue these efforts this year.

1 Under Strategy 4, we began efforts to review and endorse the  
2 ASME Section III Division 5 code for high temperature materials and expect  
3 increased engagement on the non-light water reactor PRA standard in the near  
4 future. These are high priority efforts supportive of all advance reactor designs.

5 Under Strategy 5, we issued three commission papers this  
6 past year focusing on advancing risk informed and performance-based  
7 approaches and resolution to key policy issues.

8 In August, we provided options and recommendations on  
9 changes of physical security requirements. And we're now developing the  
10 regulatory basis in response to the Commissions direction.

11 In September, we provided a proposed methodology for  
12 establishing containment performance criteria. And we are now incorporating  
13 that methodology in our regulatory framework.

14 In October, we provided the proposed rule in emergency  
15 preparedness and we look forward to the Commission's direction.

16 Next slide please. In 2008, the Commission most recently  
17 issued its policy statement on the regulation of advance reactors.

18 The policy statement identifies attributes that could assist in  
19 establishing the acceptability, or the license ability of an advanced reactor.  
20 These attributes include reliable and less complex decay heat removal  
21 systems, longer time constants before reaching safety system challenges,  
22 simplified safety systems that reduce the potential requires action, required  
23 operator actions, reduced potential for severe accidents and consideration of

1 both safety and security requirements together in the design process.

2 Reactor developers have indicated that they intend to follow  
3 the Commission's policy. And this Staff is receptive to reviewing new  
4 approaches to safety, security and the environment and removing unnecessary  
5 barriers to incentivize a holistic approach to safety.

6 We're advancing the systematic use of risk-informed tools and  
7 the broader application of risk insights for advance reactors that appropriately  
8 considers both accident prevention and consequence mitigation.

9 The various initiatives underway, for example, potential  
10 changes to the emergency preparedness requirements and security  
11 requirements, functional containment and the licensing modernization project  
12 are all interrelated. And grounded in accomplishing the fundamental safety  
13 functions of retaining fission projects and controlling the generation and  
14 removal of heat.

15 Next slide please. We are committed to the development and  
16 application of a risk-informed and performance-based framework for advance  
17 reactors.

18 A key example of this is our evaluation of NEI 18-04 entitled,  
19 risk-informed performance-based guidance for non-light water reactor licensing  
20 basis event. This guidance document provides a integrated, risk-informed  
21 approach for the selection of licensing basis events, the classification of  
22 structure systems and components, and an assessment of defense-in-depth,  
23 which are all foundational to the systematic development of the licensing basis

1 for any nuclear power plant.

2 Over the past 20 years, the Staff has identified advance  
3 reactor policy issues in various commission papers. And the Commission has  
4 made important decisions to support the licensing of advance reactors.

5 For example, using a probabilistic approach to identifying  
6 licensing basis events. NEI 18-04 proposes guidance that integrates the  
7 various risk-informed approaches found acceptable in the past.

8 The Staff is evaluating the guidance. And in the first half of  
9 this year we intend to provide the Commission with a paper on our evaluation  
10 and any resulting policy issues.

11 Next slide please. Vital to our success in updating our  
12 regulatory framework is interacting with and seeking stakeholder feedback at all  
13 steps. We continue to have periodic stakeholder meetings, approximately  
14 every six weeks, to discuss ongoing activities and to facilitate feedback.

15 We're also frequently engaging with the Department of  
16 Energy at both the Staff level, and executive level, on a broad range of topics.  
17 And we have interfaced with the Department of Defense on micro-reactors.

18 We also continue to benefit from our interactions with our  
19 international counterparts and greatly value the independent reviews conducted  
20 by NRC's ACRS on our advance reactor initiatives.

21 Next slide please. I previously discussed guidance for the  
22 development of the licensing basis for advance reactors.

23 That same approach also supports identifying the appropriate

1 scope and depth of information to be provided in applications for licenses,  
2 certifications, and approvals required by both Parts 50 and 52.

3 For example, the analysis of anticipated, operational  
4 occurrences, design basis events beyond design basis events, and design  
5 basis accidents plays an important role in defining the safety functions,  
6 classifying structures, systems, and components and assessing defense-in-  
7 depth, which are part of an application.

8 The level of detail in applications describing physical systems,  
9 and operational programs and the resulting NRC staff resources needed to  
10 review applications, should be commensurate with a risk posed by an advance  
11 reactor design.

12 The forthcoming policy paper will address the Staff's  
13 approach to improving the focus of the content of applications and the resulting  
14 NRC Staff's reviews.

15 Next slide please. As I mentioned, there is a broad range of  
16 designs under development. While developers are generally forthcoming  
17 regarding their plans for licensees, for licensing, we recognize that there is  
18 consider uncertainty in the timing and number of applications to be submitted to  
19 the NRC.

20 As such, our efforts are largely focused on addressing  
21 technology inclusive initiatives that apply to the majority of the designs under  
22 consideration. Nevertheless, we also prioritize resources to support potential  
23 designs that may be submitted to the NRC in the near future.

1                   We continue to use a corps review team concept to provide  
2 stability and consistency to our modernization efforts, and in our interactions  
3 with developers. This has been very effective, and we plan to continue to use  
4 this approach.

5                   As an interest in and funding for advance reactors continues  
6 to increase, we are proceeding to strategically scale up our organizational  
7 capacity to meet demand. Especially in areas where designs present new and  
8 novel technical issues such as nuclear engineering, materials performance, and  
9 consequence assessment.

10                  We are working across the agency to identify and strategically  
11 increase staff capacity supportive of conducting effective licensing reviews.  
12 And using contract resources to address areas that specialize expertise and  
13 experiences.

14                  As we continue to modernize our licensing framework, for  
15 example, the advance reactor design criteria and the licensing modernization  
16 project, we recognize that there will be lessons learned. And the need for  
17 refinements.

18                  As such, we are engaged with the industries and the  
19 Department of Energy's efforts to tabletop and pilot these new approaches to  
20 garner lessons learned, to ensure coherence, for when the actual applications  
21 are submitted.

22                  This completes my remarks and Margie will now provide our  
23 closing.

1 MS. DOANE: So, these presentations highlighted the major  
2 activities of the new reactor business line. And the novel issues that I think can  
3 be used, the solutions to these novel issues that I think can be used throughout  
4 the agency.

5 And of course, we couldn't highlight all of the work of this  
6 business line within the time that we have here, so I'd like to take the time now  
7 to thank the Office of New Reactor, the entire Office of New Reactors, in  
8 addition to the folks that we have at this table, Region II, and the many offices  
9 that have supported their efforts throughout the year that you heard about  
10 during the presentations.

11 I'd also like to thank the staff that helped prepare us for this  
12 Commission meeting. And all of them for their continued dedication to our  
13 important mission.

14 And this concludes our, the Staff's presentation and we look  
15 forward to your questions.

16 CHAIRMAN SVINICKI: Well, thank you very much. And I  
17 was going to do the same thing, which is, to thank each of you sitting at the  
18 table, but I am aware that there are so many individuals maybe tuning in or in  
19 the room who helped prepare you for the remarks you presented and prepare  
20 you for the questions that you're about to answer.

21 And I would just reflect that we have, the Commission some  
22 years ago, approved the merging of NRR and NRO. But sitting and listening to  
23 it is a reminder that there is just really important work that is still going on. And



1 so, I thank everyone for their focus on that.

2 And we will begin today with questions with Commissioner  
3 Baran. Please proceed.

4 COMMISSIONER BARAN: Thanks. Well, thank you for your  
5 presentations and all your work. There's a lot to cover so I'm just going to jump  
6 right in.

