UNITED STATES OF AMERICA

U.S. NUCLEAR REGULATORY COMMISSION

INFORMATION BRIEFING ON INSPECTIONS, TESTS,

ANALYSES, AND ACCEPTANCE CRITERIA (ITAAC) -

RELATED ACTIVITIES

AUGUST 30, 2011

9:00 A.M.

Public Meeting

Before the U.S. Nuclear Regulatory Commission:

Gregory B. Jaczko, Chairman

Kristine L. Svinicki, Commissioner

George Apostolakis, Commissioner

William D. Magwood, IV, Commissioner

William C. Ostendorff, Commissioner

APPEARANCES

ACRS Members:

    Alan Torres
    General Manager of Nuclear Construction,
    South Carolina Electric & Gas Company

    Charles Pierce
    AP1000 Licensing Manager,
    Southern Nuclear Operating Co., Inc.

    Rolf Ziesing
    Director, U.S. Licensing, Nuclear Power Plants,
    Westinghouse Electric Co., LLC.

NRC Staff:

    Bill Borchardt
    Executive Director for Operations

    Michael Johnson
    Director, Office of New Reactors
    Laura Dudes, Director, Construction Inspection and
    Operational Programs, NRO

    James Beardsley
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    Chief, Construction Projects Branch 2, RII

    Mark Kowal
    Branch Chief, Technical Specifications & ITAAC Branch,
    NRO

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

2   CHAIRMAN JACZKO: Good morning. The Commission meets

3   today to discuss the Inspections, Tests, Analyses, and Acceptance Criteria for

4   potential new reactor construction, or what we refer to as ITAAC. And this is, like

5   many of our activities related to construction or oversight, this issue has taken on

6   added importance given the significant progress on the safety and environmental

7   reviews for new reactor design and license applications. As one of our key

8   construction-oversight programs, the ITAAC process is the heart of our efforts to

9   ensure that potential new reactors are constructed in accordance with their

10   designs and in a manner that ensures that they can operate safely. Under this

11   process, the licensee bears the primary responsibility for developing and

12   conducting the ITAAC, while the NRC has a more limited oversight role in

13   reviewing the licensee's proposed ITAAC and verifying their completion through

14   selective inspections. In order for this new process to move forward effectively

15   and efficiently, it is critical that licensees be thorough, timely, and comprehensive

16   in meeting their responsibilities.

17   In looking back in the history of the current generation of reactors,

18   it's clear that many of the safety issues that they experienced during their early

19   years of operation are rooted in construction and quality-assurance issues.

20   Although operating reactors later achieved a much stronger safety performance,

21   we can all agree that we need to avoid these types of early problems with new

22   reactors that may be built in the future. Rigorous construction oversight through

23   ITAAC, the Construction Reactor Oversight Program, and other inspection

24   activities is essential to ensuring that. I would note, I read in preparation for this

1   meeting the Lessons Learned from the ITAAC development. And I was actually

2   somewhat surprised by some of the lessons that are in there. And there's a

3   couple of samples, and I think it was in there or somewhere else of the ITAAC,

4   and I was actually -- to be honest, I think it's probably the first time I really looked

5   at an ITAAC before, and they were surprisingly vague, which I don't think bodes

6   well for our ability to actually work through these issues. And so hopefully today

7   we'll be able to hear from all of you about how these are really going to work in

8   practice, and if it's going to really achieve what we want it to achieve, and

9   obviously the time is now to get it fixed. So it will be very interesting in what you

10   have to say. And with that, I'll offer my colleagues any comments that they'd like

11   to make? Okay. Alan, we'll begin with you.

12   ALAN TORRES: All right.

13   CHAIRMAN JACZKO: Alan Torres is the general manager of

14   nuclear construction at South Carolina Electric and Gas.

15   ALAN TORRES: Yes, for those of you that don't know which unit

16   that is, that's V.C. Summer nuclear station, and I'd like to start out with thanking

17   the Commission for the opportunity for my colleagues and myself to sit here and

18   discuss ITAAC this morning. We're going to cover a couple of items, and we

19   hope to go on somewhat of a logical link to one another. I'm going to cover our

20   utility's role and view perspective, if you will, of ITAAC.

21   From a topic standpoint, requirements for ITAAC performance,

22   utility's role, the complete ITAAC completion process, the transition to operations

23   which is very critical, and of course then an equally critical component is the CIP

24   Task Force initiative that goes on.

1   First of all, to start the basic discussion we'll talk about

2   requirements for ITAAC performance, and of course the literal rule of 10.CFR.52,

3   that the ITAAC provide reasonable insurance that the facility has been

4   constructed and will operate in conformance with the license. And this

5   assurance is to not only the staff, but to the public that we've constructed the

6   facility in accordance with the requirements. ITAAC originates from the COLA,

7   including those from the referenced DCD and ESP if applicable, and for our site

8   specifically there are approximately 900 ITAACs. Some sites will be different,

9   depending upon the site-specific ITAACs that would apply.

10   Going on to requirements for ITAAC performance and I think

11   sometimes this gets missed to a degree when we discuss ITAAC. And the

12   technical work for ITAAC completion is performed in several manners, the first of

13   which leads off, which is one of the basic foundation parts of building the nuclear

14   power plant, and that's 10.CFR.50, Appendix B. That is the cornerstone of all our

15   inspections. Of course, then we have Reg Guides, ASME code, the ANSI

16   standards, the IEEE, AWS code, the American Concrete Institute code,

17   numerous other standards, along with our licensee programs and procedures

18   that we would use to implement the ITAAC process and/or any other safety-

19   related activity that were to occur onsite.

20   It goes without saying in the utility's role that the licensee is

21   ultimately responsible for all activities, not just ITAAC activities, but we

22   understand that the ultimate responsibility lies with the licensee on the site. Self-

23   performance of some ITAACs, we'll do from an emergency-planning, a physical

24   security program. Those will be the site-specific type of ITAACs that I had

1 mentioned earlier. Those will be performed by the utility. We provide direct

2 oversight for ITAAC performance by our vendors at Westinghouse and Shaw, our

3 consortium partners in building this plant. And then the utility will be the primary

4 interface for the NRC inspection of ITAAC activities under IMC-2503.

5 　　　　　The next slide is just a brief animation of what we would expect the

6 process to look like and does look like, specifically highlighting the fact that our

7 goal would be to complete all ITAACs to the point where we could get a

8 52.103(g) finding to allow us to load fuel.

9 　　　　　The ITAAC completion process, the inspection, test, and analysis

10 are performed in accordance with the normal work process, and to me this is a

11 very important statement because, again, I go back to my comment about

12 10.CFR.50, because inspections are performed using the 18 criteria. And that's

13 a very important foundation for all of our inspections. Not all ITAAC are safety-

14 related, but all ITAAC are performed under the licensee's QA program. Extra

15 visibility is provided on ITAAC activities due to their regulatory significance. They

16 are uniquely identified on project schedules, they're highlighted within our

17 construction documents and our pre-operational testing procedures, and that's an

18 important point also. As we do our readiness reviews, that is one of the things

19 that we highlight, that this is an ITAAC activity, and specifically if it happens to be

20 a targeted ITAAC activity that we need to emphasize. We emphasize in our

21 procurement documents so that our vendors are aware that they have a

22 responsibility to complete certain inspections that are required.

23 　　　　　Continuing on with the ITAAC completion process, the closure

24 notifications being prepared in accordance with our NEI Document 08-01 and

1   Reg Guide 1.215, and the task force and the staff have done, in my opinion, an

2   excellent job of working together to craft those documents such that we

3   understand and can continue to utilize that as a learning tool going forward and

4   enhance it as necessary. Work continues with the CIP task force to refine our

5   ITAAC Closure process and develop additional examples. I think that's a very

6   key point, the additional examples ultimately will help in the next bullet, which is

7   planning to mitigate the expected surge of ITAAC closure near the end, right

8   before 103(g) point, which I think everybody's aware that that is the predicted

9   bow wave period as most of the ITAACs close toward the tail end of that period.

10   So by having additional closure notices, using resource planning to the best of

11   our ability, we can help try to mitigate some of that bow wave.

12   Continuing on with the closure process, staff has proposed -- and

13   this is a work in progress -- new requirements for post-closure ITAAC

14   notifications, the supplemental ITAAC closure notifications -- and this is

15   commonly referred to as ITAAC maintenance -- after we've submitted a closure

16   letter, and we must maintain the validity of the ITAAC to the point until we have

17   received our 103(g), and we're consistent with the 08-01 document, and this

18   happens to refer to the July 10 publication. And we've also provided, as a task

19   force, provided comments to DG-1250 as it goes forward.

20   Some of the elements that will be used to maintain the ITAAC --

21   going back again, if you look at these items, problem identification and resolution,

22   construction and maintenance, configuration, control, and quality assurance.

23   Those come directly out of Appendix B. Those are critical attributes that we

24   would be doing, problem identification and resolution being commonly referred to

1   as corrective action or non-conformance programs. Construction and

2   maintenance, utilization of approved procedures, configuration control,

3   maintaining the design basis is critical to us, and then of course quality

4   assurance roll in the function of onsite quality control and quality assurance.

5   NRC notification -- we list here several of the current times we

6   would have to notify the staff: material error or omission in an ITAAC closure

7   notification, a design change being implemented that would cause the ITAAC

8   acceptance criteria not to be met any longer, and licensee activities materially

9   affecting the ITAAC determination basis.

10   A critical element to us is the transition to operations on or about

11   that time period where we receive the 103(g) -- of course, all ITAAC being met,

12   the as-built configuration of the plant being verified to meet the license, and then

13   the Commission can make the finding under 52.103(g) to allow fuel load and

14   operation, and then there's a series of tests that of course do occur once we

15   begin that fuel-loading process. We're working with the staff on additional

16   guidance for requirements with respect to potential interim, and a 103(c)

17   configuration in the event that there was some problem with a specific ITAAC or

18   element of an ITAAC that required that justification.

19   The CIP Task Force efforts -- and again, I commend both the staff

20   and the industry in working together on this task force. They've accomplished

21   quite a bit since the time that it's been put together. Preparation of additional

22   ITAAC closure notifications to reduce uncertainty in the closure process. I think

23   that's a critical element for us going forward. Streamlining the process and

24   clarifying expectations to assist with the surge in ITAAC closure notifications late

1   in construction, and then working to clarify the path of operation under 103(g)

2   and/or 103(c). And to your point about vagueness on ITAACs, I think as we

3   develop closure notices and as the task force and staff work together, we can

4   help eliminate some of that vagueness.

5   CHAIRMAN JACZKO: Okay, thank you. I guess now we'll turn to

6   Rolf -- can you say your last name?

7   ROLF ZIESING: Ziesing.

8   CHAIRMAN JACZKO: Ziesing, who is the director of U.S. licensing

9   for Westinghouse Electric. Thank you.

10   ROLF ZIESING: Thank you Mr. Chairman, Commissioners. Good

11   morning and thank you for the opportunity to share industry views on this critical

12   new-plant topic. My name is Rolf Ziesing, and I'm the director of U.S. licensing in

13   the new power plant division of Westinghouse Electric. I'm responsible for all

14   aspects of the AP-1000 certification and licensing-related activities, including the

15   DCD, Design Certification Amendment, and the COL support and ITAAC

16   limitation.

17   Today I'm going to address the Westinghouse role in the ITAAC

18   process, industry progress addressing and resolving generic ITAAC issues,

19   examples of Lessons Learned from the demo project we talked about, and briefly

20   touch on the subject of standardization of the process.

21   At the regulatory level, the ITAAC process is defined, including the

22   overall responsibilities of the license holder. However, at the implementation

23   level, one could imagine there are different models for assigning roles and

24   responsibilities of the various aspects of an ITAAC process, and the need to

1   create a detailed implementation process. What I'm going to explain as the

2   Westinghouse role in the ITAAC process reflects formal agreements between

3   Westinghouse-Shaw Consortium as the engineering procurement construction

4   contractor of the standard AP-1000 plant, and our clients.

5   For AP-1000, the total number of ITAAC associated with one

6   combined license is approximately 900. Of these, approximately 834 are

7   considered quote-unquote "standard plant" ITAAC, and the balance are site-

8   specific ITAAC. Site-specific ITAAC numbers vary based on site due to unique

9   aspects of each site. For standard-plant ITAAC, the consortium will conduct

10   ITAAC planning. In other words, the development of performance and

11   documentation plans, and this is a key step we'll touch on later, to help provide

12   certainty in the outcome of the execution of an ITAAC, because it's at the

13   planning stage that we identify the details that need to be captured in the ITAAC.

14   We will manage status tracking, performance documentation, completion of

15   package preparation, and ITAAC maintenance up to the point of system turnover,

16   and we'll provide our clients with this product. Where appropriate, Westinghouse

17   coordinates with the Design Center Working Group to encourage standardization

18   of the planning and documentation.

19   For a specific ITAAC such as programmatic ITAAC like security and

20   emergency plans, a license holder will be more directly involved in performing

21   and documenting the ITAAC, but it's envisioned that the project management of

22   all ITAAC will be captured in the same process work flow and tracking tools used

23   to develop standard ITAAC. The consortium responsibility for ITAAC

24   maintenance will be transferred to the licensee as the systems are formally

1   turned over to the licensee. We understand the licensee has the overarching

2   responsibility to satisfy ITAAC, but obviously there's a role that we as the EPC

3   provide in supporting their implementation of ITAAC.

4   As you know, there's a long history of industry working with staff

5   and Commission to understand each successive phase of the new ITAAC

6   process under Part 52, first in the early '90s to define design certification ITAAC,

7   including design acceptance criteria known as DAC. Then early this decade to

8   define plant-specific ITAAC on emergency-planning ITAAC, and more recently,

9   physical security ITAAC. This early work led to the creation and guidance of

10   ITAAC closure, in accordance with new requirements codified in 2007. There

11   have been numerous and frequent engaging interactions between industry and

12   the NRC staff over the years, and I'd like to acknowledge NEI and their efforts to

13   lead the industry stakeholders in this area by effectively leading the ITAAC task

14   force and engaging the involvement of design-center working groups. As a

15   guidance for closing ITAAC has matured, we're now appropriately shifting our

16   focus on validating the guidance and demonstrating the ability to execute ITAAC

17   closure via demonstration project. I'll speak to the demonstration project on the

18   next slide.

19   Lessons Learned from the latest activity are being used to refine an

20   ITAAC closure process and are being factored into industry and NRC guidance.

21   I believe that excellent progress has been made in developing robust policies,

22   processes, and procedures. We're now shifting our focus on execution of the

23   ITAAC program, and are sensitive to identifying Lesson Learned early in the

24   implementation phase so we can further improve the ITAAC closure process.

1   On the ITAAC demonstration projects, the project was sponsored

2   by DOE under MP 2010 that involved extensive tabletop exercise to walk down

3   all aspects of the process and explore the organizational interfaces. Participating

4   organizations including NEI, Southern Company, Westinghouse, and NRC. The

5   project started in approximately July, August 2010 timeframe and involved

6   simulated inspections at Vogtle and Westinghouse of six selected simulated

7   ITAAC closure notifications, and the project is now complete. This is a very

8   valuable exercise and involved a lot of great interactions among the participants.

9   For your information, the ITAAC that were selected included a pre-op test for

10   passive core cooling systems, functional arrangement walk-down of PCS,

11   electrical system analysis, equipment qualification-type testing -- in other words,

12   harsh-environment testing for reactor cooling system components -- DRAP and

13   containment-vessel materials property testing, so it represented the range of the

14   type of ITAAC that we see.

15   Getting into Lessons Learned, as I said, this demonstration project

16   provided early insights into the execution of ITAAC closure process. I believe the

17   staff is going to discuss several of the first Lessons Learned, and I'm going to

18   focus on the last two Lessons Learned, identifying their -- related to ensuring

19   sufficient information in ITAAC closure letters and mitigating the impact of ITAAC

20   surge.

21   First lesson I'm going to discuss, relating to closure letter

22   information. The lesson there is that there were different expectations on closure

23   letter content for ITAAC, where no similar NEI 08-01 example existed.   That

24   resulted in re-submittal of the closure letters until we converged on an expected

1 standard for what's needed in a closure letter. The goal going forward, obviously,

2 is to provide additional confidence and certainty in the content of ITAAC closure

3 letters. The activities we have planned going forward to continue working on this

4 include expanding the ITAAC closure notification efforts, specifically

5 Westinghouse and NEI, and we'll be working with DCWG industry group to

6 prepare approximately 30 additional example letters that will be incorporated into

7 NEI 08-01. That will reflect approximately 80 percent of the AP-1000 ITAAC that

8 exist. The balance of the ITAAC that won't be represented by example letters

9 are the one-offs in ITAAC that basically, there's not many of them. So it wouldn't

10 really make sense to invest in the effort of the sample closure letter. So we think

11 that having a more extensive library, if you will, and working through, in advance,

12 the necessary details for the content basis for determination of the closure letters

13 for the various types of ITAAC, will help improve the certainty in the outcome

14 when we get to that point in the process.

