

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

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INFORMATION BRIEFING ON INSPECTIONS, TESTS,  
ANALYSES, AND ACCEPTANCE CRITERIA (ITAAC)

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TUESDAY

JULY 7, 2015

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The public meeting was convened in the Commissioners' Conference Room, One White Flint North, 11545 Rockville Pike, Rockville, Maryland, at 9:00 a.m., Stephen G. Burns, Chairman, presiding.

PRESENT:

STEPHEN G. BURNS, Chairman

KRISTINE L. SVINICKI, Commissioner

WILLIAM C. OSTENDORFF, Commissioner

JEFF BARAN, Commissioner

STAFF:

ANNETTE L. VIETTI-COOK, Commission Secretary

MARGARET DOANE, Esq., General Counsel

BRIAN ANDERSON, Branch Chief, ITAAC and Generic

Communications Branch, NRO

JAMES BEARDSLEY, Branch Chief, Construction Inspection Program

Branch, NRO

MICHAEL CHEOK, Director, Construction Inspection & Operational

Programs, NRO

GARY HOLAHAN, Deputy Director, Office of New Reactors

MICHAEL JOHNSON, Deputy Executive Director for Operations

WILLIAM JONES, Director of the Division of Construction Projects,  
Region II

ALSO PRESENT:

MARK RAUCKHORST, Vice President of Construction, Vogtle Units 3  
and 4, Southern Operating Co., Inc.

ALAN TORRES, General Manager of Nuclear Construction, South  
Carolina Electric & Gas Co.

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

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9:03 a.m.

CHAIRMAN BURNS: Well, good morning, everyone. I want to welcome our panelists from Southern Company and South Carolina Electric and Gas Company as well as the NRC staff we'll hear from later and then as well as members of the public who may be here or listening in.

The purpose of today's meeting is to provide the commission an update on industry and staff activities related to completing Inspections, Tests, Analyses and Acceptance Criteria, otherwise affectionately known as ITAAC.

And we'll allow that acronym today because it is a long -- we're going to need to and it has become, you know, part of our vocabulary, particularly in the new reactor licensing area under Part 52.

We'll also learn or hear about ITAAC inspections and the staff's verification of ITAAC completion and we'll begin with discussions from the external panel, which will provide industry perspectives on ITAAC.

And we want to welcome Alan Torres, general manager of nuclear construction, South Carolina Electric and Gas Company, and Mark Rauckhorst, construction vice president for Vogtle Units 3 and 4 of the Southern Operating Company.

Following this panel we'll have about a five-minute break and then hear from the staff and we look forward to hearing the presentations and the ensuing discussion. Before we begin, do my fellow commissioners have anything to say?

Very good. Mr. Torres, will you begin? Thanks.

1 MR. TORRES: Well, again, thank you for the opportunity to  
2 speak before you this morning and we'll give you just a quick overview  
3 of our position and some of the things that we've been experiencing  
4 over the last several years since we came before your staff in 2011 to  
5 give an initial briefing on the licensees' approach to ITAAC.

6 We'll go to the first slide. One of the things I wanted to refresh  
7 everybody on it's a -- it's a basic premise, of course. It's Part 52. It's  
8 ITAAC providing reasonable assurance that the facility has been  
9 constructed and will be operating in conformance with the licensee.

10 Those are key words because we do experience challenges on a  
11 regular basis, ensuring that we're compliant with the license.

12 So ITAAC is a very integral part of that verification for the  
13 licensees.

14 ITAAC originated from COL, including those from the reference  
15 to DCD and ESPs, if applicable, and one correction here. There are  
16 currently about 843 ITAAC per unit for summer. Now, that may vary by  
17 the time we get done with the plant, depending upon how things might  
18 change.

19 But that's about a ballpark number. I'd put on here about 900.  
20 That's an outdated number but about that number -- about 843.

21 Next slide. Requirements for ITAAC performance, and this is a  
22 slide -- when I talk to external stakeholders and also our team one of the  
23 things that I find that's very important to do is help everybody  
24 understand the basic premise of what's supposed to happen when we  
25 talk about ITAAC, an area that seems to get neglected sometimes by  
26 folks that aren't in our business on a regular basis. That's Part 50.

1 Ten CFR 50 Appendix B is, of course, our foundation for building  
2 these plants to ensure compliance with the Code of Federal  
3 Regulations and oftentimes it's misunderstood that okay, we're a Part  
4 52 plant.

5 Well, some people assume that means that you're not adhering  
6 to Part 51. You know, that's not the right thing. We still comply with  
7 the 18 criteria.

8 The 18 criteria are essential in the verification and validation of  
9 ITAAC processes. They actually lead us to many of the ways of  
10 verification of the ITAAC process. So it's a very critical element for us  
11 to follow.

12 And, of course, we have Reg Guides. We have various codes  
13 and standards that I've listed here, ASME III probably being one of the  
14 larger codes and standards that we use mainly for the NSSS and its  
15 support systems.

16 From a concrete standpoint we have ACI and then the bulk of  
17 our welding non-ASME III related would be covered under AWS. And  
18 then not to leave out the IEEE standards for our electrical compliance,  
19 all of which roll up under the method for verification.

20 Again, you know, Part 50 being the cornerstone and then you  
21 begin to matriculate down to the various codes and standards that are  
22 built into our license for compliance and each one of those gives  
23 specific direction on how to apply safety-related inspection. And then  
24 that gets rolled up into ITAAC performance.

25 And then, of course, the last item would be additional programs  
26 and procedures that we have for implementation of the ITAAC program,

1 everything from development of the closure letter to filling in the  
2 documentation required when we're going to submit something that  
3 may not be complete yet after the 225-day requirement.

4 Next slide. Just a pictorial on the ITAAC completion process,  
5 early block being out of the way now. An area that will begin to get  
6 more focus on will be the blue-shaded area.

7 As we begin to close ITAAC in the field, an area that will be  
8 critical for the licensees is further development on the ITAAC  
9 maintenance approach and how important that is to ensure the staff is  
10 well informed on when we perform maintenance or when the need for  
11 maintenance is happening to a component that's already been closed  
12 under the ITAAC process and prior to the 103(g) finding.

13 So that will be a very critical area that we begin to put more focus  
14 on as we go down the road of closing -- continuing to close ITAAC and  
15 then ultimately, of course, the 103(g) finding prior to us loading fuel.

16 Next slide, please. This is a good slide for myself and a lot of  
17 other folks. It helps put the ITAAC into perspective, categorizing a  
18 standard plant.

19 This is a standard AP1000 plant and this is the way the ITAAC  
20 are broken down. So that when you see a block that says engineering  
21 and it has 220 ITAAC well, you say, what does that mean to you and  
22 here we break it down such that you can get a good feel of what that  
23 means -- as-built analysis, ASME, EQ qualification -- environmental  
24 qualification -- engineering analysis and individual equipment  
25 qualifications.

26 And then you go down to construction, 187. So here also is an

1 area that a lot of folks thought when we talked about ITAAC that all 870  
2 some-odd ITAAC would be done during construction.

3 That's not necessarily the case. Here, you can see the specific  
4 construction of ITAAC. There are 187 of those in the standard plan.  
5 Two hundred and twenty, as I said, in engineering space. Now you go  
6 into initial test program, 274.

7 So another large population that occurs in an area other than the  
8 construction phase of ITAAC. So that'll occur a little bit further down  
9 the line.

10 And then all the way down to security and that pertains to the  
11 systems that support the physical security plans.

12 Next slide. I wanted to give you a couple of examples of  
13 significant evolutions that have occurred on the construction site but  
14 they have multiple ITAAC associated with them.

15 Oftentimes, when we talk about ITAAC it's viewed as, okay, a  
16 system has an ITAAC or a component has an ITAAC.

17 Well, here are some very large elements of the construction  
18 process that have multiple ITAAC associated with it and I think that in  
19 itself shows the depth and breadth of the inspection and test and  
20 analysis program that takes place.

21 For example, on Ring No. 1, and this one happened to be for  
22 Unit 2, there's the functional arrangement ITAAC. There's an ASME  
23 ITAAC because the containment vessel is a pressure boundary  
24 component covered under ASME.

25 Then we have the individual NDE associated with the ASME  
26 weld, which is also in ITAAC. And then finally, a seismic category one

1 equipment component relative to the CV itself.

2 Then we go on to something like CA20, a large structural  
3 module. Well, of course, we go back to the physical arrangement  
4 spent fuel line because CA20 contains the spent fuel pools.

5 Cask washdown pit, again, that's self-contained inside CA20,  
6 and then finally as-built concrete wall thickness for determination of  
7 ensuring we have sufficient wall thickness for radiation.

8 Next slide, please.

9 Some examples on the Unit 3 side -- again, with the placement  
10 of the CV bottom head on Unit 3 we have functional arrangement,  
11 ASME, seismic as-built concrete thickness with a shield building.

12 Exterior walls in Unit 3, simple things like wall thickness for  
13 non-rad, and they appear to be simple but there's a great deal of detail  
14 that goes into the accomplishment of the inspection.

15 Not only have we completed the normal Appendix B  
16 requirements for ensuring that that's safety-related concrete but we've  
17 also developed, with the help of your staff, a common methodology of  
18 how many measurements take place to make that determination of  
19 thickness.

20 You don't just go to five spots on the wall to determine thickness.  
21 So that's been well laid out.

22 Shield wall and floor thickness, several of those ITAAC and then  
23 finally on the bottom of the page turbine building foundation, and it's  
24 interesting -- most people would assume that, well, that's not safety  
25 related but that's also still part of our physical arrangement because of  
26 its potential impact to the nuclear island.



1           Next slide we talk about lessons learned, and I'll be covering this  
2 for both us and Southern. Clarifications on ITAAC requirements to  
3 vendors has been very key to us.

4           We learned that early on through both vendor inspection and  
5 self-assessment inspection by the licensees. Importance of  
6 understanding documentation requirements: what do you need from  
7 the vendor to show closure of an ITAAC, that level of documentation.

8           We had to help the vendors understand the needs for that  
9 development of documentation. Validation in the vendor shops, we  
10 have residents in several of the vendor shops to help us with that.

11           We also avail ourselves of opportunities via both quality  
12 assurance surveillance and customer witness at whole points to  
13 coincide with critical ITAAC evolutions.

14           Completeness of critical information, again going back to the  
15 documentation component. Some pieces of paper require more detail  
16 than others. For example, ultrasonic measurement thickness on the  
17 accumulator tank, how many places were the measurements done,  
18 what was the calibration of the equipment, how was the process done.

19           Closure package preparation. That's no small task because we  
20 want to ensure that we have a completed package sent to your staff so  
21 that there are a minimal of questions that helps expedite the process  
22 and ensures the opportunity for the public on the package -- or the  
23 notice goes into the Federal Register for closure. So it's very important  
24 for us to ensure we have an expedited closure package process.

25           Periodic assessment of the process itself; this is a check and adjust.

26           We avail ourselves of both a peer bench marking from Southern

1 and also external from prospective license applicants, such as  
2 Dominion, that participated on some of our benchmarking at our site  
3 and our assessments, independent assessments on the ITAAC  
4 process itself.

5 Next slide. I will note that there was a change that I sent late  
6 last evening. I had an incorrect statement on this slide and that deals  
7 with NEI 08-01 Rev. 5.

8 It's in the process of endorsement into the Reg Guide so it has  
9 not been completed yet. But this is an important document for the  
10 licensees and the industry as a whole.

11 We've worked well with the staff to ensure that the proper  
12 guidance is placed in the 01 document so that all the stakeholders have  
13 a say in the process and to help ensure clarity in the entire process.  
14 So that's worked very well.

15 Next item on there is the ITAAC integrated project teams on our  
16 sites. Each one of our ITAAC teams are comprised of multiple  
17 stakeholders in both the design and construction site as well as the  
18 licensee.

19 We've now implemented monthly and quarterly inspection,  
20 planning meetings with your staff which will continue to help us  
21 streamline the process and get better at what we're doing.

22 And then, finally, the two utilities, currently the AP1000 utilities  
23 are both in alignment in the processes to which we're going forward  
24 with. And I say currently because there has been another license  
25 issue to a different design group.

26 So with my last couple of minutes I'll just briefly go over the next

1 couple slides. This is just for the folks that haven't had an opportunity  
2 to be out on the site to give you a quick perspective of how things are  
3 going at the site and I'll just briefly cover these with the last couple  
4 minutes I have.

5 This first aerial shot shows the low-profile cooling towers. That  
6 probably is the most significant difference between our two sites is that  
7 we have mechanical draft towers as opposed to the larger natural draft  
8 towers that they have down at Southern. Everything else would be  
9 about the same on the two sites.

10 Next slide. This is a picture of CA20 being transported out, to  
11 give you an idea of the size. If you look to the left, that building that it's  
12 coming out of is 120 feet tall. So that gives you a perspective size of  
13 CA20.

14 Next slide. This is a completed CA01 module inside the module  
15 assembly building. We will be replacing CA01 toward the latter part of  
16 this month. It's coming out of the building in the next week or so.

17 So this is our steam generator and refueling cabinet module that  
18 goes inside the containment vessel. It has multiple ITAAC associated  
19 with it.

20 Next slide. This is a picture of placing the lower head on Unit 3.  
21 Again, as I've showed you in the milestone slide, there were multiple  
22 ITAAC associated with that.

23 The lower left hand corner is showing the placement of CA20  
24 against the CV and there you see Ring No. 1 has been placed next to  
25 CA20.

26 And then, finally, on the right hand side it's a different

1 perspective from the shield-building side of CA20.

2 Next slide. One of the critical components inside the  
3 containment vessel is CA04. It has multiple ITAACs. That is the  
4 location of where the containment -- I mean, the reactor vessel will  
5 actually sit. Both units not have their CA04s in place.

6 Next slide. Again, another critical component that has multiple  
7 ITAAC and this is CA05 going inside the containment vessel.

8 Next slide. We get a couple of equipment pictures here. This  
9 is the first steam generators being offloaded. You'll note that the end  
10 of the steam generator looks a little different and that's because the  
11 reactor coolant pump casing has been welded on to the steam  
12 generator.

13 Since we did have some time in our schedule due to other issues  
14 we were able to make that critical weld in the shop environment as  
15 opposed to having them make that in the field, which will lend ourselves  
16 to a great deal more quality evolution.

17 And then, finally, the last slide is a picture of the pressurizer prior  
18 to shipment and it has been received on site.