7 Congress recently passed legislation that includes several  
8 provisions on non-light water reactors. There are provisions focused on stage  
9 licensing, risk informed licensing, and a rulemaking to establish a technology  
10 inclusive regulatory framework for non-light water reactors.

11 Fred or John, could you talk a little bit about how this aligns  
12 with the work you've been doing and plan to do under the implementation action  
13 plans?

14 Are the concepts pretty consistent, is the rulemaking  
15 discussed in the legislation similar to what the Staff recommended in the  
16 transformation paper?

17 MR. MONNINGER: Thank you, Commissioner. Prior to the  
18 President signing the legislation we had been aware of it for multiple years.

19 If you look at the various initiatives within the legislation, they  
20 dovetail 100 percent within the activities laid out within the NRCs near term  
21 implementation action plans. Be it at the staged licensing process, which we  
22 describe more fully and issued last year in our regulatory review roadmap.

23 We continue to have interactions with organizations out there

1 on it. And the nuclear innovation alliance, they're providing, proposing to  
2 provide additional guidance for NRCs consideration to the doors with regards to  
3 standard design approvals and establishing boundary condition.

4 The licensed, the risk-informed licensing framework, if you  
5 look at the various rulemakings proposed, the functional containment, the  
6 licensing modernization project. We think they are very supportive of that  
7 direction being provided.

8 In addition, the rulemaking for technology inclusive  
9 framework, that had been part of the staff's plans. We had the IAPs broken up  
10 into short-term and mid and longer-term.

11 The plans were in the mid or longer terms once we gained  
12 some lessons learned from the potential one or two first designs. So, yes, it is  
13 consistent.

14 MR. BROWN: If I could just add. Based on our recent  
15 engagement with the vendor community, I think they believe that we've been  
16 responsive to the draft legislation for some time and we're moving in the right  
17 direction.

18 To everything John said, I would just add that in the Part  
19 50/52 rulemaking cleanup, there is an opportunity for any additional public  
20 comment on any of the things in the app that we could do better to consider  
21 going forward.

22 COMMISSIONER BARAN: Thanks. Anna talked about  
23 determining the appropriate scope in depth of new reactor licensing reviews

1 and, Fred, I know you also issued a memo about this last year.

2 It sounds like you see the standard review plan which guides  
3 the staff reviews as needing some updating. On the one hand I hear your  
4 concern about the guidance becoming a rigid checklist with reviewers working  
5 through every provision of the guidance, even those that may not make sense  
6 for a particular design.

7 On the other hand, the reason we have guidance, of course,  
8 is to provide reviewers with some structure based on years of operating  
9 experience, so that there is predictability and consistency and reviews. And so  
10 that the reviews address all the key safety and security issues.

11 When revising the standard review plan, how do you strike  
12 the right balance between flexibility and the benefits of a more structured safety  
13 review?

14 MR. BROWN: Yes, great question. So, is it too hot, too cold,  
15 just right porridge on our standard reviews plan.

16 And certainly, the presence of a standard review plan, I  
17 believe, a plan for any execution is critical, otherwise you run the risk of  
18 anarchy.

19 The standard review plan concepts serves us well to ensure  
20 reviewers are focused on the right thing, that the management that works with  
21 the reviewers' product, the counsel that works with the reviewer's product, we're  
22 all making sure that we are performing the correct reviews to the correct  
23 standards. They service well in a judicatory review and judicial review.

1                   We certainly don't want to throw the baby out with the bath  
2 water and get away from planning. At the same time, I think Commissioner  
3 Burns, when he came back to the Commission a couple of years ago, really  
4 focused on us getting back to the basics of, what is the regulatory requirement,  
5 what are the Commission's policies, what's the applicable standard.

6                   And I believe the Commission asked the Staff a couple of  
7 years ago to think about design specific review standards and making sure that  
8 we weren't losing track of what the important safety issues on a specific design  
9 were.

10                  So, our effort, as chartered, starts out with kind of a roadmap  
11 to allow each individual section to be looked at for what are the underlying  
12 requirements, what findings do we have to make, what are the broad things that  
13 we need to think about with an open and challenging mind. That should be  
14 what's in the standard review plan.

15                  And then the rest of the information is important for  
16 knowledge purposes, but we want to ensure that every Applicant has an  
17 opportunity to engage, to ensure clarity on what their application is going to  
18 have to contain against the way we'll do the review.

19                  Not against how we did the review for other plants and  
20 history, but how we'll do the review for their design. And then we have the  
21 reliability of going back to the fundamentals, the regulatory requirement, the  
22 findings and the clear technical basis, particular to that design.

23                  So, I personally think that we run the risk when we get so

1 perspective and so detailed that people do treat the review as a checklist and  
2 they can miss safety important issues. And they can spend a lot of time doing  
3 an excellent job of answering the checklist in a way that's not really tied to  
4 performance.

5 So this is our effort, and I'm sure it will be iterative, I'm sure  
6 we'll learn as we go. We're not going to revise the entire standard review plan  
7 at one sitting, we'll be doing chapter by chapter. And we plan to do it in a very  
8 engaged interactive way with our stakeholders to ensure that we're not missing  
9 anything in the process.

10 COMMISSIONER BARAN: Okay, thanks. John talked about  
11 the Staff's evaluation of draft industry guidance on non-light water reactor  
12 licensing basis development.

13 The idea behind the guidance is that, and John described  
14 this, develop or take a risk-informed approach to selection licensing basis  
15 events, such as design basis events and beyond design basis events. As well  
16 as the classification of structures, systems and components.

17 And if the Agency endorses the guidance, it could also affect  
18 how detailed applications and the reviews of the applications would be. This  
19 approach seems to contemplate a significantly expanded role for probabilistic  
20 risk assessments, is that right?

21 MR. MONNINGER: So, yes. John Monninger. So, it is  
22 definitely an expanded role in the use in application of PRAs.

23 Whether you will click, classify it as significant or not. But it is

1 definitely in the expanded role, yes.

2 COMMISSIONER BARAN: For the existing fleet, PRAs are  
3 based on many years of operating experience. Some of the new designs may  
4 not have as much, or any operating experience. How does that affect the  
5 development and validation of the PRAs?

6 MR. MONNINGER: So, I think that it's actually one of the  
7 benefits of the PRA. So if you look at the work that needs to be done by  
8 developers, or the NRC, one way or the other we have to come up with  
9 anticipated operational occurrences. Design basis events, DBAs, et cetera.

10 Whether you take a deterministic approach or a probabilistic  
11 approach, in both cases you want operational experience. The same  
12 robustness, or lack of robustness, in an operational experience applies to either  
13 approach.

14 What the PRA approach allows you to do is explicitly quantify,  
15 put that uncertainty in the data within it to appropriately reflect it.

16 You don't have that approach or value within a deterministic  
17 approach. A probabilistic approach can explicitly model and provide those  
18 insights where the data may not be as robust as you would like.

19 COMMISSIONER BARAN: Okay. At what point in the  
20 development, or regulatory process, would we expect a new designed PRA to  
21 be mature enough to enable this kind of risk-informed licensing basis event  
22 selection?

23 MR. MONNINGER: Yes. So, it is envisioned, if you look at

1 the LMP, if the Agency was to propose and adopt that as a voluntary approach.

2 If that approach was used by a developer, they would need it at the time of  
3 licensing.

4 COMMISSIONER BARAN: Okay. And if the PRA is going to  
5 be central to all these regulatory steps, how does that affect NRC's scrutiny of  
6 or oversight of an applicant's PRA?