15 The next lesson I'll discuss relates to the ITAAC surge. You saw in

16 Alan's presentation, the graph of the expected completion or notification of

17 ITAAC. The graph shown here is for one AP-1000 unit. I won't dwell on this as

18 we're going to talk about it a little more in the next slide.

19 The lesson that came out of the demo project, and I think it was

20 realized before the demo project, is that by the nature of the ITAAC program,

21 many ITAAC come late in the process. You can't validate a system is complete

22 until the system is complete, so by the nature of the ITAAC program itself, it will

23 result in more ITAAC near the end. This obviously poses challenges with respect

24 to work flow and resources and dealing with the surge, while at the forefront we

1 need to ensure that it's done properly with a needed level of detail and the quality

2 that needs to exist. So there was discussions on how we can mitigate the

3 challenges that will be associated with this surge, and there's various activities in

4 place that will proceed, that will work to mitigate the challenge of the surge. We

5 can't really do a lot to change the surge, but we can do activities to mitigate the

6 impact of the surge.

7   For example, many of the ITAAC are pre-operational tests, and

8 these involve well-understood processes with significant NRC inspector

9 involvement throughout. Many of them are go/no-go type tests, where the test

10 was either acceptable or not and you don't proceed until it's acceptable. That's

11 done under NRC resident oversight and documented, so there's approximately

12 274 pre-operational ITAAC, and some of them will be more involved than others

13 but that's a healthy number of ITAAC that should be fairly straightforward, and

14 those ITAAC come late in the process. So that's a mitigating factor.

15   Also, the effort I mentioned previously with regard to working now

16 to define templates for ITAAC notification closure letters, to help ensure we flesh

17 out expected level of detail and content, will help to mitigate the review question

18 cycle that could come with submittal of a closure letter. I still expect we'll get

19 that, but I think that working now to flesh out expectations will be helpful. And let

20 me just add, it's not fleshing out NRC expectation per se. We need to flesh out

21 our own expectations, and we have a consortium of different companies as well

22 as our clients, and that's what we're focusing on first is to do it right for ourselves,

23 and certainly we need to do it right in a manner that will be accepted by the NRC

24 at the end.

1   I'm going to finish up by talking a little bit about standardization and

2   the fleet approach. I've got a graphic here and I'm going to speak to some

3   concepts. The vision is to identify and apply common activities to the entire AP-

4   1000 fleet within Westinghouse and consortium. Like I said earlier, there's

5   different models for how you could implement ITAAC. We think that the model

6   that's working within the current consortium is going to prove to be an effective

7   and efficient model, in that with Westinghouse and Shaw working to establish

8   common central processes that support all of our customer needs, there will be

9   efficiencies gained in the process, rather than the contrary where each client to

10 Westinghouse would establish their own process that could look different and

11 you could have different versions of the processes that we need to support,

12 which could complicate things a little bit and make it more difficult for oversight as

13 well.

14   So per an agreement with our clients and future license holders, we

15 have the lead for managing ITAAC work flow, and we're taking an approach to

16 standardize process regardless of project. For example, I mentioned the work

17 we're doing with performance and documentation plans that we tend to reuse on

18 follow-up projects, and I'll elaborate just a little bit. Each PDP that's being

19 developed now is provided to, essentially, a design center working group, all of

20 the AP-1000 customers for review and comment prior to finalizing the PDP, so

21 we get the early license holder and future license holder buy in to the content of

22 the PDP's, and then those are formalized and issued to each license holder for

23 use. Currently today, there's about 350 standard-plant PDP's that had been

24 finalized in the process, and we get all of the cognizant expertise, both

1 technically as well as licensing in developing those PDP's, so that's another key

2 part in the ITAAC is to demonstrate that the ITAAC satisfies a licensing basis,

3 and so we need to bake that into the PDP planning. And we're moving to

4 modernize our IT infrastructure to manage the ITAAC work flow. You can

5 imagine with many projects going on in different phrases and 900 ITAAC on each

6 project, there's a task to just manage the status of each ITAAC in different

7 phases, share the Lesson Learned across projects, and improve the process as

8 we go. And so we're building the infrastructure to facilitate the ready

9 incorporation of Lessons Learned as we proceed. So I think this will not only

10 improve the quality of the ITAAC closure process, but improve the efficiency in

11 managing the work flow and maintaining information, and this also helps the

12 surge. That's all. So I'll finish -- yes sir?

13 CHAIRMAN JACZKO: Do those colors on that thing mean

14 anything?

15 ROLF ZIESING: No.

16 CHAIRMAN JACZKO: Trying to figure out if there was a pattern

17 there.

18 ROLF ZIESING: Okay. To finish up, the standardization concept --

19 other examples of standardization include equipment qualification where we

20 intend to qualify equipment on a type basis, standard equipment-qualification

21 packages use cross-projects, and also testing and first of the kind, first three of

22 the kind testing. And this is an area that we're paying close attention to as China

23 is leading the AP-1000 activities. We're just certainly -- in construction we're

24 capturing Lessons Learned, but looking forward with testing, which is going to be

1   very similar between the different projects, we'll be capturing Lessons Learned

2   from those testing and that will benefit the ITAAC program, because many ITAAC

3   are essentially tests. So while China doesn't have a formal ITAAC program, what

4   we will learn from the testing in China will greatly benefit us here. That

5   concludes my remarks.

6   CHAIRMAN JACZKO: I will now turn to Charles Pierce, who is the

7   AP-1000 licensing manager at Southern.

8   CHARLES PIERCE: Thank you, Mr. Chairman. My name is Chuck

9   Pierce, Charles Pierce, and I'm the licensing manager for the Vogtle 3 & 4

10 Program. It is a privilege to be here today to speak to you on this important

11 subject, and managing ITAAC is one of the large regulatory challenges of the

12 construction process. You heard SCE&G mention that they have about 900

13 ITAAC, so the nuclear has approximately 875 ITAAC per unit that must be closed

14 during this construction cycle. We have a two-unit plant, so it's a total of 1750

15 ITAAC. On a per-unit basis, there were 841 design-controlled document ITAAC

16 covering such areas as ASME code, as-built verification, construction

17 inspections, pre-operational tests, engineering analysis, and environmental

18 qualification. There are also 34 site-specific ITAAC for Vogtle covering such

19 areas as backfill, emergency planning, security, and offsite power. Southern

20 Nuclear is putting a significant amount of attention on the processes and

21 resources for the results for this effort to be successful. My presentation today is

22 designed to summarize the progress we've made and the challenges ahead.

23 Next slide.

24   Okay, as you've heard from my colleagues, there's been a

1 significant amount of progress made between the NRC and the industry in

2 understanding today how to manage, close, and maintain ITAAC until a 103(g)

3 finding has been made. Both NRC Region II and NRC/NRO Division of

4 Construction Inspection and Operational Programs have been very helpful in

5 working with the industry to define this process. We participated, Vogtle

6 participated in the DOE ITAAC project, which you've heard about earlier, and that

7 was helpful for the NRC but not only for the NRC but for Southern Nuclear as

8 well. As you've heard earlier, this project has helped define such areas as level

9 of detail in close-out letters. It has also helped Southern Nuclear to refine its own

10 internal ITAAC procedures. Through the experience gained from these DOE

11 project activities, Southern Nuclear has also worked to improve its own internal

12 level of contractor oversight. Thus, there's been an ongoing level of refinement

13 in the processes since the last ITAAC briefing here on September 22, 2009 on

14 ITAAC. Next slide.

15   But in truth, there's nothing like actual experience, and so for the

16 next few slides I'm going to be talking to you about some of the experiences at

17 Vogtle. In this regard, the early fabrication and limited work authorization have

18 been invaluable to Southern Nuclear, and to the industry and the NRC staff in

19 working through these areas and to identify areas that required additional

20 discussion emphasis. In particular, the licensee oversight of the entire ITAAC

21 process is essential to ensure confidence, or to provide confidence to both the

22 licensee and the NRC staff that ITAAC are ready for closure. As you are aware,

23 Southern Nuclear has contracted with Westinghouse and Shaw to build Vogtle 3

24 and 4. However, let me emphasize: Southern Nuclear is accountable and

1 responsible to the NRC for the acceptability of this construction project with

2 respect to the NRC regulations. Thus, in the area of ITAAC, Southern Nuclear's

3 responsibility involves audit and oversight of suppliers and sub-suppliers, and the

4 audit and oversight of testing activities of vendors in addition to the onsite

5 oversight of in-place installation and maintenance of systems, structures, and

6 components. Partially as a result of these insights, Southern Nuclear has

7 recently reorganized to provide more emphasis on onsite and offsite licensee

8 oversight activities. This reorganization specifically established a new onsite vice

9 president position that focuses on this quality aspect. Also as an enhancement

10 to licensee oversight, Southern Nuclear now performs readiness reviews that

11 covered many of the ITAAC prior to the work being performed onsite. Next slide.

12   During the last two years, several ITAAC have gotten under way,

13 even while the COL application is under NRC review. Southern Nuclear has

14 closely worked with NRC Region II to keep the region informed of these

15 activities, initially on a quarterly basis and then moving to a monthly basis, and

16 more recently we're having discussions on providing more complete information

17 on a weekly basis. NRC Region II has access to the Vogtle 3 and 4 construction

18 schedule on a monthly basis, currently. The first ITAAC to have been performed

19 was the reactor pressure-vessel charpy test at Japan Steelworks in 2010. Since

20 then, there have been several ITAAC-type tests that have been performed on

21 such as the squib valves, safety related batteries, and main steam line valves.

22 There have also been ITAAC initiated during fabrications such as the non-

23 destructive examination of the ASME code welds of the pressurizer being

24 manufactured in Italy.

1   There's an ITAAC onsite for in-place applications such as the sheer

2   weight velocity test to establish adequacy of the backfill, and most recently, the

3   waterproof membrane ITAAC was performed to establish that the membrane

4   meets the Vogtle seismic design requirements. The NRC has either observed or

5   performed inspections on many of these activities at some point during the

6   performance of these various ITAAC. Southern Nuclear does expect to be in a

7   position to submit a closure letter for the waterproof membrane ITAAC for the

8   NRC sometime in the next three to four months. This activity will allow Southern

9   Nuclear and NRC to continue to formally exercise the closure processes and

10   procedures. I feel confident there will be additional Lessons Learned from the

11   execution of these early activities as well. Next slide.

12   I wanted to at least spend a few moments to talk to you about

13   surges. I think all of us have now talked about the surge, but it is worthwhile to

14   spend a little time to emphasize this challenge that's before Vogtle and the NRC.

15   We have two units being built over about one year apart, and so we have 1750

16   individual ITAAC that must be complete before the 103(g) findings can be made.

17   This means that in 2012, we may be closing up to 100 ITAACs. We'll be starting

18   the ITAAC closures next year. In 2015, we'll be closing approximately 650

19   ITAAC, which does represent if you think about it about three ITAAC per day

20   being closed, which is a business day, which is a lot of ITAAC each day.

21   I'd also like to draw your attention to the timing of the 225-day letter

22   on the graph. In early 2015, Southern Nuclear would expect to submit this 225-

23   day letter for Vogtle Unit 3. This letter notifies the NRC which ITAAC are still

24   open, and how Southern Nuclear intends to close those ITAAC to allow the

1   opportunity for the hearing process to begin. But we would expect that letter to --

2   at that point in time -- to have open about 400 ITAAC, and that letter for Unit 3

3   alone to contain about 400 ITAAC.

4   It's also important to note in assessing the impact of the graph, that

5   several of the activities really take place over many years that culminate in the

6   closure of the ITAAC. And so the resources being applied take place over those

7   same years. For example, the recent ASME code welding of the pressurizer

8   ITAAC probably will not be closed until after the pressurizer system is in-

9   stamped.

10   Southern Nuclear is predicting that the closure of these 650 ITAAC

11   in the year 2015, along with ongoing oversight of the management of

12   maintenance and the development of the 225 letter, could require 20 to 25 full-

13   time equivalent personnel in that time frame for us, so it would be quite an effort.

14   Next slide.

15   This was mentioned earlier, and there are different ways of

16   counting what are pre-operational ITAAC, but we get a lot of questions of why

17   don't we close the ITAAC out earlier. And you've heard this from Rolf earlier, but

18   I'd mention it again. The reason why many ITAAC are closed late is that simply

19   put, they come late in the process. Pre-operational ITAAC are done in the last

20   year or two, and it makes sense since ITAAC confirmed that the as-built

21   configuration of the plant meets the licensing basis. The ITAAC concept by its

22   nature drives many ITAAC closures toward the end of this process. Okay, next

23   slide.

24   I want to spend a few moments talking about specific ITAAC, and

1   I'm going to start by just presenting an ITAAC and to get an expanded sense of

2   the challenge. Many ITAAC are fairly simple, such as the reactor pressure

3   charpy ITAAC. However, about 20 percent of the ITAAC are more complex in

4   that these ITAAC may involve many components or may involve the combination

5   of NRC Region II and NRC/NRO resources. These ITAAC may have multiple

6   facets, such as type test, and conforming the type test to the as-built

7   configuration, and resolving non-conformances for multiple components.

8   CHAIRMAN JACZKO: What is a type test?

9   CHARLES PIERCE: A type test is a test of a -- typically a lab test

10   of a field component like you do when you're basically testing a valve that is a

11   type of what you're installing in the field. An AQ test is typically considered a

12   type test.

13   CHAIRMAN JACZKO: Okay.

14   CHARLES PIERCE: In that type, in that major. In many cases,

15   these ITAAC are called report ITAAC as the example above is a report ITAAC,

16   which means a report must be created to make the demonstration. And the

17   industry and NRC are currently working through what attributes these report

18   ITAACs should contain.

19   Another example of a report ITAAC on the next slide is the

20   waterproof membrane ITAAC, which is currently underway. The NRC staff has

21   recently performed their second inspection of the waterproof membrane ITAAC

22   at the Vogtle 3 and 4 facility. These inspections have been invaluable in helping

23   Southern Nuclear more fully understand NRC expectations and attributes to

24   report ITAAC. These expectations and Lessons Learned primarily center around

1   the level of rigor the reports should contain to ensure that the testing conforms to

2   the site conditions and the overall quality elements of the test, and these Lessons

3   Learned will be integrated into the industry activities as we go forward. Next

4   slide.

5   I wanted to show you briefly a picture of the waterproof membrane,

6   and in terms of construction aspect, you note that the waterproof membrane is

7   actually sandwiched between two layers of concrete, what's called a mud mat.

8   This membrane is actually sprayed on the lower mud mat and then covered with

9   a second mud mat, so it actually is a liquid applied to a elastomeric compound. It

10   cures very rapidly. You see around the perimeter of the mud mat, the

11   mechanically stabilized earthen wall is being installed as well as part of the

12   limited work authorization. It is important to note that we need to address any

13   issues with the staff at this stage regarding this ITAAC since this construction

14   part progresses, the membrane itself will be inaccessible.

15   Finally, in closing I just want to reemphasize that a significant

16   amount of progress has been made in the last two years toward understanding

17   ITAAC with the NRC. Just due to the very nature and number, ITAAC has been

18   and will continue to be a major focus area with the industry as we go forward,

19   and as the NRC staff as well. Most recently in the last couple of weeks, the NRC

20   staff has used the Vogtle site for applying inspections and for assessing certain

21   standard ITAAC that may affect multiple AP-1000s. Southern Nuclear does

22   support continued lead planned approach concepts in this and other areas to

23   efficiently apply NRC and industry resources. In this regard, Southern Nuclear

24   will be working with the NRC to more fully understand this concept of the use of

1   Vogtle as a lead plant for this type of activity. This concludes my remarks, and

2   we're ready to take any questions you might have.

3   CHAIRMAN JACZKO: Thank you. Commissioner Svinicki?

4   COMMISSIONER SVINICKI: Welcome here today. I want to thank

5   each of you for your presentations. I'll begin with Mr. Torres and Mr. Pierce, if

6   both of you would respond to this. You talked about the unique role of the utility,

7   the applicant in this case, and the obligation that you have in the ITAAC process.

8   What were the key learnings -- I've also read the report about the ITAAC

9   demonstration project findings, but what were the learnings that each of you had

10   for the unique role that you will have the ITAAC process, and if there were to be

11   support for future demonstration projects, how do you think those should be

12   oriented? What should we be trying to do in any future demonstration projects in

13   the time that we have between now and potentially positive licensing decisions at

14   your sites?