19 That ends my remarks. Thank you very much.

20 CHAIRMAN BURNS: Okay. Mr. Rauckhorst.

21 MR. RAUCKHORST: Good morning. I appreciate the  
22 opportunity to come here today to discuss ITAAC, which is an important  
23 element in the construction of Vogtle 3 and 4.

24 The presentation is designed to be an update and the progress  
25 and lessons learned since our last ITAAC discussion with the  
26 commission in 2011.

1           Next slide. Southern has approximately 873 ITAACs per unit  
2 that must be closed prior to fuel load.

3           The differences are we have standard plant which are the same  
4 between both units or both V.C. Summer and Vogtle, and then the  
5 site-specific ITAACs that are related to our specific construction  
6 locations.

7           The distribution that you see shows the closure notices that we  
8 will submit ultimately to the NRC during the construction of each unit,  
9 and as Allan discussed, it represents the phases of construction  
10 activities that we'll go through.

11           And the blue line represents the combination of both units. The  
12 peak of the curve is driven primarily by the testing that we will perform  
13 as construction completes.

14           It's important to note, as Allan said in his remarks, the significant  
15 number of ITAACs that will be performed during pre-op and start-up  
16 testing of both of the units.

17           We're applying the knowledge and the experience that it gained  
18 early on and the lessons learned to date.

19           It has been an interactive process and a process in which we  
20 have been fortunate enough to have significant dialogue and  
21 conversation with the staff and NEI 08-01, I will tell you, has been a very  
22 positive effort on all parties to get to a better place in terms of  
23 understanding expectations relative to ITAAC and ICN submittals.

24           In a moment, I'll highlight some steps we're talking to ensure the  
25 continued success of ITAAC. Next slide.

26           So a little bit different in terms of the ITAAC life cycle is, from

1 what Allan presented, is that it really goes through a planning cycle and  
2 execution cycle and then a notify where we would notify the NRC of our  
3 completion of individual ITAACs.

4 Let me go through this a little bit. The PDPs are the  
5 performance and documentation plan. It really outlines how we're  
6 going to address and satisfy each of the individual ITAACs.

7 We then get into work packages or we start to assemble the  
8 documentation whether it be reports, whether it be construction,  
9 whether it be design drawings, whether it be other information that is  
10 there to support, the individual ITAAC and the satisfying of that ITAAC.

11 We do to the PCD, which is the principal closure document,  
12 which is the documented cited in the ITAAC determination basis and it  
13 directly supports how we are concluding that the ITAAC has been met.

14 The completion package is really our way of putting all of that  
15 documentation together and it represents all of the supporting  
16 documentation that we will maintain as records to support that  
17 individual ITAAC.

18 And then finally, the ITAAC closure notice, which is the letter  
19 sent by us, the licensees, to the NRC stating that the ITAAC is complete  
20 in accordance with 10 CFR 52.99(c)(1).

21 Next slide. So here's where we are today. We've completed  
22 the development of all of the PDPs. So we have our plans put together  
23 and ready to execute.

24 Each plan is the guidance document to support the closure. For  
25 Vogtle 3 and 4, we're now in the process of screening the work  
26 packages to ensure that each of the work packages that represent both

1 field activities and vendor activities and other activities done by the  
2 design organizations are there to support the completion of the ITAAC.

3 As work increases, the number of work packages related to  
4 ITAAC will rise and as the construction increases and we get into the  
5 testing programs we will have over 5,000 work packages that will have  
6 supporting ITAAC closure.

7 To date, 26 ITAAC closure notices have been submitted to the  
8 NRC and approved. This includes both units for Vogtle 3 and 4 and  
9 there's 25 additional ones that are anticipated to be issued this year.

10 Next slide. Uncompleted ITAAC notifications, or UINs, is a  
11 requirement under 10 CFR 52.99(c)(3) where the licensee shall submit  
12 a methodology for all ITAACs that have not been completed by at least  
13 225 days prior to fuel load and that is to support staff and its publication  
14 of a notice of intended operation.

15 And as you can see from what we've been talking about earlier,  
16 with the testing both pre-op and start-up testing there will be a  
17 significant number of ITAACs that will not be completed prior to that  
18 225-day notification. It's important.

19 UINs must describe how the licensee will successfully complete  
20 all of the uncompleted ITAAC. They will state items completed as well  
21 as items to be completed and how the acceptance criteria will be met.

22 The appropriate level of detail on the inspection testing and  
23 analysis and the schedule will also be included at that point in time.

24 So we'll be through a majority of the construction-related  
25 activities and we'll have a very good understanding, both ourselves and  
26 V.C. Summer, about how the rest of the ITAACs will be closed down.

1           We're anticipating that as noted earlier a significant number of  
2 those ITAACs will have final completion in that period.

3           So SCANA and ourselves have been working on ways in which  
4 we together as licensees could present options and alternatives to the  
5 NRC about presenting uncompleted ITAAC notices to the staff earlier  
6 than even this requirement and today I can tell you that we have  
7 reached alignment on an approach that we would like to discuss with  
8 staff, moving forward.

9           And there is an upcoming construction inspection program  
10 meeting to the public in which we will discuss some of the options and  
11 alternatives that we have identified for consideration by staff.

12           Next slide. So moving forward, a significant amount of progress  
13 had been made in the last four years towards understanding and  
14 implementing ITAAC.

15           Both the Vogtle and Summer projects are committed to  
16 continuing the interactions both with the industry including any new  
17 licensees and the NRC to ensure that the best practices are shared and  
18 implemented.

19           With the recent transfer of inspection planning to the projects  
20 branch within Region 2 we see this as an additional opportunity for us to  
21 work on the planning and coordination with the NRC relative to their  
22 inspection activities.

23           I think you'll hear more about that today. But a lot of effort is in  
24 terms of coordination between our schedules, the work that's  
25 progressing on the projects and the inspection activities of both Region  
26 2 and NRO does at the site.



1           We believe that the change is very positive and we're planning  
2           on to support the NRC's as it aligns with our project team approach.

3           As Allan mentioned, we've now scheduled meetings in order to  
4           increase the coordination and planning efforts between our  
5           organizations and we had a recent meeting in June in which we  
6           discussed the cable management program, the codings on equipment  
7           inside containment as well as the status of the ASME reports which will  
8           be an important component for the components that are already here  
9           on site.

10           So in closing, on behalf of Southern Company, I assure you that  
11           our organization is committed to the safe, quality and compliant  
12           construction of these units.

13           We understand the importance of ITAAC and the way in which  
14           ITAACs demonstrate our commitment to both the public, our customers  
15           and to the NRC.

16           On the next slide -- I don't have as many pictures as Allan. I  
17           figured it's pretty much the same. But this is a picture of Vogtle site as  
18           it existed last week.

19           As you can see, there is a significant amount of progress in the  
20           construction activities. As the volume of construction increases, so will  
21           our focus and efforts on the quality in compliant construction.

22           Working with our contractors and with our vendors, that's where  
23           we, as licensees, will ensure that we are meeting the requirements and  
24           expectations.

25           Thank you. That concludes my remarks.

26           CHAIRMAN BURNS: Thank you for your presentations and

1 we'll begin the questioning this morning.

2 Commissioner Baran.

3 COMMISSIONER BARAN: Good to see both of you again.

4 Thanks for being here. I really enjoyed my recent visits to Summer  
5 and Vogtle.

6 Mark, you discussed your planning and scheduling to ensure  
7 timely completion of the ITAAC and submission of the ITAAC closure  
8 notifications to NRC.

9 You focused on that, but this is really -- all these questions are  
10 for both of you. Of course, there have been several unanticipated  
11 design changes with the AP1000.

12 Can you walk us through how you analyzed those design  
13 changes as they occur to determine if they affect any ITAAC?

14 MR. RAUCKHORST: Sure. My organization is comprised of  
15 multiple technical groups. I have a technical compliance organization  
16 and I have a supplier compliance organization.

17 And when we see issued or design changes that are being  
18 issued by the design authority we review and evaluate those design  
19 changes relative to its impact on ITAAC.

20 We incorporate that information into those work packages in  
21 order to make sure that we are correctly getting the information,  
22 whether it be from a vendor or in the field, that meets the ITAAC  
23 requirements.

24 So that's really where my organization is focused is on the front  
25 end as the design changes come out to ensure that we have that  
26 information on the back end.

1           COMMISSIONER BARAN: And how much uncertainty in the  
2 scheduling and the work plan are those changes created?

3           MR. RAUCKHORST: It is a construction project and with a  
4 construction project the best laid plans, right, will always have changes.  
5 And we have had some challenges related to some of the schedule  
6 impacts.

7           I don't know that I would characterize it as necessarily affecting  
8 ITAAC but it is related to the overall construction process. And I don't  
9 know, Allan, if you want to say anything more. But that's really where  
10 we're seeing it. So not in the ultimate information that we get but just in  
11 the sequence of activities that we're having to actually do.

12          MR. TORRES: Yeah, I would just like to add a couple of things  
13 here. You know, the first phase of the change process involves the  
14 development of the design change paper at the designer Westinghouse  
15 and it too has a flow process that includes a scrub of ITAAC compliance  
16 in the license and then the licensees get that document to do an  
17 additional scrub of ITAAC. So I agree with Mark.

18          To date, most of the changes are very limiting to ITAAC. But to  
19 answer your question, relative to uncertainty there have been a number  
20 of stumbling blocks for us to deal with relative to design changes  
21 impacting the overall completion of the projects and, you know, all that  
22 information is public information relative to the current schedules that  
23 we're on.

24          But there are challenges. We do continue to work with our  
25 stakeholders both from our state regulator standpoint and our  
26 contractors to help understand how each one of these changes impacts

1 the overall schedule completion.

2 COMMISSIONER BARAN: Okay. A lot of the construction  
3 work on the sites, obviously, is being done by contractors with SCANA  
4 and Southern overseeing the work. I'd like to ask about the level of  
5 licensee management for ITAAC.

6 Will someone from your companies physically observe the  
7 closure of every ITAAC or for some ITAAC will it be a review of  
8 documents prepared by a contractor?

9 MR. TORRES: I'll take that question first. Well, the process  
10 we've set up at site is -- and it's contractually required, actually -- is the  
11 Westinghouse has the lead for the ITAAC team.

12 The consortium works together on the construction site  
13 supplying the information to Westinghouse to develop the ITAAC  
14 closure process. It's then submitted to the licensee.

15 The licensee goes through a series of reviews with that and  
16 ultimately we're responsible for the accuracy of that closure package  
17 and then final submittal to the staff for posting in the Federal Register.

18 We do a series of inspections. Where we can do inspections  
19 in-field we do a series of document reviews for vendors that we may or  
20 may not have had the opportunity to avail ourselves of the actual  
21 inspections.

22 But we do try to take the opportunity of both the quality  
23 assurance surveillance and the witness and whole point program to  
24 observe as many ITAAC as possible to put eyes on stuff.

25 I think both utilities are very focused on eyes on critical areas  
26 and ITAAC is a critical area for completion of the projects.

1           COMMISSIONER BARAN: And how do you determine which  
2 of the ITAAC-related issues are ones you're going to have eyes on?  
3 Presumably, you can't --

4           MR. TORRES: We usually look at a risk review of significance  
5 of the system and/or component, both from a commercial and a nuclear  
6 safety standpoint.

7           COMMISSIONER BARAN: Do you have anything to add on  
8 that, Mark?

9           MR. RAUCKHORST: No, I would just support what Allan has  
10 said in the -- we review as many as we can and understand that the  
11 documentation supplied by I'll just say vendors and a lot of cases is  
12 what we'll make sure we have done a thorough review and evaluation  
13 of, and if we need to do additional inspections as a result of that, then  
14 that's where we'll get ourselves involved.

15           COMMISSIONER BARAN: When I look at the time line for  
16 ITAAC and construction and inspection for Vogtle and Summer, I have  
17 the same reaction probably many people do which is I'm struck by just  
18 the volume of activity that has to happen in those last few months of  
19 construction.

20           You know, the significant number of ITAAC closure notifications,  
21 likely ITAAC hearings going on for two units at different plants pretty  
22 much simultaneously, NRC completing remaining inspections for  
23 103(g) finding at the same time you all are preparing for potential fuel  
24 loading.

25           You're getting operational programs in place implemented. So  
26 just a huge amount of activity that will be occurring in a very short period

1 of time. How are you preparing your management and staff to perform  
2 all those tasks that are your tasks while keeping a focus on safety?

3 I mean, that's just a huge amount of workload and scheduling  
4 pressure. How do we make sure that if there are safety concerns or  
5 issues people raise those?

6 MR. RAUCKHORST: You know, we talk about whenever you  
7 see the curves, right, they show this huge peak -- it's really focused on  
8 the ITAAC closure notice. But up until that point in time there is a  
9 significant amount of work that is being performed and inspection  
10 activities that are being performed that then get to a point at which  
11 you're submitting the ICN.

12 So I'll tell you that it might have been an issue where we were  
13 thinking that down the road this was going to be, you know, hard to  
14 manage. But as we've gotten into the process and learned going  
15 through this it is about all of the significant work that is done prior to that  
16 and that's really where both ourselves in terms of an oversight capacity  
17 as well as, I think, from the NRC in terms of inspection activities really,  
18 really will help us as we go forward.

19 MR. TORRES: I would just offer one additional comment and  
20 that would be directed at your safety comment.

21 You don't get a good safety culture overnight. This is a built-in  
22 process from day one when we started -- when we received the license.

23 We pulse how we're performing in the safety culture environment  
24 to ensure that we're not putting that undue pressure on personnel.

25 We're not losing focus on the ultimate goal which is safe design,  
26 construction and eventual operation of the facility and that falls on the

1 licensee.

2 Again, ultimately we're responsible for that and we ensure  
3 through methods of going back to the checks and balances. Not only  
4 do we do assessments in design and ITAAC areas but we do  
5 assessments in the SCWE area also to ensure safety culture work  
6 environment, to ensure that we're pulsing and getting the right mentality  
7 out of folks that they know that they're free to raise a question, whether  
8 it be you're pushing me too hard on schedule or there's an outstanding  
9 question relative to design that I'm not satisfied with an answer or any of  
10 those type items.

11 So it's not just at the end that it becomes a concern. From day  
12 one you always want to keep that at the forefront of your mind to ensure  
13 that you're building that as you build the plan.

14 COMMISSIONER BARAN: Thank you. Thanks, Mr.  
15 Chairman.

16 CHAIRMAN BURNS: Thanks. And again, thanks for both of  
17 your presentations. I think the interesting thing as we proceed through  
18 Part 52 is we recall Part 52 is now 25, 26 years old, first promulgated in  
19 1989, and we are still in the midst of testing key components, if you will,  
20 of it and this to the ITAAC for both you are going through which is  
21 essentially the first time we've gone through the ITAAC process during  
22 construction or the latter stages of construction.

