

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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STRATEGIC PROGRAMMATIC OVERVIEW OF THE
NEW REACTORS BUSINESS LINE

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THURSDAY,

SEPTEMBER 24, 2015

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ROCKVILLE, MARYLAND

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The Commission met in the Commissioners' Conference Room at the Nuclear Regulatory Commission, One White Flint North, 11555 Rockville Pike, at 10:00 a.m., Stephen G. Burns, Chairman, presiding.

COMMISSION MEMBERS:

STEPHEN G. BURNS, Chairman

KRISTINE L. SVINICKI, Commissioner

WILLIAM C. OSTENDORFF, Commissioner

JEFF BARAN, Commissioner

ALSO PRESENT:

ANNETTE VIETTI-COOK, Secretary of the
Commission

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NRC STAFF:

FRANK AKSTULEWICZ, Director, Division of New
Reactor Licensing

MICHAEL CHEOK, Director, Division of
Construction Inspection & Operational
Programs

LAURA DUDES, Deputy Regional Administrator for
Construction, Region II

MICHAEL MAYFIELD, Director, Division of
Advanced Reactors and Rulemaking

JOHN MONINGER, Director, Division of Safety
Systems and Risk Assessment

MARK SATORIUS, Executive Director for
Operations

GLENN M. TRACY, Director, Office of New
Reactors

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9:58 a.m.

CHAIRMAN BURNS: Good morning everyone. Before we start the meeting on the New Reactors programs, we do have an affirmation item to come before us. I'll ask the Secretary to lead us through that.

COMMISSIONER BARAN: On Tennessee Valley Authority, Watts Bar Unit 2, the Commission is being asked to act on a memorandum and order responding to Southern Alliance for Clean Energy's Petition for Review of the Atomic Safety and Licensing Board's decision in Licensing Board Panel 15-14, to deny Southern Alliance for Clean Energy's motion to reopen the record.

The Commission has voted to approve a memorandum and order that denies the Petition for Review. Would you please affirm your votes?

(Chorus of ayes.)

COMMISSIONER BARAN: Thank you.

CHAIRMAN BURNS: Okay, thank you, and we'll ask the staff to come forward and take their seats. Well good morning, welcome to the staff and members of the public who may be here or listening in to today's meeting. The purpose of today's briefing is to provide the Commission with a discussion of strategic considerations associated with the NRC's New Reactors Business Line, including the priorities, near and longer-term projections and trends, emerging focus areas and Project AIM recommendations.

1 We'll hear from a staff panel consisting of the Executive
2 Director for Operations and representatives of the Office of New Reactors in
3 our Region II Office in Atlanta. I look forward to today's discussion.

4 But before we move into our business today, I want to note
5 that today is Mark Satorius' last Commission meeting as EDO, unless we call
6 an emergency meeting tomorrow, I suppose. But I want personally thank him
7 for his two years sharing the 17th floor with my office and my predecessor,
8 Allison Macfarlane, and thank him for his more than 25 years of NRC service.

9 I got to know Mark, I think, in the early 90's when he was in
10 the Office of Enforcement and then the EDO's office, and it's always been a
11 pleasure to work with him. Mark has worn many hats along the way and had
12 many different addresses, including Region IV and Region III, as well as
13 headquarters.

14 His tenure included working during times of some of the big
15 challenges of the NRC, including the response to the terrorist attacks in 2001,
16 to the Davis-Besse vessel head incident and the Fukushima Dai-ichi accident,
17 as well as things like the shutdown in 2013 and working through that, and the
18 current challenges we have, we're facing and are addressing through Project
19 AIM.

20 He may not miss having to come into the briefing room here
21 periodically, but I hope he will miss us here in the Commission, and I know
22 he's contributed a lot to the mission of the Agency. So I think we all want to
23 extend him our best for his future plans. So thanks, Mark.

24 (Applause.)

25 COMMISSIONER SVINICKI: Could I?

26 CHAIRMAN BURNS: Yeah, Commissioner Svinicki.

1 COMMISSIONER SVINICKI: Well I -- thank you,
2 Chairman, and I'd just like to associate myself with your commendation of
3 Mark's long service, both to the NRC and to the United States. Thank you for
4 all that you've contributed and your long tenure in public service.

5 I want to note as well the Chairman made reference to the
6 fact that we've had a lot of complex issues over your tenure as EDO, and
7 that's certainly true. I want to personally thank you for helping us get such a
8 strong start to the Project AIM efforts, that perhaps while less visible outside
9 the building are a very significant undertaking here inside the NRC.

10 I think under your leadership, we've begun that very
11 strongly, and it will be carried forward by your successor. So thank you and I
12 wish you all the best.

13 MR. SATORIUS: Thank you.

14 COMMISSIONER OSTENDORFF: Mark, I can't pass up a
15 chance to also agree with my colleagues' statements of your dedicated
16 service and leadership here, and the many accomplishments that you ought to
17 be very proud of, the team you've worked with and your leadership efforts
18 have led to.

19 As a fellow boat school graduate who has chopped in
20 Bancroft Hall, sweated pennies to the wall and executed chow calls, you and I
21 share some common historical experiences.

22 MR. SATORIUS: Time tide information waits for no man or
23 woman.

24 COMMISSIONER OSTENDORFF: Absolutely, and we
25 could go on for a long time with that. We will not.

26 (Laughter.)

1 COMMISSIONER OSTENDORFF: Glenn's laughing over
2 there, for good reason. But seriously Mark, we're very proud of what you've
3 done here and very grateful for all you've done. Thank you.

4 MR. SATORIUS: Thank you.

5 COMMISSIONER BARAN: I was going to say that I agree
6 with all my colleagues for Mark, but I realize I actually understood only about
7 half of what was said. So I don't really want to align myself with that --

8 (Laughter.)

9 COMMISSIONER BARAN: I can only assume, Mark, that
10 you've long dreamed of ending your illustrious career at NRC on the high of a
11 business line meeting with the Commission. So congratulations it all worked
12 out for you that way, and you'll be missed and you've earned some time in
13 retirement. So congratulations.

14 MR. SATORIUS: Thank you, Chairman and
15 Commissioners. I appreciate your kind words, and yes, I'm at that point in my
16 career where I'm -- while this is the last time I am going to fill in the blanks. So
17 this is the last time I'm going to be at a Commission meeting.

18 I find it's somewhat surreal that I've worked eight, ten,
19 twelve hour days for the last 44 years, and now I find myself faced with
20 slowing down just a little bit. But I think what I'll miss the most are the great
21 people that are in this great agency, like some of the people that are sitting at
22 this table and in this room.

23 So I will miss the fellowship of seeing them on a daily basis.
24 But I will move on, and I guess apologies to Walter Cronkite, "and that's the
25 way it is, September the 24th, 2015." So with that Commissioner, I'll go
26 ahead and start the Commission meeting.

1 CHAIRMAN BURNS: Please.

2 MR. SATORIUS: So welcome Chairman and
3 Commissioners. Staff is here today from the Office of New Reactors as well
4 as Region II, to provide you a status update of the New Reactor Business
5 Line. The New Reactor Program has continued to achieve its goals over the
6 last year, in the midst of continued changes and first time implementation of
7 the oversight of construction under Part 52.

8 The efforts of our licensing and technical staff and the safety
9 findings by our construction and vendor inspections have had an important
10 and positive impact on the safe licensing and construction of new and
11 advanced reactors in the country.

12 I highlight especially the agility of the New Reactor Business
13 Line and its clear agency focus, as Glenn and his team have continued to be
14 leaders by example in the alignment of their resources to where the workload
15 was needed; reducing the program by one-third since 2012 and contributing to
16 the Agency's highest priorities, such as Fukushima follow-up, waste
17 confidence and operating reactor licensing, without negatively impacting their
18 ability to meet the business line goals and staff morale.

19 So now I'll turn the briefing over to Glenn.

20 MR. TRACY: Thanks Mike, Mark. Slide 3. Good
21 morning, Chairman, Commissioners. I'd like to open by acknowledging the
22 sudden loss of our highly respected colleague, Ralph Landry this week.
23 Ralph's extensive contributions over decades as a senior level advisor and a
24 senior reactor systems engineer were recently displayed during the
25 well-attended NRC-DOE workshop earlier this month.

26 As he provided his astute perspectives on the NRC's and

1 the predecessor agencies' licensing and oversight efforts on United States
2 non-light water reactor technologies. Ralph is deeply missed, but the
3 significant impact of his service is enduring.

4 I would like to acknowledge the important contributions over
5 the last year of our business line partners in Region II, the Advisory
6 Committee for Reactor Safeguards, the Office of General Counsel, NRR,
7 Research, NSIR, Investigations and Enforcement, and of course our
8 important corporate partners. Lastly, I'd like to recognize the New Reactor
9 Business Line executives, supervisors and staff implementing the program's
10 mission in the all-important construction resident inspectors and the vendor
11 inspectors in the field.

12 Our briefing today will provide an overview of the New
13 Reactors Programs goals, challenges, strategies, the management of our
14 resources and our vision for the future.

15 Slide 4 please. I'll begin with an overview of the anticipated
16 outcomes we have for the New Reactor Program. With NRR and Region II,
17 we continue to verify the safe construction and start-up of Watts Bar II, and the
18 four AP-1000 units at the Vogtle and V.C. Summer sites, which continue to be
19 our highest priority.

20 The staff maintains its effective oversight activities,
21 executing construction and vendor program inspections, verifying ITAAC
22 closure and developing and implementing initial testing programs. Since our
23 last briefing, the staff has demonstrated its focused review of two design
24 certifications.

25 The staff continues to embrace its safe closure and 42
26 safely initiatives, and we are completing and have completed our review of the

1 ESBWR design, supported by the mandatory hearing and the first combined
2 license application to reference that design, and issued a combined license to
3 DTE for the Fermi 3 reactor.

4 Two design certification applications, KHNP's APR1400
5 and Mitsubishi's U.S. advanced pressurized water reactor are currently under
6 review. The staff has developed and implemented its enhanced licensing
7 review strategies, including both management and peer-reviewed requests for
8 additional information, and the early development of succinct safety
9 evaluation reports guided by OGC training, to facilitate the safe completion of
10 the DC review in 42 months.