15   ALAN TORRES: Well, from our aspect, one of the initial keys was

16   determining which template to utilize to begin the closure process itself. I think

17   that was a critical aspect that both the staff and the industry learned as we began

18   to prepare those documents to go as sample closures, so that was a tremendous

19   learning activity for both groups, I believe.

20   COMMISSIONER SVINICKI: Okay, and do you have any

21   comments on future demonstration project work?

22   ALAN TORRES: Well, I think the opportunity to continue to learn

23   through the demonstration process is invaluable. The proximity to COLA

24   issuance and the actual ITAAC evolution probably makes that somewhat

1 improbable for our two units, but I think it would benefit the industry to continue

2 that philosophy.

3   COMMISSIONER SVINICKI: Okay. Perhaps to take some real-

4 world experiences for the future. Okay, thank you.

5   CHARLES PIERCE: I think for us, one of the key aspects that we

6 learned was as we interacted with the NRC was the level of information that

7 needed to be in the closure letters. I mean, we want to get those right when we

8 submit them, and I think that was something that requires an interaction on the

9 DOE demonstration for us to come to an understanding of what needed to be in

10 the letters. So I think that was quite helpful.

11   As far as demonstration projects, there are some areas that I think

12 that we're continuing to work on, such as this issue of finding report attributes,

13 there's some ITAAC that could yield some more discussion regarding-- to make

14 sure that we're in agreement of what -- on the acceptance criteria and what it

15 means in a couple of cases. So I think there are some areas where we could

16 have -- continue to dialogue with the staff. Whether that would go under

17 demonstration or not, I think, should come up from that dialogue. I don't really

18 have any specific recommendations at this time but I do believe this is something

19 we ought to keep open.

20   COMMISSIONER SVINICKI: Is there planned engagements, in

21 your case, between your staff and the NRC staff on something like the issue you

22 just mentioned, which, it seems to me, in other words, you might have been

23 describing kind of, when is an ITAAC satisfied. It seems to me if I lay that

24 against, you know, the possibility for a surge in the very near term-- if we are at

1   the time that we're trying to process three ITAAC or close three ITAAC a day, if

2   we're arguing about what satisfies an ITAAC that'll be, you know, pretty much--

3   the system might collapse on itself if we're trying to resolve that at that point. So,

4   is there a planned engagement to try to remove any remaining ambiguities

5   between now and those days?

6   CHARLES PIERCE: We are certainly continuing to work on

7   closure letters with the staff. In terms of with NEI 08-02, we intend to expand NEI

8   08-02, I agree with you. We need to – when we get to the surge in particular, in

9   the 2014-15 time-frame, we need to have very, very clear understandings of what

10   the closer letters and what the material is needed by the staff to move on those

11   closers at that point. And we do intend to have further dialogue with the staff on

12   those elements to make sure there's some clarity there.

13   ALAN TORRES: Some clarification in that also in the last two

14   weeks we had an ASME, a subcommittee meeting that the staff participated in

15   discussion of the ASME ITAACs and what would detail necessary for the N5 data

16   package to support what would be used as the closure process for ASME code

17   ITAACs and there was good agreement on that level of detail.

18   COMMISSIONER SVINICKI: Okay, thank you. And I think the

19   NRC staff will discuss a little bit of some of the software tools that will be used by

20   the NRC to manage the orchestration of a lot of these activities and the tracking

21   of the various ITAAC. Do you have systems that we've looked at any

22   compatibility between if there's reporting or scheduling of ITAAC that you want to

23   notify the NRC of, so that we need to have representatives on site? Our we -- do

24   you have remaining concerns about compatibility between what you're going to

25   try to communicate to us and any of our software systems? Has that been

1 explored?

2   ALAN TORRES: We have explored the scheduling piece,

3 specifically early on in the ITAAC process to ensure that we were able to submit

4 our version of our schedule, which happens to be a software called "Primavera,"

5 and the staff has aligned itself with the necessary tools to access that

6 information.

7   COMMISSIONER SVINICKI: Okay, thank you. And Mr. Ziesing, I

8 would ask you -- it's interesting obviously, the AP-1000 is a reference technology

9 in many applications, and so you said in a unique situation, where your

10 consortium may, depending on NRC licensing decisions, have multiple units that

11 they have a role in ITAAC and that are going on at different locations across the

12 country. And also you have -- as a designer -- you have other vendors and

13 things inputting into the system. Could you comment on how are you planning

14 for the unique challenges that your consortium might face in terms of the overall

15 orchestration of these activities?

16   ROLF ZIESING: Okay, so, just to restate your question, you want

17 to understand the challenges with just managing the scheduling and workflow of

18 multiple projects, multiple phases --

19   COMMISSIONER SVINICKI: Yes.

20   ROLF ZIESING: Yeah, it is a challenge, and it needs to start with a

21 good schedule, a baseline construction schedule, so that we know when in

22 construction ITAAC need to be completed so that we can back out of that -- you

23 know, the work activities associated with planning and preparing for that. A key

24 aspect is the generation of standard performance and documentation plans.

25 Those will be standard regardless of project. They'll be on the shelf. We're

1 developing them now. As we execute from project to project I'm sure that we'll

2 learn. For example, the waterproof membrane, you know, there's a performance

3 documentation plan associated with that. We're going to do a cause evaluation

4 to understand what we can do better on that and then we'll update that PDP,

5 performance documentation plan, on the shelf for the next time it's used. So

6 that's a way to roll those lessons forward.

7   In terms of just managing the complexity of multiple PDPs in

8 various phases, we are using the Primavera scheduling, and we're using a

9 software application that we're actually -- have used for design configuration

10 control, with AP-1000. It happens to be called Smart Plant, and that software is

11 specifically designed to maintain configuration control of design type information

12 and so, we will have the ability to link any ITAAC at any phase, and then also link

13 in the relevant design information that goes with that particular project for that

14 phase because you could imagine that, as projects proceed -- the licensing basis

15 for example, could change from FSAR to FSAR. Okay, and so, we're really

16 investing in the IT tools to build linkages to manage that workflow.

17   COMMISSIONER SVINICKI: All right, thank you. And just as a

18 closing thought, all of you I think commented that a lot of interaction has been

19 held and it was productive and that progress has been made. If you were to

20 identify one remaining area where you think that good focus between now and

21 perhaps a substantially heightened activity, where would you identify that we

22 should try to spend a little bit of additional time on the disclosing of any

23 ambiguities. Is there anything you would highlight? Mr. Torres?

24   ALAN TORRES: Well, my focus would most definitely be on what

25 we can do to reduce the bow wave, the impact --

1   COMMISSIONER SVINICKI: Okay

2   ALAN TORRES: -- because it has both an impact on your

3   resources and also, it would be the key element for the units driving toward fuel

4   load, which is the, you know, ultimately, where we want to get to at the end of the

5   day so, anything we can do to help reduce both the amount of work in that area

6   and to smooth the process would be of benefit to both sides.

7   COMMISSIONER SVINICKI: Okay, Mr. Pierce --

8   CHARLES PIERCE: I think my focus would be a better

9   understanding -- I think we've come to a good understanding with regard to the

10   maintenance ITAAC rule, but actually, looking at some situations of where that

11   would apply in a broader level to make sure we understand how to apply the

12   ITAAC processes in the maintenance programs so that we get those right

13   because we really -- when we're in this bow wave, we're also going to be in the

14   wave where we have a lot of these ITAAC equipment already installed, so we're

15   going to need to be dealing with, at the same time, with when does maintenance

16   requires us to readdress an ITAAC and so forth. So, we'll need to -- those

17   aspects will need to be very well established by that point as well.

18   COMMISSIONER SVINICKI: Okay, thank you, Mr. Ziesing.

19   ROLF ZIESING: Yes, I'm going to answer more from a process

20   standpoint. It's difficult to predict any one specific problem, but I'd like to see the

21   continued level of interaction. I don't think it's something we need to do

22   differently we just need to focus on maintaining the right forms to interact so that

23   we stay aligned on what the issues are, and that we're looking down the road to

24   see what the pending issues are. If we let issues creep up on us, you know, and

25   try to deal with them at the end, that's I think where we're going to run into

1   problems. I think just maintaining the form for healthy interaction to ensure that

2   we're aligned on what the issues are we need to be working on.

3   COMMISSIONER SVINICKI: Okay, Thank you. Thank you, Mr.

4   Chairman.

5   CHAIRMAN JACZKO: Commissioner Apostolakis.

6   COMMISSIONER APOSTOLAKIS: Thank you, Mr. Chairman. I'm

7   wondering, have we learned anything from the international construction

8   experience? Do other countries have something similar like ITAAC, or, how do

9   they handle that issue? Are there any Lessons Learned from there or are we just

10   focusing on what we're doing here?

11   ALAN TORRES: Well, I can address from the construction

12   operating experience and I think Rolf can probably talk about the AP-1000 fleet

13   standardization but, from a construction operating experience we've actively

14   been involved with the Chinese project since they're building four AP-1000's

15   currently. And we are getting on a regular basis through Westinghouse, and our

16   constructor Shaw, the operating Lessons Learned from the specific activity such

17   as module construction, containment construction, equipment installation,

18   modular equipment installation and also, eventually, start-up testing, which is a

19   critical phase in some of the ITAACs that we'll be involved in so we are actively

20   involved in that program right now.

21   COMMISSIONER APOSTOLAKIS: But do they have something

22   similar like ITAAC or --

23   ALAN TORRES: I'll let Rolf address that.

24   ROLF ZIESING: No, sir. They don't have -- they're not working to

25   a Part 52 program in China, it's more like a Part 50. Although, there is, I believe,

1 an effort to build in an ITAAC-like process, you know, to help them validate the

2 construction and system operation. But the aspect of the public hearing process

3 and what not that the ITAAC program also brings as part of the one step

4 licensing process if you will, is not - - doesn't exist in China. So -- but we are

5 sensitive to those learning opportunities in this area and for example, in the

6 construction and testing to come, the design authority if you will, is Westinghouse

7 in China as well, so they're about two years ahead of where we are here and

8 issues that occur over there are identified and resolved with the assistance of our

9 engineering organization in Cranberry. Each issue that comes up goes through a

10 formal evaluation for applicability to U.S. application. We have a Lessons

11 Learned program, and we go through applicability determination so there's a

12 formality to the process to determine what lessons in China do need to -- or

13 should be considered for application in the U.S.

14   In terms of ITAAC specifically though, I think the opportunity is still

15 in front of us with the testing program because the tests that will be run in China

16 for all practical purposes will be the identical test that will be running in the U.S.

17 And, many ITAAC are simply documenting that the tests were run. Okay, so as

18 we learn test execution, you know, from tests execution in China, that'll improve

19 the procedure -- should improve the procedures and execution here, which

20 should benefit then the ability to complete the ITAAC in a quality and timely

21 manner.

22   COMMISSIONER APOSTOLAKIS: You don't have any specific

23 cases where you have benefitted from the experience there -- or the U.S.

24 program has benefitted there?

25   ROLF ZIESING: I'm not sure if your question is directed

1   specifically toward ITAAC. That's why I'm hesitating a little bit because I can't

2   point to a specific lesson today where the ITAAC program has benefited. There

3   are benefits that we have learned in the construction engineering and module

4   fabrication and that type of thing that are outside the scope of ITAAC.

5   COMMISSIONER APOSTOLAKIS: And, on your slide you had a

6   sentence -- maybe you could explain it a little better to me: the vision is to

7   identify and apply common activities to the entire AP-1000 fleet; I mean, how

8   would that work? I mean the regulatory systems are different aren't they?

9   Internationally, that's what you mean.

10   ROLF ZIESING: For example, equipment qualification testing; our

11   approach to type testing equipment qualification testing would be to perform it in

12   a manner that would be acceptable, you know, in any regulatory region.

13   COMMISSIONER APOSTOLAKIS: Okay, thank you. Thank you,

14   Mr. Chairman.

15   CHAIRMAN JACZKO: Commissioner Magwood?

16   COMMISSIONER MAGWOOD: Thank you, Chairman. Good

17   morning and welcome. I appreciate your presentations today. As I sit here and

18   listen to the extreme level of detail that I see all of you are going through at this

19   program, it's actually encouraging in a way because I always like to put things in

20   a broader perspective and I remember back when the acronym ITAAC first

21   appeared. I remember the reaction I heard from some people in the industry

22   was, "This is where Part 52 becomes Part 50," and I don't get the sense from you

23   that you feel that way about it. I get the sense that you think this is a process

24   that's working; that has a lot of definition to it, that you're working through it and

25   will be able to be successful at the end.

1   That said, there do seem to be some issues that are at there and

2   some uncertainties and I wanted to -- and there were a couple that you

3   mentioned that you didn't get into much detail about. One that I've actually

4   become interested in more recently are the report ITAACs, and I think Mr. Pierce,

5   you mentioned that as an area -- How much discussion has there been about the

6   report ITAACs in terms of exactly what is required to achieve closure? How

7   much of that is still under discussion? I worry that when a report is the product,

8   there is a lot of subjectivity that can get into a large technical report about -- in

9   regard to whether it's the quality you're looking for versus the content and it

10 would be interesting to hear your thoughts about that.

11   CHARLES PIERCE: Well, with regard to report ITAAC, there has

12 been some initial discussions between the NEI, Nuclear Energy Institute, and the

13 NRC regarding report ITAAC. There's further discussion that's actually being

14 planned this week as I understand it to address that, or to more further address

15 those attributes that need to be in the report. As that information is developed

16 and as the NRC and the industry come to grips with that we will be modifying NEI

17 08-01 to address those attributes of what a report ITAAC requires in that

18 document to memorialize that information for the industry.

19   Now, I will say that the waterproof membrane ITAAC is a report

20 ITAAC and we've had some -- Southern Nuclear has had some initial challenges

21 and with that waterproof membrane ITAAC in terms of working through those

22 issues with the NRC. We've gotten those, I think -- we're working to modify the

23 report to address some of the NRC expectations and we've learned a lot from

24 that, from those experiences, in terms of the rigor that needs to be in the report

25 and addressing environmental conditions for example and so forth between the

1 lab test and the field installation is an area that -- and those Lessons Learned will

2 be fed back to the industry.

3   ALAN TORRES: I think one of the -- when we talk about

4 subjectivity of a report ITAAC and I go back to the example I was using earlier

5 about the ASME ITAAC -- several parts of that state a report exists -- an example

6 the design report exists for the piping system, that type stuff. But I think what's

7 important from an industry standpoint as well as a staff standpoint is getting

8 some level of agreement on the critical attributes of what that report needs to tell

9 you. That way you can begin to eliminate some of the subjectivity in that report,

10 and as long as we sit down and discuss what are those critical attributes as they

11 did with the ASME one in the recent subcommittee meeting, I think the industry

12 and staff will continue to move forward, and thereby be able to continue to revise

13 the 01 document and make it a very useful tool for the industry.

14   COMMISSIONER MAGWOOD: Do you have a sense of -- or

15 maybe you know specifically how many report ITAACs are in the surge territory?

16 Do you know how many show up late at the end of the process?

17   ALAN TORRES: I don't have that breakdown, Rolf, do you know

18 offhand?

19   ROLF ZIESING: There's more than 200 engineering reports, or

20 engineering ITAAC, which I think most of them are report ITAACs but I don't

21 know when they are in the surge. I'll take that as a lookup and get back to you

22 on that.

23   COMMISSIONER MAGWOOD: Appreciate that. Since we were

24 talking about the surge -- I -- since all of you mentioned that in some detail, I

25 thought I'd explore that a little bit further. I think it was Mr. Torres' presentation,

1 he noted that the ITAAC closure process is integrated with the normal work

2 process of the project. I've always seen ITAAC that way, that it's not necessarily

3 -- while it's certainly a lot of documentation and a lot of interaction with the

4 regulator that's beyond what you would've done anyway, a lot of it are project

5 activities that probably would have been done in the course of accepting work

6 from your contractors. So, when I think about -- when you talk about the surge,

7 how much of the surge is a surge in work activity? How much of it is really a

8 surge in communications with NRC and a surge in documentation? How should

9 we really think about this? And so, in that respect, exactly where is – I'll give you

10 a chance to be very specific about this -- where do you think the surge becomes

11 a problem in the process? Where is the possible weak spot in the process where

12 the surge becomes an issue?

13 　　　　　CHARLES PIERCE: Well, I think there's two questions there. The

14 first, in almost all of the -- I would say -- almost all the ITAAC, is work that would

15 be done under Part 50 process anyway. I mean, for example, the environmental

16 qualification testing would need to be done regardless of whether you were

17 building a construction plant, constructing a plant under Part 50 or 52. But, under

18 52, you validate that, you have to a validation process to verify the plant is built

19 as designed, so that becomes an ITAAC as a validation.