23 So I think it'll be important for us to keep attention and I think both  
24 us as the regulator but I think the industry as well, I think, will learn from  
25 your experience in terms of the management of ITAAC, what the -- you  
26 know, how they work, what the particular challenges are with them as

1 we go through the process.

2 But I might ask that might prompt -- that observation might  
3 prompt at least this question, sort of a wide open or general question is  
4 if -- as you reflect back even in stages where you are now, recognizing  
5 there's some significant work in that bow wave to come, are there things  
6 about the ITAAC process that you think you've learned or come across  
7 that have surprised you or didn't quite meet the expectation of when you  
8 started into this, particularly at this COL point in time? And either one  
9 of you can -- if you have any thoughts on that, it'd be appreciated.

10 MR. RAUCKHORST: So I'd say that ITAACs related to vendors  
11 have added a level of complexity only because it's important for us to  
12 understand the work that the vendor is doing and how does it relate to  
13 the ultimate ITAAC that we have to satisfy.

14 For the plant monitoring system, PMS, we went through a  
15 significant review and evaluation and inspection activities related to that  
16 and we learned a lot and it was something that I think we went into  
17 thinking it was not going to be as long of a process.

18 But I think we're coming out of it with a better understanding of  
19 the expectations related to some of these critical systems and how  
20 ITAAC supports that.

21 And I really am glad that we've been able to do that early on  
22 because those lessons learned are going to help us as we get into the  
23 testing and the turnover of the plant from the contractor to us because  
24 there are some complex issues there, too.

25 MR. TORRES: Yeah, the only other thing I would add, not  
26 necessarily from a surprise but a yet to be fully developed would be the



1 ITAAC maintenance portion.

2 You know, I guess at face value when you read the initial  
3 regulation once you had completed ITAAC and submitted a closure  
4 package you'd like to think you're done.

5 But the element of insuring the compliance of the ITAAC until  
6 103(g) adds an element that will cause us to do some more work to  
7 ensure that we have programs in place to maintain the validity of those  
8 ITAAC until the end.

9 And as a construction schedule stretches that could mean  
10 something that I've completed early on in the construction process  
11 requires constant revisiting all the way through to the end.

12 So that does add a little bit more to it than at face value.

13 CHAIRMAN BURNS: Mark, going off of your comments is how  
14 would you say that the process or the ITAAC in terms of the vendor  
15 oversight or the vendor interaction it would be different from what I'll call  
16 the first wave of construction or under Part 50?

17 MR. RAUCKHORST: I won't say it's different in terms of the  
18 actual implementation. What I'll say is, it's different because in some  
19 areas it's not cut and dry.

20 When we talk about CA20 or we talk about CA04 we talk about  
21 physical structures -- very clear whether you meet or don't meet the  
22 ITAAC requirement.

23 When you're dealing with systems like what I mentioned earlier,  
24 a little bit more complex and that's where I think the interactions have  
25 been very helpful is to understand those individual differences and how  
26 we need to approach those and satisfy.

1           CHAIRMAN BURNS: And it's your sense and as you said, I  
2 think both -- certainly when I visited both of those some of the  
3 discussion we had touched on this but for both of you do you have a  
4 sense -- what I have the sense of is that sort of either bringing the  
5 vendors to understand the significance on the ITAAC, particularly for  
6 you guys who are building it, who ultimately want to, you know, operate  
7 it, with some of the challenge, do you feel like you've made progress in  
8 that area?

9           MR. TORRES: Yes. Actually, in the lessons learned comment  
10 relative to vendors that was the driving point that we did experience  
11 early on both the translation of critical information in design and ITAAC  
12 space to foreign vendors to ensure that, number one, they fully  
13 understand the literal translation of what the requirements are but also  
14 ensuring with all our vendors that they understood the level of  
15 importance of what the ITAAC was.

16           Too often when you go to a vendor he looks at his technical  
17 requirements and says, "oh yeah, we've got that covered," on about  
18 their business they go. So it is very important and I know both our  
19 companies do spend a significant amount of time and manpower in the  
20 vendor shops after we had the early challenges with several of our  
21 vendors, understanding the significance of ITAAC.

22           CHAIRMAN BURNS: One of you -- you mentioned the NEI  
23 08-01. Maybe just to help inform us and the general audience, what  
24 do you think the -- and you also indicated in terms of talking to staff and  
25 potential endorsement, what do you think that brings to the table in  
26 terms of the process for ITAAC and ensuring our ability to look at the

1 plants as they're completed?

2 MR. TORRES: Well, from early outset even prior to the  
3 issuance of the license I will give credit to both the staff and NEI and we  
4 sat down as collective groups and said, okay, here's a requirement,  
5 Part 52 -- how will we implement this, what will be the end product?

6 And early on, again, before any of the licensee were issued both  
7 groups got together with prospective licensees and began to develop  
8 the process and once we had the basic premise of what ITAAC is and  
9 isn't then the next step of okay, what's the end product got to look like  
10 and then how do we facilitate that.

11 So the guideline itself is just that it is that structure, that outline,  
12 that hard, fast document that helps lead you through the overall process  
13 of ITAAC. And the development of that document, I thought, was  
14 extremely beneficial to the licensee in that we not only had the industry  
15 stakeholder in NEI but also the staff.

16 We submitted drafts and said here's an approach and we also  
17 did this in a public forum such that, you know, if there were  
18 opportunities for the public to make comments on the process it was  
19 there.

20 So this gives us the structure that we need to go back and  
21 develop the detailed level of procedures on each one of the sites to  
22 actually make the process flow. And it's a work in progress.

23 As you see, you know, we're at Rev. 5 so, you know, we've gone  
24 through several iterations and we'll continue to do that.

25 You know, the good sign of an industry that understands itself is  
26 constantly improving, checks and balance, and we will do that until

1 each one of us receives a 103(g) and then we'll continue to do that in  
2 operational space under our operational programs.

3 So a document like 08-01 is essential to the process that we  
4 have in place.

5 CHAIRMAN BURNS: You want to add anything?

6 MR. RAUCKHORST: I was going to say we learned early on,  
7 right. At Vogtle we had some ICNs that did not meet expectations and  
8 I think by getting an alignment in terms of expectations and  
9 understanding of the level of detail of information has been incredibly  
10 valuable for us as we move forward.

11 We're going to continue to learn and applying those lessons  
12 learned will be an important element, as Allan mentioned, for us moving  
13 forward.

14 CHAIRMAN BURNS: Thank you both.

15 Commissioner Svinicki.

16 COMMISSIONER SVINICKI: Well, I'll add my thanks to both of  
17 you for being here today. I think each of you mentioned the fact that  
18 it's been since 2011 that we have had perhaps your organizations  
19 represented in front of the commission and that reminds me.

20 And perhaps even my colleagues sitting here are not aware that  
21 when I joined the commission, given at the time the forecasts of the  
22 amount of new reactor activity in the United States, our commission met  
23 quarterly and in a public session such as this on the reactor activities --  
24 that was the pace of things then. So now I think it's very timely that  
25 we're discussing this today.

26 I know that some might ask the question well, if the commission's

1 meeting on ITAAC what's the issue with ITAAC and there doesn't, in my  
2 view, always have to be some challenge or issue.

3 This process is a very, very important part of the demonstration  
4 of safety prior to operation and therefore it's also acronym laden and full  
5 of a lot of jargon.

6 So I think that our commission meeting to discuss this today is  
7 important and as your presentations pointed out this will only be of  
8 growing importance in the coming years as you proceed towards  
9 operation at these reactor construction -- what are now construction  
10 sites.

11 All that being said, it's interesting in this country when you look at  
12 it the chairman mentioned -- was it 1989 the Part 2 came into existence  
13 -- and you have an option in this country.

14 You have two-step licensing or one-step licensing and I think my  
15 staff is very aware that sometimes when issues are encountered in  
16 construction and we say when, as a fact, certain of these reactors, if  
17 constructed as designed and licensed, provide additional levels of  
18 passive safety and margin than the current operating fleet in the United  
19 States so that's simply an established fact, given the designs so if they  
20 are constructed according to that design and licensing.

21 We sometimes look at the issues being examined during  
22 construction and say has the appropriate risk threshold of these various  
23 individual issues been established and, again, my staff is aware that I  
24 occasionally step back and remind us that if you would like to have a  
25 more flexible perhaps construction process Part 50 is available to you  
26 because then you will apply for an operating license and you get to

1 have a second step.

2 The regulatory compact, in my view, with one-step licensing, is  
3 that the Commission and the agency, in effect, have pre-approved your  
4 operation and then the burden shifts to you to show that everything that  
5 is the underpinning of that preapproval had then occurs as you move  
6 through the construction phase.

7 So I don't doubt that when we look at the establishment of the  
8 risk significance of certain, you know, approval levels for changes with  
9 the NRC I don't doubt that if we all had it to do over again there are  
10 probably some changes we would make not only perhaps in looking,  
11 once again, at ITAAC establishment but also in what we call the Tier 2  
12 Star types of information that comes out of the approved design, the  
13 certified design.

14 So I think, certainly, if there were going to be in this country a lot  
15 of follow-on construction after Vogtle and Summer are complete I don't  
16 know whether that will occur or not.

17 Right now it doesn't look like it. I don't doubt that we would have  
18 a very robust lessons learned go back and look at some of those  
19 threshold determinations that we made.

20 I think at this point we're so deep into this and the level of activity  
21 design that we're not going to pause to go back to first principles and  
22 look at some of that.

23 We're going to push through with the early thresholds that we set  
24 and move forward with that.

25 I will ask some specific questions. Roles and responsibilities is  
26 obviously very, very important.

1 I would ask each of you as you've looked at the clarity of  
2 engaging between NRC's Office of New Reactors and Region II do you  
3 think NRC has well established and clear roles and responsibilities of  
4 where you need to turn for various engagements between NRO and  
5 Region II? Is that clearly understood and does it work well?

6 MR. TORRES: I'll take that first. I'd say yes. I think we have  
7 extremely good access to both groups. We communicate on a regular  
8 basis. I think, once you ask your staff that same question, they would  
9 reiterate the same thing.

10 It's important to note that everybody doesn't agree all the time on  
11 a technical issue. But the forums that have been established to put  
12 this information out before each one of the groups and if needed, you  
13 know, to go from region to Washington or the other way around I think  
14 that process works well.

15 It's availed us the opportunity to sit and talk about license  
16 amendments or proposed license amendments and the direction that's  
17 needed to give the clarity that's ultimately required to satisfy the  
18 regulation to make that change to our design.

19 I think, you know, early on we may have been challenged a little  
20 bit on understanding the overall process to get to the end state. But as  
21 we mature and go through this unfortunately because of the number of  
22 changes we've had some opportunities to practice. But I do believe  
23 the process works well.

24 You know, I think, going back to your initial comment about when  
25 we started the process there were some 26 license applicants.

26 I do believe that we are forging the future for our industry and the

1 opportunity for somebody else to go behind us and build an AP1000.

2 Once these units are completed they will find the process  
3 significantly more streamlined and easier since we will have worked  
4 most of the kinks out by then. But I do believe the cooperation from  
5 your staff is extraordinary.

6 COMMISSIONER SVINICKI: Thank you. Mark, did you want  
7 to add anything?

8 MR. RAUCKHORST: I'd say it boils down to communication,  
9 and we as the licensees own that accountability for a lot of that  
10 communication and coordination.

11 And, again, lesson learned from us early on is that we needed to  
12 understand ourselves the roles of each of those organizations and to  
13 ensure that there was good communication by ourselves with each of  
14 those groups.

15 And I think as the level of communication has increased the level  
16 of coordination and planning has increased and we are in a very good  
17 position right now.

18 But it has been one in which we -- this is part of those lessons  
19 learned that we have gotten from the beginning is how did we get that  
20 early on interaction to ensure that we're aligned and we are in a much  
21 better place today.

22 COMMISSIONER SVINICKI: I appreciate that and, you know, I  
23 would note that when there was a view that there would be more  
24 follow-on construction activity occurring immediately after these  
25 experiences at Vogtle and Summer I think the view was that maybe  
26 some of the same experienced personnel could carry that from project



1 to project.

2 I would note that if the United States takes another decade long  
3 or multi-decade long pause in the reactor activity inevitably, I think, that  
4 -- well, I think what it will do is shift the burden that these lessons be  
5 well-documented because I think that that will be the mechanism  
6 through which they will be communicated to those who will follow on in  
7 similar activities.

8 I appreciate that you've shown the charts about ITAAC closure.  
9 It is inevitably, I think, making reference to my earlier comments saying  
10 that ITAAC are this foundational showing that things were constructed  
11 as approved.

12 Of course, they occur late. If any of us went to Watts Bar 2 right  
13 now we'd see a level of activity there, again, under Part 50. But a lot of  
14 it just happens at the end. It's no different if you're constructing a  
15 home or anything else. All the punch lists occur, you know, right  
16 before occupancy, as it were.

17 So I, you know, have worried about that in the past. It is a  
18 resourcing issue for, I think, everyone participating in it at NRC and the  
19 consortia.

20 I will note that I began, you know, with some concerns about the  
21 ability to surge to the need. I feel, again, it's not going to be easy but I  
22 actually -- my confidence, through engaging with the NRC staff both at  
23 NRO and in Region II my confidence grew quite a bit.

24 Every question I asked had been thought about. A lot of tools  
25 have been developed to manage what we are engaging in and I think  
26 when I reflect on your presentations and the responses that you've

1 given this morning I think you've really reinforced something that the  
2 NRC staff said very recently in a response to our Office of Inspector  
3 General who did a review of construction oversight processes at NRC.

4 They were looking at efficiency and effectiveness, which is  
5 always a very useful thing for us to be looking at. And in response  
6 though, to an inspector general observation that NRC regional  
7 construction inspection staff currently spends more time on  
8 administrative work than on construction inspection, the NRC staff  
9 responded to that by saying, you know, an important point is that many  
10 of the activities in the administrative hours portion of the IG's  
11 assessment are associated with planning the effective and efficient  
12 execution of future inspections.

13 These activities are not and should not be characterized as  
14 administrative and I think administrative doesn't necessarily need to be  
15 a pejorative term.

16 But I think the staff meant to the extent that the term  
17 administrative minimizes the significance of planning I appreciate that  
18 both of you talked about the exquisite orchestration that the planning  
19 component provides to everything that follows after both on ITAAC and  
20 on construction inspection.