11 Specifically, the NRC accepted the APR1400 DC
12 application for docketing on March 4th of this year, and our enhanced
13 technical review is on schedule.

14 Slide 5 please. We're proactively engaging our
15 stakeholders for small modular and non-light water reactor technologies.
16 Based on both formal and informal communications with potential applicants,
17 the staff expects to receive two SMR applications in the near term, and
18 anticipates the first application to be received by the end of the calendar year
19 2016.

20 The staff is making progress in resolving both technical and
21 policy issues stemming from these innovative designs. The staff continues to
22 make progress in the development of guidance to support these reviews, such
23 as the design specific review standards.

24 The New Reactor Business Line is taking strategic steps to
25 prepare itself for the future non-light water reactor applications commensurate
26 with the pace of non-light water technology development, maturity, and within

1 the constraints of our budget. Examples include the NRC-DOE non-light
2 water reactor's public workshop, during which we opened a dialogue between
3 stakeholders and government, regarding pathways for the safe
4 commercialization and licensing of non-light water reactor technology, as well
5 as our leadership in advanced reactor regulatory forums across the globe.

6 Slide 6 please. This slide portrays a few key program
7 challenges for the New Reactor Business Line. We continue to see
8 fluctuation in the number and timing of applications, as well as the industry's
9 business interests. Several combined license applications have suspended
10 at the request of applicants. Applicants for small modular reactors have in
11 fact been delayed. Technology choices have been revised, and certain
12 applicants have reduced their specific support.

13 At the same time, certain stakeholders have shown keen
14 interest in emerging small modular and advanced reactor or non-light water
15 reactor technologies. We're experiencing the challenges of implementing
16 oversight to the first plants constructing under Part 52, as well as reviewing
17 applications for new combined license amidst arising issues and design
18 changes.

19 As the staff continues to implement new aspects of our rule,
20 the staff continues to be open to the identification of process areas for
21 clarification or improvement. New reactor designs currently under review or
22 anticipated include new and advanced features that create technical and
23 policy challenges that must be addressed.

24 The NRC is considering approaches that could be used
25 within the existing licensing processes under 10 CFR 50 and 52, to provide
26 both small modular and non-light water reactor technologies and designers'

1 early regulatory feedback prior to their submission of a design or a license
2 application.

3 As we anticipate receipt of advanced designs for review
4 over the next several years, we're seeking out areas where our staff's skills
5 will need further enhancement.

6 Slide 7. Here are a few of the strategies we will address
7 the aforementioned challenges. I mentioned previously that the new reactor
8 environment continues to fluctuate, and the New Reactor Business Line must
9 continue to be very agile in the use of its appropriately-declining resources.

10 We continue to demonstrate that our agency focus, through
11 the execution of our office and business line reductions through attrition, the
12 well-coordinated transfer of staff and the careful recruitment of necessary
13 critical skills are conducted where needed. We carefully manage our
14 resources to align with the projected work, the changes in the industry's plans
15 and other external factors.

16 As the planning for Project AIM has emerged, we worked to
17 integrate those efforts with the plans that we have into the agency's long range
18 planning project. Because we're implementing a new licensing process, we
19 understand the value of periodically reviewing the effectiveness of our
20 processes and how we can improve them.

21 As you're aware, NRO previously conducted two formal
22 lessons learned on the activities of Part 52, both licensing and
23 implementation. We're currently completing a formal assessment on the
24 staff's experiences in reviewing design certification applications to date.

25 At our briefing to you last year, we reported that a transition
26 plan had been developed. The staff continues to implement that plan to

1 ensure the agency will be prepared for the four AP1000 units transitioning
2 from construction to operation in the 2019-2020 time frame.

3 The NRO management team has taken initiatives to
4 communicate with its licensees, applicants and future applicants where there
5 are emerging technical or regulatory issues that could impact safe
6 construction or our ongoing design and licensing reviews.

7 In the area of small and advanced reactors, this proactive
8 engagement ensures that our agency will be prepared to review those
9 applications when they arrive, by having the appropriate infrastructure and
10 processes, as well as the appropriate number of staff with the critical skills.

11 I've provided an overview of our business line's activities.
12 The rest of today's briefing will expand on the areas I just covered. Members
13 of the program management team will discuss our accomplishments,
14 challenges and strategies in each of the areas. I'll now turn the presentation
15 over to Frank Akstulewicz, who will discuss large light water reactor licensing
16 and completing the work in front of us. Frank.

17 MR. AKSTULEWICZ: Thank you, Glenn. Slide 8. Good
18 morning Chairman and Commissioners. NRO has been working diligently to
19 complete the work before us. The office recently reorganized, moving the
20 licensing portion of small modular reactor projects into the Division of New
21 Reactor Licensing.

22 This allows the office to manage the certification and
23 licensing of all new reactors consistently, regardless of whether the
24 application supports a large light water reactor or a small modular reactor
25 design.

26 Slide 9, please. In fiscal year 2015, NRO completed 32

1 licensing amendment requests in support of construction activities for Vogtle
2 and Summer. For fiscal year 2016, NRO plans to continue our emphasis on
3 regulatory activities in support of Vogtle and Summer, and we anticipate
4 approximately the same number of license amendment requests in support of
5 those activities.

6 As construction progresses, we are beginning to see the
7 license amendment request change from a more structural nature to requests
8 involving systems, structures and components. In February of 2015, the
9 Commission held a mandatory hearing for the Fermi 3 COL application, and
10 NRO subsequently issued the combined license.

11 We expect fiscal year 2016 to be a year with multiple
12 mandatory hearings, including hearings for the South Texas Project and
13 PSEG. Pending closure of the AP1000 emergent issues, the staff may also
14 request a mandatory hearing for the Levy COL application. NRO will
15 continue to complete design certification reviews in a manner that assures
16 safety, but also meets scheduled milestones.

17 Currently, the review of the application for the APR1400
18 design certification is on schedule, to demonstrate that a 42 month review is
19 feasible. The staff continues to review the Mitsubishi US-APWR application
20 as the resources permit by the applicant.

21 In anticipation of the NuScale small modular reactor design
22 certification application, the staff will engage the applicant as appropriate,
23 through pre-application meetings and assessments.

24 Slide 10 please. The staff has been working hard to wrap
25 up the active COL application reviews for the large light water reactors. This
26 month, we will complete the technical review for the South Texas Project, and

1 will issue the final safety evaluation report.

2 Subsequently, the staff will be initiating its request for a
3 mandatory hearing. We have completed the technical review for the Lee
4 Station COL application, except for the resolution of the emergent generic
5 issues impacting the AP1000 design center. We have also made substantial
6 progress in completing the technical reviews for the remaining North Anna
7 and Turkey Point COL applications.

8 NRO continues to make progress on the emergent issues
9 that have lengthened the reviews of the AP1000 COL community, especially
10 the Levy COL application. We hope that by midyear 2016, the staff will have
11 a final safety evaluation that will have received the necessary ACRS review
12 and would permit the staff to request a mandatory hearing.

13 Closure of these emergent issues would permit the staff to
14 rapidly complete the final safety evaluation for the Lee Station COL
15 application, with a mandatory hearing request shortly thereafter. The staff
16 recently completed the technical review for the PSEG early site permit
17 application, and issued its final safety evaluation report this month.

18 NRO expects to receive a new early site permit application
19 in January of 2016 from the Tennessee Valley Authority for an undetermined
20 SMR design at the Clinch River site. The staff completed its pre-application
21 readiness assessment interactions this month, and believes TVA is making
22 good progress on its application.

23 Slide 11, please. As expected, fiscal year 2016 continues
24 to present many challenges to licensing activities. The business line
25 continues to put emphasis on its safe closure process, to focus management
26 attention on safety or environmental matters, to ensure the safe resolution of

1 these technical issues in a timely manner.

2 The business line continues to meet the challenge of
3 managing resources effectively in response to its workload. Balancing
4 resources to complete multiple mandatory hearings in fiscal year 2016, while
5 continuing to support the technical reviews of ongoing active combined
6 license and design certification applications will strain our limited resources in
7 certain skill set areas.

8 The business line continues to use tools such as resource
9 plans, budget formulation to prioritize workload priorities, and to flow critical
10 resources to support review milestones and mandatory hearings.

11 Slide 12, please. The office continues to resolve regulatory
12 gaps in infrastructure needs, which will be discussed further in the next
13 presentation. The office has effectively engaged with future applicants to
14 conduct the appropriate level of pre-application interactions. The staff uses
15 these actions to identify any issues that would interfere with an application
16 being docketed, or the staff's ability to complete the schedule review of an
17 SMR design certification application in 39 months.

18 The staff plans to finalize the draft safety review standard for
19 the new scale SMR design in anticipation of the application submittal in fiscal
20 year 2017. NRO will continue to effectively use readiness assessment audits
21 during the pre-application phase, to determine if an application contains the
22 necessary technical information prior to being submitted for an acceptance
23 review.

24 Slide 13, please. NRO continues to look ahead at the
25 future licensing work for the office in fiscal year 2017 and beyond, so that we
26 can continue to meet our licensing mission. The office will continue its

1 emphasis on licensee regulatory activities. We expect to see a consistent
2 amount of license amendment requests in support of construction at licensed
3 facilities.

4 In addition, we expect to have a further wave of mandatory
5 hearings for the remaining active COL applications that will be completing
6 reviews late in fiscal year 2016, including potentially Lee, North Anna and
7 Turkey Point.

8 Slide 14, please. Looking at fiscal 2017 and beyond, the
9 office expects some growth in its design certification application reviews.
10 NRO plans to continue the review of the KHNP certification application, and
11 will begin the rulemaking process in fiscal year 2017.

12 We will complete the review of the US-APWR
13 design certification and will begin rulemaking activities for that application as
14 the applicant's resources can support. If docketed, the staff will actively
15 engage in the review of the NuScale SMR DC application, which is expected
16 in December of 2016. It is also possible that AREVA may wish to resume the
17 review of the US-APWR design certification application.

18 We plan to have early pre-application meetings with Holtec,
19 related to their SMR design review. The staff is awaiting revised applications
20 for the GEH and Toshiba ABWR DC renewals, and expects the Westinghouse
21 AP1000 design certification renewal application.