20 　　　　　NRC inspections would have been performed in either situation, I

21 think, in most cases. The ITAAC process is a more formal process, in my

22 estimation, for that. And so, and, it does result in a higher, somewhat of a higher

23 degree of documentation, and, of course, the NRC closure letters NRC

24 processes with the NRC, I think it starts becoming an issue and probably in the

25 2000, for Vogtle, in the 2014 timeframe as we start seeing several hundred

1 ITAAC in that year that we would be starting to close with the staff in terms of the

2 processes would need to be, you know, would need to be well in place by that

3 time. And, it's going to take, you know, a good bit of resources to deal with that

4 specific, it'd take a good bit of additional resources to deal with that specific

5 closure processes that are associated with ITAAC itself.

6   ALAN TORRES: From my perspective, some of the challenge

7 resides in insuring that we have enough focus on the targeted ITAAC because

8 without the completion of targeted ITAAC's, then we have to hold open the

9 ITAAC family, which could lengthen the process. So, provided we put the

10 appropriate level of emphasis, both from a scheduling and resource standpoint

11 on the targeted ITAAC, then we've set ourselves up for the next stage, which

12 would be the normal closure process of the entire ITAAC family as those events

13 occur more sequentially.

14   So, one of the things that we try to do is look at how and where

15 those specific elements fall in our schedule so we can assure ourselves that, you

16 know, we haven't done all of the family, but, yet, the ITAAC target hadn't been

17 completed yet, and we're sitting here waiting for all those. And, so, you know, I

18 think it's very important to have a very logical process in our schedule to help

19 both the staff and the utility through that process.

20   COMMISSIONER MAGWOOD: Rolf, if you have anything else.

21   ROLF ZIESING: I'll just, I'll agree with your observation that the

22 graph we show is, it's simply closure notifications, okay? And I think if we graph

23 the -- the effort we're going to feel, we're going to see a graph that shows a peak

24 in effort much sooner than what the peak is, you know, for closure letters. So, I

25 think that we need to anticipate that it's going to take a lot of work and planning,

1   and, especially, where we have targeted ITAAC and NRC interaction. That will

2   certainly result in significant effort much sooner to the left of that peak curve than

3   what you see.

4   COMMISSIONER MAGWOOD: Just one last, I'll try and make, I'll

5   make the question quick. We'll see how quick your answers are. What's your

6   current comfort level with design acceptance criteria? Do you think that this is an

7   issue that's been wrestled to some clarity, or do you still have some questions

8   about how that's going to be closed?

9   ALAN TORRES: Right now, I think we're comfortable with the

10   clarity level that we have. But, again, until you get to the application point, then

11   you ferret out more additional questions. So, at this point, I believe we are.

12   CHARLES PIERCE: I would agree with that.

13   ROLF ZIESING: I agree.

14   COMMISSIONER MAGWOOD: Excellent. Thank you very much.

15   Thank you, Chairman.

16   CHAIRMAN JACZKO: Commissioner Ostendorff?

17   COMMISSIONER OSTENDORF: Thank you, Mr. Chairman.

18   Thank you all for your presentations. I want to start out maybe with Mr. Pierce.

19   On one of your slides, I think this is your slide that talked about 20 percent of the

20   ITAAC have higher levels of complexity. I believe that was yours.

21   CHARLES PIERCE: Right.

22   COMMISSIONER OSTENDORFF: And I want -- can you give us

23   some more concrete examples of which, I'm trying to visualize what some of the

24   difficult areas are, either for inspection or for coming to agreement with an

25   industry or between industry and NRC on appropriate criteria for bringing to

1   closure these issues. So, is it bench valve testing versus installed testing of

2   pneumatic valves, or -- excuse me -- you know, you know, you have the example

3   of the waterproof membrane --

4   CHARLES PIERCE: Right.

5   COMMISSIONER OSTENDORF: I know, in my experience, being

6   part of crews on two new construction submarines before robotic radiography

7   was around. Radiography for welding was always a real tough issue. Now, that

8   was many years ago. Advances have been made. I was trying to understand

9   what were some of the specific examples of where you see challenges?

10   CHARLES PIERCE: Well, the, in terms of these more complex

11   ITAAC, there's a number of ITAAC that deal with seismic qualifications of

12   systems, environmental qualification of a system. Of course, the system

13   contains multiple valves, multiple components. Each one of them has their own

14   environmental qualification test that may be a collection of a component of

15   multiple tests as an example. Because, one valve, you may have limit switches,

16   solenoid valves, you may have heat shrinks to protect the valve from the

17   environment and other things. So, those have to be combined on a component.

18   And then, you have multiple components. So, you're building for one ITAAC a

19   fairly complex series of reports that go against multiple components for one

20   ITAAC. NRO would be conducting inspections for those items that are being

21   tested, you know, lab tested for environmental or seismic qualifications.

22   So, the end result would be an ITAAC with a lot of reports that

23   would, each one of them demonstrating each component for a system, for

24   example. Does that make, I don't know if that answers your question.

25   COMMISSIONER OSTENDORFF: Well, okay, and on that point,

1   and maybe Mr. Ziesing wants to chime in here, or, Mr. Torres as well. Let's say

2   that you have an AP-1000, you know, component that, you know -- I'm trying to

3   get -- understand the demarcation between what's acceptable for a bench test

4   versus what needs to be inspected in situ once it's been, you know, physically

5   installed in the piping system, for instance. And is there, are there pretty clear

6   lines of demarcation there as far as what point things get inspected and tested?

7   ALAN TORRES: Well, initially, you know, we would do any type

8   testing that would be required. Let's use, let's use EQ testing for example, on a

9   valve. So, we've done the electrical components and/or the INC type

10   components for that valve. And then, we take that valve, and then we install it in

11   an ASME piping system. Well, when we have a criteria that says, "Okay, this

12   valve has got to go in in this orientation in order to keep it within your design

13   basis analysis." This valve may have had its center of gravity in a vertical

14   direction or horizontal direction. Whatever the case may be, provided you follow

15   the design isometric for that, then you will have kept that component within that

16   envelope that it was tested to. So, you role that into, okay, I've completed that

17   element of the ITAAC, I've got my type testing done. I've installed that

18   component properly. So, that component ITAAC may be complete, then I

19   complete the entire piping assembly. And then, I've completed that ITAAC

20   evolution. So, each distinct area would have a -- not necessarily a complete

21   closure, but a fairly clear line of where one evolution had started and stopped,

22   and the next one took over.

23   CHARLES PIERCE: As a couple of other points to that, many of

24   these ITAAC, like EQ ITAAC, actually are separated into two parts. One of them

25   is a report of the -- is an ITAAC of the report of the component, and others are

1   verifying the as-built configuration. So, they're actually, it's actually a two part

2   ITAAC. The other point that I'll make is that many of these activities, such as EQ,

3   have been exercised for years by the industry already and going all the way into

4   how you verify it in the field. So, how you verify installation in the field matches

5   the lab conditions, and how you build that information between the two. So,

6   there's already a lot of experience in how you build those types of reports for

7   environmental and seismic qualification.

8   COMMISSIONER OSTENDORFF: Okay. Mr. Ziesing, anything to

9   add?

10   ROLF ZIESING: I was just going to echo what was said in terms of

11   the key is really to establish the linkage between the lab type testing and the as-

12   installed conditions. So, that's a clear delineation, I think, in terms of being able

13   to tie the type testing to the as-installed condition. And there's bounds and

14   whatnot that need to be established to maintain the validity of any qualification

15   testing on the as-installed. So, I think that's a good example of how the two

16   relate. I was going to mention one other example to your initial question in terms

17   of ITAAC that may be more complex. An example would be related to electrical

18   analysis. Okay. So, there's requirements, and then you have the as-built. And

19   there's an ITAAC to basically analyze the as-built DC electrical distribution

20   system, for example, to ensure that the as-built capacities exceed their

21   nameplate ratings. And, so, that could be fairly involved with all the different

22   electrical components, the documentation to show what got installed, link it to its

23   design basis in any testing, deficiencies that may exist, and then, just the

24   analysis may be subject to review and comment in terms of assumptions and

25   whatnot that went in to an analysis. So, I think that type of ITAAC could result in

1   fairly involved interactions as we work to close it.

2   COMMISSIONER OSTENDORFF: Thank you. The second

3   question I want to ask you, and Commissioner Magwood introduced this topic

4   with respect to ITAAC being part of the normal procedures and processes,

5   whether it be Westinghouse or with the two licensees here, and I want to maybe

6   just neck that question down to the quality assurance area. Are there any new

7   lessons in quality assurance, whether it be proper documentation or any of the

8   really the paperwork side of the house that have been, that have surfaced as a

9   result of the ITAAC demonstration process?

10   ALAN TORRES: I wouldn't necessarily just lean on the ITAAC

11   demonstration process for learnings and quality assurance areas. I think one of

12   the things we've learned from our operating fleet in the quality assurance arena is

13   a very valuable tool force, and that is to depend more so on performance-based

14   attributes of inspection as opposed to strictly compliance-based attributes of

15   inspection, to perform an audit by simply doing a review of the regulations and

16   verifying a procedure complies with that is one way to verify compliance. But, to

17   take it the next level and do a performance-based observation and/or

18   surveillance or audit gives you a great deal more assurance of the product you're

19   getting, and ITAAC lends itself to that by its nature, because it is a performance-

20   based activity you're out there doing. So, I think, you know, we have

21   incorporated a lot of those type lessons into our quality environment.

22   COMMISSIONER OSTENDORFF: Okay. Thank you. Thank you,

23   Mr. Chairman.

24   CHAIRMAN JACZKO: As I've said, this is probably the first time

25   I've ever really looked into ITAAC, and I was surprised. I would note that in the

1   Lessons Learned document the staff said use of the conjunction and/or is never

2   appropriate. I'm not sure that was, who did that, if that was a grammatical

3   preference, or if there was a substantive preference, because, of course, one of

4   the ITAAC I picked up has an and/or construction in it, not written out, but in the

5   same thing, of the same. But, like I said, I'm not sure if that was grammatical or it

6   was substantive. If it was substantive, then one of the ITAAC that I'm looking at

7   doesn't satisfy that condition, because the thing that struck me, in all honesty,

8   which is why it's not surprising that we're having trouble with the report ITAAC is

9   that there doesn't appear to be anything in the inspections test or analysis piece,

10   at least in the ones that I saw. And, it's probably true with some of the more

11   specific pieces of equipment for which there is a, you know, if it's a, you know, a

12   valve or, a certain valve has to open, close, whatever it may be.

13   I'll focus on two. Well, I'll focus on the first one, on the waterproof

14   membrane ITAAC. The design commitment says the friction coefficient to resist

15   sliding is 0.7 or higher. Okay. So, that's clear. So, the design commitment and

16   the acceptance criteria are pretty much probably the same, right? The report

17   exists in documents that the as-built waterproof system has a minimum

18   coefficient of friction of 0.7, as demonstrated through material qualification

19   testing. Okay, that seems like a reasonable acceptance criteria.

20   And then, if I go to the inspections test and analysis piece, first of

21   all, there's no mention of material qualification testing. Now, maybe this gets to

22   your point, Mr. Torres, about there's lots and lots of backup and understanding

23   and discussion for what we mean by testing. But, all it says in the testing is that

24   testing will be performed to confirm that the mud-mat waterproof mud-mat

25   interface beneath the nuclear island base mat has a minimum coefficient of

1   friction to resist sliding of 0.7. That sounds more like an acceptance criteria to

2   me than a test. So, where do we specify the actual test?

3   CHARLES PIERCE: Well, there are more details when you go to

4   the underlying section in the COL or the ESP.

5   CHAIRMAN JACZKO: Okay. SO, it'll be in the SER, or in the

6   application itself?

7   CHARLES PIERCE: It'll be in the application itself. There will be

8   more details about, of the expectations.

9   CHAIRMAN JACZKO: Okay. So, that will specify, then, what type

10   of test exactly?

11   CHARLES PIERCE: Not necessarily what type of test. In some

12   cases, it would. But, it would certainly have more detail than what's here in terms

13   of establishing the expectations of the test.

14   CHAIRMAN JACZKO: So, is that, then, and maybe the staff -- to

15   what extent, I mean, what are the requirements, I mean, when the Commission is

16   making the 103(g) finding, what are we finding relative to? Because, again, keep

17   in mind that the whole point here is that you don't want to hear them. So, if I get

18   an intervener that comes in and says, Well, okay, you did three tests. The first

19   three tests did not show that the minimum coefficient of friction to resist sliding

20   gave you 0.7. And then you did a fourth test and the fourth test showed that. So,

21   have you satisfied the ITAAC? Have you done the inspections? Where would it

22   tell me that that was true or not?

23   ALAN TORRES: Well, you start a little bit more fundamental from

24   once you have the general description of the ITAAC that you're reading there.

25   You have a performance demonstration plan that you're going to utilize, which is

1   basically the procedure --

2   CHAIRMAN JACZKO: And that's in the license?

3   ALAN TORRES: That's not in the license. We developed that as

4   part of our ITAAC process. And, what we do is we developed this plan --

5   CHAIRMAN JACZKO: Do you submit that to us? Do we review it?

6   ALAN TORRES: The PDP's can be reviewed on-site.

7   CHAIRMAN JACZKO: I mean, and, are they, I mean, that's part of

8   licensing. Because the whole idea here is to have certainty. So, that, when I'm

9   at day, you know, you want your plant to start. And I'm sitting here, and I've got

10   in front of me interveners who have said, "You haven't met the ITAAC." Where

11   do I go to demonstrate that, I mean, if I look at this, this doesn't tell me anything.

12   ALAN TORRES: Right. What I was going to finish with was that

13   the PDP is part of our closure package that --

14   CHAIRMAN JACZKO: I'm not talking about, I'm talking about the

15   license. Because, unless I'm --

16   ALAN TORRES: Well, the staff gets to review the closure

17   documentation and anything that consists of that package, and the PDP's would

18   be part of that package.

19   CHAIRMAN JACZKO: Right. But, what would, and, again, maybe

20   this is just my complete misunderstanding, but the whole purpose here was early

21   licensing, right? And, I think, as Commissioner Magwood said, we don't want

22   Part 52 to become Part 50. It's supposed to be different.

23   ALAN TORRES: Right.

24   CHAIRMAN JACZKO: So, the whole point was to specify all of this

25   at licensing so that when I get to this stage, I don't have an argument about what

1   this means. Because, if I have an argument about what this means, I've got a

2   hearing, because then I don't know how this has been met. Testing will be

3   performed. And I don't know what that means. I mean, that's, the ITAAC was

4   supposed to specify, what, three tests, four tests, five tests. I mean, you take a

5   freshman physics class. The first thing you learn is, you know, you probably do

6   parabolic motion. It's an easy one. You roll things off a table, and you measure

7   how far. And the first thing you teach people is how you do testing, right? And

8   you can't just do it once. You got to do it multiple times. And then you got to

9   come up with an average. And, I mean, you know, presumably, all that comes

10   from Appendix B, that level of detail. But, if we don't know now what the answers

11   to these questions are, then we're not going to know then because they'll be

12   open for debate and discussion.

13   ALAN TORRES: Let us take that back as an action and respond

14   back to you specifically, because there are numerous ITAAC that are more

15   specific in detail.

16   CHAIRMAN JACZKO: Okay. Right. And, I suspected there are.

17   And there are some that I glanced through. But, they may references a specific

18   ASME test or something like that.

19   ALAN TORRES: Right.

20   CHARLES PIERCE: And I think it'd be helpful if we could -- if you

21   take an ITAAC such as this one and then you'd lay out the information that's in

22   the licensing documentation that supports how that ITAAC is to be performed. I

23   think if you laid those two together, you'd --

24   CHAIRMAN JACZKO: I mean, if there's more specificity there,

25   that's good.

1   CHARLES PIERCE: It would give you a greater sense of, I think

2   you'd feel better about it. Let me put it that way.

3   CHAIRMAN JACZKO: Yeah. No. I think that would help. And I

4   think, and, you know, and, this is probably a question for the staff, and, maybe

5   Marv, I know you're getting better information than I am. But, you know, and

6   again, the idea is to make sure we lock it down. If it's in the license, if this is

7   what's in the license, this is vague, and, in my mind, subject to interpretation.

8   Now, if there is documentation then reviewed by the staff as part, I mean, I don't

9   know if it goes in the SER or where it goes. Kind of people are nodding behind

10 you. But, where that specificity happens so that we know, because, based on

11 this, there's nothing. I mean, this is nothing different than the acceptance criteria.