21 So I think in a way, whether or not you intended to, your  
22 presentation so strongly enforced that point, that without having very  
23 experienced planners up front and having planning processes it would  
24 never be possible to respond to that kind of surge in activity.

25 So, again, I thank you for being here today. Mr. Chairman,  
26 thank you very much.

1 CHAIRMAN BURNS: Thank you. Commissioner Ostendorff.

2 COMMISSIONER OSTENDORFF: Thank you, Chairman.

3 Thank you both for your presentations.

4 My colleagues have asked some very thoughtful questions and I  
5 have a couple of areas I want to explore.

6 I know that, as Commissioner Svinicki noted, we had a meeting  
7 similar to this four years ago and I recall that the bow wave issues were  
8 discussed and so forth and so on, and because of various construction  
9 delays you had at both sites and things -- just the facts of life issues, as  
10 Mark mentioned, in a construction project we're not exactly where we  
11 thought we'd be but we are where we are.

12 You know, one of the things when I visit the sites and talk to our  
13 construction residents at both Vogtle and Summer one of the things, I  
14 know, that has been a little bit of a challenge is inspection planning  
15 based on changes in schedule issues at both sites.

16 Just at a high level, I'd ask both of you the same question. If  
17 you compare where we are today in July 2015 to where we were, let's  
18 say, two years ago, is there greater predictability of the scheduled path  
19 ahead for each site or how would you characterize your predictability of  
20 construction milestones?

21 MR. TORRES: Well, as we drive forward and get more clarity  
22 on design completion of the unit we begin to build in more reliability into  
23 the schedule. And then comes the next phase is the constructor's  
24 ability to execute as written in the schedule.

25 We try to do a good job of continually communicating with the  
26 residents about specific things that they may or may not want to be

1 involved in.

2 We do work with the region with respect to sending scheduled  
3 both ITAAC and non-ITAAC related to the region to ensure that we're  
4 able to help to the extent possible managed resources because just like  
5 any other organization you have a set of resources to accomplish a  
6 task.

7 Whether it be an inspection coming up on corrective action or it's  
8 an ITAAC inspection on the placement of a major component, it's still all  
9 set in a finite set of resources.

10 So it's important that we continue that evolution. But directly to  
11 your question, as we move forward we begin to increase the level of  
12 confidence in the schedule.

13 So, for example, in a normal major construction project you'd like  
14 to maintain a rolling 90-day window that you have, 95 to 98 percent  
15 reliability on the execution dates, and then as you move out further, 90  
16 to six months, you may try to shoot for an 85 percent, and then beyond  
17 six months you begin to lower that expectation because as you near  
18 those given milestones you've got a clearer picture of what the  
19 constraints are.

20 So, overall, I'd say we're building a greater degree of confidence  
21 in the schedule and thereby helping control where resources need to  
22 go. Would we have 100 percent confidence in the exact completion of  
23 the overall schedule? I wouldn't -

24 COMMISSIONER OSTENDORFF: So just use a three-month  
25 horizon. Let's just look at that. Just -

26 MR. TORRES: The 90-day horizon.

1           COMMISSIONER OSTENDORFF: So how do you feel about  
2 that right now?

3           MR. TORRES: I feel very confident on the 90-day horizon. I'd  
4 say we're well above 95 percent on doing things when we say we're  
5 going to do them.

6           Now, that being said, in the construction environment, for  
7 example, critical pour coming up on Summer tonight. Well, depending  
8 upon the weather this is the date we're shooting for.

9           You're pouring concrete in the South in the summer. You got  
10 temperature and you got weather. If I get a pop-up thunder storm  
11 tonight I'll delay it until tomorrow night.

12           This time of the year you're prone to have that kind of thing. So,  
13 you know, that date could move four or five days. Not due to not being  
14 ready but just due to environmental circumstances.

15           So we have to factor all those kinds of things into our raw  
16 schedule. But a rolling 90-day I'd say we're in the high 90s in  
17 confidence.

18           COMMISSIONER OSTENDORFF: Thanks. Mark?

19           MR. RAUCKHORST: I think one of the initiatives that the  
20 contractor made towards the end of last year and really is implementing  
21 this year is a project management organization.

22           And as Allan said, we are seeing a lot more predictability in the  
23 execution associated with getting dedicated folks that are doing, I'll say,  
24 that near-term planning now and as we get more predictable with that  
25 near-term planning and execution they're getting planning teams  
26 established to go out six months, 12 months, 18 months out.

1           We will always have issues that will come up that will impact a  
2 specific construction activity. That's just the nature of this.

3           But what I can tell you is that we are glad that they've been able  
4 to implement what we think is more structure and rigor into their  
5 organization.

6           I have aligned my organization to also have project managers  
7 that are overseeing the schedule development as well as the execution  
8 to give me some feedback as we go forward.

9           So I expect, and I think Allan would agree, much better schedule  
10 performance as we continue to move forward.

11           COMMISSIONER OSTENDORFF: Okay. Thank you.

12           Allan, one of the slides you used was this types of standard plan  
13 ITAAC. I found this helpful. 1980-82 I was part of a submarine crew  
14 being built at the Newport News Shipyard for 688-Class, Los  
15 Angeles-Class submarine, and then came back years later, 1987-89,  
16 did a similar thing, different job on a ship.

17           But, you know, there's some differences between the two  
18 submarine reactor plants: the control rod drive mechanisms and a  
19 couple other things. Overall, the testing program was pretty much the  
20 same: X number of days of cold ops, hot ops, et cetera.

21           So the question I've got, using your slot as a foundation is if I look  
22 at the Summer and Vogtle projects in ITAAC in a given area, and I know  
23 there are some site-specific differences, but the cooling towers you've  
24 already identified those.

25           But for the other things that are "standardized" how standardized  
26 would the ITAAC be between the two sites? Would the document for

1 Vogtle on a particular ASME code or a preoperational testing item that  
2 looks the same as it does at Summer?

3 MR. TORRES: They should look almost identical. We work  
4 together with one another on and we often times share a review of a  
5 proposed ITAAC closure between the sites.

6 COMMISSIONER OSTENDORFF: Is that being done by the  
7 licensees or -- and what's the role of -- I guess what's the role of  
8 Westinghouse in this as a design agent? Do they have a role in  
9 structuring the ITAAC for a particular --

10 MR. TORRES: Well, there's always going to be a slight  
11 difference depending upon who is running their ITAAC organization.

12 But I would say the majority of the time they will have gotten  
13 together also prior to submittal to the licensees. But I do know for a  
14 fact that the licensees sit down together and review for commonalities.

15 COMMISSIONER OSTENDORFF: Okay.

16 MR. RAUCKHORST: Yeah. Again, one of the things that we  
17 learned as we were getting into ITAACs was the need to have an  
18 integrated team. And so what we did is we formed an ITAAC team that  
19 is comprised of CB&I, Westinghouse and Southern Nuclear individuals.

20 They're co-located and so as they go through the development,  
21 both in the planning documents, the review of the work packages and  
22 then the ultimate review of the documentation it's all done together in  
23 order to make sure that we as an organization, as a project, understand  
24 all of what's coming to us.

25 Our interface with V.C. Summer from a licensee's perspective it  
26 also is occurring from Westinghouse and CB&I. There will be

1 differences in, I'll just say, the physical data. But the ITAAC  
2 requirements will be the same.

3 COMMISSIONER OSTENDORFF: Thank you. Thank you  
4 both. Thank you, Chairman.

5 CHAIRMAN BURNS: Thank you. And, again, thank you for  
6 giving us your insights and into your experience with the ITAAC. We'll  
7 take a brief break about five, six minutes or so and then hear from our  
8 staff panel.

9 Thank you.

10 (Whereupon, the above-entitled matter went off the record at  
11 10:09 a.m. and resumed at 10:17 a.m.)

12 CHAIRMAN BURNS: Okay. Well, welcome back. And,  
13 again, we have the, we'll hear from the staff, their presentation. We  
14 have a number of presenters, and I'll let Mike Johnson introduce them  
15 or at least begin at this point.

16 MR. JOHNSON: Thank you. Good morning, Chairman and  
17 Commissioners. We're here to update you on activities related to  
18 Inspections, Tests, Analyses, and Acceptance Criteria, ITAAC,  
19 recognizing the important role that ITAAC play in the Part 52 licensing  
20 process.

21 Chairman, I think your observation earlier is noteworthy  
22 regarding the time from initial, I guess, effectiveness of Part 52 and  
23 today, 25-plus years. It's important to know or noteworthy, I think, that  
24 we are still conducting first-time implementation of a few aspects of the  
25 Part 52 licensing process, and I'm proud of the staff's substantial efforts  
26 in developing first-of-a-kind programs and procedures, as well as the



1 way we've proactively looked for and been ready to deal with emerging  
2 issues and future challenges.

3 As you've heard from the prior panel and you'll hear from our  
4 staff, there has been and continues to be notable success in executing  
5 our processes and in the staff's oversight and documentation and, in  
6 fact, formal closure of new reactor construction activities as we verify  
7 the safety and the compliance of these plants that are being  
8 constructed with the approved design and the license.

9 I also want to note that, in addition to the details that will be  
10 presented during the presentation regarding the construction reactor  
11 oversight process and our ongoing field inspections and ITAAC  
12 verification and program enhancements, that the staff has been  
13 addressing emerging design changes amidst construction for these  
14 first-of-a-kind builds in a highly-effective and efficient manner. And  
15 today the staff has met every request for a license amendment without  
16 impacting construction schedules, and I think that's a significant  
17 accomplishment and it's a result of the staff's effective presence in the  
18 field, the close interface that we have with licensees, and our careful  
19 and safety-focused effort of the highly-technical and competent  
20 technical staff and our legal folks working along side of each other.

21 With me today are members of the Office of New Reactors and  
22 Region II who will highlight our activities to date and will discuss our  
23 readiness to support completion of this portion of the process. And so  
24 now I'll turn it over to Mr. Gary Holahan, who's the Deputy Director of  
25 the Office of New Reactors, to begin.

26 MR. HOLAHAN: Thank you, Mike. Good morning, Chairman,

1           Commissioners. It's been approximately four years since we last  
2           briefed the Commission specifically on the subject of ITAAC. In the  
3           intervening period, we have discussed ITAAC as part of two  
4           Commission briefings, one on the new reactor business line and one on  
5           construction inspection activities in general.

6                     We've also scheduled a Commission briefing for later this year  
7           on the new reactor business line September 24th. Among the topics  
8           we expect to discuss during that meeting will be the construction  
9           reactor oversight process and the vendor inspection program in more  
10          detail at that point, and we may provide any update on ITAAC as  
11          necessary.

12                    Today's briefing will focus on the processes and procedures we  
13          have in place to oversee the implementation of ITAAC at the new plant  
14          construction sites. We will also talk about staff preparation for the  
15          expected surge in ITAAC and their completions, which will begin  
16          starting in the 2017 time frame.

17                    As mentioned earlier, ITAAC are an essential part of the  
18          licensing review process constructed by the staff and approved by the  
19          Commission to support certification of reactor designs, the issuance of  
20          combined licenses. ITAAC also support limited work authorizations  
21          and early site permits, as appropriate.

22                    As such, programs and policies associated with ITAAC and  
23          supporting ITAAC have been developed and refined over a relatively  
24          long period of time. We are now confident that the programs and  
25          policies will ensure that ITAAC serve their intended purpose and that  
26          they will address the challenges that we will be facing as we go through

1 future construction.

2 For more detail on the ITAAC-related staff activities, I will now  
3 turn to Michael Cheok. Mike is the Director of the Division of  
4 Construction Inspection and Operational Programs in the Office of New  
5 Reactors. Mike?

6 MR. CHEOK: Thank you, Gary. Good morning, Chairman,  
7 Commissioners. We appreciate the opportunity to brief you today.

8 I would like to start by providing an overview of the topics we will  
9 be talking about and by introducing the NRC staff who will be  
10 presenting today. We will update you on staff activities since our last  
11 ITAAC-specific Commission briefing, which was in August 2011. And  
12 we will discuss ongoing activities related to the conducting inspections  
13 and ITAAC and verification of ITAAC completion.

14 CHAIRMAN BURNS: Mike, could you move your, the  
15 microphone a little -- yes, I think that will help. Thanks.

16 MR. CHEOK: To my immediate left is Jim Beardsley, the Chief  
17 of the Construction Inspection Program Branch in the Office of New  
18 Reactors. Jim will discuss the construction inspection program, and  
19 he will talk about how the inspection of the licensee's completion of  
20 ITAAC fits within the overall program.

21 To Mike Johnson's left is Bill Jones, who is the Director of the  
22 Division of Construction Projects in Region II. Bill will discuss the  
23 regional ITAAC inspection activities in greater detail. Finally, Brian  
24 Anderson will discuss staff activities related to the ITAAC closure  
25 process. Brian is the Chief of the ITAAC and Generic  
26 Communications Branch in the Office of New Reactors.

1 I would like to now acknowledge Laura Dudes who is sitting  
2 behind us. Laura is the former leader in the Office of New Reactors  
3 prior to her assignment in the Office of the Nuclear Safety and  
4 Safeguards. Laura is now the Deputy Regional Administrator for  
5 Construction in Region II.

6 I would also like to acknowledge Michael Spencer right there  
7 from the Office of General Counsel who has helped us tremendously on  
8 all the legal aspects of ITAAC. Next slide, please.

9 When we briefed the Commission in 2011, many of our  
10 inspection and ITAAC activities were in the planning and  
11 developmental stages. Since that time, the staff has completed our  
12 certification of the AP1000 reactor design and has issued combined  
13 licenses for Vogtle's Unit 3 and 4 and for V.C. Summer Units 2 and 3.  
14 We have fully and successfully implemented the construction  
15 inspection program and the construction reactor oversight process.  
16 We are conducting inspections to confirm that the approved ITAAC are  
17 being successfully completed and that the as-built plant design satisfies  
18 the license requirements. We have also been conducting ITAAC  
19 inspections at many vendor facilities to supplement our inspections at  
20 the plant sites.

21 During our implementation activities, we have identified areas for  
22 improvement and have incorporated lessons learned to enhance our  
23 programs. Brian Anderson and Jim Beardsley will talk more in detail  
24 about our lessons learned activities.

25 We have continued to engage stakeholders to enhance the  
26 transparency, efficiency, and predictability of our process and

1 procedures. We continue to hold public meetings once every three  
2 months. At these meetings, we share the findings and insights from  
3 our inspections and from other oversight activities and we have  
4 obtained feedback on our process and procedures.