22 As the office wraps up the reviews of the pending large light
23 water COL applications, our emphasis will turn to new small modular COL
24 applications. The office anticipates two new SMR COL applications, one
25 from TVA for its Clinch River site, and the other is from the Utah Associated
26 Municipal Power Systems for a proposed plant in the western U.S.

1 The staff will continue its review of the Clinch River early site
2 permit, and will continue to engage the Blue Castle early site permit applicant
3 to conduct a readiness assessment on it and acceptance review for an
4 application expected to be submitted in fiscal year 2017.

5 This concludes my portion of the presentation. I now turn it
6 over to Mike Mayfield, who will discuss in more detail the small modular
7 reactor policy and regulatory issues in the advanced reactor program.

8 MR. MAYFIELD: Thank you, Frank. Good morning
9 Chairman, Commissioners. In the next few minutes I'm going to touch on our
10 efforts to address policy issues affecting small modular reactors, and in broad
11 terms what we're doing to address advanced reactors.

12 May I have Slide 16, please? In 2010, the staff provided a
13 paper to the Commission that identified technical and policy issues that
14 needed to be resolved to support design certification and combined license
15 reviews for small modular reactors.

16 In the intervening years, the staff has actively engaged the
17 industry and particularly the SMR vendors to fully define the issues and to
18 explore viable approaches to their resolution. We have briefed the
19 Commission on the issues, and the staff's plans and approach to bring about
20 their resolution.

21 While we have made good progress, we continue to work
22 with domestic and foreign stakeholders to further refine our approaches. For
23 example, we worked with the International Atomic Energy Agency to develop
24 the SMR regulators forum, and my deputy, Deborah Jackson, co-chairs the
25 forum, which has representatives from nine countries. The forum will
26 develop policy position papers on key issues for suggested revisions to

1 existing or the development of new IAEA documents.

2 Bringing the staff's proposal to the Commission using SECY
3 papers as early in the process as possible is a critical step in the overall
4 resolution process. The recent example of a proposed approach to address
5 emergency planning, which was provided to the Commission in
6 SECY-15-0077, demonstrates that early engagement with the industry and
7 the Commission will provide a resolution that will support review of license
8 applications so they can proceed along a well-defined regulatory pathway.

9 Early engagement with the staff has also led to timely
10 resolution of an issue that was seen by the industry as an impediment to them
11 demonstrating economic viability of SMRs. Input from the industry, coupled
12 with the independent assessments by the staff, resulted in a proposed
13 approach to establishing annual fees for SMRs.

14 Again, active engagement by the staff and the industry is
15 leading to a timely resolution of this issue.

16 Slide 17, please. We are proactively engaged with the
17 non-light water reactor community to support possible licensing of these
18 technologies in the future. The primary challenge in this area is the
19 perception that the existing regulatory framework may not be applicable to the
20 non-light water reactors.

21 We believe that the existing framework can be adapted to
22 any of the technologies currently under development. While we're confident
23 in our approach, the non-LWR community is concerned about regulatory
24 uncertainty in terms of cost and timeliness for the reviews, and would prefer to
25 see a process that uses a step-wise process and a process that's stepwise in
26 its nature.

1 At this stage, we are exploring options and considering what
2 changes could be made to address their concerns. While we're considering
3 these broader change options, we are moving forward to make incremental
4 changes that will provide useful information. For example, we have engaged
5 the Department of Energy in a two-phase process to develop general design
6 criteria applicable to the non-LWR technologies.

7 In the first phase, DOE worked with the National
8 Laboratories and interested commercial entities to develop a report proposing
9 a set of general design criteria that would be applicable to the non-LWR
10 technologies.

11 The staff is reviewing that report and will develop regulatory
12 guidance to put forth staff's assessment and appropriate general design
13 criteria. We anticipate publishing a draft of this guidance in early 2016.
14 There's a common perception that the international community is well ahead
15 of the NRC in terms of licensing and operating non-LWRs.

16 Certainly, a number of countries are supporting non-LWRs.
17 Currently, a number of countries have non-LWRs in operation and looking at
18 various technologies. While there are active programs in other countries,
19 there is limited communication among those regulators about what are
20 appropriate licensing and regulatory criteria for those technologies.

21 We proposed to the nuclear energy agency an initiative to
22 bring interested regulators together to discuss common interests, practices
23 and problems. As a result, the group on the safety of advanced reactors was
24 formed. The group is co-chaired by Anna Bradford, the chief of the
25 Advanced Reactors and Policy Branch in my division, and by Stephanie
26 Coffin, the deputy director of the Division of Systems Analysis in the Office of

1 Research.

2 There are seven countries participating in this group, and in
3 fact they are having their second meeting this week. We have expectations
4 that the resulting reports and discussions from the group will provide insights
5 and approaches that can be used to ensure the safe, secure and
6 environmentally responsible uses of these advanced technologies.

7 Finally, let me return to the theme of active engagement
8 with stakeholders. We held a workshop on the advanced reactors on
9 September 1st and 2nd of this year. The workshop was attended by over
10 300 participants, to include technology developers, national laboratories,
11 academia, international participants and vendor capitalists.

12 We're also working with DOE to consider further workshops
13 to address key issues, such as the fuel cycle that's applicable to these
14 developing technologies. This concludes my remarks and now let me turn to
15 Laura Dudes.

16 MS. DUDES: Thank you, Michael. Good morning. I will
17 begin with the status of Watts Bar Unit 2, which will likely be the first new
18 nuclear power plant to operate in the United States in nearly 20 years.

19 The staff has completed the majority of our planned
20 inspections, including recent inspections of hot functional testing,
21 pre-operational testing and an operational readiness assessment inspection.

22 Once TVA completes a few functional turnovers, the Region
23 II staff will then prepare a memorandum to the director of the Office of Nuclear
24 Reactor Regulation, summarizing Region II's construction inspection activities
25 and providing a recommendation as to the reasonable assurance that the
26 facility has been constructed and will operate in accordance with the license

1 when issued.

2 I do want to take a moment to recognize all of the inspectors
3 across all of the regions who have supported the effort, adapted to the
4 changing construction and testing schedules, and I say this, that sometimes
5 they work nights and weekends to get this done, to make sure that NRC was
6 in the right place at the right time.

7 Slide 19, please. Construction activities are moving
8 forward at the AP1000 sites. On any given day, there are approximately
9 5,000 or more engineering quality control and craft workers on site. Key
10 milestones include the recent installation of the reactor cavity and steam
11 generator compartment module on each of the leading units, Vogtle Unit 3,
12 Summer Unit 2. Installation of reactor vessel and steam generators for these
13 units is projected in 2016.

14 As these structures take shape, we should begin to see
15 installation of components such as the passive cooling tanks, pipe beam valve
16 pipe supports, pumps. Assembly of the shield building is in progress and will
17 continue until the passive containment cooling water tank is placed on top of
18 the structure, about a year before fuel load.

19 The NRC staff has adapted to this dynamic construction
20 environment and is on pace with planned inspections test analysis and
21 acceptance criteria or ITAAC inspections, as well as our programmatic
22 inspections. We've improved our internal processes to identify single points
23 of accountability for inspection scheduling, and that allows our inspectors to
24 focus on technical work.

25 At this point, we do not anticipate problems with the
26 execution of our ITAAC inspections, and can readily adapt to changing

1 construction schedules.

2 Slide 20, please. We continue to conduct high quality
3 value-added inspections at the right time. I would like to highlight a recent
4 inspection by Coleman Abbott, who is our resident inspector at the Vogtle
5 construction site. This finding reflects the high quality, training and
6 performance of all of our inspection staff.

7 Prior to performing his field observations, Mr. Abbott
8 conducted an in depth review of the construction codes, licensing basis and
9 detailed construction drawings. So out in the field, he was able to identify
10 that there was a failure to correctly translate the licensing basis for the size of
11 a welded connection between structural steel plates and mechanical couplers.
12 These systems are used as part of the overall structural design of the plant.
13 And an example of one of these couplers is pictured in the lower left corner.

14 Pictured in the lower right corner is one of the largest
15 module lifts to date at the construction site. This module, weighing over 2.4
16 million pounds, will form the walls for the pressurizer and steam generator
17 rooms. Numerous inspections were conducted of the vendors supplying the
18 submodules, and also of the onsite fit up prior to the transfer into the
19 containment vessel, which that transfer is shown in this photo.

20 Slide 21, please. We continue to lean forward to
21 understand potential challenges on first-of-a-kind issues, and adapt our
22 approaches accordingly. I'm going to highlight three of these today. First,
23 the initial test program. We've worked closely with the program office to
24 establish inspection procedures for the initial test program and first-of-a-kind
25 testing, and we're incorporating lessons learned from Watts Bar II and
26 international construction projects into these procedures.

1 I'm going to take a moment to recognize Cynthia Taylor,
2 who's in the well with us today. She is a senior construction project inspector
3 for Region II, and she has the lead for operational programs and first-of-a-kind
4 test planning.

5 Right now, Cynthia is supporting Tim Steadham and Hyung
6 Je, who are also Region II inspectors, who in cooperation with our regulatory
7 partners in China are on assignment at Sanmen, to observe activities such as
8 local leak rate testing, plant monitoring system testing, passive core and
9 containment pre-operational tests.

10 We receive weekly updates on our activities, and to date
11 they have suggested several refinements to our inspection and plans and
12 what's very valuable is this is based on our firsthand observations of these
13 tests. Tim and Hyung are pictured with their counterparts in China in the
14 lower left portion of this slide.

15 The photo in the lower right hand corner is the first course of
16 the prefabricated shield building panels being installed at Summer Unit 2.
17 This is a unique structure and early communications to assure that the
18 constructed building meets the licensing basis will greatly help facilitate our
19 inspection activities.

20 The staff has conducted two public meetings with the
21 vendor and licensee to establish a common understanding of how the critical
22 parameters will be translated into the construction drawings.

23 To stay ahead of future resource and first-of-a-kind
24 challenges, and with a shared goal of having high quality, highly trained
25 operators licensed when these plants are ready to load fuel, the staff is
26 working to identify and resolve potential challenges to the time frames

1 associated with administration of the written exams, simulator operating
2 exams and in-plant job performance evaluations. We do expect to have
3 these issues resolved by the end of this year.

4 To address the last bullet on this slide, which has to do with
5 resources and the future, Region II has employed a resource management
6 strategic initiative to cross-train staff in various disciplines, including operating
7 reactors, fuel cycle facilities and construction inspection.