7 MR. MONNINGER: Yes, so, our oversight of the PRA should  
8 always be commensurate with how it's being used in a decision, commensurate  
9 with the regulatory decision to be made. Here the decisions are much more  
10 involved or important in the past.

11 If you look at how we review PRAs for current DCs, design  
12 certifications or COLs, one of the probably major differences will be the need for  
13 a peer review. There's a peer review called out for in the, as the joint ASME-  
14 ANS standard for a peer review.

15 That peer review is intended to obviate, or potentially obviate,  
16 the need for some of the levels of the NRCs detailed technical review. So that  
17 would be one of the major changes that would be required of applicants or  
18 developers. The need for the independent peer review of their PRA.

19 COMMISSIONER BARAN: Okay, thanks. While I didn't have  
20 a chance to ask about the NuScale review, but I wanted to thank the Staff for all  
21 of your hard work on that effort. It sounds like it's going well.

22 Rob talked a lot about the schedule for the review and the  
23 schedule is important. But the most important thing, of course, is to do a high-

1 quality safety review. Identifying the tough safety issues and reaching well  
2 supported regulatory decisions on those issues.

3 So in encourage you to continue to evaluate the remaining  
4 challenging safety issues. That's an important aspect, I think, of a safety focus  
5 review. To focus and make decisions on those key safety issues. We need to  
6 do a thorough job there. So thank you.

7 CHAIRMAN SVINICKI: Thank you, Commissioner Baran.  
8 We now turn to Commissioner Burns. Please proceed.

9 COMMISSIONER BURNS: Thank you, Chairman. I'll echo  
10 my thanks to the Staff.

11 Not only those sitting at the table but those who support the  
12 business line in terms of the work, the work you're doing and the preparation,  
13 not only in preparation for this meeting, but other aspects of this as we continue  
14 through large with large light, or not, the advance non-light water reactors as  
15 well as the Generation III-plus, trying to bring that over the finish line. At least  
16 with respect to the Vogtle Plant.

17 A couple questions. I don't remember whether it was Rob or  
18 Anna who touched on this, but the interesting thing, which in the context of Part  
19 52 and this Part 52 lessons learned activity and the potential rulemaking and  
20 the discussion on standardization.

21 Which, if I go back, and I remember working for an admiral  
22 here who said, why can't they all be alike, we do that in the submarine fleet.  
23 And that was a big issue.



1                   That was a, if you, and I happen, for other reasons to read, I  
2 think it's the Rogovin Report, the special inquiry report Post-TMI because the  
3 Agency was chastised for this, the lack of standardization.

4                   I remember, I think Ivan Selin in a speech saying, tongue and  
5 cheek saying, the French had 100 cheeses and one reactor whereas we have  
6 one awful cheese and a hundred different reactors.

7                   (Laughter)

8                   COMMISSIONER BURNS: I kind of align that on the cheese.

9                   (Laughter)

10                  COMMISSIONER BURNS: But, putting that aside, so there  
11 was a -- I would almost even call it an obsession with standardization in the '80s  
12 into the '90s. Part 52 reflects that.

13                  So, tell me a little more because I'm interested in that in terms  
14 of what we would be doing. But then I point down to John and say, is, given  
15 what we're hearing about how the advance, some of these advance reactor  
16 designs would be implemented, developed, manufactured, implemented, we  
17 may go down the manufacturing license path, and given NuScale, we're not  
18 calling it an advance reactor but NuScale with its SMRs.

19                  So, tell me a little more, what do you think the issues that  
20 might come up in standardization? And as I say, anybody can answer here.

21                  MS. BRADFORD: I agree with you. And as we've gone back  
22 to look at those previous decisions during the development and the first use of  
23 Part 52, there was a lot of talk in SECY papers and in commission direction

1 about standardization. We want, you know, there is benefits to standardization,  
2 but we also want flexibility for licensees and applicants.

3 So, a lot of that was discussed at the time. And there was  
4 some emphasis on standardization. There's a commission policy statement on  
5 standardization.

6 What we're thinking we don't want to have happen is the Staff  
7 feeling like that can't approve flexibility or new ideas because the goal of  
8 standardization is overriding those potential proposals.

9 COMMISSIONER BURNS: Okay.

10 MS. BRADFORD: That's what we're trying to do, to make  
11 sure we're striking the right balance between standardization and flexibility.

12 COMMISSIONER BURNS: Is there a way, and I think it's  
13 interesting, I haven't thought a lot about it, other than really superficially, are  
14 there things that you see in the regulatory framework now that perhaps jack up  
15 standardization more than it should be, there may be barriers to the Staff  
16 moving forward?

17 MS. BRADFORD: Go ahead.

18 MR. BROWN: So, I think getting to a specific example helps -

19 -

20 COMMISSIONER BURNS: Sure.

21 MR. BROWN: -- reach shared understanding. So,  
22 standardization for an AP1000, you could think of as the walls are essentially  
23 the same and the things within the walls are essentially the same.

1                   The systems, the volumes that are necessary to perform the  
2 accident analysis. That would be one level of standardization.

3                   Another level would be that the rebar inside the walls is all in  
4 exactly the same place. On the one hand it's rational, you know, in the former  
5 case, it's rational to understand why we'd want that level of standardization.

6                   In the latter case it's really less care why we care where the  
7 rebar in the walls is, as long as the rebar in the wall supports the siting for that  
8 facility.

9                   As being implemented by the Staff today we're literally talking  
10 about where the rebar in the wall is. And it removes the flexibility for the initial  
11 constructor to design and build the plant, and then every subsequent unit  
12 becomes burden by the site-specific situation for the initial unit.

13                   So, one aspect of this, as the Staff laid out 30 years before  
14 the first construction under Part 52, an idea of what had to be standardized.  
15 And we find that unrealistic, unreasonable today.

16                   COMMISSIONER BURNS: Yes.

17                   MR. BROWN: So that's part of coming back.

18                   The second thing that's major, I believe is, I believe the  
19 people that formulated Part 52 assumed that the first plant would be built under  
20 Part 50 with a CP and an operating license. And you'd have a complete design  
21 that you could then standardize.

22                   That's not been the experience obviously. So, a designer that  
23 needs to have the certainty of design certification is coming in at a point where

1 they've never actually removed the head and replaced the fuel and figured out  
2 whether the bolt spacing works well with their machinery.

3 That leads to design changes that result in a lot of LARs for  
4 non-safety important issues. It leads, even in the NuScale review, to the Staff  
5 needing to know aspects of the design that are not safety significant, but they're  
6 driven by the essentially complete design provision in the rule.

7 And so, those are the things we'd like to explore in this  
8 rulemaking. Can we trade off to provide adequate flexibility for the way the rule  
9 is being used today versus what the Staff had in its mind 30 years ago when we  
10 created criteria around some of that rule language. Anna.

11 MS. BRADFORD: The only other specific example I would  
12 give is with the LARS with Vogtle 3 and 4. We've approved a total of about 130  
13 LARS. I don't remember how many of those were to Tier 1 and Tier 2\*  
14 information.

15 But in each of the SEs for those LARS, there's a section  
16 specific to, basically, what is the effect on standardization --

17 COMMISSIONER BURNS: Yes.

18 MS. BRADFORD: -- of this change. And so, in each of those  
19 SEs we have to write that up because --

20 COMMISSIONER BURNS: Yes.

21 MS. BRADFORD: -- we have to take that into account. And  
22 is that a good use of our resources, their resources. Again, are we at the right  
23 balance for those.