12 It's exactly the same. And, to me, they should be different. And, it's not all that

13 much different, you know, in the one on the Class E equipment, the acceptance

14 criteria's or report exists and concludes that the Class 1E equipment identified in

15 Table 2.12-1 as being qualified for harsh environments is not all there. That's

16 what's in the acceptance criteria. And, the inspection technology, the type

17 technologies or combination of type test analysis will be performed on Class 1E

18 equipment located in a harsh environment.

19   Now, you do a type test, and you do analysis. And, if they're

20 inconsistent and you get different answers, and I'm an intervener, I'm going to go

21 with the you need to do a combination of these. So, you need to use them both.

22 And, if you get one that's okay, and one that's not, you're going to go with type

23 test. Let's say the type tests show you and the analysis doesn't, and then we've

24 got a hearing. Because, then, you've got an argument. I mean, I would think. I

25 mean, that would be a prima facie showing. I mean, but, it comes back to the

1   fact that ITAAC's not clear.

2   ALAN TORRES: And I understand your emphasis on specifics for

3   those particular ITAAC's because of their subjectivity that's written in there. So, I

4   think we can --

5   CHAIRMAN JACZKO: But, I mean, how many are subjective like

6   this? Because, I mean, the whole point for ITAAC was they're supposed to be

7   objective, not subjective. If they're subjective, they're not satisfying the function.

8   CHARLES PIERCE: And, again, I think that if you go and you look

9   at the underlying material for, let's say, the environmental qualification program,

10   those are fairly specific requirements that are in the DCD and in the --

11   CHAIRMAN JACZKO: So, why does the ITAAC say type test

12   analysis or a combination of type test and analyses?

13   CHARLES PIERCE: Because you can do a combination of both.

14   CHAIRMAN JACZKO: So, when I've got an intervener in front of

15   me, saying that we like the analysis, we don't like the type test, and you're going

16   to say, well, it's type test analysis or a combination, who chooses which one you

17   use? How -- what's the -- I mean, the ITAAC aren't technical; they're legal. It's a

18   legal way to demonstrate that the plant was built the way it was built. So, if you

19   fail one of these, you fail the ITAAC. But, you'll, or, if you -- you'll argue, no, it's

20   an or; I've got type test analysis or a combination. So, I can do one of the three.

21   Which one is it? I don't know. I mean, and, again, I'm -- this isn't something that

22   I think the Commission should be doing, quite frankly, but these --that's what I

23   meant by vague. These are not to me clear. And, if I'm in the position to have to

24   make a 103(g) finding, I don't know how I can argue if some intervener comes in,

25   as I've said. So, I hope that more of them are more straight-forward than this.

1   But, if they're not, I don't -- and maybe the staff has a better explanation, or,

2   maybe Marv does because, there's a lot of discussion over there. Am I missing

3   something?

4   MARVIN ISKOWITCZ: No. I think, Chairman, I think you raised a

5   legitimate point. I mean, the licensee proposes the ITAAC, the staff approves it.

6   One would think that the staff would be on the lookout for the kind of, you know,

7   vagueness or open to interpretation type issues that may create, you know,

8   hearing opportunities or problems in hearings. Yes.

9   CHAIRMAN JACZKO: Well, anyway, I, you know, I don't know

10   what we do with this at this point. And, clearly, I don't think I have the time to

11   look at all the ITAAC. But, these are just two that you showed, and they don't

12   seem to be particularly clear. So, you know, maybe there's more there. But, it's

13   in your best interest to have it clear. You know, I sound like a broken record, but

14   that's the point. This is how we don't have a second hearing is with this. This is

15   how we went from a Part 50 process where you had a license you had to get.

16   You get the license up front. It's got to be clear. The inspections were to make it

17   clear so we don't have arguments, so that the acceptance criteria is obvious, you

18   know, in these, 0.7 coefficient of friction. But, I've got interveners who would

19   come in and say, well, yeah, you know, you were supposed to measure it this

20   way, and you didn't measure it this way. If it doesn't say in the ITAAC exactly

21   what the inspection was, exactly what the test was, exactly what the

22   measurement was, then we have an argument because there's no clear answer.

23   And, so, you know, I'm not sure, you know, that we're this far down the road and

24   it's like this. I'm not sure what this means. But, and, again, maybe it's all in the

25   subsequent documentation, and the staff's going to explain that it's in their write-

1   up, and then that's clear. Or, you'll bring it forward and show it to me and Marv

2   will agree that it's what's legally kind of binding on us as we go forward if we've

3   got hearings. So, that's kind of the question that I'm looking at. Sorry. I've taken

4   too much time.

5   ROLF ZIESING: Mr. Chairman, if I could make one comment or

6   two on that. To your point, I think that's why we have the ongoing industry efforts

7   to work on standard notification closure letters to work on the content needed to

8   flush out any ambiguity that may exist. But, I do want to say that what is clear is

9   the licensing basis is clear. And, at the heart of it, we need to demonstrate for

10   those ITAAC that are identified that the underlying objective is to show that the

11   licensing basis has been demonstrated, and it's incumbent upon us and the

12   licensees to prepare the documentation to show without a doubt how the

13   licensing basis has been satisfied.

14   CHAIRMAN JACZKO: And, I mean, and that's the ITAAC. And

15   that's the only way we do that. I mean, that's by law what we do. It's not -- the

16   Commission's finding is that the ITAAC have been met, not that the licensing

17   basis has been satisfied. It's a different, I mean, I think it's a different legal

18   finding. The 52.103(g) is specifically that the ITAAC have been met. And, the

19   hearing opportunity is an a priori finding that there's, that the ITAAC have been

20   met. So, it is a high threshold that maybe these issues would never meet that.

21   But, the point, what I'm trying to emphasize to you, and, again, maybe I have this

22   confused and the staff will straighten it out to me. The issue isn't closure, all

23   right? Closure is three or four years from now. The issue is COL issuance. This

24   has to be locked down at COL issuance, because that's when we lock in the

25   ITAAC. If we're still dealing with this in three or four years and trying to fix it in

1 the closure letters, it's too late because the legal commitment is at the COL. And

2 that's what, it seems to me is everybody wants to fix it at the closure. That's just

3 too late, because we've made a licensing commitment now and a licensing

4 decision to say how this will be done. And, if it's not clear now, we cannot clarify

5 it later. That's a hearing in and of itself right there. I mean, there you've a priori

6 demonstrated the ITAAC can't be met if you've got to clarify it later. So, then,

7 you've got a hearing. And it doesn't have to -- the contention doesn't necessarily

8 have to be successful. But, once you get yourself into a hearing, you're three,

9 four, five months, maybe you go forward even with the hearing. The Commission

10 will have to determine that. But, the whole point is not to have a hearing.

11   And, so, I don't know. Maybe I'm misinterpreting this. But, I was

12 very surprised when I actually saw these. So, but, again, appreciate you being

13 here. And, I think we hopefully have, I'll hear from the staff, and maybe I'll get

14 better educated on this and understand it better. And, again, I'm not getting the

15 full picture, just a slide or two. Well, thank you. Appreciate it.

16   ALAN TORRES: Thank you.

17   [break]

18   CHAIRMAN JACZKO: Okay. Bill, we're going to start.

19   BILL BORCHARDT: Okay. Good morning. Well, Part 52 is

20 certainly a very innovative idea and approach. We remind ourselves that it

21 started in the 1980s as a result of the Lessons Learned from over 30 years of

22 construction and licensing experience in the U.S. There's no area of Part 52

23 that's more innovative than ITAAC, and there is no other system anywhere else

24 in the world that has anything close to Part 52 or to the use of ITAAC, which lay

25 out provisions and details of how the regulator is going to verify proper

1   construction.

2   I'd like to congratulate the staff and the industry and all the

3   stakeholders for taking a proactive approach and working through some of the

4   details well ahead of time in an effort to minimize surprises later on down the

5   process. While there might be more work to be done as we've been discussing, I

6   think they've made very good progress.

7   I'd also like to recognize that, from the staff today, you have

8   representatives from headquarters, the Office of New Reactors, but also the

9   Region II Center for Construction Inspection. And, I'd like to especially

10   congratulate and acknowledge them, because they are implementing on a day-

11   to-day basis many of the management and organizational approaches that we're

12   trying to implement across the agency. The fact that we have a Center of

13   Excellence in Region II, that will be the Construction Center of Excellence for the

14   entire country, is an idea that we've been moving towards in areas outside of the

15   reactor program but throughout the agency.

16   I'd also like to acknowledge that they are actually living the NRC

17   values that we stress so much, the ideas about having cooperation and

18   interdependence. These are -- this program is a prime example of how that has

19   been successful. They are working very closely together right now as we

20   develop the program, but, you'll see that, as we go into the construction process,

21   that it's not like Part 50 where there was this separate licensing process, and

22   then it got turned over to the regions, and there was inspection. The people at

23   this table represent the two organizations that will be working very closely

24   throughout the entire process. It's ongoing, very strong relationship between the

25   licensing function and the inspection activities. So, I'd just like to personally

1   thank them for their ongoing efforts, and Mike will begin the briefing.

2   MICHAEL JOHSON: Thanks, Bill. Good morning, Chairman and

3   Commissioners. As Bill indicated, we've exercised most of the parts, aspects of

4   the Part 52 licensing process. That is, we've issued early site permits, we've

5   issued design certifications. We are in the final stages of the process for issuing

6   combined licenses. And, today's presentation, both the previous panel and our

7   presentation, really is focused on the last remaining aspect, which is the

8   oversight of construction and transition from its -- transition from construction to

9   operations.

10   As you've heard, there are really three points that will resonate, I

11   think, throughout the presentation. First, we have been spending a lot of time on

12   preparation. We're now transitioning to implementation. I think that's clear.

13   Secondly, we have, as Bill indicated, proactively sought out

14   potential speed bumps. We've continued to do that and made adjustments to our

15   implementation. Our process is to ensure our implementation is smooth.

16   And then, last but not least, as you'll hear again and again as you

17   heard in our previous panel, we've had extensive dialogue with external

18   stakeholders. And I think we benefitted as a result of that dialogue because we

19   have a better understanding, an increasingly better understanding of potential

20   challenges and alignment regarding the actions that are going to be needed to

21   address those challenges.

22   Turning to the agenda slide, Laura Dudes, who is the director of the

23   Division of Construction Inspection and Operational Programs in the Office of

24   New Reactors will provide an overview of the construction inspection program.

25   Jim Beardsley, who was the chief of the Inspection Branch in NRO will discuss

1   construction inspection program and the role of ITAAC. Allan Blamey, how is the

2   chief of Construction Projects, Branch 2 in our Region II Center for Construction

3   Inspection will discuss planning and scheduling and execution of the construction

4   inspection program at the various sites where we have construction ongoing in

5   the country.

6   And, finally, Mark Kowal is going to discuss -- I'm sorry -- who is

7   chief of the Technical Specifications and the ITAAC branch will discuss the

8   ITAAC closure verification process and many of the issues that we've raised,

9   have raised in the previous panel. With that, I'll turn to Laura to begin.

10   LAURA DUDES: Thank you, Michael. May I have the next slide,

11 please? And may I have the next slide, please. Okay. Well, I was going to

12 begin. It's been several months since we briefed you on anything associated

13 with the oversight program. And, so, as this is my first time as the director in this

14 new role, I was beginning with how pleased I am that this is good news story. I

15 think you heard from the industry panel that we've completed policy

16 development. We have our program as developed, and we're transitioning to

17 execution. But, as the Chairman raised towards the end of the last panel, we still

18 need to be leaning forward to work out other issues and implementation issues

19 for the final frontier of the Part 52 process. Mike said we've learned lessons from

20 many of the other products. And, so, we expect to learn lessons as we move

21 forward.

22   Mike, or Jim, Allan, and Mark will talk in detail about the program

23 structure and procedures that are ready for use or, in some cases, are being

24 used by the inspectors at the Vogtle and Summer sites. Before I turn it over to

25 them though, I do want to talk about a few other highlights of the oversight

1   program. We've made tremendous progress in responding to the March 2011

2   SRM on the construction reactor oversight process. We have established a

3   framework, a significance determination process and a construction assessment

4   matrix for that program and I think that's responsive to the Commission's request

5   for us to look at the good practices from the operating reactor oversight process,

6   and namely transparency and predictability as we process construction

7   inspection findings. So we plan to train the inspectors on that program in

8   October of this year and implement on January 1 of 2012, and that is to coincide

9   with the annual cycle for the operating reactor oversight process. That allows us

10   to make use of the existing management structures for them.

11   Let's see, moving on to vendor inspection. Our vendor inspection

12   program continues to provide us good insights on the quality of components and

13   services that are being supplied for the new reactor program. We have

14   completed over 18 domestic and international inspections in this area and we

15   continue to be engaged with our international partners. This October, we're

16   going to conduct the first ever joint vendor inspection with our regulatory partners

17   in Korea. This is being done under the auspices of the Multinational Design

18   Evaluation Program. It is a unique activity in that this is the first time that two

19   regulators will fully participate in a vendor inspection using just the host

20   regulator's procedure. So lessons learned from that activity will obviously feed

21   back into the MDEP program and of course this helps us to continue to enhance

22   coordination and cooperation in the international arena.

23   In addition to that, we also plan to assign a vendor inspector to

24   work with our regulatory partners in China this fall and this inspector will help

25   oversee, and observe some of the vendor activities in China as it relates to the

1   AP-1000 Project in that country. So we hope to get some lessons learned from

2   that. May I have the next slide, please?

3   So, the earlier panel and I believe several Commissioners had teed

4   up some of the issues associated with our ITAAC demonstration project. So, as

5   you heard from the industry this morning and you'll hear from us today, we did

6   learn quite a few lessons from that and we're continuing to focus on that. I

7   probably won't belabor the first two bullets in this particular item, except to assure

8   you that we know that we need to continue to work with stakeholders to assure

9   that we have a common understanding of the information that's necessary and

10   sufficient for ITAAC closure. There's been a significant amount of effort, as you

11   heard, to identify examples and create closure letter examples, and get common

12   understanding of both what's expected in those letters and what would be

13   expected in the packages on site for which we would perform inspections on, and

14   the guys will talk a little bit more about that this morning.

15   In addition, I believe Commissioner Svinicki raised the issue of our

16   information technology tools. One of the lessons we did learn was that they will

17   be -- they will help us be more effective in dealing with the ITAAC surge in terms

18   of processing numerous inspection inputs that are gathered over several years of

19   the construction process, and again, those inspection inputs will help us support

20   the ITAAC determination recommendations that we make to the Commission.

21   Moving beyond the construction inspection on site activities, I just want to

22   highlight a few other focus areas within the overall construction oversight

23   program. We've had several Inspector General audits over the past few years,

24   focused on the vendor inspection program. They have identified areas for

25   improvement and actually I think they've helped us enhance the overall goals,

1 objectives, communication, and selection criteria of the vendor inspection

2 program.

3   Two issues that were raised as a result of the IG audit include the

4 agency's ability to deal with counterfeit, fraudulent, and suspect items in a supply

5 chain and the second issue was the clarity of the Part 21 regulation, and the

6 supporting guidance documents. Now, both of those issues are broader than just

7 the NRO vendor inspection program, and so we created working groups that had

8 participants from all program offices that are affected by these issues. These

9 working groups examine the regulations, guidance documents, communication

10 protocols, also interacting with external stakeholders to understand what's being

11 done in industry for these issues and get some perspectives from many different

12 stakeholders. The working groups are wrapping up this effort and we will issue

13 papers on each of these items to the Commission, which talks about the scope

14 and breath of what the working groups have done, as well as our next steps in

15 that area.

16   Albeit a smaller level of effort, we also are engaged with the

17 advance reactor licensing folks in the Office of New Reactors, and that's really to

18 begin the dialogue with the small modular reactor community. We need to do so,

19 because their manufacturing models or deployment models may be different than

20 what we are used to for the large light water reactors, so we are looking early to

21 see if there's any changes to the construction inspection program. And last, but

22 certainly not least, you issued the Safety Culture Policy Statement in July of this

23 year and so we are actively working to communicate and educate that Safety

24 Culture Policy Statement to a large and very diverse group of vendors through

25 inspection activities, conferences, and workshops. In addition to that, we are

1   also incorporating portions of the Safety Culture Policy Statement into the

2   construction reactor oversight process in a manner very similar to what's being

3   done with the operating reactor oversight process, so there will be some

4   consistency across those two programs. So, with that brief overview, I will now

5   turn it over to Jim Beardsley, who will begin the detailed discussion on the

6   construction inspection program.

7   JAMES BEARDSLEY: Thank you, Laura. Chairman and

8   Commissioners, my name is Jim Beardsley and I'm the chief of the Construction

9   Inspection Program Branch. This morning, I will provide you with a brief

10   overview of the Part 52 Construction Inspection Program and provide the context

11   in where ITACC fits into that program. In addition, I'll discuss the infrastructure

12   that we're developing to facilitate both the inspection program and the ITAAC

13   closure verification process. Next slide, please.