5 One issue, and you heard about this earlier, that has come to our  
6 attention during our public discussions is the expected surge in the  
7 number of ITAAC completion notifications starting at about eight to ten  
8 months before fuel load. As a result, we have developed processes to  
9 ensure that the staff is ready to soften the effects of the surge. We will  
10 continue to interact with our stakeholders to refine this process. As  
11 you've heard from Mark Rauckhorst and Alan Torres earlier, we will be  
12 continuing to work with them on the UIN process, the incomplete ITAAC  
13 notification processes, and we will work with them in the near future.

14 I will now turn the presentation over to Jim Beardsley. Next  
15 slide, please.

16 MR. BEARDSLEY: Good morning, Mr. Chairman and  
17 Commissioners. This morning, I'll provide you a brief review of the  
18 Part 52 construction inspection program and provide context on where  
19 the ITAAC fit into that program. Next slide, please.

20 The Part 52 construction inspection program is broken up into  
21 two high-level areas: ITAAC inspection and programmatic inspection.  
22 Based on historical construction inspection data, the preliminary  
23 per-unit estimate for direct inspection hours is 35,000 hours. The  
24 estimate breaks up into 15,000 hours for ITAAC inspection, 10,000  
25 hours for programmatic inspection, 5,000 hours for reactive and  
26 allegation inspection, and 5,000 hours for headquarters technical

1 inspection support.

2 We expect that inspections for the first two units will exceed the  
3 estimate due to the first-of-a-kind inspection challenges and  
4 construction schedule delays. It is likely that the second two units will  
5 require less inspection than the estimate.

6 Once the program is complete for the first four units, the staff will  
7 analyze actual data and adjust our estimate as necessary. For the  
8 AP1000s, the ITAAC inspection process starts with a sample that  
9 makes up approximately 35 percent or 345 of the 875 ITAAC. The  
10 selected ITAAC are considered targeted for inspection.

11 The targeted ITAAC were selected by a panel of experts using a  
12 risk-informed methodology. As part of the targeting process, the  
13 ITAAC are broken up into sets or families with similar characteristics.

14 The staff has developed 32 ITAAC inspection procedures.  
15 Each ITAAC family has been assigned at least two procedures as a  
16 starting point for inspection planning. As the inspectors plan and  
17 conduct inspections, they have the flexibility to shift the focus of their  
18 inspection or expand to non-targeted ITAAC to ensure they gain  
19 appropriate insight into the associated construction activity.

20 In addition to ITAAC inspection, the staff will inspect the  
21 programs that support construction. Routine inspections will be  
22 conducted in quality assurance, ITAAC management, and fitness for  
23 duty. The staff will also inspect the licensee's pre-operational testing  
24 program prior to the start of that phase of construction.

25 The construction program inspections compliment the ITAAC  
26 inspections by sampling factors that cut across the breadth of the

1 ITAAC and have potential to impact ITAAC closure. In addition to  
2 construction inspections, the staff will inspect the licensee's operational  
3 programs, as they are developed. These inspections verify the  
4 programs will be implemented in accordance with the regulations and  
5 combined license requirements. Some examples of operational  
6 programs are security, radiation protection, emergency preparedness,  
7 and environmental qualification program.

8 On a quarterly basis, the staff assesses the licensee's  
9 performance and effectiveness in ensuring construction quality.  
10 Similar to the reactor oversight process, the construction reactor  
11 oversight process, or cROP, integrates various sources relevant to the  
12 licensee's safety performance and makes objective conclusions  
13 regarding significance of inspection findings and takes actions based  
14 on these conclusions. The assessment process is conducted in a  
15 predictable manner, and the results are communicated semi-annually to  
16 the licensees and the public.

17 The NRC's vendor inspection program also complements the  
18 ITAAC process. When a vendor supplying components to the  
19 construction projects is inspected, the staff will use the results to enrich  
20 our knowledge about the development and manufacturing of the  
21 associated ITAAC systems, structures, and components. If an  
22 ITAAC-related finding determination is made as a result of a vendor  
23 inspection finding, that finding and its resolution will be included in the  
24 staff's review of the particular ITAAC's closure notice. Next slide,  
25 please.

26 Two of the processes that the staff uses to facilitate construction

1 inspection program are technical assistance requests and the  
2 Construction Inspection Program Information Management System, or  
3 CIPIMS. In an effort to maximize communication in support of the  
4 construction inspections and provide a record of that communication,  
5 the staff has established a process to document questions and answers  
6 between the inspection and technical staffs.

7           Specific to ITAAC, the TARs, as we call them, may be used to  
8 resolve licensing basis questions by the inspection staff. The  
9 resolution of TARs is coordinated through the appropriate Region II and  
10 headquarters technical branches to provide the inspectors with  
11 comprehensive support.

12           When appropriate, TARs will be reviewed by the Office of  
13 General Counsel to ensure there is clarity in ITAAC requirements and  
14 acceptance criteria. The TAR process may also use headquarters  
15 staff, may also be used by headquarters staff to request additional  
16 inspection activity, assisting in the resolution of questions that arise  
17 from the ITAAC closure notice reviews.

18           Once a TAR has been completed, the response is entered into  
19 ADAMS. The completed TARs are maintained in a searchable  
20 database to provide the inspectors and technical staff with an  
21 accessible record of issues for the future.

22           To date, the volume of TARs has been lower than expected, but  
23 there have been enough to prove the process. All the TARs to date  
24 have been high quality and have met their expected timeliness goals.  
25 Two examples of TARs are in early requests for clarification on the  
26 Vogtle waterproof membrane ITAAC and a TAR with questions on the



1 minimum and maximum stud spacing for structural modules. Both of  
2 these were completed and the answers were provided to inspectors  
3 and then incorporated into the associated inspection reports.

4 The Construction Inspection Program Information and  
5 Management System, or CIPIMS, is a database tool developed by NRO  
6 to facilitate the planning and execution of ITAAC inspections. The  
7 system is used to develop detailed inspection records for ITAAC and  
8 their associated structures, systems, and components. CIPIMS brings  
9 together ITAAC requirements from the combined licenses and the  
10 ITAAC inspection procedures to facilitate construction inspection  
11 planning.

12 During inspections, the staff's insights are entered into the  
13 database as discrete activities. Following completion of an inspection  
14 period, CIPIMS is used to combine multiple inspections and generate a  
15 draft inspection report. As the repository of all ITAAC-related  
16 inspection results, CIPIMS is used by the staff to verify the licensee's  
17 ITAAC closure notices. Next slide, please.

18 In 2013, the Office of New Reactors issued lessons-learned  
19 reports on Part 52 licensing and the first year of construction oversight.  
20 The reports noted that the identification and resolution of technical  
21 issues and timely regulatory decision-making were challenges to the  
22 successful execution of the Part 52 process.

23 In an effort to improve in these areas, the staff has engaged with  
24 the licensees to conduct a series of detailed design discussions. Once  
25 the licensees have completed their internal review of the detailed  
26 designs in areas that are new or technically challenging, a public

1 meeting is conducted to provide headquarters technical staff and the  
2 construction inspectors with an opportunity to gain insight and review  
3 the detailed designs. This process provides early engagement  
4 between the licensees and the NRC in preparation for construction  
5 inspections. Some future areas planned for meetings of this type are  
6 the upper shield building design, cybersecurity, and the electrical  
7 system design.

8 Over the next few years, the staff will engage with industry and  
9 the public in preparation for the initial test program. The first phase of  
10 that program, pre-operational testing, includes a large number of  
11 ITAAC, as you saw earlier today in some of the graphs.

12 We're conducting public meetings to gain a better understanding  
13 of the licensee's plans for the initial test program and refining the NRC's  
14 inspection accordingly. These early-engagement opportunities  
15 continue as the plans for pre-operational test and inspection mature.

16 In addition, the staff is engaged with our counterparts in China to  
17 share the NRC's plans and the results from the Chinese commissioning  
18 test program. Starting in the next few months, a number of NRC staff  
19 members will be traveling to China to observe AP1000 testing and  
20 share experiences between the agencies.

21 The staff evaluates the effectiveness of the construction reactor  
22 oversight program on a routine basis. Annually, we conduct a  
23 self-assessment of the cROP using specific criteria to ensure the  
24 program is meeting the NRC's strategic goals. The self-assessment  
25 includes engagement with internal and external stakeholders. Over  
26 the past four years, the staff has made a number of changes to the

1 program as a result of these assessments.

2 At this point, I'd like to introduce Bill Jones, the Director of the  
3 Division of Construction Projects in Region II, to discuss the  
4 implementation of the construction inspection process in more detail.  
5 Next slide, please.

6 MR. JONES: Good morning, Chairman Burns and  
7 Commissioners. I'm pleased to have this opportunity to discuss the  
8 implementation of the construction inspection program by a dedicated  
9 Region II staff. I have with me today Mr. Patrick Donnelly, a resident  
10 inspector at Summer 2 and 3. And over the last six months, he has  
11 served as the senior resident inspector. Mr. Steve Smith is a senior  
12 civil engineering construction inspector in the Division of Construction  
13 Inspection. Both of these individuals represent the high-quality  
14 inspection staff we have in the Region II construction group.

15 As we implement the Part 52 construction oversight process, we  
16 are adjusting to reflect a current environment with the most recent  
17 improvements focusing on effective and efficient planning and  
18 scheduling process. Last fall, Region II took a hard look at how the  
19 roles and responsibilities for conducting planning and scheduling in the  
20 organizational interfaces were being conducted. This issue was  
21 further discussed during the Region II inspector counterpart meeting.  
22 And in January of 2015, a process review team was initiated to perform  
23 a comprehensive demonstrating, including a tabletop, of the existing  
24 inspection process for effectiveness and to find opportunities for  
25 improved efficiency.

26 Their review included identifying, documenting, and approving

1 the inspection scopes in order to support the applicable inspection  
2 manual chapters; scheduling the inspections to have the right person at  
3 the right place at the right time; performing inspections; documenting  
4 the inspection results; tracking inspection status, including certification  
5 that inspections are complete. We began implementing these  
6 recommendations from this team in March of this year.

7           Region II will be assessing the implementation effectiveness in  
8 an assessment to be conducted in the fourth quarter of this calendar  
9 year. I will discuss some of the recommendations in the subsequent  
10 slide.

11           In June, the Office of the Inspector General issued a report on  
12 the construction reactor oversight program. The inspector general  
13 documented issues regarding program implementation, which I will be  
14 discussing.

15           Planning and scheduling of inspection activities was an area  
16 where redundancy and communication challenges existed in the  
17 process depicted in this slide. The process review team interviewed  
18 the resident inspectors, senior project managers, and region-based  
19 inspectors, as well as conducted the tabletop exercises. Both Patrick  
20 and Steve were a part of this effort, Patrick as a resident inspector and  
21 Steve as a team member.

22           The process review team concluded that further centralizing  
23 planning, scheduling, and development of the inspection activities  
24 would streamline communications and eliminate unnecessary  
25 handoffs. These functions were consolidated in the Division of  
26 Construction Projects. The Division of Construction Inspection's focus

1 is on providing technical expertise, support of the inspection plan  
2 development, and resources.

3 An organizational realignment of individuals and responsibilities  
4 within the construction group was one of the outcomes from the  
5 process review team. Construction project managers, one for Vogtle  
6 and one for Summer, were established. This construction projects  
7 division is responsible for planning, scheduling, inspection plans, and  
8 ITAAC inspection closure. Good working relationships have been  
9 established with each of the site representatives.

10 We have seen positive outcomes from the realignment of staff  
11 and responsibilities. There's a high-level project oversight and a good  
12 working knowledge of the inspection plans. The duplication in  
13 planning and scheduling have been minimized and construction  
14 inspectors are available to mentor junior inspectors and focus on  
15 inspection plans and execution.

16 The Office of the Inspector General's recent audit noted that the  
17 construction reactor oversight process could be more effective,  
18 specifically with respect to time spent on programs report, rather than  
19 on direct construction inspection.

20 Delays in the construction schedule resulted in delays in the  
21 construction inspection implementation.

22 The NRC inspection hours expended were consistent with the  
23 licensee's ongoing construction activities. The staff inspected and  
24 planned all safety-significant systems, structures, and components  
25 under construction since the license was issued.

26 In addition, our direct inspection efforts have yielded robust

1 safety findings, and our additional planning and program efforts have  
2 positioned us to be more effective in the future.

3 As Jim Beardsley mentioned earlier, the inspection plans and  
4 the status of each inspection resides in CIPIMS. The inspection plans  
5 are linked to the appropriate construction activity and the licensee's  
6 construction schedule and updated in our Primavera file, which is our  
7 scheduling tool. This is an area that remains a challenge for our  
8 scheduling of inspection activities. The method by which we receive  
9 each licensee's updated construction schedules requires a significant  
10 amount of staff involvement to upload the information and then to  
11 update the schedule for shorter-term activities. The process review  
12 team accounts for this challenge and designated responsibilities for  
13 ensuring we have an updated understanding of the schedule using  
14 single points of contact and the ability to update our schedule regularly.

15 After an inspection is approved by the branch chief, the  
16 inspectors will go to the site and conduct the inspection. The results of  
17 each inspection are issued in inspection reports and placed in the  
18 agency's document system, ADAMS.

19 Next slide, please. For efficiency and to take advantage of  
20 inspection opportunities, inspection schedules have been developed  
21 that bundle inspection activities for different ITAAC as they become  
22 available. In many cases, there are multiple inspection plans  
23 associated with a targeted ITAAC. An example where we currently  
24 conducted the inspections across different ITAAC was an inspection of  
25 the containment vessel, a mechanical ITAAC, and welding of both the  
26 spent fuel pool floor and inside the containment refueling water storage

1 tank wall. Both of those were civil ITAAC.

2 ITAAC are generally inspected by individuals with specific  
3 engineering knowledge for the activity. In addition to many of the  
4 inspectors being subject matter experts, there are subject matter  
5 experts that the inspectors can call on to assist. A recent example was  
6 the collaborative reviews associated with the embed plates and code  
7 requirements. The collaborative review involved resident inspectors  
8 and regional and headquarters subject matter experts.

9 Region II inspectors continue to regularly participate in vendor  
10 inspectors, particularly in the instrumentation and control areas. The  
11 results of these inspections are captured in the CIPIMS database  
12 discussed previously and contribute toward the NRC having confidence  
13 that the inspection aspects of the ITAAC have been met.