1 COMMISSIONER BURNS: Okay, thanks. Yes, that's a good  
2 discussion.

3 And as I think, I think, again, not so much, I need a response  
4 from John, but I think it's going to be interesting, if we see some of these things  
5 go forward, if you look at, like, I think Oklo's micro-reactor, you're going to want  
6 to pump out these things like an iPhone type of thing. We're not going to have  
7 a lot of differentiation.

8 But, let's wait to see. It's, I think, an interesting issue.

9 I'm going to come out of left field on another issue because  
10 John, and you guys can blame John for this, but it's insurance and liability,  
11 which used to be one of my favorite topics.

12 As we're about T minus six years and counting on the Price-  
13 Anderson Act, because we have to go a renewal, it comes up for renewal in, I  
14 think, 2025. This was an issue, and I'm not saying the Staff has ignored this,  
15 was an issue that came up, I think, what, was the 2010 paper.

16 I know Commissioner Svinicki was on the Commission, or  
17 Chairman Svinicki was on the Commission at that point.

18 So, my question is, is there anything, and actually, I'm going  
19 to point this to OGC because you're on the nuclear law committee at the NEA.  
20 Has this issue come up at the NEA?

21 The one area where we don't participate is the IAEA,  
22 International Nuclear Liability Expert Group, the INLEX. But I don't know if  
23 you've been hearing anything, Marian, from NEA because of the Paris

1 Convention, again, we're not members, the U.S. is not a party to the Paris  
2 Convention, but is this issue about smaller reactors coming up?

3 MS. ZOBBLER: At the most recent meeting, which was in  
4 November, there's a lot of interest in small modular reactors and how they're  
5 being looked at in other countries. We had a presentation from the Canadian  
6 representative.

7 COMMISSIONER BURNS: Yes.

8 MS. ZOBBLER: And about a year or so I went with then,  
9 General Counsel, Doane. I gave a presentation on SMRs in the United States.  
10 And I touched on the issue that you are referring to, these Price-Anderson type  
11 issues.

12 And that was really the extent of the discussion. So it's really  
13 not being talked about much. Either at the working party or the nuclear law  
14 committee.

15 COMMISSIONER BURNS: Okay. Okay. So, where are we,  
16 what's our sort of time frame on this issue?

17 MR. MONNINGER: John Monninger from the Staff. So, the  
18 Staff, the Commission is planning to provide the Commission a paper in 2021  
19 on Price-Anderson.

20 And any new policy issues would be addressed in that. We  
21 have discussed, in our periodic stakeholder meetings, the issue of Price-  
22 Anderson.

23 The whole issue potentially identified in the past was, involved

1 designs above or below 100 megawatts electric.

2 COMMISSIONER BURNS: Yes.

3 MR. MONNINGER: And if you had a site with multi-modules  
4 less than 100 megawatts, what is the implications of that. And it all goes back  
5 to the issue of multi-module risk or multi-unit risk.

6 COMMISSIONER BURNS: And I would also encourage, my  
7 time is up, but I would encourage you, because DOE essentially is the  
8 government lead on the liability issues also and the convention on  
9 supplementary compensation to which the U.S. is a party. And since, well,  
10 probably the last time we talked about this issue, has come into force.

11 I encourage the ongoing discussion, or discussion with them  
12 as we go forward because they may well have the lead on the Price-Anderson  
13 renewal issue. Thank you.

14 CHAIRMAN SVINICKI: Thank you, Commissioner Burns.  
15 We turn now to Commissioner Caputo. Please proceed.

16 COMMISSIONER CAPUTO: Thank you. And I'll add my  
17 thanks for all the preparation that goes into your presentations today and the  
18 Staff behind it. It's a lot of information to cover, so you thank you very much for  
19 the hard work that goes into it.

20 I also want to start by thanking Commissioner Baran for his  
21 question on NEIMA, the Nuclear Energy Innovation Modernization Act. As John  
22 said, it was under development for several years.

23 And I consider it a statement from Congress and the

1 President on their expectations for areas they believe the agency should  
2 transform.

3 And so, I just want to say, to complement NRO for being  
4 strategic in their thinking, looking ahead and considering where NRO's work  
5 currently aligns with the bill. I think that is very forward thinking and it leads for  
6 smoother implementation, so thank you for that.

7 With regard to the Vogtle Readiness Group, Mr. Jones, you  
8 stated how it will provide the Agency with continuity during the transition period  
9 for Vogtle, the new Vogtle units transitioning to operations. But then you also  
10 state that the VRG structure is readily adaptable to changes in membership or  
11 supporting organizations.

12 Can you tell me a little bit about what you were thinking in  
13 making that statement, because I certainly have been very concerned about the  
14 measure of continuity in the Vogtle readiness group and how the transition of  
15 personnel or cycling of personnel through that group could pose challenges at a  
16 very key time.

17 And Fred and I had this conversation more than once. Can  
18 you just sort of tell me about the conflict inherent in those two statements?

19 MR. JONES: Certainly. I think when you look at the Vogtle  
20 Readiness Group, part of what supports that group is the integrated project  
21 plan.

22 And within the integrated project plan are the representatives  
23 from each of the different offices. So we have NSIR, NRR, NRO, Region II, is



1 all represented in that integrated project plan.

2 From that, we are looking at the NRC's activities, coordinated  
3 with the licensee's milestones for when things need to be accomplished in order  
4 to meet the milestones that they've set.

5 So, I look at the information that is provided to the Vogtle  
6 Readiness Group co-chairs. And we have the membership also. And one of  
7 the members on there is the Office of General Counsel.

8 So they provide that input to us regularly and we actually  
9 utilize several members of OGC to inform us.

10 But what we end up getting is a consistent information that we  
11 are able to make decisions on that is coming from a group of people that are  
12 representing the different offices in the different divisions. And so, as an  
13 oversight group, it is us to look at that information and look at the resources and  
14 make sure that we are, that we're planning, that we're identifying any areas  
15 where we say that we have not focused attention on and to bring that forward.

16 And so, when I talk about membership within the oversight  
17 group, Region II is representative to myself, Rob Taylor is a co-chair and for  
18 while still, Tim McGinty is.

19 But even if, for example, if we lose one of the co-chairs, what  
20 the charter allows us to do is to bring in an individual into that position that will  
21 continue that oversight using the tools that are provided, and from that we're  
22 able to make the decisions to communicate with the Commission, to  
23 communicate with Southern Company, to be able to communicate with our

1 other stakeholders through public meetings and so forth.

2 So, although we may lose an individual that has been key to  
3 the progress that we've made, because of the amount of supporting information  
4 and the way the VR, Vogtle Readiness Group is set up, we're able to transfer  
5 that and keep attune as to what's going on and to meet our charter, what we  
6 were set out to do with the people that we do have.

7 MR. BROWN: And if I, Bill is exactly correct, that we're not as  
8 dependent on a single individual to have the knowledge, the focus. But by the  
9 same token, we're being very sensitive for stability within the Vogtle Readiness  
10 Group.

11 So, losing Tim McGinty is a loss for the office and for the VRG  
12 to his retirement. But our plan is to maintain Bill and Rob to the maximum  
13 extent that we can and not have unnecessary churn, notwithstanding the  
14 confidence that we have from the organizational defense in-depth of the VRG.

15 COMMISSIONER CAPUTO: Because all of these individuals  
16 on the group are developing fairly unique expertise, so it's going to be incredibly  
17 important, especially near the end as the plants are in the transition.

18 MS. DOANE: So, I'll just add, I agree with that, but I'll just  
19 add that the replacements that we put on are not individuals that are uninvolved  
20 in these activities. So, that's how you can smooth out some of the transition.