14   The construction inspection program is ready right now for

15   transition from development to full scale operation. We have in place all of the

16   manual chapters and inspection procedures necessary to support the inspection

17   effort following the issuance of a combined license. We expect over time to

18   routinely refine the program, to optimize efficiency and effectiveness as we learn

19   lessons and to support the ITAAC closure and transition to plant operations. This

20   slide shows the phases of the Part 52 licensing process and the relationship

21   between licensing actions and inspection activity. There are documented

22   processes across the Part 52 licensing and construction phases where

23   requirements and design changes can be inserted. In all cases, the processes

24   include structured change management to ensure the timeliness and

25   transparency.

1		Although we're in the final phases of the COL issuance, the

2	construction inspection program is in operation today. Under the Vogtle limited

3	work authorization and our pre-COL Quality Assurance Inspection Program, the

4	staff is actively inspecting construction and fabrication activities at this time. The

5	inspections focus on work that has a direct bearing on ITAAC closure, on the

6	ITAAC closure -- on the ITAAC systems, structures, and components, and their

7	closure to be completed in accordance with acceptance criteria.

8		Over the course of the inspection program, the CCI inspectors will

9	continue the majority of the inspection activity. For those inspections that require

10	more detailed technical analysis, resources from the headquarters technical staff

11	will be drawn upon and will be scheduled as appropriate. We will also work

12	closely with the host region inspectors for scheduling and execution of a selected

13	number of programmatic inspections to ensure the resources are efficiently

14	managed. Fire protection, security, emergency preparedness, and health

15	physics are examples of those inspections where we will draw upon host regions

16	to help indoctrinate those host regions into the technologies and designs of the

17	plants, to facilitate not only construction inspection, but the transition to

18	operations. For the past two years we've been working with the Vogtle 3 and 4,

19	and V.C. Summer 2 and 3 applicants to gain a thorough understanding of their

20	construction schedules. Results of that analysis, the development of a detailed

21	construction schedule -- excuse me -- it focuses on the earliest possible

22	opportunities to view ITAAC related activity.

23		Our goal is to develop insight into procurement, and development,

24	and construction of ITAAC related SSCs. In addition, we're scheduling our

25	programmatic inspections to gain assurance that the programs required to

1   conduct quality construction are implemented in accordance with the regulations.

2   Alan Blamey will provide further discussion on the processes and tools used to

3   plan and schedule our construction inspections during his brief. Next slide,

4   please.

5   We have three significant initiatives in place to improve the

6   efficiency and effectiveness of our construction inspection and ITAAC closure

7   process. In an effort to maximize communications in support of construction

8   inspection and provide a record of that communication, we have established a

9   formal system to manage technical assistance requests between the inspection

10   and technical staffs. The TARs, as we call them, are used to coordinate

11   clarification of technical questions, in particular, ITAAC related questions. The

12   resolution of TARs is coordinated through the appropriate technical branches to

13   ensure that inspectors receive comprehensive support. When necessary, the

14   TARs may be reviewed by the Office of the General Counsel, to ensure there is

15   clarity in ITAAC requirements and acceptance criteria.

16   The TAR process will be used by the headquarters staff. It will also

17   be used by the headquarters staff to request additional inspection activity where

18   necessary, in order to answer questions on ITAAC or other technical areas.

19   Once the technical assessments have been completed, the responses will be

20   entered into ADAMS and the TARs will also be maintained in a SharePoint

21   system to provide other inspectors and technical staff with a historical record of

22   the issues. We are using the TAR process today to assist the inspection staff in

23   the LWA, and pre-COL inspection activity. We will use a tool known as the

24   Construction Inspection Program Information Management System, or CIPIMS to

25   effectively track and control the inspection program. The system brings together

1   ITAAC requirements, inspection procedures, and licensee construction plans in

2   an integrated fashion.

3   The current CIPIMS upgrade is based on the oversight

4   infrastructure plan assessment that was completed in 2010. That assessment

5   provided us with a holistic interoffice view of the processes used to manage our

6   inspection program. The development of an improved system requirement

7   specification for CIPIMS incorporated a significant input from the inspectors at

8   CCI, including the development of a pilot database for requirements validation.

9   The upgrade is in development today and is on schedule for release to the

10   inspection staff in early 2012. It will provide a series of dashboards that

11   management will use to track the overall status of programmatic and ITAAC

12   inspections. All ITAAC inspections and any associated findings will be recorded

13   in CIPIMS and the database will be a focal point in our ITAAC closure verification

14   process.

15   With the goal of maximizing efficiency and effectiveness of ITAAC

16   closure verification, we're developing a tool known as VOICES. That stands for a

17   Verification of ITAAC Closure and Evaluation Status. The system is a workflow

18   tool that facilitates ITAAC closure verification process. When a closure letter is

19   received from the licensee, it will be entered into VOICES and automatically

20   routed to the engineers responsible for ITAAC closure. The tool manages the

21   digital routing of the letters through all the steps identified in our NRO office

22   instruction on ITAAC closure verification, finally resulting in the development and

23   release of a Federal Register Notice on the ITAAC closure verification. In

24   addition, VOICES provides both the staff and the public with a status on the

25   closure letter adjudication, enhancing our transparency. VOICES is currently in a

1   detailed requirements development stage and is scheduled for release to the

2   staff in mid-2012. Next slide, please.

3   Our construction inspection program is ready for transition to

4   execution. We've developed all the inspection manuals and chapters, and

5   inspection procedures necessary for the initial phases of the ITAAC and

6   programmatic inspections. We recently awarded a contract for construction

7   inspection support. That contract will provide the team with flexibility to request

8   specific technical areas, support in specific technical areas, such as non-

9   instructive testing, at times when we may not have the necessary experience

10 available. The contract will also support the general inspection expertise in the

11 event that the scope and timing of plant inspections exceed our available

12 inspection resources. The construction inspection team is actively developing

13 processes and procedures necessary to support ITAAC closure verification. The

14 ITAAC related construction inspection is ongoing in order to assure that we have

15 the necessary breadth and depth of ITAAC related information available to

16 adequately review the licensee's closure verification letter -- the closure letters,

17 for verification. The CIPIMS tool for planning, scheduling, and recording the

18 results of inspections will be fielded in time to support full scale inspection activity

19 as well as the ITAAC closure verification. We're developing procedures for both

20 ITAAC closure verification and the preparation of the Part 52.103(g) finding

21 recommendation.

22   The VOICES workflow tool will be a key element in those

23 processes. We will have tools and processes in place well before the ITAAC

24 bow wave you heard about this morning and will focus on ITAAC closure analysis

25 and preparation. Alan Blamey will now discuss the status of our ITAAC

1   Inspection Program.

2   ALAN BLAMEY: Thank you, Jim, and good morning, Chairman

3   and Commissioners. My name is Alan Blamey and I'm the chief of the

4   Infrastructure Development Branch in the Center for Construction Inspection.

5   This morning I would like to provide to you an overview of the work that's been

6   accomplished in preparing for conducting inspections at new reactors as well as

7   briefly discuss the lessons learned from international exchanges at the AP1000

8   site in China and also the opportunities that lay before us as we transition into the

9   execution of the Construction Inspection Program. Next slide, please.

10   Over the past several years we've worked with stakeholders and

11   software venders to develop the Construction Inspection Program and the

12   infrastructure that's needed to plan, schedule, and execute construction

13   inspections at multiple construction sites simultaneously. Based on this work,

14   today we're using CIPIMS for inspection planning and we're using Primavera for

15   inspection scheduling. The platforms are scalable and they will support our

16   future needs for managing the Construction Inspection Program. Next slide,

17   please.

18   Over the past several years we've developed inspection plans for

19   conducting AP-1000 ITAAC inspections. The development of the ITAAC

20   inspection plans provide valuable insights for the inspectors as they prepare to

21   inspect the new reactors. The first step of the inspection planning process is to

22   review and understand specific ITAAC and the structure, systems, and

23   components that are contained in that ITAAC. The inspectors then select a

24   sample of the structure, systems, and components within that ITAAC and also

25   identify the inspection procedure subsections that would be used to inspect these

1   particular structure systems and components. The inspectors then identify a

2   representative number of inspections. The estimated hours per sample, the

3   engineering discipline that would be needed to do the inspection, and also they

4   look at specific activities that we would like to directly observe during the

5   construction process. The ITAAC inspections were typically planned using a

6   senior inspector as well as civil, electrical or mechanical inspector.

7   The team also reviewed the completed inspection plans to

8   determine if the plan provided sufficient inspection activities that would provide

9   reasonable assurance that an ITAAC was met. If the existing procedures do not

10 contain sufficient guidance, additional guidance was included in the inspection

11 plan and procedures -- revisions were submitted. This was an important

12 consideration, because the ITAAC inspection procedures were not previously

13 validated during construction. Therefore the ITAAC planning process better

14 prepared the inspectors to conduct ITAAC inspections, verify the inspection plans

15 were sufficient and provided additional validation of the ITAAC inspection

16 procedures. Once the planning was completed, these plans were then used to

17 schedule the inspections. During the last three years we've worked with

18 stakeholders in the industry to understand the construction scheduling tools that

19 are being used. Based on these interactions, we determined that Primavera is

20 the industry standard program that's used to manage and schedule these large

21 construction projects.

22   Adoption of this software allows us to preserve all aspects of the

23 applicant's proprietary construction schedule and allows our inspection schedule

24 to be aligned with the construction activities. Therefore, we believe that

25 Primavera will result in a stable and scalable platform to support inspection

1   scheduling. In June of 2011 we received approval to deploy Primavera on the

2   NRC network and we've already transitioned the Region II data for testing to this

3   network, and we plan to fully transition to the network, the NRC network at the

4   end of this year.

5   Preparing to perform inspections on a specific design is a time

6   consuming process. Once the design control document, the DCD, is nearing

7   NRC approval, the ITAAC must be grouped in the ITAAC families and then

8   ranked so that we identify those specific ITAAC that will be targeted for

9   inspection. Inspection plans are then developed for the targeted ITAACs and the

10   inspection activities are scheduled. Because of the time consuming process, we

11   began the inspection planning process using previous versions of the AP-1000

12   DCD. Currently 80 percent of the targeted ITAAC inspections have been

13   planned and 15 percent of them scheduled using the previous versions of the

14   AP-1000 DCD. This effort has resulted in vendor inspections and pre-COL

15   inspections that focus specifically on ITAAC related work activities which will be

16   used in our review and verification of ITAAC closure.

17   The early planning and scheduling was needed to ensure that we

18   could identify early ITAAC inspection opportunities. However, we now need to

19   go back and reconcile the plans that were put together with the current version of

20   the AP-1000 DCD. We began the reconciling -- the reconciliation process in late

21   August of this year and currently we've completed the reconciliation process of

22   the targeted ITAAC and we're in the process of reconciling the plans and the

23   inspection schedules. Next slide, please.

24   Previously, Jim discussed the CIPIMS upgrade, which will be used

25   to manage the construction inspection program. We're planning inspections

1   using the current version of CIPIMS that I believe many of you have seen during

2   your tours of the Region II Planning Center, however through development of the

3   infrastructure oversight program, stakeholder interactions and inspector

4   feedback, our vision of CIPIMS has matured. The current CIPIMS upgrade that

5   is being developed contains specific improvements. Examples of the

6   improvements include a look and feel that's intuitive to the inspectors as well as

7   the inspection program. Inspection planning views that provide information on

8   previously inspected components within an ITAAC and a more robust reporting

9   capability. Therefore, we believe that this upgrade, once deployed, will allow the

10   inspectors to remain focused on critical inspection activities in the field and not

11   have to manually track the work that's been done in preparing for the upcoming

12   inspections. This improved reporting feature will also support the ITAAC closure

13   process and management of the inspection program. Next slide, please.

14   We continue to look for opportunities to improve the efficiency and

15   mature the construction inspection process. Our inspectors have gained

16   valuable AP-1000 construction insights through exchanges with the AP-1000

17   instruction project in China. The inspectors gained insights in the construction

18   process that were used to assemble large modules and use these insights to

19   validate applicable plans and construction inspection procedures. They

20   concluded that the inspection procedures and plans that were developed were

21   adequate for conducting ITAAC inspection of these activities. The inspectors

22   also identified a significant number of module and structural fabrication activities

23   that were occurring offsite. These activities presented inspection opportunities

24   that could be used in the closure of ITAAC. Therefore, it was recommended to

25   allow regional inspectors the opportunity to observe this fabrication process at

1   locations other than the construction site.

2   This resulted in NRC manual chapter changes to allow the

3   inspection of these activities as well as other activities that can be used to close

4   an ITAAC. These procedures are being used today and we're currently

5   scheduling inspections of ITAAC related activities that are occurring offsite.

6   Based on the Sanmen and domestic construction experience, we noted that the

7   construction schedules are frequently changing. This changes -- this challenges

8   our ability to manage the inspection program and the inspection resources.

9   We're continuing to work with various stakeholders to improve the timeliness of

10   the construction schedule submittals and developing other project controls that

11   can be used to more effectively manage the construction inspection program and

12   management of the resources. For example, the resident inspectors have more

13   schedule flexibility than the regional inspectors. Therefore, we're carefully

14   increasing the inspections that the residents will do, which should improve our

15   ability to respond to scheduled changes that are occurring onsite. Next slide,

16   please.

17   Currently, from a new reactor prospective, we're transitioning from

18   a period of heavy program development into execution of the construction

19   inspection program. We have established resident offices and stationed

20   residents at the Vogtle and V.C. Summer site. We are also receiving

21   construction schedules from these sites and using the schedules to align our

22   inspection activities. We've also conducted inspections related to the limited

23   work authorization as well as program inspections at Vogtle. Establishing the

24   office and infrastructure before significant construction inspection begins allows

25   us to gain experience in executing the construction inspection program, as well

1   as establishing lines of communication with stakeholders prior to significant

2   inspection activities occurring.

3   Based on our experience to date, we believe that the Part 52

4   Construction Program will be a data intensive program.   The inspectors will need

5   to identify and inspect construction of targeted ITAAC structure systems and

6   components out of thousands of work activities that will be ongoing at the site on

7   a daily basis. We'll need to manage the inspection program for multiple Part 52

8   construction projects as well as Part 50 and Part 70 construction projects.

9   Therefore, leveraging the appropriate scalable technology such as Primavera

10   and CIPIMS, as well as continuing to gain operational experience with these

11   platforms will have a direct impact on our ability to efficiently manage multiple

12   construction inspection programs simultaneously and that concludes my

13   presentation, and I'll turn it over to Mark Kowal.

14   MARK KOWAL: Good morning. My name is Mark Kowal. I'm the

15   chief of the technical specifications in ITAAC branch in NRO. Building on Jim's

16   and Alan's presentations, I'll be discussing our efforts to improve ITAAC quality

17   and inspectability, and to verify ITAAC closure notifications, which I'll also

18   referred to as ICNs. Since our last ITAAC Commission meeting in September

19   2009, we've made substantial progress in these areas, overall based on our

20   efforts, we are ready for the level of ITAAC closure verification activities we

21   expect in the near term and have made significant strides in planning and

22   preparations for the long term. Next slide, please.

23   As a result of our ITAAC related activities, we found that some of

24   the ITAAC were not written as clearly and objectively as they could have been.

25   This could result in different interpretations of an ITAAC's intent. Each ITAAC

1   should be written so a common understanding of the meaning of the ITAAC's

2   wording exists between licensees, vendors, public stakeholders, and the NRC

3   staff. Uncertainty in the meaning of an ITAAC could result in delays in verifying

4   the ITAAC is closed. We've completed several actions since our last

5   Commission meeting to address this issue. Since early 2010, we've held eleven

6   category three public workshops, engaging industry and participants, and

7   interested stakeholders on emerging topics related to new reactor construction.

8   These public meetings have been a valuable forum to discuss, understand, and

9   resolve ITAAC related issues. Specific to ITAAC quality and inspectability, we

10 held two public meetings, which focused on Revision 1 to RIS 2008-05, entitled

11 "Lessons Learned to Improve ITAAC Submittals." The September 2010 revision

12 to this RIS captured key insights and best practices to improve ITAAC quality.