14 The staff has completed approximately 20 percent of the  
15 inspections associated with ITAAC inspection plans on each of the lead  
16 units and about 10 percent on each of the second units. The  
17 construction project managers review and revise the inspection  
18 schedules to facilitate changes to construction activities.

19 Region II has the inspection resources needed to complete the  
20 inspections associated with ITAAC, as well as the operational program  
21 inspections. The inspections performed by the NRC are based on  
22 construction activities which peak earlier than the ITAAC closure notice  
23 submittals.

24 This graph represents two aspects of the inspection plan  
25 completion and ITAAC closure notice. First is that the number of  
26 inspections completed will significantly outnumber the total number of

1 ITAAC closure notices. This represents the different aspects of an  
2 ITAAC addressed through multiple inspection plans. Second is that  
3 the actual number of inspections conducted towards the end of each  
4 unit's construction decreases such that the inspection staff workload is  
5 highest over the next three years. This workload is managed, in part,  
6 through in-process inspections, early sampling, adjusted samples  
7 based on performance, and crediting inspection aspects common to  
8 both units and sites.

9 Next slide, please. This graphical depiction provides a slightly  
10 different perspective of the inspection activities and the timing during  
11 the construction of the four units. The top line illustrates the project  
12 projected inspection resources needed, which are linked through  
13 Primavera to the targeted ITAAC inspections and the construction  
14 schedule plans.

15 This graph also shows the difference when projected resources  
16 are needed to accomplish the inspections, the inspection plans, and the  
17 ICN reviews. Next slide, please.

18 Regional resident inspectors have completed numerous ITAAC  
19 inspections since the license was issued. Many of the inspections  
20 have focused on the module construction. An example of an area  
21 inspected is the construction and installation of overlay plates.  
22 Overlay plates, such as the one depicted in this slide, are temporarily  
23 welded to the sides of a module to serve as an anchor point for various  
24 components in the nuclear island, such as piping. Each plate has  
25 mechanical connectors for securing rebar or welded studs which  
26 penetrate corresponding holes in a module wall. Concrete is then



1 used to fill the gap between the walls, securing the overlay plate.

2 The inspectors identified through field observations undersized  
3 welds securing the base plate and the stud or mechanical rebar  
4 couplers. This example demonstrates that inspectors are conducting  
5 comprehensive field inspections of safety components to give us  
6 assurance that the plants are being constructed safely and in  
7 accordance with the applicable codes.

8 Now I'd like to introduce Brian Anderson, Chief of the ITAAC and  
9 Generic Communications Branch in the Office of New Reactors.

10 MR. ANDERSON: Thank you, Bill. Good morning, Mr.  
11 Chairman and Commissioners. My name is Brian Anderson, and I'll be  
12 highlighting several aspects of the ITAAC closure process, including  
13 the staff's readiness for the ITAAC surge you heard about in earlier  
14 presentations. I'll also discuss activities to address lessons learned  
15 from ITAAC, both from the staff's licensing reviews and after issuance  
16 of the Vogtle and V.C. Summer combined operating licenses. Next  
17 slide, please.

18 The process to verify a licensee's completion of ITAAC has  
19 developed over several years and has resulted from significant staff  
20 effort and stakeholder involvement. Numerous public meetings and a  
21 comprehensive ITAAC demonstration project have informed the  
22 development of NEI 08-01, the industry guideline for the ITAAC closure  
23 process under 10 CFR Part 52.

24 In Regulatory Guide 1.215, the staff has endorsed the use of NEI  
25 08-01 as an acceptable approach to satisfy NRC requirements for  
26 documenting the completion of ITAAC. The staff has approved the

1 use of the most recent revision of NEI 08-01 pending the publication of  
2 Revision 2 to Regulatory Guide 1.215, which I expect will take place  
3 later this year.

4 These documents have served as the primary sources of  
5 guidance for the 48 ITAAC closure notices that have been submitted to  
6 date, and the staff has verified the completion of each one of those  
7 closure notices.

8 The NRC uses a disciplined and consistent process to verify that  
9 licensees have properly documented the completion of inspections,  
10 tests, and analyses, and that the acceptance criteria are met. Based  
11 on the 48 ITAAC closure notices submitted so far, we have not needed  
12 to make significant changes to our verification process. I'd like to  
13 emphasize that this verification is neither a technical review nor an  
14 inspection. Technical reviews for ITAAC are completed as part of  
15 NRC review activities for design certification, the issuance of a  
16 combined operating license, or for license amendment requests for  
17 design changes during construction.

18 As Jim described earlier, ITAAC inspections are performed to  
19 confirm that the facility has been constructed in accordance with the  
20 NRC approved design and conditions of the license. The staff has  
21 also developed a transparent approach for sharing ITAAC closure  
22 information with the public and external stakeholders. The staff uses  
23 verification evaluation forms to document its verification of each ITAAC  
24 closure notice. The verification evaluation forms are provided on  
25 publicly-available ITAAC status reports on the NRC.gov website. The  
26 status reports also reference the licensee's closure notices and Federal

1 Register page numbers associated with each individual ITAAC. On  
2 the next slide, I'm going to discuss the staff's preparations for the  
3 ITAAC surge, as you heard about during Bill's presentation.

4 Because of the scope of work activities that ITAAC covers, most  
5 ITAAC won't be completed until late in the construction process,  
6 thereby resulting in a surge of ITAAC closure work. The staff will verify  
7 100 percent of ITAAC closure notices, so our workload will generally  
8 follow the shape of the ITAAC surge. The NRC is ready for the ITAAC  
9 surge and has sufficient staff and technology resources to complete our  
10 ITAAC closure verification activities in a timely manner.

11 We've implemented the verification of ITAAC closure evaluation  
12 and status, known to us as VOICES -- and I do recognize that we've  
13 cleverly inserted an acronym inside of an acronym there -- to efficiently  
14 manage the workflow for verifying each ITAAC closure notice.  
15 VOICES is used to generate the ITAAC status reports I mentioned  
16 earlier, so it also serves as an information-sharing tool.

17 To prepare for the possibility of staff turnover, we've developed a  
18 comprehensive online training module to assist new ITAAC closure  
19 staff in learning our processes for verifying ITAAC closure. This  
20 training module was developed, in part, to ensure that new staff could  
21 support the consistent and disciplined verification process I mentioned  
22 earlier.

23 A licensee is not permitted to load fuel until the Commission  
24 finds that all acceptance criteria are met. Referring to its associated  
25 regulation, this is known as the 52.103(g) finding, which the  
26 Commission has delegated to the staff. The staff is finalizing its

1 process for making the 52.103(g) finding, which will include written  
2 instructions for the staff, a SECY paper to inform the Commission, and  
3 a basis document to describe the staff's rationale for this decision.

4 To support the staff's readiness for the expected ITAAC surge,  
5 we've held numerous public meetings since 2011 to discuss ITAAC  
6 closure-related topics. We continue to interact with stakeholders on  
7 ensuring an efficient and effective method of receiving, verifying, and  
8 communicating information related to ITAAC closure. Next slide,  
9 please.

10 In addition to our ITAAC closure verification efforts, the staff has  
11 undertaken several activities to identify lessons learned related to  
12 ITAAC. In 2008, we issued a regulatory issue summary that identifies  
13 areas for improvement and the clarity and consistency of ITAAC in  
14 design certification applications. This was updated in 2010 to provide  
15 additional lessons learned since the original publication. In 2013, the  
16 Office of New Reactors issued two lessons-learned reports that  
17 identified other areas for improvement with ITAAC.

18 Based on the recommendations in those two lessons-learned  
19 reports, the staff began a series of public meetings to discuss a  
20 standardized approach for ITAAC information in licensing applications.  
21 By utilizing an approach that is applicable across reactor designs, there  
22 will be increased efficiency in the staff's review and approval of ITAAC  
23 and greater consistency of ITAAC among different designs. The staff  
24 intends to formalize this effort through the issuance of regulatory  
25 guidance with the goal of having that guidance published on a time line  
26 that supports use by future applicants.

1           This concludes my presentation. I'll turn it back to Mr. Mike  
2 Cheok.

3           MR. CHEOK: Next slide, please. In summary, the  
4 construction inspection program has been fully implemented.  
5 Programs and processes are in place, and we have been inspecting the  
6 activities at the Vogtle and V.C. Summer sites and also at vendor  
7 locations to ensure that ITAAC are being properly completed by the  
8 licensees and suppliers.

9           We have also been verifying the ITAAC closure notifications that  
10 have been submitted to us. We do this to ensure that the plan design  
11 satisfies license requirements. While the implementation has been  
12 successful, there's been some challenges. We have found solutions  
13 to these challenges and we have enhanced our processes using  
14 lessons learned.

15           During program implementation and as part of making  
16 enhancements to our processes, we have continued to engage all of  
17 our stakeholders. These interactions have made our processes more  
18 efficient, more predictable, and more transparent.

19           Finally, we expect a surge of ITAAC closure activities beginning  
20 in 2017. The NRC has adequate resources, processes, and  
21 procedures in place to support the inspection and verification of ITAAC  
22 completion and to support timely staff decisions related to the  
23 authorization of fuel load.

24           This concludes our presentations. Thank you.

25           MR. JOHNSON: And with that, we're ready to take your  
26 questions.

1           CHAIRMAN BURNS: Thank you. Again, Commissioner  
2 Baran.

3           COMMISSIONER BARAN: Thanks. Thanks for your  
4 presentations and for all of your work in this area. Bill, Commissioner  
5 Svinicki mentioned the inspector general report from last month, which  
6 found that, while NRC's construction reactor oversight process is  
7 generally effective, the regional construction inspection staff were  
8 spending more time on administrative work than direct construction  
9 inspection. I think the breakdown was like 60 percent administrative  
10 and 40 percent direct inspection.

11           Can you walk us through the kind of work that fell into the  
12 category of administrative for purposes of the IG report and your sense  
13 about what we should be aiming for in this regard? Is there a  
14 breakdown that, from your point of view, would be ideal?

15           MR. JONES: Well, I don't have the exact information that they  
16 used to come up with the 60/40 numbers, but I can tell you that the  
17 elements that I believe were in the administrative function included  
18 things such as training, training of staff coming into the Part 52,  
19 becoming familiar with the inspection procedures, and also the  
20 inspection plans themselves; development of the inspection plans.  
21 We heard earlier that the schedule has moved.

22           We did plan, we were prepared to conduct inspections based on  
23 when activities would be ready based on as we understood the  
24 schedule to be. So, therefore, a lot of effort was put into development  
25 of those inspection activities and those plans to be ready to perform  
26 those should those activities come off, and that was part of the

1 scheduling and Primavera coordination that we utilized to ensure that  
2 we're ready for that. And then also it's just the scheduling attributes of  
3 how we go about getting the schedule information, verifying that the  
4 activities are going to go off as expected, and that also to ensure that  
5 the inspectors are there. So that involved, previously, involvement by  
6 branch chiefs, by scheduling individuals, and also, on occasion,  
7 involvement by the inspectors themselves.

8 I'd like to point out that, from the inspection planning, the  
9 development of inspection plans and the scheduling activities, that  
10 those were both activities that were reviewed under the process review  
11 team. And I would just like to state that I'm very proud of the work that  
12 that process review team did and of the individuals behind me, Patrick  
13 and Steve, and their participation in that. This was a -- they were  
14 tasked with looking for efficiencies and effectiveness in how we go  
15 about conducting our planning scheduling and its implementation and  
16 how we feed that information back after an inspection into our process  
17 to make sure that we learn, that our inspection plans are updated, and  
18 that we do truly become more effective.

19 And that team took that task on, it started in January. And in  
20 March, I had an implementation plan and was able to actually begin  
21 implementing that. So those were activities that we had in place. The  
22 inspector general did not get an opportunity to see that, but those are  
23 things that we did have in place and we're working forward.

24 So I wouldn't want to break it down into a percentage. What I  
25 would say is that the continued development of inspection plans,  
26 particularly in the electrical digital areas, looking at the pre-operational

1 programs, looking at the information we get back from the China visits,  
2 learning from that, and then feeding that back into our inspection plan  
3 developments and implementing that. That's how I would answer that  
4 question.

5 COMMISSIONER BARAN: Going forward, are there additional  
6 changes to process that you think should be made or that you anticipate  
7 making?

8 MR. JONES: I had a learning opportunity back in high school  
9 and I had a football coach who told me you either get better or worse  
10 but you never stay the same. And right now, we have definitely  
11 implemented a process that is better, but we are not going to stay there.  
12 We are looking at an opportunity after a period of implementation, about  
13 six months, where we're going to go back and look in the fourth quarter  
14 of this year, this fiscal year, and see how well we're implementing and  
15 use that type of approach that we used with the team and looking at the  
16 workshops and looking at how we're implementing to continue to  
17 develop.

18 So, yes, there are more improvements that we can make. I feel  
19 very good about where we are today as to what we have learned and  
20 the changes that we have made and the ability to focus individuals into  
21 the scheduling area, on lessons learned, and to get out and do the  
22 inspections themselves.

23 COMMISSIONER BARAN: Thanks. Brian and Bill, you know,  
24 there's been a lot of talk about the bow wave or the surge or whatever  
25 we're calling it, the tremendous amount of work that's going to have to  
26 happen in those last few months of construction. And I know that



1 there's been an effort on the agency's part, on your part, to make sure  
2 that our role in this on the inspection side gets kind of smoothed out  
3 over time.

4 Can you talk a little bit more about that so that we all have a clear  
5 understanding or I have a clear understanding of how are we managing  
6 that so that it isn't really a surge at the end but, instead, that work is  
7 getting accomplished in a kind of more, I don't know, hump kind of a  
8 way over time and we don't have, you know, just a huge amount to do  
9 right at the end?

10 MR. JONES: I'll start off with the inspection because that  
11 actually feeds into the work that he does. We've identified for each of  
12 the targeted ITAAC and identified the inspection plans and developed  
13 those. What we're looking to do is to touch on as many of the targeted  
14 ITAAC inspections that we can perform. So in other words, we're not  
15 waiting for, if we've got five inspection plans associated with a targeted  
16 ITAAC, two of them could be performed within the next three months.  
17 Those are the ones that we want to make sure that we do perform so  
18 that we don't get two years down the road and have five activities we  
19 need to perform. Instead, we're down to two or three. So those are  
20 the type of activities we're looking forward on.

21 Also, we're looking at, when we have inspectors out, how can we  
22 bundle activities to take advantage of their presence on site with their  
23 skills and be able to look at opportunities to conduct those inspections.  
24 And that was the example I used somewhat during the discussion was  
25 looking at the pool welding activities, as well as the mechanical ITAAC  
26 on the containment. So the schedulers are looking for those

1 opportunities to go out and to make the most efficient use of the  
2 inspectors while they're on site based on the input from the schedule  
3 and then utilizing those insights into making sure our inspectors are  
4 there when they need to be there.