8 We have established training and rotational priorities for all
9 Region II staff who want to broaden their knowledge base. We also support
10 those who want to remain focused in a particular expertise, and encourage
11 them to use that expertise in other mission work such as supporting licensing
12 reviews when needed.

13 These efforts will assure that all staff are engaged in
14 meaningful work, while we retain our unique expertise if at some time
15 additional construction projects emerge in the future.

16 Slide 22, please. In 2014, the staff issued an assessment
17 of our readiness to transition from construction to operation. This was the
18 report. This report contains 21 readiness items and corresponding
19 recommendations, to prepare the Agency for the AP1000 transition to
20 operations.

21 Key items include development of training programs and
22 updating our operational procedures across the offices, to reflect the unique
23 safety features of the AP1000 and the new risk models that may be
24 associated with that. Region II is a key partner in implementing these
25 recommendations, and we're focused on Item 21, which is the training and
26 development of operational staff to become residents at these future sites.

1 Our plan will be heavily informed by what we are doing at
2 the Watts Bar Unit right now, which involves the construction resident staff
3 transitioning through pre-operational startup testing into plant operations,
4 adding operational skill sets at certain transition points, and then reassigning
5 construction personnel back to other mission work, as the facilities transition
6 into the reactor oversight process.

7 So that concludes my prepared remarks. I will now turn it
8 over to Michael Cheok.

9 MR. CHEOK: Thank you, Laura and good morning
10 Chairman, Commissioners. Slide 24, please. The vendor inspection
11 program has continued meeting our objectives. We continue to verify the
12 effective implementation of vendor quality assurance programs, and to verify
13 that design requirements contained in the licensing documents are correctly
14 implemented into engineering, procurement and fabrication activities.

15 We are verifying that licensees are providing effective
16 oversight of the supply chain, and that the quality of materials, equipment and
17 services supplied by vendors is consistent with regulation.

18 We have provided timely allegation support at vendor
19 facilities. Our staff had a busy year, completing 39 inspections, with an
20 emphasis on suppliers and on fabrication and test facilities that support the
21 construction at Vogtle and V.C. Summer.

22 Vendors were selected based on their performance history,
23 the complexity and safety significance of the product or service and targeted
24 reviews of Inspections, Tests, Analysis and Acceptance Criteria or ITAAC. In
25 2015, we performed 14 inspections of vendors working on ITAAC-related
26 components and services.

1 The staff identified four findings that must be addressed by
2 the licensees before fuel load. Three or four findings associated with
3 qualification testing. The fourth pertained to improper controls of measuring
4 and test equipment. We also performed several inspections in support of the
5 operating reactor fleet.

6 We identified several safety issues including the
7 under-irradiation of equipment required for environmental qualification; the
8 failure to identify issues that could cause battery failures; the use of
9 inappropriate materials in safety valves; and the shipment of a faulty power
10 range detector to a site.

11 The photo in this slide is from an inspection of V.C. Summer
12 reactor vessel at Doosan Heavy Industries in South Korea.

13 Slide 25, please. At previous Commission meetings, we
14 informed you of several issues with the design and fabrication of components
15 for the AP1000 plants. We have seen progress in each of these areas. The
16 AP1000 uses first-of-a-kind design for squib valves in several safety
17 significant functions.

18 There were challenges associated with the design
19 validation and qualification of these valves, including issues that were NRC
20 identified. Other concerns included water leakage into the valves and
21 material control issues. As a result, the vendor has implemented design
22 changes and has retested the valves using an augmented test program.

23 We have observed several of these tests and have
24 reviewed test results and test procedures. With final testing scheduled for
25 next month, it appears that the previously identified issues are coming to
26 resolution.

1 There were also several challenges associated with the
2 design and manufacture of AP1000 reactor coolant pumps. These included
3 a failure of truss bearings during loss of cooling water test, and a failure of a
4 truss shoe clip during operational testing.

5 More recently, a small fatigue crack was identified on a
6 pump impeller following endurance testing. The RCP vendor has informed
7 us that they have identified the causes of these failures, and have
8 implemented design changes.

9 Over the past 15 months, we performed two inspections to
10 observe RCP test activities, and to review the vendors' problem identification
11 and corrective action processes. Our next inspection is planned for January
12 of 2016, during the fabrication and testing of the RCPs that will be shipped to
13 Vogtle and V.C. Summer.

14 Inspection of safety significant digital instrument and control
15 systems for AP1000 is ongoing. Over the past year, we focused on two
16 issues: the protection and plant monitoring system or PMS, and the integrated
17 system validation for the AP1000 main control room design.

18 The PMS inspection found that the vendor programs are
19 generally adequate, but we did identify three findings associated with ITAAC,
20 two related to qualification and one related to the safety to non-safety system
21 isolation.

22 This integrated system validation inspections identified
23 simulator fidelity issues that could affect the ability to train and to test reactor
24 operators. The vendor is actively working to resolve these issues.

25 As you're aware, the NRC has documented a significant
26 number of issues associated with the AP1000 module fabrication. I have

1 encouraging news in this area. During our December 2014 inspection at
2 CB&I Lake Charles, we observed improvements in their safety culture. We
3 also noted that the facility's processes are now capable of addressing safety
4 issues, to prevent their recurrence.

5 We will continue our -- to monitor activities at CB&I Lake
6 Charles, and also other vendors that are fabricating modules. The photos on
7 this slide show inspection activities on the heat treatment reactor coolant
8 system piping, and testing of the AP1000 14 inch squib valves.

9 You can get a good idea of the uniquely large size of the
10 squib valves by looking at the inspectors. They're standing in the
11 background of the second picture.

12 Slide 26, please. We have continued to be more
13 risk-informed in selecting facilities for inspection, as well as in our inspection
14 scope. Our inspections are now more technically focused, with emphasis on
15 qualification and testing and on design work, especially those associated with
16 targeted ITAAC.

17 As discussed in our July Commission briefing on ITAAC, we
18 have implemented a vendor inspection module in the Construction Inspection
19 Program Information Management System. With this module in place,
20 construction inspection and vendor inspection activities are better integrated.

21 Construction inspectors and ITAAC reviewers now have
22 ready access to all ITAAC information and findings by component. For better
23 efficiency, the NRC continues to participate in joint inspections through
24 bilateral agreements in the Multinational Design Evaluation Program.

25 In 2015, we participated in seven vendor inspectors
26 involving regulators from Canada, China, France, South Korea and the United

1 Arab Emirates. The photo on this slide shows inspectors from the NRC and
2 from the Chinese regulator in front of the top portion of the reactor coolant
3 pump.

4 This bilateral inspection occurred in July, and focused on
5 the results of an RCP endurance test. Johnathon Ortega, sitting behind us
6 today, is a key member of our inspection staff, and he was one of the NRC
7 representatives at this inspection.

8 Slide 27, please. An important improvement in the vendor
9 inspection program is the implementation of the recommendations from the
10 San Onofre Nuclear Generating Station Lessons Learned Report. We have
11 documented a process to conduct design verification inspections at vendor
12 facilities during the fabrication of safety-related major plant modifications.

13 We are coordinating with NRR and with the regions to
14 identify situations for these inspections. Yamir Diaz-Castillo, also sitting
15 behind us today, has been instrumental in leading this effort. Earlier Frank
16 Akstulewicz discussed licensing activities related to NuScale and to small
17 modular reactors.

18 Our vendor inspectors have already been on site at
19 NuScale, and have inspected their QA program as well as the initial design
20 testing. We have also begun to look at potential inspection issues that may
21 arise during the fabrication of SMRs. Because most fabrication and ITAAC
22 activities will take place at the vendor facility, small modular reactors present a
23 new challenge for vendor inspection.

24 We are looking into the most effective ways for NRC
25 oversight at these facilities, and we will inform the Commission of potential
26 policy issues in this area. On a related note, the staff is continuing to work

1 with stakeholders on a set of standardized ITAAC, which could be applied to
2 the upcoming NuScale submittal, as well as to all future design certifications.

3 Although some differences remain in the formalizing of a
4 standardized list, substantial progress has been made to enhance the clarity
5 and consistency of ITAAC. The photo on this slide shows the NRC staff
6 during our inspection last month at the NuScale integral system test facility.

7 This scale model will be used to obtain real time integral
8 effects data to support plant transient analysis and computer modeling. This
9 completes my presentation. Glenn Tracy will now talk more about our
10 international activities and about Project AIM.

11 MR. TRACY: Thank you, Mike. Slide 28. The New
12 Reactor Business Line international mission continues to focus on leveraging
13 our resources and extensive regulatory knowledge with the experience of our
14 regulatory counterparts around the world.

15 We proactively engage with the international community
16 through mutually beneficial exchanges of information on the regulatory
17 oversight of design, siting and the construction of new reactors.

18 We engage the broad international community through
19 vendor inspections, strategic bilateral cooperation, the multinational design
20 evaluation program and other multinational venues and activities. The New
21 Reactor Business Line continues to gain important insights for our oversight of
22 the four AP1000 sites under construction in Georgia and South Carolina,
23 through our bilateral interactions with the NRC's Chinese regulatory
24 counterpart, the National Nuclear Safety Administration.

25 Over the last year, we've held multiple information
26 exchanges through workshops that focus on key areas of mutual interest.

1 The NRC staff have been and they are on foreign assignment at Sanmen,
2 witnessing ongoing construction, design changes, reactor operator training,
3 licensing and start-up testing.

4 Next month, NRO and Region II staff will participate in an
5 initial test procedures meeting at Haiyang, which will further NRC staff insights
6 on our regulatory oversight at the AP1000 sites in the United States and our
7 commissioning tests. New Reactor Business Line staff continue to hold key
8 leadership positions in the Multinational Design Evaluation Program, which
9 fosters cooperation among 14 countries in evaluating the designs of new
10 power plants, including the AP1000, the EPR, the APR1400 and the ABWR.

11 Staff participate in seven working groups and we lead three.
12 We gain valuable insights from the participating countries that are also
13 reviewing similar applications, and overseeing the construction of similar
14 designs. This week, we're leading an AP1000 working group meeting here in
15 headquarters with our colleagues from four other nations.