13   Additionally, to improve efficiency or to introduce efficiency and

14 synergies into our review process, we developed various training materials on

15 ITAAC quality and inspectability, and in the past year provided three training

16 sessions to NRO technical reviewers. These training sessions focused on key

17 points identified in the RIS and provided specific examples to further aid technical

18 reviewers with their ITAAC reviews. These efforts have resulted in more focused

19 licensing reviews of ITAAC for design certifications and combined license

20 applications. For example, we recently conducted quality and inspectability

21 reviews of the proposed changes to ITAAC for the US-APWR design. The

22 APWR design center proactively formed a working group with specific intents to

23 improve the ITAAC based upon our guidance. The working group met with us on

24 several occasions to discuss the ITAAC improvements. Additionally,

25 Westinghouse reviewed the AP-1000 ITAAC and notified us of some wording

1   changes to address quality and inspectability issues. These reviews

2   demonstrate industry's alignment with the need for high quality ITAAC. Next

3   slide, please.

4   As I've discussed, ITAAC quality plays an important role in efficient

5   ITAAC closure. Once a licensee has completed an ITAAC and submitted an

6   ICN, we will verify that that ICN sufficiently details the licensee's basis for

7   determining that the ITAAC was successfully completed. A draft office instruction

8   for ITAAC closure verification has been developed and tested on several

9   occasions. This process was first exercised during a March 2010 NRC internal

10   technical counterparts meeting where several simulated ICNs of varying levels of

11   complexity were taken through the verification process. The draft verification

12   process was subsequently presented and discussed during the ITAAC public

13   workshop series, allowing the industry and public stakeholders to comment. The

14   process was also a key element in the ITAAC closure demonstration project,

15   which I'll speak about in the coming slides. Following each of these exercises,

16   the closure verification process was refined to reflect lessons learned. Next

17   slide, please.

18   Now we'll get to the ITAAC demonstration project. This has already

19   been discussed to some extent by the industry panel, but I want to focus on our

20   perspective of the project. Over the past year, we conducted a highly beneficial

21   ITAAC closure verification demonstration project. NRC participants included the

22   Office of New Reactors, Region II, Center for Construction Inspection, the Office

23   of Administration, and the Office of the General Counsel. The purpose of the

24   demonstration was to gain insights on the readiness of industry's ITAAC closure

25   process and the NRC's closure verification process. Additionally, we tested

1 aspects of the construction assessment and enforcement programs, as well as

2 evaluating the surge in the ITAAC closure notifications.

3 The licensee submitted the performance -- simulated the

4 performance of the ITAAC, prepared ITAAC completion packages, and submitted

5 ITAAC closure notification letters to the staff. We simulated inspection of the

6 ITAAC completion packages at Vogtle and at the Westinghouse headquarters,

7 issued two simulated notices of violation, reviewed the ITAAC closure

8 notifications, and drafted Federal Register notices, documenting the successful

9 completion of the ITAAC. Participants in the exercise demonstrated most

10 aspects of ITAAC closure, including adequacy of the guidance provided in Reg

11 Guide 1.215 and the draft office instruction on ITAAC closure verification.

12 Progress throughout the exercise was shared with industry and stakeholders

13 through eight public meetings. Next slide, please.

14 I'll briefly touch on this since it's been shown a couple of times.

15 The expected surge in ITAAC closure activities in the last stages of construction

16 will be resource intensive and may challenge our ability to verify successful

17 ITAAC completion on a licensee's desired timeframe. This surge of submittals

18 could account for 50 percent or more of a combined license ITAAC population.

19 To gain a better understanding of what to expect in terms of ITAAC closure

20 submittals the staff proposed that Westinghouse as part of the demonstration,

21 perform an evaluation of the surge and identify potential mitigation strategies.

22 The results of this evaluation indicated that scheduling improvements may help

23 reduce the surge, however the majority of the final wave of ITAAC submittals

24 cannot be accelerated. Participants in the demonstration did identify potential

25 mitigating strategies. The additional ICN examples have already been

1   mentioned and we also discussed that we will evaluate any synergies that can be

2   gained from the required 225 day notification letters. We're continuing to pursue

3   these mitigating strategies and manage this expected ITAAC closure surge

4   through industry and public stakeholders, through public workshops. Next slide,

5   please.

6   The ITAAC closure demonstration identified needed clarifications

7   and refinements in areas involving communication, information, technology

8   infrastructure inspection, and closure verification. For example, NRC and

9   industry identified that further clarification regarding the ITAAC closure

10   notification examples and industry's guidance is needed. Another lesson from

11   the closure demonstration project is that ITAAC quality, clarity, and inspectability

12   can continue to be improved. Through the demonstration, two ITAAC

13   interpretation issues were identified. In the first, the scope of inspection required

14   by licensee to close the functional arrangement ITAAC and submit ITAAC

15   closure notifications was questioned. The second example involved a number of

16   the ITAAC that generate reports and require interpretation of what the level of

17   detail in those reports is. More recently, interpretations issues were identified

18   with one of the Vogtle limited work authorization ITAAC, which resulted in the use

19   of the TAR process by the staff. Chuck had talked about that in the previous

20   session. These examples reinforce the importance of ITAAC quality, as I

21   previously discussed, and demonstrate that the staff and stakeholders will need

22   to be flexible, agile, and demonstrate a learning attitude as the first Part 52

23   construction efforts are executed.

24   Additionally, we continue to refine the ITAAC closure verification

25   process by incorporating lessons learned from the demonstration exercise and

1   public workshops with stakeholders. Effective utilization of available resources

2   will be needed to ensure infrastructure and trained staff are in place to fully

3   implement the ITAAC closure verification activities consistent with expectations.

4   In addition, the development and use of VOICES to facilitate closure verification

5   is essential. As Jim mentioned earlier, the system is being developed in

6   conjunction with CIPIMS to ensure maximum efficiency and effectiveness.

7   We've prepared a final report which details the demonstration, lessons learned,

8   and proposed next steps. The report also includes action items that are being

9   tracked and will be included, and implemented to enhance infrastructure in the

10   ITAAC closure verification process. We also recently began to -- have begun to

11   develop the process by which a recommendation will be made to the

12   Commission for its 52.103(g) finding, which authorizes operations. The staff's

13   recommendation will include references to all ITAAC closure notifications as well

14   as the documentation for the staff's determination that each ITAAC was

15   successfully completed. Through these proactive efforts, we should be well

16   prepared for future ITAAC closure verification activities. And that completes my

17   presentation.

18   LAURA DUDES: Thank you, Mark. Thank you, Alan. Thank you,

19   Jim, very nice job. So, I will conclude and summarize as I started. I believe you

20   heard from the industry and as you heard from these presentations today, we are

21   -- we completed our program development. We are transitioning to execution as

22   we have sites that have limited work authorization and preconstruction activities,

23   and expect to start construction within the next few months, so we will be in full

24   execution of this final, first of a kind Part 52 process and so we know that we

25   need to continue and look forward. We need to focus on achieving a common

1   understanding of what's necessary and sufficient for ITAAC closure and we are

2   poised to do so. So, unless you have other comments, that concludes the staff's

3   remarks.

4   CHAIRMAN JACZKO: Thanks. Commissioner Svinicki.

5   COMMISSIONER SVINICKI: Thank you all for your presentations

6   and yes, I have had an opportunity as others have, to go through the center of

7   excellence that we have down in Region II on construction inspection, and

8   sounds like they've even been sharpening a lot of their tools since I visited. That

9   was over a year ago. There are some software upgrades and revisions that I

10   was a little surprised how late they're coming in the process. I think some will be

11   upgraded and revised next year or so. That's getting maybe a little

12   uncomfortably close to when you will actually be needing to use these systems at

13   100 percent capacity, but I know also, but correct me if my understanding is

14   incorrect, that some of the tweaks that you're making are an outgrowth of other

15   lessons learned that you've had, so it's natural that you can only of course

16   implement a lessons learned after you've learned that lesson.

17   So, I know and I suspect that over time, as quickly as software

18   modifies and transitions, that you'll have to make upgrades over time on those

19   very systems, but I appreciate it also that you've looked at interfaces between,

20   because you're going to get deluged with scheduling information. So, I think that

21   having a good interface with applicants and vendors, that will be really important.

22   It may sound like a minor thing, but if you had to hard enter a lot of that

23   information, that would be a huge staff resource that we'd have to commit to that.

24   I think we've heard about a lot of the pieces of this process and I

25   think as you prepared for this meeting, maybe you were thinking about a more

1   general overview, but I have a really basic question, because when we look at

2   ITAAC as needing to have a certain legal sufficiency and I think, Laura, you

3   concluded, saying you know, it's a complete and effective, and efficient, sufficient

4   process for, what it has to be able to support at the end of the day and you know,

5   the staff ultimately will be reviewing a lot of information and making its

6   determination based on the totality of what it looks at, that an ITAAC is closed

7   and that's the closure process that we've heard about, but can you talk to me

8   about, since there does need to be ultimately legal sufficiency to support the

9   103(g) finding, which a lot of you made reference to, how have you worked with

10   the Office of General Counsel to be certain that your process at the end of the

11   day can support what it needs to support legally? I don't know who would like to

12   address that interaction, Laura.

13   LAURA DUDES: Well, I'll try it at a high level. Of course the Office

14   of General Counsel has -- they were an active participant in our ITAAC

15   demonstration process and as we continue to tabletop the processes, they give

16   us advice as they would through implementation downstream. So, they have

17   been actively engaged. They may want to talk about what types of advice they

18   would give, but as we also prepare the documents associated with making a

19   recommendation to the 103 -- for the 103(g) finding and those are things that are

20   in draft and being prepared. We will have Office of General Counsel look at them

21   and advise us on that. Now, I don't know if somebody wants to --

22   COMMISSIONER SVINICKI: And I don't know, Marv, because

23   you talked about inspectability and clarity of the ITAAC themselves, is that in

24   terms of setting the standard there and the threshold has there been work with

25   anyone in the General Counsel's office about you know, the clarity of ITAAC?

1   MARK KOWAL: Yes, we -- they, they've been involved and Mike

2   Spencer is sitting over there, but they've been involved in pretty much everything

3   that we've been doing as far as the verification, ITAAC verification closure

4   process development goes, they attend our public meetings. They, they're

5   always there. We've talked to them about interpretation issues, most recently the

6   functional arrangement ITAAC. We've been having discussions with them in that

7   area. We do regularly interact with them on our guidance, probably almost

8   everything we've been doing in the verification area.

9   COMMISSIONER SVINICKI: So, is this for when you -- as the staff

10   approached ITAAC closure and what is a demonstration or an adequate

11   demonstration of a closed ITAAC, is it fair that it was looked at somewhat like

12   findings that need to be made to issue a COL, which is that overall there has to

13   be a defensibility and sufficiency, and adequacy of staff's review, and for

14   instance in a mandatory hearing, one of the findings that the Commission is

15   looking at, we're looking at whether or not the staff has demonstrated the

16   adequacy and sufficiency of that review. The regulations themselves of course

17   don't say you know, do a sampling of this many, rerun this many of the

18   applicants' calculations or things like that, that's not defined in the regulation, but

19   at the end of the day, for legal defensibility, you have to be able to defend the

20   adequacy and sufficiency of what you've done. Is there a parallelism with

21   demonstration of ITAAC closure meaning that the applicant develops things like

22   there -- what they're going to demonstrate to you for sufficiency? You receive

23   various packages of information for review and then you convince yourself that

24   they have sufficiently done the right tests and adequately demonstrated, is there

25   a parallelism? I see Mike Johnson nodding his head a little bit.

1   LAURA DUDES: Well, I'm going to take a stab at this and I'm --

2   whenever I get -- act like a lawyer, I hope that they pull me back, but --

3   MARVIN HSKOWITCZ: Go ahead, we'll let you know.

4   LAURA DUDES: All right. Well, in terms of a parallel, the licensing

5   is complete and so our overall approach to ITAAC closure -- and I'll go back to

6   where the Chairman had read that the licensees are responsible for providing us

7   those closure notifications. And then we have a process to determine and

8   recommend to the Commission, which is based on a sample of inspections. So,

9   we're going to put all of that together, and that's what we would recommend

10   closure, but I don't think it has a legal parallel, because it's not a licensing

11   activity, it's -- and, here's where I'll get a crossways as a lawyer, it's an

12   authorization to load fuel, so -- and I mean they would help us out with the legal

13   determinations there, but this is not a process where there's a one for one

14   verification on each ITAAC. And I would look to Marv to clarify.

15   MARVIN HSKOWITCZ: I don't have anything to add to this point.

16   [laughter]

17   CHAIRMAN JACZKO: That's certainty for you.

18   LAURA DUDES: Yeah, I mean, our inspection is our support, or

19   how we will provide our best recommendation to the Commission at the ITAAC

20   have been met, and this will occur over five years of the construction inspection

21   program, or the length, duration of the construction, but, I mean, it's a pretty

22   extensive set of information linking back to specific ITAAC, but we will not inspect

23   every ITAAC as a part of the closure process.

24   COMMISSIONER SVINICKI: But then the staff has a paper

25   discussing some of its processes for making that recommendation on the 103(g)

1 finding, did you say that's a paper yet under development?

2 LAURA DUDES: Yeah, we're developing the final

3 recommendation, the paper for the recommendation for the 103 finding, and that

4 will be done well in advance of that time, probably this year sometime, and I think

5 that's was in our ITAAC paper that we issued in August, so, that deliverable is

6 coming, and we can begin to discuss and weigh in on how 103(g) will be made.

7 COMMISSIONER SVINICKI: Okay, but this is sounding like, and

8 correct me if I'm wrong, this paper isn't the first you're thinking about how your

9 entire ITAAC process needs to support that ultimate finding. This isn't the first

10 you're thinking about that.

11 LAURA DUDES: Oh, no, that was -- that precedes my role here,

12 but I know that process has been thought out thoroughly and documented in our

13 manual chapters, and then that's how we table talked in the demonstration

14 program is using the program structure that was developed using the specific

15 procedures, invoking the manual chapters, working with our council. We had

16 inspectors who would -- we actually issued mock violations in the tabletop, so I

17 think the process has been documented, and that -- and we use that to step

18 through the demonstration program.

19 MARK KOWAL: Just to add to that, what we've just begun working

20 on that's referred to in our Commission paper is how we're going to implement --

21 how we're actually going to make the 103(g) recommendation to you. Is it going

22 to look like what kind of information will be in there?

23 COMMISSIONER SVINICKI: Okay, this is mechanics?

24 MARK KOWAL: This is, it's implementation. Right, that's the way I

25 view it. We envision at this point -- and this is --we're beginning this, we're going

1 to talk with a public stakeholders about this, they may have interest in the interim

2 operations in 103(c), but how -- what we envision is a Commission paper will go

3 up with -- and attached to that paper will be our determination basis, which will

4 describe, you know, what we recommend, you know, making the finding based

5 on the ICNs, the OI-tech complete letter our inspection program, and there'll be

6 a description we envision of our inspection program that we've done these

7 inspections throughout all of construction, and that type of information is what

8 we're working on now.

9   COMMISSIONER SVINICKI: Do any of the findings coming out of

10 the construction assessment program have any connection to the 103(g) finding,

11 and what do you do with that, and Laura was mentioning that that will begin and

12 get on a cycle with the ROP, and so, if there are findings and the construction

13 assessment program is much broader, obviously, than ITAAC, it could just be,

14 you know, things you're encountering as they go through the construction

15 process on site. What -- I guess most basically -- what do we do with those?

16   JAMES BEARDSLEY: I think the key to understand is as we

17 conduct our assessments, just in accordance with the ROP, we envision the

18 exact same process, the result of that will be -- could be an increase in inspection

19 activity.

20   COMMISSIONER SVINICKI: Okay.

21   JAMES BEARDSLEY: As we do inspections -- programmatic

22 inspections or ITAAC inspections -- we'll link those to the appropriate areas. So

23 if it's ITAAC inspection, that inspection will be recorded in the CIPIMS, and when

24 the ITAAC closure verification comes in, whatever time later it happens, we will

25 go through the database and search all inspection activity associated with that

1 ITAAC or ITAAC family if necessary, and if that increased inspection resulted in

2 something that was related to that ITAAC, that will be included in our criteria for

3 evaluating closure verification.

4   COMMISSIONER SVINICKI: Okay, okay, thank you. Thank you,

5 Mr. Chairman.

6   CHAIRMAN JACZKO: Commissioner Apostolakis?

7   COMMISSIONER APOSTOLAKIS: No questions.

8   CHAIRMAN JACZKO: Commissioner Magwood?

9   COMMISSIONER MAGWOOD: Thank you, Chairman, Bill, so I'm

10 guessing here, but my guess is you're probably the senior person at the panel

11 when it comes to thinking about ITAAC, is that fair?

12   BILL BORCHARDT: On the panel, not in the room, but on panel.

13   COMMISSIONER MAGWOOD: Just -- I'm always interested in

14 these historical reflections. When this first got started, does this look like

15 anything like what you thought it was going to be when it first got off the ground?