5 And when you look at the inspection activities, we get through  
6 the civil, we get through a lot of the mechanical. In the end, we'll be  
7 dealing with the digital I&C issues, those targeted inspection activities,  
8 and then carrying over into the pre-operational which have specific  
9 ITAAC to them and then the operational programs which were  
10 discussed somewhat. Although they don't have ITAAC to them, those  
11 will be looked at also.

12 MR. ANDERSON: And so from an ITAAC closure verification  
13 perspective, I'll start by saying that I'm confident in the staff's ability to  
14 verify ITAAC closure even with the shape of that surge towards the end.  
15 I think that's a function of how and when ITAAC-related work gets  
16 completed during construction. So to a certain extent, that shape of  
17 work, the ITAAC closure notices coming in, peaking late, is inherent to  
18 the Part 52 process.

19 But having said that, I believe that we've got the right tools,  
20 processes, and people in place. You heard during early presentations,  
21 I mentioned it also in mine, the development of the NEI 08-01 guidance  
22 document has not only taken place over many years and many public  
23 meeting discussions but has brought a lot of structure, discipline, and  
24 kind of a standardized approach for ITAAC closure. That's been a key  
25 part of what we've built into our process today.

26 COMMISSIONER BARAN: So you think with the guidance, at

1 this point, we have a good shared understanding with the licensees  
2 about what's expected for ITAAC submittals and what's going to be  
3 adequate?

4 MR. ANDERSON: Absolutely. I'll admit it took a long time, I  
5 think, to get there. But we've definitely, that's been an effort, a  
6 long-term effort that's been well worth the input and participation. I  
7 think there's full mutual understanding of the level of detail that's  
8 required for ITAAC closure notices.

9 COMMISSIONER BARAN: But just thinking about the big  
10 picture, you know, we're going to have all these ITAAC closure notices  
11 kind of in the same period of time. There's going to be the run-up to  
12 the ITAAC hearings for two different sites potentially, and there's going  
13 to be a large volume of information that's going to have to be made  
14 available on the website. All these hundreds and hundreds of ITAAC  
15 closure notices, and it sounds like you're also putting your verification  
16 evaluation forms, that's also going online. So there's just a huge  
17 amount going up online. Are we confident that we have the IT in place  
18 to get this stuff turned around quickly so that when days matter during  
19 the run-up to these hearing processes, these notices are going to go up  
20 and the evaluations are going to go up in a timely way?

21 MR. ANDERSON: I am. I can certainly speak to the IT  
22 infrastructure that supports ITAAC closure verification. We have a  
23 comprehensive IT platform in place. It's routinely monitored and  
24 tested. It's been upgraded several times since its initial  
25 implementation. We have not to date had any issues with data or  
26 performance.

1           So even with the increased volume, the day-to-day processing  
2 capabilities, we've already verified are robust.

3           COMMISSIONER BARAN: Okay. And, Gary, I just want to  
4 close this panel the same way I closed the first one, which is this is a lot  
5 of work happening in a short period of time. But on the NRC side, it's  
6 really important work because it's basically the final steps to ensure that  
7 these plants are built to be operated safely. And so how as an agency,  
8 how as a leadership team, do we make sure that the staff understands  
9 that, although the schedules are important, the number-one priority has  
10 got to be safety?

11           MR. HOLAHAN: Thank you. I always enjoy safety questions.  
12 You know, I think the staff has very well prepared and want to do a  
13 quality safety review all the time. They just need to see that their  
14 management is fully supportive. Safety culture starts at the top.  
15 That's your standard definition. It is by having management and  
16 Commission, EDO office-level sending a message to the staff that it's  
17 fully supportive of them taking the time and resources they need to do  
18 that job right to get the quality into the product.

19           I think we, for example, in NRO have taken to naming things in  
20 such a way that that message should be clear to the staff. So for  
21 example, the highest priority items we expect to close this year are on a  
22 safe closure list. It's important to get them done, but you've got to do  
23 them safely.

24           On the top of that list is license amendments, all the activities  
25 that support continued construction activities at Vogtle and Summer.  
26 But they're on a safe closure list.

1           So for example, when we prepare to do a timely and efficient  
2 review of the next design certification, the signs in the hallway say 42,  
3 meaning 42 months, 42 safely. So I think it's management's  
4 responsibility to send a message to the staff that we know they want to  
5 do a good job and we're supportive of the quality and safety reviews  
6 that they have in mind.

7           So I'm optimistic. I think it will be done well.

8           COMMISSIONER BARAN: I appreciate that. Thank you.

9           CHAIRMAN BURNS: Thanks again for your presentations. I'll  
10 start off with a similar or the same question I asked the prior panel and  
11 then maybe get to more specifics. As we look at, and as they said and  
12 Mike acknowledged as well, as we're implementing this process  
13 conceived of a generation ago really, is there something that surprises  
14 you about the ITAAC process at this point? Perhaps some of the  
15 surprises worked themselves out during the initial licensing phase or  
16 the COL phase. But as you look at it now, are there things that  
17 surprise you or say perhaps we're spending time in terms of ITAAC that  
18 might be better spent on other aspects of the safe operation or safe  
19 construction of this plant or these plants?

20           MR. HOLAHAN: I'm going to offer, and then Jim will tell me  
21 whether I get it right or not. It seems to me that ITAAC has an  
22 essential role in the one-step licensing process. It is the verification.  
23 It's what allows you to make the decision about safe construction and  
24 safe operation early in the process.

25           I think the nature of ITAAC is something that we were figuring out  
26 early on, long before the actual construction took place. So I think you

1 see now we have exercises on developing standardized ITAAC to  
2 figure out what is really necessary. I think the idea of Tier 1, Tier 2,  
3 Tier 2 Star, exactly how important, how risk significant are each ITAAC,  
4 what's their role, I think that will probably be better informed by the fact  
5 that we've gone through the construction the first time. And I think that  
6 we've done it in, I would say, a conservative cautious way the first time.  
7 It could probably be done with better risk and safety insights informed  
8 by the actual construction activities. So we can make improvements  
9 as you go through that process.

10 The other thing that I think is surprising to me is how many  
11 ITAAC would be uncompleted at the 225-day stage. And that would,  
12 therefore, have to be very clearly and definitively planned out so that  
13 decisions about their acceptability of implementing those plans could  
14 be taken forward. But the fact that there will be a larger number, at  
15 least I envision, is something new and that we all be prepared for and  
16 that we'll have to -- it's not just in the last few days. It is to be prepared  
17 now and working up process and procedurally to make sure that that  
18 end game does go according to plan.

19 CHAIRMAN BURNS: And in terms of the uncompleted, I think  
20 some had touched on this and it just may not have sunk in with me, but  
21 when you look at the uncompleted sort of rough, perhaps rough  
22 percentages, what do they relate to? In terms of what I say,  
23 construction completion, operational testing, and then, of course, as  
24 I've been reminded here, ITAAC also go to things like, you know, what  
25 you do during operations, things that are really post construction,  
26 post -- well, basically being in the operational phase.

1           So can you give me a percentage of what that goes to in terms of  
2 the incomplete --

3           MR. BEARDSLEY: You mean sort of the percentage of how  
4 many --

5           CHAIRMAN BURNS: How much it has to deal with completion  
6 of construction, how much it has to deal with, in effect, what I'll call  
7 pre-op testing. I realize that can be considered part of the ops phase.  
8 And then how much is really about those programs that you need for  
9 operations, you know? I know we have, because we have in statute,  
10 we must have emergency planning ITAAC. Whether that's the best  
11 way of doing it or not doesn't really matter because we have a statutory  
12 requirement for it.

13           MR. BEARDSLEY: So the emergency planning ITAAC are  
14 really the only ITAAC that are programmatically focused and what they  
15 really are is a requirement to run EP exercises. There's 19 operational  
16 programs that are committed to in the license, and all of those have  
17 programmatic inspections that are non-ITAAC. They were physically  
18 separated from ITAAC well early in the process. So I think that  
19 pre-operational test program is something that is heavily loaded into  
20 that later steps, the later steps of the ITAAC.

21           The other piece of it is when you break down an ITAAC, take one  
22 of the big mechanical systems, we're going to do lots of inspection of  
23 elements of that system, but they still have to do a walkdown at the end  
24 and they still have to do systematic testing, system-level testing. And  
25 that has to be completed before the ITAAC can be closed. So we may  
26 have a significant amount of inspection activity on that ITAAC before

1 they get to the end, and we'll audit and we'll go on those walkdowns  
2 with them. But at that point, we have a high assurance, based on all  
3 the inspection activity we've done, that they've built the system  
4 appropriately.

5 So that's where we feel that, although there's a lot of activity at  
6 the end, we will have pretty good knowledge based on those systems  
7 before we walk into it. So I'm trying to give you a little bit of assurance  
8 that we're looking forward at it and understanding what we have to get  
9 to before we get there.

10 The other thing, to answer your original question, when we  
11 planned the program, we looked at ITAAC as just a characterization of  
12 the construction process. So they're going to build the plant the same,  
13 whether it's Part 50 or Part 52. ITAAC just characterized some  
14 elements of that construction. And so, you know, we had people from  
15 the previous phase of construction involved in our planning process  
16 helping us write the procedures. And so the ITAAC, all we did was we  
17 used the ITAAC to focus the procedures in certain areas.

18 So from a differences, surprises point of view, I think that ITAAC  
19 is just a way of breaking down construction, and we're using it to help us  
20 focus. But we're doing lots of inspection beyond ITAAC. So the  
21 targeted ITAAC are required for inspection, but that doesn't mean that's  
22 all we're inspecting. The resident inspectors are inspecting what goes  
23 on on a day-to-day basis, and they understand what ITAAC are  
24 associated with those activities, but they're continuing to inspect to  
25 make sure there's quality construction.

26 CHAIRMAN BURNS: Thanks. And thanks, actually, for



1 reminding me because that was a debate some years ago about  
2 whether operational programs should be within the scope of ITAAC.  
3 And but for my one example that we were gifted with, you reminded me  
4 that operational programs aren't. So thanks for that.

5 MR. JOHNSON: I'm sorry. I just wanted to give another  
6 perspective on the question that's been well answered about surprises.  
7 And I'll just note that Gary has been here probably associated with new  
8 reactors longer than anybody. I think I joined and then folks, the rest of  
9 the folks at the table joined after me. I didn't find big surprises, but  
10 there have been, I think, a lot of little learnings.

11 When we were first crafting ITAAC, for example, we were doing  
12 that in the context of the licensing folks and the licensing environment.  
13 And someone said, well, gee, what happens if you get an inspector  
14 along looking at an ITAAC as we're formulating those, what would that  
15 do with the ITAAC? And we said, holy crap, some of these ITAAC  
16 aren't going to be all that inspectible, and so that little learning enabled  
17 us to change the way in which we developed ITAAC. That's an  
18 example.

19 We knew we needed templates for ITAAC closure. We knew  
20 the concept of ITAAC closure, and we knew that templates would help.  
21 We began crafting those. We refined those based on that little  
22 learning.

23 And I think one of the things that these guys maybe have been a  
24 little bit modest about has been the success of the staff in taking these  
25 little learnings and improving the program or processes to avoid these  
26 big surprises.

1           CHAIRMAN BURNS: Thanks for that, Mike. One of the  
2 things, actually, a couple of you touched on reminded me of one of the  
3 sort of initiatives or objectives coming out of Project Aim, which the  
4 Commission has endorsed, and that is its terms of this flexibility in  
5 terms of redirecting resources where you need a particular expertise in  
6 certain areas. And one of these is, in a number of meetings I've heard  
7 the reverse of having sort of NRO reviewers looking at things in the  
8 context of operating reactors. Now we may be going the other way in  
9 terms of we have folks that have done more operational inspections or  
10 the like or have more experience in the Part 50 side of the house, going  
11 the other way, what is being done to sort of prepare those folks, as you  
12 say, to be able to use them for this important and significant amount of  
13 work at the end?

14           MR. JOHNSON: So let me just start at a high level, and then  
15 Jim will help. I was a party to a meeting that was really initiated by  
16 Glenn Tracy, Director, and Vic McCree, Director and Regional  
17 Administrator, to talk about how do we make a seamless handoff, for  
18 example, from construction, post construction, to operations oversight?  
19 And as a result of that activity, we kicked off a multi-faceted plan to  
20 make sure that, as we reached the 2016, '17, '18, '19 time frame, we  
21 are, in fact, paving the way to have that handoff of responsibility of  
22 those AP1000 units in operation. The folks migrate to that office that  
23 will have that responsibility. And so we've got a plan that's been  
24 developed, and we're implementing the steps on that plan.

25           MR. BEARDSLEY: So I think the best way to answer your  
26 question is to use an example. A number of years ago, the Center of

1 Expertise for Electrical Engineering was moved to NRR, so NRO does  
2 not have any electrical engineering folks anymore.

3 We have worked closely with the branch chief to look at the  
4 makeup of his staff and the experience he had from new reactor  
5 licensing, and much of that experience is retired. So we're planning a  
6 series of meetings where we're going to bring the entire electrical  
7 branch down in two or three different groups to one of the licensee  
8 sites, and we've coordinated with the licensees on this, give them tours  
9 of the sites so they understand what AP1000 looks like, what the  
10 construction site looks like, so they can engage with the licensee  
11 engineers prior to the electrical construction work getting going, so that,  
12 as electrical questions come from the inspectors, we have a staff that  
13 understands AP1000, is familiar with it, and knows the right people to  
14 call.

15 So that's one example of what we're trying to do to be forward  
16 thinking and look at things like that. Centers of expertise, I think, are  
17 probably the focus area of where we'll be addressing these.

18 MR. JOHNSON: And that has really nothing to do with what  
19 happens with the sides of the new reactor workload. We always knew  
20 there would be a time when we'd need to hand off oversight. The way  
21 in which you do oversight or the oversight that is done transitions  
22 organizations, and so that's why we had that meeting even, some would  
23 say, in advance of Project Aim. It's to make sure that we're ready to  
24 support that transition.