21 So, for example, Rob replaced Frank Akstulewicz. So, there's  
22 some consistency. But you're right, we have to remain vigilant to try to also  
23 keep stability, make sure that we don't lose the kind of focus.

1                   COMMISSIONER CAPUTO: Okay. All right, shifting gears a  
2 little bit, I'd like to ask about the merger with NRO.

3                   Not very far into my career, a ways in the past, I was working  
4 in a corporate environment, a large company, which then merged with another  
5 large company. I personally went through several months of not knowing  
6 whether where or when I would continue to have a job. Ultimately, I was given  
7 direction that should I want to keep my job I had to relocate.

8                   Now, that's a significant upheaval for any individual to go  
9 through. But my point in giving you that anecdote is that that was a span of  
10 several months.

11                  What you're talking about so far with the NRO merger has  
12 basically been underway for multiple years at this point and it's going to  
13 continue. I personally feel that one of the most important things you can do in a  
14 merger situation is minimize the time of that uncertainty and upheaval for  
15 individuals that are involved in the merger.

16                  Is there any opportunity or room for advancing the merger  
17 and bringing it to closure so the people have that certainty, have that closure  
18 and know what they're going to be doing so that they're no longer in this  
19 measure of suspense waiting to find out?

20                  MR. BROWN: So, great question. And in engaging with the  
21 Staff and NRO and Ho and his staff engaging with the folks in NRR, there's very  
22 much an interest in as much stability as possible during the interim. And it  
23 factors into how we've done our consolidations and where we've done pre-

1           mergers.

2                           I think going back to the original look at merging the offices,  
3           the competing interests were the span of control and the ability to keep the  
4           attention on the critical work in-house.

5                           And so, we've talked about the work that this management  
6           team and Staff are focused on and there are many keen milestones coming up  
7           between now and the plant merger. I personally feel very utilized in keeping my  
8           attention on each of those topics.

9                           The other, and so getting through major milestones to a good  
10          point where the work has gone down enough that we can gain the efficiency of  
11          merging the two organizations and having fewer executives and fewer branch  
12          chiefs and fewer administrative assistants, because the work has gone down  
13          and we can transition without unintended or negative impact is one extreme, or  
14          interests.

15                          The other interests of course is, as you said is, the assurance  
16          for the Staff that they know what they'll be doing, that there's not uncertainty  
17          hanging over their heads and there is, as we've reflected in our budget  
18          formulation, there are some efficiencies from merger.

19                          And so, that, those two things have really been at the, in our  
20          decision making on where Ho and I have pre-merged parts of the organization,  
21          as the work went away, as attrition has eaten the Staff down and it's been a  
22          timely opportunity to do a pre-merger action, we've done that. And we will  
23          continue to do it. I mean, we're about 40 percent into the merger at this point.

1                   The areas that we haven't pulled that trigger really are around  
2                   the areas where within Ho's organization, within the Office of NRR, subsequent  
3                   license renewal, changes to the ROP, there are a large number of activities that  
4                   he's grappling with at the same time this management team is focused on the  
5                   work that you've heard today.

6                   So, we remain open, obviously, to dealing with the situation  
7                   as it occurs. We're managing to be as successful as we can while maintaining  
8                   as much reliability in our decision making and continuity in the people doing the  
9                   work.

10                  But at the same time, the point you raise is a good one that  
11                  we need to keep in mind and be responsive to.

12                  COMMISSIONER CAPUTO: Okay. Can I just, if my  
13                  colleagues will indulge me, I have one last question for Rob.

14                  You mentioned Bellefonte and working on license transfer  
15                  review. We can't transfer the license unless the receiver of that transfer  
16                  actually owns the site, right? If they've completed purchase and they actually  
17                  own and control the location?

18                  MR. TAYLOR: So, that is an area we're actively looking at in  
19                  the acceptance review. So we're still in the acceptance review for that activity.  
20                  And it's one of the areas we're specifically looking at as to whether we can  
21                  proceed with the consideration of the license transfer at this time.

22                  COMMISSIONER CAPUTO: Okay. All right. Other than that,  
23                  I would just like to pay John a compliment on his use of metrics, sorry, Bill

1 Jones, on your use of metrics in tracking in the performance and closure of  
2 ITACC and so on.

3 Metrics track performance, reinforce accountability and  
4 communicate issues needing attention at the appropriate management levels,  
5 both internal and external. I really fully believe that, and I just want to say thank  
6 you for employing that so effectively.

7 MR. JONES: Thank you, Commissioner. And I would like to  
8 point out also that the Region II does fall into the area of watching the Staff and  
9 where they're going to be in a couple of years, that that is an area of high  
10 sensitivity of awareness for both our inspection staff as well as the NRC  
11 leadership team.

12 CHAIRMAN SVINICKI: Thank you very much. Commissioner  
13 Wright.

14 COMMISSIONER WRIGHT: Thank you. Good morning.  
15 Before I start, Commissioner Burns, in a previous part of my life I owned and  
16 operated a Hickory Farms franchise.

17 COMMISSIONER BURNS: Okay.

18 COMMISSIONER WRIGHT: And so, your use of plant design  
19 versus cheese did not go unappreciated by me.

20 (Laughter)

21 COMMISSIONER BURNS: And it's gotten better.

22 (Laughter)

23 COMMISSIONER WRIGHT: So, again, to each of you, thank

1 you for your presentations and for the Staff that worked on it behind the scenes  
2 to help get you ready.

3 This is the first time I've gone through a business line with this  
4 particular topic. We came after your last presentation.

5 So, there's a few things, obviously when you're forth some  
6 things are asked and answered or not maybe asked maybe the way I would like  
7 to ask it, so I'm going to follow-up on a couple of things.

8 Bill, I'm going to follow-up on Commissioner Caputo's  
9 question a little bit about the integrated project plan. And you started answering  
10 the question that I was trying to, that I'm going to ask you but not quite there.  
11 So I'm going to kind of get it a little deeper.

12 So, given that the construction is very dynamic, are you and  
13 the inspectors at the site getting timely updates on the changes to construction  
14 schedules and stuff to ensure that the tool is actually being used the way it's  
15 intended?

16 MR. JONES: Yes. I would answer that question yes. The  
17 licensee is also working on updating their schedule that they will provide to us.

18 But for where we are today, the updates that we're receiving  
19 for both, the construction inspection activities as well as the milestones for  
20 those associated with the integrated project plan for the program and when we  
21 need to have activities or LARs or whatever completed, what they are providing  
22 us is fully supporting our needs.

23 COMMISSIONER WRIGHT: Very good. I'm going to stay

1 with you there for a second here.

2 MR. JONES: Okay.

3 COMMISSIONER WRIGHT: Just try to get the Vogtle things  
4 moved through. And I went, actually went out there and had a visit, it was  
5 amazing what was going on. The activity and what all was, they were trying to  
6 do and accomplish working with the inspectors, working with the region and  
7 coordinating with us up here.

8 So, with the readiness group, have you, and I'm sure you  
9 have done some of this, but the lessons that you learned at Watts Bar, can you  
10 kind of maybe tell me if you've run into any other challenges at Vogtle 3 and 4  
11 than what maybe you did at Watts Bar?

12 MR. JONES: Of course, we put out the Watts Bar lessons  
13 learned report, and from that we actually developed the Vogtle Readiness  
14 Group and from that came the charter.

15 COMMISSIONER WRIGHT: Right.

16 MR. JONES: So, we actually paralleled a lot of our  
17 experiences and applied it to the additional technologies, the ability to schedule  
18 inspections and so forth that we have at Vogtle Station.