16 Another way the New Reactor Business Line leverages its
17 resources is through the Vendor Inspection Cooperating Working Group.
18 The staff uses its participation in the Vendor Inspection Cooperating Working
19 Group to benefit from the results obtained from other regulators' efforts at
20 inspecting vendors, to participate in joint multinational inspection of vendors in
21 accordance with common quality assurance and management requirements,
22 to understand the similarities and differences between regulators' approaches
23 and quality assurance requirements, and to focus vendor attention on the
24 risks of counterfeit, fraudulent and suspect items.

25 These joint inspections are primarily used for planning and
26 prioritization of the future U.S. NRC inspections. However, if NRC inspectors

1 should identify issues that need prompt NRC interaction, an NRC vendor
2 inspection will in fact be planned and executed.

3 Additionally, an NRC inspector is allowed to independently
4 issue inspection reports for issues identified and inspected during these
5 multinational joint inspections. Over the last year, the NRC staff has
6 participated in joint vendor inspections with France, the United Kingdom and
7 South Korea.

8 These activities provide us a very unique opportunity to
9 enhance our efficiency and effectiveness in global vendor oversight.

10 Slide 29. Our highlight, as Mike Mayfield mentioned, we're
11 leveraging our regulatory experience in our global engagement on small
12 modular and non-light water reactors, by establishing and in fact leading
13 separately with IAEA and NEA, a regulator's forum for SMRs, and a group on
14 the safety of advanced reactors.

15 Slide 30, please. The Project AIM recommendations
16 emphasize the proactive planning and agency focus that the New Reactor
17 Business Line staff have been trying to undertake for some time. In addition
18 to contributing to the agency-wide recommendations, the staff is moving
19 forward with implementing two specific recommendations in Project AIM:
20 evaluating the use of Centers of Expertise and developing a transitional plan
21 for the merger of NRO and NRR.

22 The recommendations to evaluate the effectiveness of our
23 existing Centers of Expertise to determine whether expansion of this
24 organizational model will lead to greater effectiveness, efficiency and agility in
25 accomplishing the Agency's mission. As the Agency's Center of Expertise
26 for vendor inspections and the recipient of effective support from NRR's COE

1 on electrical engineering, we have considered our experiences and lessons
2 learned to develop with NRR a joint NRR/NRO office instruction.

3 We have also worked with our partners across the entire
4 agency to develop a definition of COE's for agency-wide use, and to identify
5 and evaluate candidate COEs. The staff is on track to provide to the
6 Commission a paper on this topic in November.

7 Slide 31. Regarding the transitional plan for a merger of
8 NRR and NRO, we have continued to openly discuss this topic with the entire
9 NRO staff, and we're developing a business case for a potential merger, which
10 will include a description of projected efficiencies, challenges, as well as
11 decision-making targets.

12 The business case will take into consideration the
13 anticipated future work of the New Reactor Program that you've heard about
14 today, and develop specific milestones considering the lessons learned from
15 the formation of NRO in 2006, as well as the recent merger of NMSS and
16 FSME. The proposed plan will be communicated to the Commission next
17 year.

18 Slide 32. In summary, we hope our presentation today has
19 in fact demonstrated our high level of engagement and our ability to deliver
20 safe and timely license amendments to support ongoing safe construction, our
21 safety impact on vendor fabrication and onsite construction, our sincere
22 efforts to continually improve and safely complete the current design
23 certification and combined license applications before us, our efforts to
24 prepare for small modular and advanced reactor design applications. This
25 concludes our presentations and we're very happy to respond to your
26 questions. Thank you.

1 CHAIRMAN BURNS: Thank you, and we'll begin this
2 morning with Commissioner Svinicki.

3 COMMISSIONER SVINICKI: Well good morning and
4 thank you for your presentations. I always look forward to these business
5 line meetings, because I think that as we're focused a lot on where we're
6 headed under Project AIM, we need a clear view of where we are. I think that
7 these business line meetings, while perhaps a little bit mundane, give us that
8 moment to look at where we are.

9 I'll blame Mark for this, since he made these eloquent
10 musings on his career. He's made me a little bit kind of nostalgic, and I'm
11 thinking that, as I listen to each of you talk, that my time here substantially
12 overlaps with the existence of NRO. I think you mentioned, Glenn, it was
13 established in '06. I was thinking '07, but maybe that's when it really kind of
14 coalesced and got up to operational tempo.

15 So when I reflect on the significant achievements over -- for
16 the Agency as a whole over that time, although all of our nuclear safety and
17 security missions is very essential to the country, the really signature high
18 visibility projects have been -- it's been the Office of New Reactors that's had
19 the lead on that during my time here, the Vogtle and Summer activities.

20 There is really important -- there are really important
21 milestones that are coming up in the next 12, 18, 24 months for again the New
22 Reactors Business Line, where NRO takes the lead there. I know you've got
23 a lot of other organizations to support you and Region II, of course, has a very
24 essential role there.

25 But Glenn you -- one of the last topics you talked about was
26 Project AIM, and looking at our structuring, our work forecasting going

1 forward. Whatever happens there, this is again my view, but whatever
2 happens with the Office of New Reactors, the truth of the matter that some of
3 our highest visibility work is going to still be this business line, that is still true,
4 no matter what form.

5 Organizations, to my mind, are separate and distinct from
6 the important work in front of us, and I couldn't help but reflect on my time at
7 the Department of Energy. Began in their Idaho Operations Office. In my
8 time there, I was personally reorganized three times in five years.

9 But the one thing that was clear to me that could cause a lot
10 of anxiety if you're an employee, and you know, was a nuclear engineer and I
11 got moved around a lot, but what was made clear to me was not my
12 capabilities and talents, such as they were, had a place in the organization.

13 So as we look at the future of this business line and the
14 women and men working in the Office of New Reactors, I hope we've provided
15 them that same assurance that their talents and capabilities are needed and
16 are essential to the success of the agency moving forward.

17 You know, the Office of New Reactors, when we talk agility
18 and responding to circumstances and drivers outside the agencies, I think the
19 Office of New Reactors has felt that the most keenly. Not due to anything
20 under their control, but just under the extremely dynamic nature of energy
21 markets in the U.S.

22 Our Commission appeared before a Congressional
23 committee earlier this month, and we were asked a lot of questions about
24 clean power plant and what do we project and forecast. The Chairman very
25 capably did an elegant form of, you know, that's really -- we're not in that
26 forecasting business, and he did it better than I'm doing it right now.

1 But the truth is the one thing we know about the future is that
2 it's going to surprise us, and probably won't be what you and your team have
3 laid out in terms of we're getting this, we're going to do this ESP and these
4 SMRs and things like that. It will probably be different than we think.

5 But you know, I've been outspoken about my skepticism
6 and concern about Centers in those three reorgs in five years. One of them
7 was what DOE called a matrix organization. As an engineer I was told -- this
8 sounds pejorative, but this was some of the talk at the time is, you know, you
9 felt like you were in a call center and you just like okay, we'll you're just a
10 generic nuclear engineer. We're going to dispatch you today. You're going
11 to do this tomorrow, you're going to do that.

12 I worry about the Centers of Expertise and I acknowledge
13 you're still looking at it. But I worry about aligning it with some of the culture
14 and values of NRC, and something that I think is a strength historically here of
15 having project managers and continuity on tasks, because I think there's a lot
16 of complexity in what we do.

17 I hope that we don't kind of go to the shiny object of Centers
18 of Expertise, and that we look at, you know, what it is to be a person here
19 working on a project of long duration. What ended up happening at DOE, to
20 be honest with you, is a lot of us in the matrix pool just ended up getting
21 assigned to long term projects.

22 So it really, it just kind of didn't make sense for the work that
23 we had underway. So I think we have to look at the work we have. The
24 other thing that, you know, I think that an integrated NRR/NRO makes NRC
25 stronger. I really believe that. Now I know that it is an outgrowth of some
26 dynamic changes outside the agency.

1 But I wouldn't support it if I didn't think at the end of the day,
2 it made us a stronger and more capable and more agile organization. I want
3 the two organizations to really feel integrated, though, and I'm not accusing
4 you of this. But I don't want people to feel surplused or warehoused or
5 housed in a center somewhere, because I think that we do have a lot of tasks
6 that benefit from long term continuity.

7 So I look forward to what the staff will send in November.
8 Bill Dean is a very blunt, outspoken man and he sat with me and he's like "You
9 don't like Centers at all." I said well let me explain to you some of my
10 concerns about moving to that as an organizational model.

11 So I do know that when I got reorganized, there was anxiety.
12 But there was also excitement, because it was kind of like what does DOE see
13 for me next. I hope also that the folks impacted by the business plan that
14 you're developing feel that excitement as well.

15 Again, I want them to be assured that the direction that the
16 Commission has set and the Project AIM SRM to look at that I think is an
17 outgrowth of believing it makes us stronger and better.

18 It's not to just deal with some pesky fact of life changes.
19 But I think it's really to the good of the organization. I do want to
20 acknowledge, as Laura said, the hard work of so many inspectors. You go to
21 Watts Bar 2 and you go to Vogtle and Summer, and again that is really the
22 boots on the ground.

23 I know we use that phrase a lot, but the impressive work
24 that's been done, but also then the licensing piece of license amendment
25 requests and other things that accompany that. I would hate -- whatever the
26 life cycle of the Office of New Reactors here at NRC, I think that there are just

1 tremendous accomplishments that have occurred that are yet to come,
2 reviews that take tens of thousands of hours of NRC staff resources, you
3 know.

4 I don't see this as something that it was like oh, the rise and
5 fall of, you know, the nuclear renaissance. I see it as I think when the NRC
6 historian is writing about this period of time, a very, very proud period of time in
7 NRC's longer-term narrative story of all the things that they've achieved.

8 The other thing that I was looking at in preparation for the
9 meeting today was the tremendous -- if you go back to the Atomic Energy
10 Commission, the really interesting history of how many non-larger light water
11 reactors there were in the origins of the U.S. nuclear program.

12 Although that was a predecessor agency of the AEC, I think
13 it gives some truth to this notion that it isn't that the U.S. system can't
14 accommodate anything different. I think that another key element of moving
15 forward on an organizational change though is having that kind of agile, ready
16 reaction capability.

17 It's another, to be honest I'm belaboring the Centers. But
18 that's another concern of mine about the Centers, is I would like us to maintain
19 some very distinct area where we knew that we had that rapid reaction force,
20 should we suddenly in the United States have a strong interest in SMRs or
21 need to have a surge capacity on new reactor thing.