25 CHAIRMAN BURNS: All right. Thanks. Thanks for the  
26 discussion. Commissioner Svinicki.

1           COMMISSIONER SVINICKI: I think also I'm a little surprised  
2           the staff didn't mention this in response to the Chairman's question just  
3           now. Not handing off oversight but, if you should find, for agility's sake,  
4           that you need to bring people in to the ITAAC inspection and closure  
5           process late, I had inquired of the staff, and I think you mentioned it in  
6           your presentation, that there has been a training module developed.  
7           And, again, these people will not need to be trained on their subject  
8           matter expertise. It would train them on the ITAAC process. I thought  
9           that was a very commendable agility measure that was developed long  
10          before Project Aim, frankly. So when I mentioned earlier that my  
11          confidence in this process has grown, it seems overwhelming when you  
12          first start to look at the surge and think about all that needs to be done.  
13          But I think we see NRC staff stepping up very competently right now at  
14          Watts Bar 2, and I think this will likely be no different than that. It does  
15          have some uniqueness with this ITAAC process. But at bottom, it  
16          really is the same kind of demonstration or showing and then building  
17          the record, which is, of its nature, an administrative type of activity. I  
18          don't know if any of my colleagues have ever been on an inspection  
19          team. I have in quality assurance, and you do feel like a good large  
20          component of being an inspector is the documentation of what you did.  
21          Without that, I don't know that inspection is really all that usable without  
22          the component of planning, conducting, but then documenting. And  
23          two of those three phases are administrative in nature, so I think that  
24          that's important to note.

25                 I also appreciate the important role of OGC has been mentioned  
26                 in the staff's presentation. As Commissioner Baran notes, there is an

1 important opportunity for hearing that presents itself through the ITAAC  
2 process. OGC has been working closely with the region and the Office  
3 of New Reactors to make sure that everything having to do with that  
4 process is in place, so I appreciate that mention has been made of that.

5 A lot of questions have been asked of the nature, you know, if all  
6 of us, each of us could nominate one thing to be re-looked at, if there  
7 was going to be another wave of new reactor construction in the United  
8 States. Gary, you hit on the one thing that I think, for me, would come  
9 to mind, and it is the uncompleted ITAAC notices and the 225 days.  
10 For me, any regulatory requirement that takes the form of X number of  
11 days before this trigger, report to me on the status of all undone work, if,  
12 at that moment of time, more than half of it is not done it would be my  
13 instinct to go back and say maybe I want to get that a little bit later in the  
14 process when more of it -- because if you ask for a status on something  
15 and if, at that point in time, so many things will have to be statused, I do  
16 think it kind of recommends itself to say is that just then an  
17 overwhelming amount of information that has to be provided?

18 But something that is helpful, of course, is all the development  
19 that the staff has done of templates. And we know at least the form  
20 and the content of a lot of these notices that we'll get, nobody began by  
21 discussing what an ITAAC was. And earlier, I talked about this being  
22 an important discussion today merely because we are shining a  
23 spotlight on a complex agency process.

24 But I think worth mentioning, and if I don't get the terminology  
25 right I'll ask Mike or someone to step in, but ITAAC don't take the form  
26 of, hey, this component is significant. They take the form of this

1 component will be demonstrated to operate within this range. There's  
2 a lot of specificity there. Could one of you speak to -- this is not  
3 something, it's not like, in addition to all of the activity, at the end we're  
4 going to have to be making a lot of threshold judgment about what  
5 success looks like. So could someone speak to that at a high level?  
6 Gary, maybe you want to start.

7 MR. HOLAHAN: I think the way I think of it is ITAAC is not just  
8 something done at the end of the process. It's an integral part of the  
9 process and, clearly, defining what needs to be done in building the  
10 plant at the early stages and being quite clear about what the  
11 expectations are. It seems to me the more we think of ITAAC as  
12 separate from and occurring after all of the inspections and everything  
13 else is done is that's probably wrong. You need to think of ITAAC as  
14 integral to both the licensing, the inspection, oversight, the whole  
15 process.

16 So, yes, ITAAC --

17 COMMISSIONER SVINICKI: Much is established already, so  
18 at least that much. Now, that doesn't mean that life isn't going to be  
19 interesting because, even though you said that component X will  
20 demonstrate, you know, it will run for X amount of time and demonstrate  
21 performance in this range, if you get enough technical people together,  
22 and I'm subject to this myself, I might question whether or not what I  
23 actually observed did that or not. So that's why, again, it's not as if this  
24 is merely a box-checking exercise. I'm sure there will be lots of  
25 technical complexity at the end, as our inspectors well know and  
26 encounter routinely, again, so that's not a new circumstance for us.

1           The Chairman mentioned Project Aim, and it's interesting to me.  
2           I don't mean to keep returning to the inspector general report, but  
3           something that I read in there really struck me. I asked the previous  
4           panel about roles and responsibilities and how we had organized  
5           ourselves to conduct construction oversight. And one  
6           observation -- and the IG report just stands in isolation -- is as follows:  
7           one experienced senior manager opined that if it could be done over  
8           again all construction inspectors should be located at the construction  
9           sites and they would not have hired any regional inspectors. Now, the  
10          difficulty in any observation when it stands in isolation is I don't know the  
11          context of the engagement that resulted in that.

12                 I have certainly questioned -- you know, we designed this for a  
13          system that might have had us dispatching regional inspectors to  
14          construction all around the country and not at two relatively near sites to  
15          Region II. So under that paradigm, I think you would want to have a  
16          really strong core of regional inspectors. That isn't where we find  
17          ourselves today. But as I've inquired when I go to Vogtle and Summer,  
18          you know, you're met by an NRC team there. A number of them are  
19          just there temporarily. They're been dispatched to be on site for a  
20          period of time. Of course, most of us know, we know who our  
21          construction resident inspectors are there if we visit multiple times.

22                 But I ask about it. I'm like are you being sent up here, you know,  
23          like Monday, Wednesday, Friday, and it's not rational? And, you know,  
24          how long are you coming and staying? Is it needlessly, kind of  
25          logistically complicated? And I have a sense that it's working well. So  
26          this one experienced senior manager's observation strikes me as

1 something I didn't think was issue. Would anyone like to kind of react  
2 to how complimenting the resident inspectors with the regional  
3 inspectors, how is that going in your mind?

4 MR. JONES: I'll take that one. Where we're at right now is we  
5 have a compliment of resident inspectors at each of the two sites. I'm  
6 currently at a full complement at each site. In addition, I have a diverse  
7 group of disciplines at each of the sites, including civil, mechanical, and  
8 electrical. And at Summer, we actually have an individual with an  
9 extensive operational background. Now, these individuals  
10 communicate with each other extensively so that issues and  
11 inspections that are being conducted at one site are being reviewed  
12 and discussed at the other site.

13 I think what we're seeing is, and I don't know the contents of that  
14 discussion either, but I think we are seeing with the realignment that  
15 occurred under the process review team that the regional staff is out at  
16 the facilities when they need to be there. They're integrated into more  
17 of the inspection plans and meeting the targeted ITAAC inspections  
18 and as such that they're being more efficiently and effectively utilized  
19 because they're bringing their experiences and they're spreading it  
20 across more inspection activities than they would if they were just going  
21 out as a civil engineer and looking at two inspection plans. They are  
22 actually able to work on a lot more. They're actually spending more  
23 time than just the week in some cases, depending upon the work in  
24 front of them, conducting those activities.

25 COMMISSIONER SVINICKI: Well, that was another strong  
26 foundation, was it not, in complimenting resident inspectors with



1 regional inspectors is in the response you just gave and also the chart  
2 that Commissioner Ostendorff was holding up that gives the different  
3 nature of the ITAAC. Right now and perhaps in the coming months,  
4 maybe migrating a bit, but we've been heavy civil and structural. And  
5 so the point in dispatching people from a regional office is that you're  
6 going to have an evolution over time of the nature of the ITAAC and the  
7 inspection that's being done. Therefore, you want to bring in, you don't  
8 want to have a bunch of structural folks at both of these sites  
9 permanently, and after that work is long over, you know, what are they  
10 to be doing? They should be off contributing to other agency mission  
11 and you should bring in the relevant expertise. So, again, I think that  
12 that was a part of the understanding there.

13 So to the second part of the question, as far as you're observing,  
14 it's working well? It isn't that we can't get the right people there at the  
15 right time?

16 MR. JONES: No, I am seeing, particularly after the  
17 improvements that were made, I'm seeing that it's working very well.

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

20 CHAIRMAN BURNS: Thank you. Commissioner Ostendorff.

21 COMMISSIONER OSTENDORFF: Thank you all for being  
22 here today. I'm going to revisit a couple of the points that my  
23 colleagues have already addressed because I think there's a couple  
24 pieces worth emphasizing.

25 Bill, I wanted to start out with you. I appreciated your comment  
26 in response to the IG's report about the relative time spent on inspection

1 versus administrative support, and I think the IG serves a very  
2 important role. It's important to address their findings and  
3 observations.

4 At the same time, and it was discussed in the first panel, the  
5 reality of construction projects doesn't lend itself to a linear approach  
6 day to day. And I know that, going back to my experience 28 years  
7 ago, on a submarine that had three months before expended criticality  
8 had a 15-month delay because of misalignment of the main condensers  
9 with the propulsion turbine complex. It required ripping out the ship  
10 service, turbine generators, turbines, main condensers, condensate  
11 pumps, feed pumps. You name it, it was ripped out.

12 And then we found ourselves, rather than three months away  
13 from criticality, at least 15 - 16 months. Then what do you do? You  
14 train people. You keep them productively employed.

15 And so I think the realities of construction delays at Summer and  
16 Vogtle, it's just a fact of life. And so I appreciated your comment, I  
17 wrote it down, which was your inspection hours expended were  
18 consistent with the licensee's ongoing construction activities, and I think  
19 the reality of construction is just as you noted: that you've inspected  
20 those things that needed to be inspected. So I appreciate your making  
21 that point. And it's not a criticism of the IG report. It's just there's two  
22 sides to everything, and, since this is a public meeting, I appreciate  
23 other commissioners talking about the IG report to provide the public,  
24 you know, a wholesome perspective of that issue that was raised by the  
25 IG.

26 Bill, on your slide 11 you also mentioned, I think, as I understood

1 it, and I want to make sure that I didn't misinterpret your comment, that  
2 there had been some challenges in using Primavera for scheduling.  
3 Did I correctly understand your comment there? I think that --

4 MR. JONES: You did.

5 COMMISSIONER OSTENDORFF: Okay. Is there a proposed  
6 fix or any projected fix underway or being considered to help make that  
7 a more useful tool?

8 MR. JONES: The tool itself is effective. It provides for the  
9 ability to link the schedule with our inspection activities and the  
10 inspection plans that we have developed. The challenge has been in  
11 getting the latest up-to-date construction information and particularly  
12 looking out several months for the planning itself and being able to  
13 incorporate that efficiently into the Primavera. Right now, it is a very  
14 labor-intensive effort to take the scheduling information that we get from  
15 the licensees and to put it into Primavera so that we can then align our  
16 inspection activity and resources with what the inspection schedule is.

17 And to speak to the process review team, we were taking  
18 information on the construction activities from a lot of different sources.  
19 We have refined that down to essentially two individuals who have  
20 established very effective working relationships with the licensees.  
21 And although the means in which we're getting a lot of the information  
22 is -- we're getting the schedule hard copy or PDF and we have to input  
23 that in or look to, if we do get electronic, if it's not the most current, we  
24 could actually end up causing problems as far as the scheduling of  
25 something has shifted. So those are some of the challenges.

26 But I think, for what is in front of us for our ability right now to get

1 the information the way that we are, I think that we've established single  
2 points of communications, individuals with knowledge of how to work  
3 the system and are pretty much working it to the best of our abilities  
4 right now with our interface with the licensees.

5 COMMISSIONER OSTENDORFF: Okay. I want to just make  
6 an observation that's consistent with what Commissioner Svinicki  
7 addressed about the balance between on-site and regional inspectors  
8 because I think that's a very important point. I would say my  
9 experience from time on submarines, seeing analogous processes at  
10 work between ship's force, shipyard, intermediate maintenance activity  
11 personnel, naval reactors, etcetera, I think my observations -- I'm  
12 looking at Pat and Steve back there in the back row next to Laura -- I  
13 think that my gut feel is that your system today is working very well and  
14 that you've achieved a good balance. And I think you are flexible and  
15 agile and taking the right talent to bring to bear on-site when needed.

16 So this is my two cents' worth, but I'd say that, watching this now  
17 for three and a half years, since the licenses were issued for Vogtle and  
18 Summer, I think you've all done a good job in adapting your staffing  
19 on-site in response to the realities of where the projects are. So my  
20 hat is off to you for that.

21 MR. JONES: Well, sir, I thank you on the part of Region II and  
22 the construction staff, including the two behind me, on that comment.  
23 Thank you.

24 COMMISSIONER OSTENDORFF: I would also comment that  
25 earlier other commissioners discussed the uncompleted items 225  
26 days out, and I think Gary had raised that and I appreciate the earlier

1 dialogue. Reality is what it is, and I can remember many a Sunday  
2 afternoon before a Monday underway, as engineer commanding officer  
3 of the submarine, going down to the boat and closing out quality  
4 assurance packages. Is it ideal? No. Was it reality? Yes.

5 Look at a U.S. nuclear aircraft carrier when they finish an  
6 overhaul period that's maybe two years in a shipyard, and I guarantee  
7 you the activity level prior to and the 30 days and 7 days and 3 days  
8 before their initial underway after a two-year shutdown in a shipyard is a  
9 very, very busy time period. It's not rocket science. It doesn't require  
10 multi-variable calculus to figure out how to do it. It requires hard work  
11 and attention to detail. I think you're going to see nothing other than  
12 that with respect to the, quote, bow wave, whatever you want to call it,  
13 for ITAAC closure for the Vogtle and Summer projects.

14 So I think this is a marathon, it's not a sprint. It's not something  
15 that ought to be the source of great anxiety or any, you know,  
16 philosophical struggling to figure out how you're going to deal with it.  
17 It's just going to be hard work and attention to detail by the licensee, as  
18 well as by the staff. I don't think we'll make it more than that. So I'll  
19 stop there. Thank you.

20 CHAIRMAN BURNS: Thank you. Anything else from my  
21 fellow commissioners? Well, again, I want to thank the staff for its  
22 presentations, as well as our two panelists from Southern and SCANA  
23 for the dialogue today on ITAAC. I think it's been very interesting, very  
24 useful for us to bring us back up to date. And I know, as we mentioned  
25 this acronym something, perhaps we can nominate it for the Oxford  
26 English Dictionary next year as a new entry.

1                   So with that, we are adjourned.

2                   (Whereupon, the above-referred to matter went off the record at

3                   11:38 a.m.)

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