19 So, I also put together kind of my own management cheat  
20 sheet of issues and it mirrored things such as the staffing and the accountability  
21 and the ability to transfer activities from one inspector to another and the ability  
22 to communicate within the offices and so forth.

23 And so, I think over the last several years, some of the



1 challenges that we were seeing in the different areas, because we have the  
2 construction inspection program that is tied through Primavera to the licensee  
3 schedule, that we have the milestones and we're able to use those in our  
4 integrated project plan.

5 And we have a Vogtle readiness group and the charter and  
6 the lessons learned from Watts Bar. I personally am not seeing new challenges  
7 because we, although we do have to keep account for, have their schedule, like  
8 I said, we're seeing several of their activities actually move to the left.

9 COMMISSIONER WRIGHT: Right.

10 MR. JONES: And we're able to account for that, both in  
11 inspection scheduling and in the milestones and when we have to have  
12 activities completed by.

13 And then we're looking at making sure that we have the  
14 inspection staff that we need is trained, is able to take us through the pre-  
15 operational and the startup testing. Those are all some of the things that we  
16 saw during Watts Bar.

17 And then, as individuals are leaving DCO, they're still  
18 available within the agency in most cases. That was a Watts Bar lessons  
19 learned is the ability to reach out to other offices, to other regions, to get the  
20 staff so that when we do hit those periods, that we can manage and work to the  
21 licensee schedule. And that's where we're at today.

22 COMMISSIONER WRIGHT: Yes. I came away from the  
23 meeting down there with the visit that was, they were very engaged with

1 everybody and it was very open and transparent and, it was impressive. Yes.

2 MR. JONES: And the tools that we have in place, I talked  
3 about CIPMS, I talked about the ITAAC talks with NRR, ITAAC inspections talks  
4 with voices. And then of course the construction and the IP, the construction  
5 schedule and the IPP.

6 But no two days are alike.

7 COMMISSIONER WRIGHT: Right.

8 MR. JONES: And what we have in place keeps us in tune  
9 with tomorrow.

10 COMMISSIONER WRIGHT: Right.

11 MR. JONES: And looking forward. We're not in a position  
12 where we're looking back having to catch up, but we're able to see what's in  
13 front of us, to anticipate when ICNs are coming in so that we get those  
14 inspections completed, to communicate with the licensee, to understand  
15 milestones.

16 And when you put that together, that is a much more powerful  
17 tool and communications that we can have than we did with TVA at the time.

18 COMMISSIONER WRIGHT: Very good. Thank you so much.

19 And the time I've got left, I want to see if I can hit maybe NuScale and the  
20 merger just a little bit.

21 A minute ago Commissioner Baran kind of refereed to  
22 NuScale, and he didn't get to ask his questions, and I'm not sure what they  
23 were, but you spoke to the inadvertent actuation block valve issue a little bit and

1 some of the stuff that we've seen.

2 Can you tell me, in the briefing book that we have, it mentions  
3 four other highly challenging areas right near the bottom of that chart, Rob, and  
4 where the Staff is in identifying a pathway forward in that. Can you help me a  
5 little bit and maybe explain where you're at on that path?

6 MR. TAYLOR: Absolutely. Thank you for the question,  
7 Commissioner. So, in those we look at the 29 highly challenging issues and  
8 then we identify those that we feel are closed and we move them to the closed  
9 as we make the good progress.

10 Some have very clear path forward and we're just awaiting  
11 the information from NuScale so that we can move them to closed.

12 Others are in the category where the information is being  
13 developed by NuScale. We're not quite yet sure exactly how they're approach  
14 is going to materialize. We have a pretty good idea.

15 We're leaning towards creating open items related to those in  
16 accordance with our phase discipline policy and approach.

17 And then we have those handful of issues where we're still  
18 working through them with NuScale. We're trying to identify an appropriate  
19 safety focused and risked informed approach to how to resolve those issues.

20 So, for each one in that last category, there's extensive  
21 dialogue ongoing with NuScale to identify and work through those plants. In  
22 some cases, we're waiting on some additional information from NuScale, so  
23 that example I use, the alternative source term, was an issue we did not have

1 on the radar when we started the NuScale review.

2 As we were reviewing the topical report, we identified a  
3 challenge in that topical report that created this dynamic and this issue that has  
4 required us to think about, what do the commission regulations actually  
5 require? And when you go back and look at them, you realize we have different  
6 aspects and different regulations with regards to how to treat or the accident  
7 source term or the maximum hypothetical accident.

8 So, we're taking fresh looks at each one of those issues and  
9 engaging extensively on NuScale, looking for an appropriate path forward that  
10 maintains the right safety focus and is consistent with the commission's  
11 regulations and policies.

12 MR. BROWN: And just to add, I mentioned that there were a  
13 number of info papers and policy papers coming to the Commission in the next  
14 couple of months, and I would say that those align closely to the issues that  
15 we're struggling to close within our existing structure.

16 COMMISSIONER WRIGHT: Thank you.

17 MR. BROWN: So there is, even though we don't have a clear  
18 path on each, we are working a closure plan on each.

19 COMMISSIONER WRIGHT: All right. And you still feel, you  
20 said it and I just want to, you still feel pretty confident with your own schedule?

21 MR. TAYLOR: Yes. Both organizations have the highest  
22 focus and attention on those issues and are planning, we continually are  
23 planning the next meeting and the next engagement to try to continue to move

1 the ball forward. So I think we both share the focus and the intention and try to  
2 maintain the schedule and do as much as we can in that respect.

3 COMMISSIONER WRIGHT: So, in the time that I've got left  
4 here, very quickly. So, Fred, I'm going to ask you, it's going to be like a two-  
5 prong question and then the rest of it will be one-prong. It will, the rest of you  
6 shall chime in on something.

7 So, on the merger. One, it sounds like it's going well. Are  
8 you running into any unforeseen challenges or implementing things, and do you  
9 see, what kind of challenges do you see on the future? So that's the first part.

10 And the second part, which will be for all of you all, and this  
11 goes to planning and resources. So, everything.

12 Can you maybe speak to what we're doing, what  
13 managements doing to kind of ensure that the Staff is going to have the right  
14 mix of skills needed to review work going forward?

15 You know, mission building, critical skills, all those things. So,  
16 can you may be quickly refer to that for me?

17 MR. BROWN: So, I guess if I could start with the first part  
18 and then maybe we can work down on the second part to, directed to me.

19 So, Ho and I are working very closely on the merged  
20 organization to do our absolutely best at predicting where we'll need the most  
21 management attention and the most organizational internal alignment.

22 On the one hand we have a matrix organization that optimizes  
23 efficiency. On the other hand, the more eyes on and continuity on the part of

1 the division director, deputy division director and dedicated branch chiefs we  
2 can maintain on critically important projects, the better our experience is in  
3 executing on those.

4 So that's our intention, it's our focus. I think that we're  
5 comfortable that we're working with OEDO, even as we speak, on some  
6 refinements that will make us successful. But it's the same in any  
7 organizational structural.

8 I guess when we figure out what the perfect organizational  
9 structure is we'll put a lot of management analyst and management consultants  
10 out of business. And then I'll take my turn --

11 COMMISSIONER WRIGHT: Yes.

12 MS. DOANE: I'll just add to this and then we'll send the other  
13 question down. So, I'll just add to, so, when you have a particular activity in a  
14 single office, that is the single focus --

15 COMMISSIONER WRIGHT: Right.

16 MS. DOANE: -- and you can dedicate all of the resources  
17 and you can maintain a very high level of control.

18 When you're merging it with an office that has other very  
19 important issues, the operating fleet, we have subsequent license renewal and  
20 these other issues, the challenges to make sure that how you reorganize that  
21 maintains that focus.