22 I hope whatever you're looking at for a business case will
23 preserve and have at the ready the opportunity to surge that in the nation's
24 interest should we need to do that. So that was a lot of what I was thinking
25 about. You do a lot of routine reporting, Glenn, on your activities.

26 So there wasn't a whole lot that I heard today that I had a lot

1 of questions about. I would offer you or Mark or both of you an opportunity to
2 react to anything I've said.

3 MR. TRACY: Well, I appreciate those insights and I hope I
4 can assure you. Our heads are not hung low in NRO and the family of NRO,
5 and we are proud of what we have accomplished with our incredible partners.
6 There's no feelings of running for the doors by any stretch of the imagination,
7 despite our openness and transparency of talking about our situation, the
8 legitimacy of being agile and moving resources where they need to go,
9 because it truly is a priority.

10 I run into our former NRO employees in the elevators in the
11 first building, and there's still an incredible fervor of realizing what they're
12 doing. They miss NRO and they love what they're doing. It's that
13 combination. For the COEs, to get specific, I couldn't agree with you more.
14 The combination of allowing the agility of a COE, but still making sure that
15 those personnel realize that they're actually partners with you directly in your
16 own office, whether they're housed in NRR or wherever they're housed.

17 I know each of the branch chiefs and unit supervisors and
18 many of their staffs in the COEs currently, from electrical engineering to
19 allegations, I meet with them. They meet with me. We are directly engaged
20 and aware of each other. They attend my meetings. We think about them
21 for their performance appraisal inputs. We think about them when we're
22 thinking about awards.

23 So there is this personal touch that's quite different than
24 what you had experienced. It's not perfect by any stretch, and there are
25 areas where we can continue to fix ourselves or get organizational
26 development help for areas where we want to improve in the future. There's

1 not any question about that.

2 But I would point out to you that I'm enthused by the idea of
3 marrying these concepts in the ones we will propose to you, as well as even
4 further ideas. Since you are a proponent of this ultimate one reactor office, if
5 it's right scope and size and yet able to be agile for your future, the COEs do a
6 tremendous amount of allowing us to be able to move in that area and still feel
7 unified in purpose, in very specific areas like vendor inspection, like electrical,
8 like in allegations, potentially future rulemaking.

9 So I'm hoping that you've challenged us all here, and not
10 just my own family of NRO, to realize that we have to stay focused on what
11 you presented, but it's in our mind.

12 COMMISSIONER SVINICKI: Okay, thank you. Mark, did
13 you --

14 MR. SATORIUS: Just to -- Glenn did a very, very good job
15 in describing some of my thoughts as well. I wrote down some of the things
16 you said. Don't warehouse our staff, and that kind of resonated with me and
17 reminds me, one thing I'm going to pass along to Vic when he gets here next
18 Monday is that there is that concern.

19 We need to keep the welfare of our most precious resource,
20 our people, in mind as we maneuver through the AIM process, and consider
21 whether we move, how we move forward or make a recommendation to the
22 Commission on how we move forward as far as Centers of Expertise are
23 concerned, and don't warehouse people. Don't make them assets sitting on
24 a shelf that you go pick up and apply and then put them back on the shelf,
25 because that's not what our history has been and shouldn't be what our future
26 would be.

1 COMMISSIONER SVINICKI: Okay, thank you. Thank
2 you, Chairman.

3 CHAIRMAN BURNS: Thank you. Commissioner
4 Ostendorff.

5 COMMISSIONER OSTENDORFF: Thank you, Chairman.
6 Thank you all for your presentations. Glenn, I want to thank you and your
7 entire NRO team for the continued safe closure successes and your hard work
8 in those areas across the board, and for the responsible stewardship of
9 agency resources in a thoughtful humanistic way. So thank you for -- and
10 your colleagues for that effort.

11 Let me start with Mike Mayfield, and I may surprise, you
12 huh?

13 (Laughter.)

14 MR. MAYFIELD: Commissioner, you always surprise me.

15 COMMISSIONER OSTENDORFF: So I had a chance to
16 sit in on a little bit of the DOE-NRC workshop earlier this month, and I heard
17 the Chairman's comments and Glenn's comments and Mr. Kelly and Mr.
18 Kotek from the Department of Energy. I thought that's a very important topic.

19 So I thank you all for putting that together, and I wanted to
20 get into this non-light water reactor technology license preparation piece as to,
21 you know, we have license fees that we really had to be careful about what we
22 do work on that's not chargeable appropriately to an account on an hourly
23 basis.

24 We have considerations under Project AIM. Our resources
25 are somewhat constrained in this area. So from a financial standpoint, I
26 understand that there's some limitations on what we can do in advance of the

1 non-light water reactor application, to actually do some preparation of the
2 battlefield, so to speak.

3 Do you have any particular thoughts in that area? You
4 mentioned step-wise processes, and I'm curious if you've -- I know you've
5 given this area some thought, but can you share anything with us sir?

6 MR. MAYFIELD: Yes sir. Gary Holahan and I have had a
7 wonderful time yelling at one another about this. Good spirited, but
8 sometimes it gets loud. The notion that -- what the non-LWR community is
9 seeking is actually two things.

10 One, they would like a readiness review or licensability
11 review for their technology. So they don't have a complete design, they don't
12 have something that's ready to submit for -- whether it's a CPOLE review or a
13 design certification review. But they're close enough that they would like to
14 have us look at it and say do you think this could even be licensable? That
15 gets them the first step in the door with the venture capitalists.

16 Then they would like to have a process where they bring us
17 pieces of the design to have a review, recognizing they're not going to get a
18 license based on that piece. But if they successfully get through the door
19 with the first piece, then they get the next increment in capital to pursue the
20 design.

21 What we have been thinking about is, in terms of a
22 readiness review, and this is obviously something as our thoughts would
23 mature, we're going to come back and share with the Commission. But the
24 first thought was well, maybe it's a variant on the sort of readiness audits,
25 readiness reviews we do now for the light water reactors, where before they
26 submit the design cert, we go out, look through the application, are you guys

1 ready to send this in, yes or no, and provide the vendor that insight?

2 So is there some variant on that we could develop, that we
3 could provide some unofficial insight back to them about you need to address
4 the following ten items, and oh by the way, you're dead in the water on your
5 fundamental design, or no, this looks like something the staff could work with.

6 From that, the thought was a variant on what we do with
7 topical reports, where the vendor could prepare, probably using the SRP as a
8 guideline in either a chapter or chapters wrapped up in a topical report, submit
9 that for the staff to review and prepare a safety evaluation on.

10 It doesn't get them a license, but it gives them more
11 certainty on the pieces that they submitted, assuming they successfully get
12 through that review. Then they can step through the SRP in that process.
13 Eventually they will get to the point where they could wrap up a complete
14 application and submit it.

15 But the notion of successfully getting through a topical
16 report gives them that increment that they could go back to the venture
17 capitalists and get the next increment in funding. It's something like that,
18 where we wouldn't -- we're not looking at developing Part 50X of the
19 regulations. That's just not tenable at this point.

20 However, can we do something by subtle modifications to
21 the existing processes that would support their interest? Again, we're
22 starting to put together some ideas. We need to vet them back with senior
23 management and then up through the Commission. I think this is something
24 where we would want to go and have a chat with the ACRS, and get their
25 insights as we go.

26 But it's things like that that can be relatively low budget, and

1 still get the community a process that they're seeking.

2 COMMISSIONER OSTENDORFF: That's very helpful. I
3 appreciate that Mike, and I think that this is a critical area, looking to the future,
4 and I would just encourage the staff, as you're looking at this, you recognize
5 there are constraints. But perhaps in an ideal world, the Commission has
6 recently asked at a hearing would you do it with your king or queen for a day,
7 as far as changing into legislation, when we testified a few weeks ago before
8 the House Energy and Commerce Committee.

9 I encourage you to also think, you know, if you were
10 redesigning the world in a fee basis approach under our appropriations
11 limitations, if we had a different way of looking at this that saw the resource
12 piece, how might that also optimize maybe a fresh approach that we haven't
13 considered? Thank you.

14 MR. MAYFIELD: Yes sir.

15 COMMISSIONER OSTENDORFF: Frank, I wanted to ask
16 you a quick question here. In the context of NuScale, do you anticipate there
17 being any NuScale-specific policy issues that would need to come to the
18 Commission prior to their submission of a design certification?

19 MR. AKSTULEWICZ: At the moment, the NuScale
20 applicant submitted what they describe as regulatory gaps, where there was
21 some question from a process standpoint about whether it was a policy matter
22 that required Commission action, or it was something that was within the
23 scope of the staff to resolve.

24 Based on our review of those issues to date, we've not
25 identified any that would arise to the level requiring Commission attention.

26 COMMISSIONER OSTENDORFF: Okay, thank you. I

1 also want to thank you and your teams for all the work you've done on license
2 amendment requests and preliminary amendment requests. I think you've
3 got a very well-oiled machine working in that area.

4 MR. AKSTULEWICZ: Thanks.

5 COMMISSIONER OSTENDORFF: Thank you. Laura, let
6 me turn to you. I want to add my thanks to that of Commissioner Svinicki for
7 all the work done by the construction inspectors. While I'm saying it, also
8 Mike to your group for the vendor inspectors. I think those are very good
9 news stories. I know that I look at the people here in the audience behind
10 you.

11 When we have a chance as Commissioners to speak to
12 industry or the international groups, we are very pleased and it's very easy for
13 us to brag about the work that you and your colleagues do, because it's so
14 important and it's so professionally executed. So thank you all and your
15 colleagues who are not here today, both in the construction as well as the
16 vendor inspection programs. It's a very good news story here.

17 You mentioned very briefly, Laura, Watts Bar 2 licensing. I
18 know that there's things that TVA is still working on. Are there any significant
19 regulatory questions or processes that are under review or of concern?

20 MS. DUDES: Okay. Well I know Bill Dean is sitting
21 behind me. So in terms of the licensing process, I mean if he wants to jump
22 in, I'll take it at a high level, because we do have -- as we're moving towards
23 the license issue date, where our communications have gotten really tight
24 between NRR and the Region, to make sure we're sharing information.