22 And I have every confidence that, that the way that we are  
23 proceeding, that's our goal and we're going to meet it. And there's been a

1 tremendous amount of work that has gone into how to put these two  
2 organizations together to keep that goal in mind.

3 COMMISSIONER WRIGHT: Thank you.

4 MS. DOANE: So, I just wanted to --

5 MR. TAYLOR: So, very briefly. Anna and I are in the same  
6 division. One of the things, I'll take it down to our level.

7 As we look at our staffing and our skill sets that we have, as  
8 we monitor attrition and loss of individuals, and as work load transitions and  
9 moves as certain projects are completed and things, we're constantly  
10 reassessing the skill sets that we have for the work that exists in that group.  
11 And if we have access of a skill set, we look for where there's additional work  
12 that can be done across the agency.

13 So, within my division we're doing work to support NMSS,  
14 we're doing work to support NRR on various things. And then we bring in the  
15 contracting aspect where we feel we need to fill in a very specialized skill set  
16 and we can get very good support from the labs or contract, or private entities  
17 and stuff to support us. So we're constantly reassessing that.

18 COMMISSIONER WRIGHT: Yes. Thank you.

19 MR. MONNINGER: So, and then for advance reactors, our  
20 activities cut across the agency, for example, NMSS is supporting us in some of  
21 the fuel cycle activities. Research is very engaged be it reactor systems, area  
22 codes, areas, et cetera.

23 So, we reach out and we provide the funding levels and the

1 budget for those. And they assure that those stuff are then there for those  
2 budgeted areas. And we look out several years.

3 COMMISSIONER WRIGHT: Very good, thank you. Thank  
4 you.

5 CHAIRMAN SVINICKI: Okay. Well, thank you all very much.

6 As much as Commissioner Wright noted, a number of topics  
7 have been talked about. I start by scratching things out and circling other  
8 things and then finally I used my highlighter. There are a few things left.

9 The beauty of it though is that there have been topics covered  
10 and I might want to share some reflections and observations about those as  
11 well.

12 First of all, when I prepared for the meeting, I just continue to  
13 be so impressed. And its, this feels like the first real week of the year, are other  
14 people having that experience?

15 Like everybody is back and everything is happening this  
16 week, so.

17 COMMISSIONER WRIGHT: Yes.

18 CHAIRMAN SVINICKI: So, it felt really intense. And it was,  
19 and I don't use this term lightly, it was really uplifting to kind of have an  
20 opportunity to look holistically at this set of activities and see all the progress  
21 being made.

22 And that, and some of this is just when you've been around  
23 for a long time, and I think Commissioner Burns has this long observation



1 period, he has a longer one than me, but I've been from the perch of the  
2 Commission, so I've had a consistent advantage point, which gives an ability to  
3 really draw some observational trends.

4 The NRC staff working on the set of issues here, so that's not  
5 just NRO we've talk about, it's all those who support you in doing this.

6 You know, you all really are moving these things forward and  
7 I don't know, when I watch it for 11, 12 years, I can really see it. But that in no  
8 indicates that it's a glacial pace.

9 But we're doing it in a way that is so consistent with the  
10 culture of this agency, which is a continuous learning organization. When I got  
11 here, I was told that the agency is a continuous learning organization. And I  
12 think over the course of my time here I've only just added to my set of examples  
13 about that.

14 When I listen to Fred respond to Commissioner Burns about  
15 rulemaking that I think is very important, the Part 50/52 rulemaking, we used to  
16 call the lessons learned rulemaking, I don't know if we still refer to it that way,  
17 that's pretty emblematic of it being a continuous learning organization.

18 I do wonder a bit, and might challenge you all to think about,  
19 in the time before the rulemaking is finalized, can the current constructor of a  
20 site in Georgia benefit from the lessons learned?

21 I know we're working to be smarter and smarter about the  
22 way we're processing LARS, and I think we see that in the timeliness metrics  
23 and other things. But I'm wondering if there is anything systematic because

1 there's a lot of projections about nuclear energy in this country, but the  
2 likelihood of there being a similar opportunity to apply lessons learned on the  
3 construction of a reactor it might be, I have no idea, ten years, 20 years, 30  
4 years.

5 And it's the reason I prioritize the rulemaking is if we don't  
6 capture these insights now, I worry that when the nation confronts this next,  
7 they wouldn't be captured anywhere and we all would have long gone on to  
8 beaches or wherever it is that we fantasize about going.

9 But, you know, continuity isn't something we can guarantee  
10 so that takes me to what I see is the parallel topic of the Vogtle Readiness  
11 Group. Which is not entirely different for something we did from Watts Bar 2,  
12 and we found a good utility in that.

13 I think we started a little earlier in Vogtle, but we had a good  
14 reason for doing that. But starting later with Watts Bar 2, continuity of NRC  
15 staffing was a little bit easier to do.

16 And when you start earlier, you know that you're going to  
17 have to have mechanisms in place to do what I think Margie or Fred called a  
18 smoothing of, you're going to have transitions.

19 So let me say, the great irony, and life sends you many  
20 ironies, but for both the corps team, the corps review team concept and  
21 advanced reactors parallel to these readiness groups is, people want continuity  
22 and when they come to NRC they don't have to re-educate people about their  
23 technology or their project over and over again.

1                   The great irony though of these things is that we need really  
2 talented NRC staff to desire to be in these groups.

3                   And if in any way we created a perception that if it's a six year  
4 timeline, you won't really be considered for promotional opportunities for  
5 advancement, that's not terrible attractive to getting people interested to being  
6 on it. So, I appreciate the discussion about how you know that that's the fact of  
7 life.

8                   We also occasionally have very senior people, like Frank on  
9 there, and that's great. If they want to do that maybe towards the end of their  
10 career.

11                  And so there's a lot of reasons why you're going to need to  
12 smooth out and you're going to have some personnel changes. We can be  
13 thoughtful. We cannot do it arbitrarily. We can work to make it as smooth as  
14 possible, so I appreciate your focus on that.

15                  I also, we've heard about a number of papers. I think John  
16 Monninger mentioned a number of papers that have come to the Commission,  
17 that will be coming to the Commission.

18                  I feel you should always give it a tip of the hat where you can.

19                  I have found some of the recent papers to be well briefed, and it always  
20 reminds me of, now, well briefed doesn't necessarily mean short or long, so  
21 don't take it the wrong way, but I love that Mark Twain had so many great  
22 statements but one of them was, lacking time to write you a short letter, I wrote  
23 you a long one.

1 (Laughter)

2 CHAIRMAN SVINICKI: So, I will say some of the Fukushima  
3 papers that the Commission was having differing views about earlier were  
4 ponderously, ponderously long. So in hundreds of pages, what you're not doing  
5 is burying it in a 150 page paper.

6 And so, there is also the same brevity is the soul of wit. I  
7 don't want you to give such a superficial treatment, but I find you, in my own  
8 personal observation, to be hitting a good sweet spot there. So thank you for  
9 that.

10 And I wanted to note that I remember Commissioner Burns  
11 and I, there was some old paper that was undergoing, very old paper, that was  
12 undergoing review for public release. Sometimes you know the circumstances  
13 have changed and it now would meet the thresholds for public release.