25 So I don't see any high level or any issues that are not -- are
26 insurmountable at this point. I think we're just working off. It's almost like

1 the punch list for your house. So we're working off that. I think from a
2 licensing perspective, they are processing in accordance with the NRC's
3 rules, the final safety evaluation report and working through that.

4 From an inspection perspective, we have a couple of
5 functionality tests that we need to see, there are Three Mile Island action
6 items. We're trying to work with the licensee. We actually have nine
7 inspectors out there this week, and they will follow these items, so that we can
8 sort of get down to the punch list.

9 Of course, we need to make it clear as we talk to the staff
10 that there's no line that, you know, bright line that says okay, we're done.
11 We're going to issue our memorandum to Mr. Dean, to say okay, we've
12 completed the majority of our construction inspection program, you know.
13 We think that you, you know, if everything else is good with the license, you
14 can go.

15 Because as soon as that license is issued, a whole other
16 series of regulatory controls comes into place, including technical
17 specifications, license commitments and other things. So the NRC presence
18 is similar from the day before the license and the day after, and it's just a
19 different set of controls.

20 So that was a long way to say well, I don't see the big ticket
21 items, but we're working off the smaller.

22 COMMISSIONER OSTENDORFF: I think I see Mr. Dean
23 nodding his head in agreement with your statement. I do not want to provide
24 him an opportunity to go the podium and say anything about the San Diego
25 Chargers.

26 (Laughter.)

1 COMMISSIONER OSTENDORFF: Sorry Bill. My time is
2 up. Thank you all.

3 CHAIRMAN BURNS: Commissioner Baran.

4 COMMISSIONER BARAN: Thanks. Glenn, I want to
5 start by asking about the SPAR models that the staff uses to verify licensees'
6 PRA results for current operating reactors. These models provide
7 independent agency assessment of licensee performance in the reactor
8 oversight process.

9 Is NRO working with Office of Research to develop SPAR
10 models for the AP1000 and ESBWR, and if so, do you expect those models
11 will be ready when Vogtle and Summer are expected to enter operation later
12 in the decade?

13 MR. TRACY: We do, Commissioner, encourage the use,
14 and also have been working with Office of Research the development for the
15 new reactors on SPARs. In fact, we have quarterly meetings that we
16 routinely deal with, in order to get the status updates, and they are on track.

17 In fact if you don't mind, if you can take two seconds, John
18 Monninger can provide you a very quick update of that if it's possible.

19 COMMISSIONER BARAN: Great.

20 CHAIRMAN BURNS: John, just identify yourself and
21 position for the record.

22 MR. MONNINGER: Yes. John Monninger from the
23 south. I'm the director of Safety Systems and Risk Assessment in NRC's
24 Office of New Reactors. As Glenn mentioned, we've been working with
25 NRC's Office of Nuclear Regulatory Research since 2008, developing the
26 SPAR models for the various reactor designs.

1 We've significantly advanced on those models for the
2 AP1000, and we expect to be using those for once the plants become
3 operational. They're very beneficial tools for the NRC in conducting our
4 independent assessments. We use those in the oversight process; we use
5 them in the licensing process; we use them in the enforcement process.

6 As a matter of fact, we use the SPAR models within the
7 NRC's Operations Center. So you know, the SPAR models are also used for
8 NRC's generic issues program, in support of doing regulatory analysis for our
9 rulemakings. So we do see quite a lot of value in developing the independent
10 SPAR models for our new reactors.

11 COMMISSIONER BARAN: Thanks, John. That's helpful.
12 Glenn, do you have anything to add in terms of the value you see in the SPAR
13 models?

14 MR. TRACY: I basically feel very similarly, as what John
15 just presented, that the independent capability to be able to validate the
16 legitimacy of the profiles and the risk insights are valuable in terms of our
17 licensing and our ongoing oversight of our sites.

18 It's a part of what the new reactor models have been in
19 terms our ability to validate the designs as we see them.

20 COMMISSIONER BARAN: Okay, great. Thanks. Mike,
21 I'm going to -- far away Mike. Close Mike, far away Mike. You mentioned
22 SONGS lessons learned initiatives, including a pilot design inspection
23 program at vendor facilities during the fabrications of components that would
24 be used in major plant modifications. My understanding is that the pilot
25 inspections would be performed by 2017.

26 Can you walk us through a little bit? What needs to happen

1 between now and then to get those inspections going and completed?

2 MR. CHEOK: So there are two actions from the lessons
3 learned report. The first one, as you mentioned, was the pilot process. But
4 to support that pilot process, the staff will have to identify what we mean by a
5 major plant modification, and also -- and so the staff has completed the task.
6 We have identified things like replacement steam generators, vessel heads,
7 control rod modifications.

8 Also we talked about modifications for power upgrades.
9 We talked about modifications in response to NRC orders and compliance
10 backfits, maybe new fuel designs. So we have a list of what we think could
11 be potentially major plant modifications. This list is obtained from the work
12 group, from NRR and Division of Engineering, and from all four regions and
13 from NRO, and we have come to this list.

14 The second part of the -- before we go into the pilot process,
15 is also to identify a process as to how we should prioritize, whether we go out
16 to the plants to inspect these major plant modifications. Again, you know, we
17 look at things like safety significance of the modification. We look at the
18 complexity of the design, whether it's a new design or whether it's a design
19 that's just basically like for like, really like for like.

20 We also would look at things like the vendor's past history,
21 performance history. We look at things like whether NUPIC or the industry
22 group, or whether NRC inspectors have been at this vendor recently and what
23 the findings are.

24 So that there are processes that we have now identified as
25 to, you know, what we need to do before we go carry out the pilots. As you
26 say, we intend to finish three to four pilots by 2017. At this point, we are

1 working with our regional counterparts and with NRR on trying to identify the
2 best situations and the best places to go to begin the pilot process.

3 COMMISSIONER BARAN: Okay, and do you have a
4 sense of when the inspections would begin?

5 MR. CHEOK: It's hard to say. I think we have -- we did an
6 inspection in Canada for a steam generator replacement project. So that
7 would be part of the lessons learned.

8 We need to determine if we need to look at, you know, if
9 there is another steam generator replacement project going on right now, and
10 it's being built in Spain. We're trying to determine if it's worth for us to go, if
11 this design is different enough or if there's going to be enough lessons that we
12 can learn, to inform whether we go forward or not.

13 So it depends on the identification of modifications by the
14 regions and by NRR as to, you know, what we go see as part of a learning
15 process.

16 COMMISSIONER BARAN: Okay, and what's the focus of
17 the inspection going to be? Is it going to examine the actual design
18 engineering of a component as well as the fabrication? What's the -- what
19 will you be looking at?

20 MR. CHEOK: It would be both. So we will actually -- and
21 we have been doing this already with our vendor inspections. We would be
22 looking at the design inspection, and we will also be looking at the fabrication
23 processes and testing processes, etcetera.

24 It could be done in two phases. We could do a first phase
25 at a facility where we look at the design, and then we'll go to the fabricating --
26 the vendor facility where we would review the transfer of the design into

1 fabrication and engineering.

2 As a matter of fact in our inspection at NuScale, we looked
3 at things like the scaling factors. We looked at the computer codes, in
4 addition to looking at the test facilities themselves. So we are already doing
5 that and, you know, we are just -- and we have inspection procedures written
6 to do that.

7 COMMISSIONER BARAN: Okay, thanks. That's very
8 helpful. You brought up NuScale there, and one question I had is with
9 respect to oversight of small modular reactor fabrication, how do you see
10 those inspections differing from the current vendor inspections?

11 MR. CHEOK: So as I mentioned earlier, we expect that a
12 lot of the modules themselves, and also a lot of the ITAAC activities, will reside
13 in the module facility versus in the current plants where they happen -- most of
14 the activities will happen at the plant site itself.

15 So this brings up the different challenges that I talked about.
16 For one, you know, what process should we use for inspecting? So should it
17 be the construction inspection process, or is it the vendor inspection process.

18 So we're looking at how we'd be documenting the findings.
19 Would it be through notice of non-conformance, as we normally do now with
20 the vendors, or would it be through the construction ROP process, for
21 example?

22 You know, when you're looking at potentially the need for
23 resident inspectors at a vendor facility, do we need that? So things like that
24 we look at, and I think fee billing. We talked about that earlier, you know. If
25 you're inspecting at a vendor facility for a lot of the work, how do we do our fee
26 billing?

1 And so that potentially could be policy issues, but we are
2 trying to work through them, to see if there are issues that we need to bring up
3 to the Commission.

4 COMMISSIONER BARAN: Okay, thank you. I just
5 wanted to follow up with either Frank or Mike, whoever makes sense of this.
6 Commissioner Ostendorff had a question about do you expect any additional
7 policy issues on NuScale. I just wanted to broaden that just a little bit and ask
8 is that the expectation for SMRs generally? Do we see any additional policy
9 issues that the Commission would need to weigh in on?

10 MR. MAYFIELD: We -- my area deals with the generic
11 policy issues, as opposed to specific design issues. Generically, we expect
12 to bring you a paper shortly after the first of the year that will look at the nexus
13 between mechanistic source term technology issues and siting
14 considerations.

15 The business models that have been discussed for SMRs
16 are where they would put them on sites to replace older fossil fired units. The
17 problem there is that population centers have moved in closer to those older
18 sites. So now you start to run into siting considerations, if they really want to
19 follow through on that business model.

20 So we're looking at what does that really look like? What's
21 the conflict between emergency preparedness, EP zones and siting criteria?
22 So we've just started to explore that internally, and that will be a paper that
23 you'll see at the end of the calendar year, that will flesh out that issue and put
24 it in front of the Commission.

25 The other one that we have talked about since 2010 is
26 insurance and liability considerations, essentially Price-Anderson. Many of

1 the SMRs fall into areas where they wouldn't trip the secondary insurance
2 considerations for a single module. Yet if you look at multiple modules in a
3 common facility, think about NuScale, should they trip that?

4 We have just recently engaged counsel to flesh out this
5 issue. Is it a policy matter? Is it something that would require a legislative
6 remedy? What is it, if anything? So we'll flesh that out in the coming weeks
7 and bring that forward. That also spills over to the smaller, non-light water
8 reactors, because some of their business models aren't to produce electricity;
9 they're to produce process heat. Yet legislation and regulation talks about
10 megawatts electric.

11 So there's a quirk there that we're going to have to address.
12 So it's a couple of those and some of the previous issues, multi-module
13 considerations, begin to factor into these. So we're looking at how do we pull
14 these together, so that we're addressing the range of issues put before you?

15 So it's not a large number. But the ones that are still out
16 there may be a little thorny.

17 COMMISSIONER BARAN: Okay. At one point, the staff
18 thought or has tossed around the idea that the number of control room
19 operators per unit might be something that rose to a policy level. But what's
20 the latest thinking on that?

21 MR. MAYFIELD: We had worked through that specific to
22 NuScale some time back, and it concluded we could work that at least initially
23 through exemptions. NuScale is changing their concept of operations in the
24 control room. So we're looking at it again. But we don't think -- so the basis
25 for an exemption may change, or at least what we would expect to see. We
26 don't -- still don't think it's going to rise to a policy matter.

1 COMMISSIONER BARAN: Okay, thank you.

2 MR. TRACY: I would just add, if I may, that that's one
3 we're closely monitoring, and we're going to be very closely communicating
4 with the Commission in terms of where the final, you know, concept of
5 operations falls out. We'll keep you well informed.

6 COMMISSIONER BARAN: Thank you.

7 CHAIRMAN BURNS: Okay, thank you, and my colleagues
8 have touched on a number of subjects of interest to me. So I appreciate that,
9 and just on the Price-Anderson.

10 One thing coming from my past experience, it may be worth
11 looking at engaging in some of the -- in terms of the international community,
12 because from the standpoint of some of the other liability conventions, how
13 you treat the size of the facility or the potential impact can have -- can have an
14 impact on what the nature of the financial requirement or the insurance and
15 things like that.

16 Granted, we have national legislation that takes primacy,
17 although we are now -- U.S. is a member of the Convention on Supplementary
18 Compensation. But there may be some learning from that, in terms of how
19 what are considered smaller installations are approached.

20 I wanted to cover a number of areas, some of them following
21 up on some questions or issues that have already been raised. But for
22 example, one of the things that may be asked in terms of Laura this, how are
23 we sort of preserving our experience, if you will, in terms of the construction
24 oversight we're doing on Vogtle and Summer?

25 Because if you say that, you know, there's some
26 anticipation. We may have some significant gap. There may be some

1 significant gaps, and my impression too is from -- again, from an earlier part of
2 my career, in terms of sort of assisting inspection staff or overseeing
3 construction programs in the late 70's and early 1980's.

4 This construction experience too has been a little bit
5 different. So I'd be curious. How are we trying to preserve learnings that
6 we've had from the experience we've gained?

7 MS. DUDES: Okay. So there's a couple. So there's the
8 technical learnings, which thankfully we have our CIPIMS system and well
9 documented understanding about the challenges we had early on in
10 construction. I think the dialing up of the construction organization and then
11 the slow dial down as well, there's also quite a bit that we can learn from -- in
12 fact, I had this conversation with Vic as I was walking out the door to get on the
13 plane, which is we've learned a lot about what we need when, and timing.

14 So we need to capture that if we have to dial back up again,
15 because -- so that's one piece, in terms of how many people you need to bring
16 on and how fungible they can be early on in the process. So how are we
17 preserving that? We plan to do a bit of a lesson learned. I will tell you I
18 came down a few months ago and need to be looking at the organization, right
19 now keeping everybody focused on getting Watts Bar across the line.

20 But we're already scheduling a few sort of organizational
21 reflections and how should we be organized going forward if we have this four
22 AP1000 situation for the next couple of years, and there's nothing else on the
23 horizon. So we need to figure out how do be able to dial up and dial down
24 more gracefully, what systems are needed to support what level of
25 construction.

26 We have a lot of great computer systems and scheduling

1 systems. How big do they need to be for projects? So we plan to capture
2 those lessons learned. The last point I'll make, if you think about it, is that the
3 unique construction inspection skill set is really of a civil, structural, that very
4 strong piece and sort of rebar, concrete codes.

5 Once you get past that civil area, we have a highly fungible
6 organization in the NRC in all four regions and headquarters, in terms of
7 people who know ASME code. We have a subset of pretty good welding
8 engineers. But then you get into electrical and system testing. I think we
9 have -- we've got to look at ourselves in the whole in the future.

10 So we will preserve those lessons learned from the dialing
11 up of the construction organization, and then the slow dial back down.

12 CHAIRMAN BURNS: Okay thanks. Thanks a lot. I want
13 to sort of moving off of that and one of my impressions, and we've heard a lot
14 of discussion today in terms of the importance of oversight of the vendor and
15 the supply chain. I think we all recognize that this is -- it's much more of a
16 global supply chain.

17 Vendor inspection has always or vendor quality, and I'm not
18 talking necessarily the large, you know, the large components that we think of.
19 But the supply chain in terms of the quality has always been a challenge. It
20 was a challenge during what I'll call the first generation construction. It is
21 now.

22 So a couple of questions I have related to that is one, what --
23 what do we do in terms of -- in terms of our monitoring issues regarding, that
24 arise internationally, that have arisen internationally with respect to the quality
25 of parts, and basically counterfeit parts or sub quality parts in the supply
26 chain? What do we do to engage on that?

1 MR. CHEOK: We have continued to interact with our
2 international partners through the NEA and through the IAEA, in terms of
3 getting information and operational experience from the other countries, in
4 areas of operating reactors as well as in construction inspection.

5 We have also started an initiative, where we have engaged
6 our international partners in reporting counterfeit, fraudulent or suspect items,
7 with a very specific code that could be entered when we have such incidents
8 that would happen. We have continued to investigate and to inspect
9 vendors, together with, for example, our South Korean counterparts when
10 they were looking at the cable issues that they have.

11 So we continue to keep abreast with our international
12 partners, and we have databases and processes in place that would
13 encourage the reporting of such incidents.

14 CHAIRMAN BURNS: And again, one other question
15 related to vendors in terms -- you talk about international inspection. The
16 question there again I would have is are we getting the access that we need?
17 So is our access to facilities that are either forging, constructing, whatever
18 parts?

19 Is that -- is it -- does it meet our expectations and how -- and,
20 you know, are there particular challenges in terms of conducting those types
21 of inspections and feeding those results back into our system?

22 MR. CHEOK: At this point, the short answer is no. But I
23 think we have been concentrating and focusing mostly on the larger
24 components, and with the larger components, there is a very defined
25 customer. So the vendor would know that we are there to look at what they're
26 doing for those customers.

1 I'm not quite sure what the reception would be if we were
2 going to show up unannounced, let's say, at a vendor overseas that would be
3 manufacturing somewhat smaller parts for our plants.

4 CHAIRMAN BURNS: I have a feeling it might what it was,
5 the experience was in the United States on some things. Let me understand,
6 because we mentioned in terms of, again the international cooperation. But it
7 might be helpful to just explain a bit the difference between in effect three fora
8 that have been described.

9 We have the Multinational Design Evaluation Program, for
10 which OECD NEA provides a secretary. We talked about a new project
11 that's, I presume, under one of the NEA committees on advanced reactors,
12 and then the IAEA SMRs. Could you elaborate, someone elaborate a little bit
13 on what the differences are and what we're -- what we expect to see?

14 MR. MAYFIELD: Well, the Multidesign Evaluation Project I
15 will leave to Gary, who isn't here. But in terms of the IAEA and NEA, the
16 Group on the Safety of Advanced Reactors, the GSAR group, is a joint group
17 under CSNI and CNRA. So it has both of those pieces. The focus on the
18 CSNI piece is what research would be needed to support regulatory action,
19 not what research is needed to develop technologies. So it's focused on the
20 regulators.

21 CHAIRMAN BURNS: So in a way, because I do know
22 something on MDEP, it's in a sense a step short of where we are with MDEP,
23 where we're actually looking at designs -- actually looking at designs in the
24 different -- the different committees with the design focus?

25 MR. MAYFIELD: Exactly. So what we were trying to do
26 with NEA is to get the regulators with common interests on non-light water

1 reactors in the same place at the same time talking about the same issues,
2 because they don't have the rich dialogue and the history of dialogue that we
3 have on the light water side. So we're trying to come up with a scheme to get
4 people in the same place at the same time.

5 The IAEA piece is similar concept, but less focused on --
6 well, it's not focused initially on the non-light waters. It's focused on the light
7 water SMRs and the interest there, internationally those tend to be, I think the
8 in vogue phrase or the new entrant countries, the newcomers, folks that don't
9 really have a mature regulatory structure but want one.

10 So the idea here was to bring people together with a
11 common interest in the small PWRs, and there are a few around the world,
12 and then get them to work together to look, what are the common policy
13 issues, what are the common technical concerns, and start helping one
14 another and as much as anything as us helping them.

15 But one of the things that it is having is reducing the number
16 of drop-ins we have from all of these folks. So we bring them together in
17 Vienna to share those insights, to learn from us and us to get insights from
18 them frankly. So it was more a small modular, small PWR focus in Vienna.

19 There is interest from those countries in the non-light water
20 technologies. So we've been pushing at colleagues in Vienna to show up in
21 Paris, and similarly we're looking at, since Debbie Jackson co-chairs the
22 forum, it's a little easier to make sure we're getting the information flow from
23 the NEA group back to Vienna.

24 But we're trying to make that a little more fertile ground for
25 dialogue between Paris and Vienna organizations. Does that get to your
26 question?

1 CHAIRMAN BURNS: No, no. That's helps a lot, Mike.
2 That answers my question. Thanks a lot. Mark, do you want to -- okay.
3 Anything else? Well, I want to thank you all again for the presentations. It's
4 an important opportunity for here.

5 As Commissioner Svinicki said, to sort of hear in concert the
6 activities and quite diverse activities that undergoing from -- we were just
7 talking about, in terms of looking forward in terms of the potential for advanced
8 reactor designs, as well as small modular reactors, hearing about the
9 construction experience we have today, as well as the licensing challenges
10 that Frank talked about, and this important interface, which is slightly different
11 than I think we really experience in terms of vendor, looking at vendors.

12 So again, I appreciate the presentations today, and with
13 that, we are adjourned. Thank you.

14 (Whereupon, the above-entitled matter went off the record
15 at 11:42 a.m.)

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