14 But it was reading a series of very old papers from the agency  
15 and I found that somewhere in all our ability to use word processing technics  
16 and have all kinds of technology and tools, we've decided that more content is  
17 clarity, and it's not always. So there's a lot of things on the Commission's  
18 docket.

19 So, where you can hit the things and project yourself into the  
20 role of the decision maker saying, what would I want to know if I had to make  
21 this decision or approve this path forward, thank you for working on that, I  
22 appreciate that very much.

23 And I want to close, I wasn't going to talk about the merger,

1 other than my mention of it earlier, just to say it's important to remember, for the  
2 Commission or for me, I'll speak for myself, to be reminded of all the important  
3 things that you continue to push forward on, but it has been touched on in other  
4 questions so I want to say the following.

5 I'm speaking only for myself right now. And I'm not speaking  
6 as Chairman, but I would remind everybody, I have been here an awful long  
7 time on this Commission, so I was here for the FSME/NMSS merger, which we  
8 forget about. A lot of preparation went into that. And I would say, as a result, it  
9 went well.

10 I was meeting with our current Region II regional  
11 administrator earlier this week though and she reminded me that there wasn't  
12 as much duality of function there, that NRR, NRO is different. Boy, we've used  
13 a lot of acronyms today.

14 I was also reflecting on Chairman Macfarlane, he's like, don't  
15 use acronyms. So, I'm thinking of things like, I think ITAAC has been used  
16 today a number of times, that's one of my favorites.

17 But, anyway, that this one is requiring a little bit, it's a little, I  
18 think it's harder. I shouldn't say that because I didn't have to do the hard work  
19 on the NMSS/FSME merger, but this one I think is harder to get right.

20 I was on the Commission when we conceptualized this. This  
21 was, actually, this was born at the Commission level. It was a reflection of the  
22 realities of the workload decreasing in the new reactor area.

23 But one thing I just want to say, and I hope that everyone

1 would believe me, not because I'm me but because I've been, in all the  
2 discussions on all of this, there is absolutely no contemplation that there would  
3 be involuntary separations as a result of this merger.

4 So I'm just like anybody, I don't know what the future would  
5 bring, but I don't want to create that impression because this agency was, when  
6 we ramped up for the Renaissance, I've been here for that, we were over 4,000  
7 people in our staffing.

8 If we haven't slipped under 3,000, we're there any day now  
9 because I don't track the numbers every single day, it might be 2,990 or  
10 something like that. That's significant. From 4,000 people for a Renaissance  
11 that didn't occur, so we're at 3,000.

12 And I do not purport that we're perfectly right sized, we're  
13 doing strategic work force planning, I've been riding you all fairly hard on that  
14 for a long period of time.

15 But the other thing I know is, we use many expertise. Not just  
16 nuclear engineers, but I'm going to speak for myself, which is my educational  
17 background, we, maybe the Nuclear Regulatory Commission was mentioned  
18 like in one sentence of one textbook that I had in all the nuclear engineering I  
19 studied, you do not walk in the door here, we hire the best and brightest, we still  
20 have a lot of people when we occasionally have vacancies that at the entry  
21 level want to come here, you learn what we do, you learn it here at NRC.

22 And the notion that even if we find redundancies, we won't  
23 have something that is taking, oh, the NRC they know, expanding it by a little bit

1 of cross-training on some subject matter, that is so much more easier, and yes,  
2 cost effective, than trying to bring someone in from the ground up.

3 And I don't say it because we're so super special, but we're  
4 very unique in what we do. We have a ton of technical experts, legal experts,  
5 corporate experts. But they come inside the system and learn this process.

6 So, one of the Commissions, you know, I might have had the  
7 merger conclude a little bit earlier, but it was, its deliberative decision making  
8 where we all kind of have to come together where we can. It was a prolong  
9 time frame.

10 What that has allowed us to do is also to use attrition, natural  
11 attrition, to our advantage. So I know that vacancies are being artificially held  
12 open so that we can see if we don't need to fill it today, I know that there have  
13 been pre-merger consolidations.

14 And so, both NRR and NRO look different today. They're not  
15 merged, but they look different because we have begun with that end in mind.

16 And so, I personally cannot foresee, given that there is strong  
17 support for advance reactors, we're going to need to have people build  
18 competency and technologies that we've not historically regulated, I do not  
19 foresee that there is a need, post this merger, as we're doing this merger.

20 I think those, anyone we have, if we don't have work for them  
21 in the merged organization, we have it somewhere with a modest amount of  
22 cross-training or reassignment.

23 So, I'm way more worried about the fact that we have so

1 many retirement eligible people in this agency. Every December, in the weekly  
2 information report where we list all those things, and it's not that I don't know  
3 individuals are leaving, but I can look at that and see.

4 And I know Commissioner Baran has commented on this,  
5 before you get that last one of the year and you see those departure dates and  
6 you're like, oh Sue is leaving and Joe is leaving. And you know how much they  
7 know because you've engaged them over the course of the years.

8 So, I would like us, and I'm going to encouraging us, to really  
9 think systematically about opportunities to put some of the folks who don't have  
10 the longer runways here, because they're leaving voluntarily, with the more  
11 junior staff.

12 But it really is not just you're A game, but it's you're A+ game.  
13 But you got to be getting great clarity in light of uncertainty on what's going to  
14 be submitted and what the exact type of technology will be working on, the  
15 exact work we're going to have.

16 But the people we have who are impacted by this merger are  
17 a valuable asset to this Agency. And we did, I think we tried to balance  
18 prolonged uncertainty versus the fact that the more time we have, the smarter  
19 about it we can be. And I think we are doing that.

20 The thing about Fred with the perfect org chart, I told our  
21 current director of NRR, Ho Nieh, who presents at other meetings, came into  
22 the position, and one of the first things he had to meet with you about, Fred,  
23 was what we call wiring diagram. I guess we're a little geeky here, but it was



1 the org chart for the merger organization, which was still in draft, and he's like,  
2 well, look at this thing, you know, I got to make myself comfortable with this.

3 And I said, don't, do not search for the illusive perfect post-  
4 merger org chart wiring diagram. Anything, like anything in life you're going to  
5 do it, you're going to do your best and you're going to probably, in short order,  
6 decide that you need to make adjustments in six months or 12 months or 18  
7 months.

8 So, I think that's also some of it we're going to find that we  
9 might make some adjustments going forward but I'm not too worried about it.  
10 But I don't want to create a sense that I have.

11 And I said I'm not aware of any need for any completion of  
12 involuntary separations. Let me just say, that sounds like that, kind of a  
13 dodging that everybody does, oh, I'm not aware of that. No.

14 And I'm pretty hands on, and I think most of the people at  
15 NRC know that, so, if there were that intention, I would know about it, okay. I'll  
16 go so far as to say that much.

17 So, thank you for that. I just, I wanted to comment on a  
18 number of things. Thank you for the work that all of you are doing.

19 And I appreciate the pivoting in your decision making, which I  
20 think is inherent in a lot of what you're doing. Because that's we're about is  
21 looking, having issues presented, making the decisions.

22 The Commission does it all the time. It is an art form. And  
23 we look at, what do I need to make this decision, and then we're moving

1 forward.

2 I don't see it as like a dumbing down of things or a less than  
3 what we used to do, I see it as, what do we need to know, how are we going to  
4 get that information and how can we arrive at a timely decision.

5 So, I saw that spread throughout what all of you are doing, so  
6 I thank you for that. And I've gone on for a bit, but does anyone have any last  
7 minutes things? Okay, well, thank you all again and we are adjourned.

8 (Whereupon, the above-entitled matter went off the record at  
9 12:14 p.m.)