16   BILL BORCHARDT: Oh, exactly.

17   [laughter]

18   No, I think in reality, when we began, we probably thought there

19 would be fewer ITAAC and that they would be simpler. When we began the

20 ITAAC discussion, we had no idea there would be a thing called "DAC" which is

21 closely related, so it's a little bit more complex and a little more complicated than

22 we originally envisioned.

23   COMMISSIONER MAGWOOD: Yeah, I think they would -- I think

24 that's how I'd put it, more complicated. Certainly more -- a larger program, I

25 think, than anyone was really thinking 10 years ago or whatever it was, it may be

1   longer than that now; lose track of time. When was it?

2   BILL BORCHARDT: The first ITAAC papers were really early '90s.

3   COMMISSIONER MAGWOOD: Oh, that far back. Okay. I'm really

4   losing track of time. How many target ITAACs are there in these programs? Is

5   there a definitive number?

6   MARK KOWAL: For AP-1000, for example, it's about -- and

7   ABWR, those are the two that we've prioritized at this point -- the two design

8   center ITAACs, and they're about roughly 40 percent of the ITAAC are targeted.

9   COMMISSIONER MAGWOOD: Okay, so that's .4 and comes out

10   to be about 40 percent, is that -- okay. One of the things that I was reading some

11   of the staff papers, and there's some indication the staff papers seem to suggest

12   that not all of the ITAACs' closures will be noted in the Federal Register. Am I

13   reading that incorrectly, or are there some that will not or should all 100 percent

14   of them be --

15   MARK KOWAL: I think that the regulations require us to publish

16   Federal Register notices up until a certain time. And I think that time is the last

17   day for hearings -- for hearing requests, so we will publish them up until that

18   point. After that point, we plan to make them publicly available on our website,

19   so they will be available publicly, but there's no requirement, at that point after

20   that, to publish them in the Federal Register.

21   COMMISSIONER MAGWOOD: I see, so after a certain point,

22   some just -- there won't be a Federal Register notice, just simply put on the

23   website, or --

24   MARK KOWAL: Right, we intend to make them publicly available.

25   COMMISSIONER MAGWOOD: One of the industry participants

1   this morning talked a bit about -- and I think you mentioned it, Mark, the 103(c)

2   process, with interim operation. Can you give us the sketches to what the

3   current thought process is about that and where you are in defining that process?

4   MARK KOWAL: Well, it gets to the implementation, and what

5   we've just begun working on, I know we need some more discussion on that.

6   You know, I'm hoping everything goes well and we won't need to, you know,

7   everything goes smoothly and we'll make our 103(g) recommendation, but, you

8   know, if there are -- if there is a hearing, if there are issues with ITAAC, that's

9   something we still need to work through. I don't know that I have a definitive

10   answer. If it's one, if there is one ITAAC that may need a hearing, then maybe

11   the staff could make a recommendation and then give a recommendation on

12   interim operations for that one. If there is more than one, you know, that's

13   something we haven't fully thought through yet. That's what we said in our

14   Commission paper. We're beginning this exercise now, and industry just

15   recently, in talking with NEI, this was something they brought up that they want to

16   begin discussing in our public workshops.

17   COMMISSIONER MAGWOOD: Just one last question. Save the

18   best for last. I'll aim this at Bill and you can go from there. Obviously, Bill, we're

19   in the process of going through the recommendations from the near-term task

20   force on the post Fukushima review of our regulatory framework, and there are

21   clearly some things that could come out of this process, if you project forward like

22   a year or so, that could impact, certainly, the new plants. But, I haven't heard

23   anyone explain whether that would impact ITAAC, and I wonder if you have any

24   thoughts about that -- what could potentially happen in ITAAC space?

25   BILL BORCHARDT: The near-term task force report does a brief

1   discussion of that. I think that -- from my perspective, the point to keep in mind is

2   that Part 52 has some change provisions in it. There's a rather high threshold,

3   but it does have change provisions. If there are new regulations or new

4   requirements that come out of the Fukushima review, that we, the Commission,

5   decides to apply to either to operating reactors or to future reactors, there are

6   provisions. If there are design changes, I could see, personally, that there might

7   be follow-on ITAAC relating to those new design aspects, but I don't see

8   personally, now, I'm not in complete alignment that's in the near-term taskforce

9   report, in that it seemed to me to imply a very strong connection to ITAAC. I

10 don't think that's the first place you go. I think you go first to changing the design

11 certification rule, if required, or the combined license or imposing by order some

12 design requirement and then there might be then, following from that, some

13 additional ITAAC implications.

14   COMMISSIONER MAGWOOD: Well, one thing, because one that

15 comes to mind for me, when you look at things we could change post-

16 Fukushima, I mean, one example that I think about is when if you look at multi-

17 reactor emergency planning. Emergency planning is clearly one of the ITAAC's

18 we look at, so the question then comes to me, why would that not change as a

19 result of this?

20   BILL BORCHARDT: Yeah, and it very well could, but I think the --

21 when we issue the combined license, that's an operating license. We have all of

22 the enforcement tools, including orders and the ability to revise Tech Specs if we

23 needed to make changes to accommodate changes in regulations relating to

24 multi-unit sites. And so, it's somewhat a question of timing. We don't need to

25 rely on ITAAC for many of those things. We have many other regulatory tools

1   available to make sure it's adequately addressed.

2   COMMISSIONER MAGWOOD: Okay, and in recognizing everyone

3   is in speculation space here because we haven't gone through this process, I

4   guess what I see it across the table here, is that you're not expecting that

5   anything flowing from our Fukushima related activities would impact ITAAC,

6   you're not seeing that right now based on what we know so far.

7   MICHAEL JOHNSON: I agree. No, we're not seeing anything yet,

8   but I think Bill's -- the other part of Bill's answer that I resonate with is, we'll figure

9   it out, and there's a process to deal with it wherever it falls out of the process for

10   recommendations.

11   COMMISSIONER MAGWOOD: Thank you. Thank you, Chairman.

12   CHAIRMAN JACZKO: Commissioner Ostendorff.

13   COMMISSIONER OSTENDORFF: Thank you, Mr. Chairman.

14   Thank you all for your presentations. I wanted to maybe talk about inspections.

15   I'm going to direct my first question, I guess, to Mark and maybe Alan -- you need

16   a sample frequency.   Earlier this year I bought a Ford Fusion hybrid. This is not

17   an advertisement but it's a relatively new car, it's a 2010 motor trend car of the

18   year, and Commissioner Svinicki drives a Ford, and so we're the two Ford drivers

19   from this group here on the Commission. And when I look at -- I'm not an

20   industrial engineer, but I've seen some factory production and some industrial

21   engineering practices, look at sample frequencies and have some experience

22   with quality assurance sampling for nuclear components in prior jobs.

23   When Ford builds these cars, there's, you know, certainly the first

24   prototype off the line, you have a very rigorous inspection, from the first small

25   production prototypes, then I'd imagine at some point in time, there's a ramp-off

1   of sampling, particularly let's say wheel bearings or circularity of engine pistons,

2   those kinds of things, as you get more comfortable that your manufacturing

3   processes are robust and are seeing very few defects. So, I wanted to get to --

4   how is the ITAAC inspection -- I realize that the staff is going to look at every

5   single package to make sure that things are closed out, but as far as onsite

6   inspections by resident inspectors or other people from the region, I wanted to

7   get a feel for it, is there -- I heard 40 percent targeted, I assume that's a sample

8   frequency --

9   MARK KOWAL: Forty percent of the ITAAC would be targeted for

10   inspection. That's what that number is.

11   COMMISSIONER OSTENDORFF: Okay, so talk to me a little bit

12   more about how was arrived at, what was the methodology or algorithm to get to

13   that number.

14   MARK KOWAL: I can talk a little bit about what I know that was

15   done before I arrived here, but yeah, I think there was -- I know that this

16   methodology was discussed with ACRS, and it also is discussed in at least one

17   Commission paper from 2007 timeframe, but it's a formal, structured, decision-

18   making approach that considers a few specific attributes for each ITAAC, and it

19   uses what's called an analytic hierarchy process, and I know safety significance

20   is one of those attributes, it's one of the higher weighted and ranked attributes,

21   so what we'll do first is we'll take each of the ITAAC and we'll put it into an ITAAC

22   matrix, and we'll group them by family, and by family, I mean they have similar

23   characteristics -- very similar characteristics -- and then we'll rank, using this

24   analytic hierarchy process, using each of the ITAAC within that family, and get a

25   rank order for those.

1   And what we'll do is we'll -- we selected a threshold of, I think, of .4,

2   which gave us a reasonable number of ITAAC to inspect. So, we will inspect

3   those ITAAC within a family and assuming everything turns out fine with those

4   ITAAC, that gives us confidence that the other ITAAC within that family that

5   weren't targeted for inspection should be okay as well. So what the process

6   does is it optimizes our inspection resources while at the same time ensures that

7   there aren't any significant flaws that would go undetected. And that's the intent

8   of that process and what was done. Now there -- now, we also will -- if there's

9   certain families where ITAAC don't make the threshold, we ensure that we will

10 inspect and target at least one ITAAC within each of those families -- within each

11 family, and then we'll also have, with EP and security ITAAC, we will inspect all --

12 those are all targeted, those will all be targeted based on the number that there

13 aren't an overabundance of those so, that's how it's done. That's how it was

14 done for the targeting of the ITAAC.

15   COMMISSIONER OSTENDORFF: Alan, you want to add

16 anything?

17   ALAN BLAMEY: Sure, and once the region receives the targeted

18 ITAAC listing, then we start the preparation for the inspection. We do that by

19 getting the technical experts together and we review, for example -- if you look at

20 the matrix in row one and row two, that's really activities that are focused very

21 heavily in the civil area. So, we pull the experts together, and we go through and

22 we develop plans based on the targeted ITAAC, and once again, we take a look

23 at -- and this is spelled out as well in manual chapter 2503, we'll go through and

24 we'll take a look at the ITAAC, the SSC's structure systems and components,

25 that are in that ITAAC, and then we take a look at the inspection procedures, and

1 we view that taking a look at what inspections do we want to do, when do we

2 want to do the inspections. With biasing our inspections early in the process,

3 and if, for example, we look at it early and we find out that the licensee is doing

4 an adequate job, it's a simple task, and they'll continue, we have confidence that

5 they'll continue to do that correctly, then we will spread the inspections out if it's

6 going to occur over a two year period, we're probably back off, for example, for

7 doing quarterly inspections, we may back off to once every six months to ensure

8 that the licensee continues to perform that activity correctly.

9   Converse to that, if we look at the process, it's a complex process,

10 and it's the first time it's being done, and we noted that the licensee has some

11 challenges in that area, we'll go through and we'll probably have more frequent

12 inspections, and that's typically, at this point in time, controlled by the region, and

13 we do the periodic assessments to look at the licensee performance, so we'll

14 actually increase or decrease the inspection activities based on the licensee

15 performance, but we will do a sample of all targeted ITAAC and we'll also ensure

16 that by the time we're finished, the inspection procedures are laid out by row and

17 column, and we'll also make sure that by the time we're finished with the

18 inspection activities that we will have also inspected all the high-level steps in the

19 inspection procedures to make sure that we don't focus in any one area, but the

20 licensee receives a broad based inspection based on the inspection procedure.

21   COMMISSIONER OSTENDORFF: Okay, and one -- that's very

22 helpful, and I appreciate that explanation, and maybe -- let's just assume for the

23 sake of this question that we have -- end up having the COL's issued for both

24 Vogtle and Summer – so you have four AP-1000 design cert based plants, am I

25 hearing that there's some dynamic nature that, let's say, for the first unit at

1   Vogtle, that you learn lessons X through Z here on certain targeted inspections

2   and you'd have the flexibility to adjust or make a course correction for the second

3   unit of Vogtle, is that --

4   ALAN BLAMEY: Yes.

5   COMMISSIONER OSTENDORFF: -- the case. Thank you.

6   MARK KOWAL: Can I just add too -- and this was mentioned in the

7   industry panel this morning -- you know, we -- we're going to get ICNs for every

8   ITAAC, ITAAC Closure Notifications, for every ITAAC, even those that are non-

9   targeted, and we don't intend to necessarily publish those non-targeted ITAACs

10   in the Federal Register Notice until a percentage of the targeted ITAAC are

11   completed and inspected and completed as well, and that also uses confidence

12   that, you know, that -- the ITAAC, and within that family, are being done correctly.

13   COMMISSIONER OSTENDORFF: Okay. Jim, I want to ask you a

14   question, with respect of the headquarters operations, and then, maybe, Laura,

15   you may want to add to this, as you desire. I assume you're going to have some

16   kind of a rotation, some of your headquarters staff, or some visiting, out in the

17   field visits to see how these inspections are going to give the headquarters nexus

18   a complete understanding of the onsite resident inspector, regional inspector

19   program activities?

20   JAMES BEARDSLEY: We do. One of the things that we have

21   been working very closely with the CCI on is developing an ITAAC strategy for

22   each ITAAC family. And as part of that strategy, we work with the technical staff

23   here at headquarters to identify those inspection areas where a generalist

24   inspector, or even a specific inspector, may not have the expertise. We would

25   then draw on the technical reviewer staff here at headquarters to draw out -- and

1   report ITAAC are a great example. I mean, some of those are very complex.

2   And we would then schedule inspection activity either in the field or back here at

3   headquarters, drawing on those resources as necessary.

4   We're also -- we have an effort in place right now to try and

5   document Lessons Learned from the licensing process, so the technical

6   reviewers are putting their Lessons Learned down in writing, and then we're

7   going to use that to inform the inspectors and improve our inspection procedures

8   as we go, to try and get as much of that information in the field.

9   But to specifically answer your question, we are working on getting

10 our headquarters staff -- getting their initial qualification as construction

11 inspectors. And so we will use that staff to augment the inspection staff in the

12 field, so that the headquarters staff not only has an understanding, can see how

13 the technical staff -- can see how the inspection procedures are working, and

14 then take that in to improve our processes and procedures, but also bring back

15 those Lessons Learned to headquarters and help educate the staff here. So

16 we're -- we have a good feel for what's going on in the field.

17   COMMISSIONER OSTENDORFF: Okay.

18 Thank you. Thank you, all. Thank you, Mr. Chairman.

19   CHAIRMAN JACZKO: Sure. The -- one of the issues that the ARS

20 had raised with regard to DAC, and Commissioner Magwood touched on this

21 earlier, was where we would put in guidance, how we'll close DAC. Has the staff

22 resolved that issue?

23   LAURA DUDES: We continue to work with the ACRS. We've

24 provided our inspection procedures in terms of how we approach that, and we

25 will be meeting with them in November. One challenge that we had was we were

1   planning on conducting a DAC inspection pilot program this spring, in association

2   with another vendor who's no longer necessarily able to complete that.

3   CHAIRMAN JACZKO: Right.

4   LAURA DUDES: And that's --

5   CHAIRMAN JACZKO: South Texas.

6   LAURA DUDES: We do have some -- we're continuing to work on

7   the DAC inspection procedures. We will interact with ACRS. But that was the

8   vendor who had the majority of DACs, so it was going to be a good testing of

9   that. Right now, we only have a few DAC that we think we will be inspecting over

10   the next couple of years, which is why I think the industry panel said, I think,

11   we've got sufficient information on that as we move forward, for implementing

12   what's before us today.

13   MICHAEL JOHNSON: I do think the ACRS was dependent on our

14   interaction in addition to seeing our procedures, and we haven't forgotten that

15   commitment. We continue to talk -- we'll continue to talk with them.

16   CHAIRMAN JACZKO: Well, I mean, and specifically, I think they

17   talked about including something in Reg Guide 1.215. That DAC closure would

18   be described there, is that --

19   MARK KOWAL: Currently, NEI-08-01 includes the options for

20   closing DAC.

21   CHAIRMAN JACZKO: Yeah.

22   MARK KOWAL: That's about all it says, just design, during the

23   design phase, during COL or after COL issuance. But I think that when we

24   replied to the ACRS a couple years ago, we did say, "We are considering where

25   to put -- best put that guidance, once it's developed." And I think we said, NEI-

1   08-01, which would be endorsed by the Reg Guide 1.215, there's one option I

2   think we're also considering Standard Review Plan, as another, and --

3   CHAIRMAN JACZKO: Okay. So --

4   MARK KOWAL: -- a section of the Manual Chapter --

5   CHAIRMAN JACZKO: -- that decision has not been made

6   MARK KOWAL: It hasn't been made because of -- we're not yet

7   finished with the pilot, and that.

8   MICHAEL JOHNSON: And we'll verify completion of that

9   commitment.

10   CHAIRMAN JACZKO: Yeah, okay. Back to the earlier discussion

11   of the ITAAC. So, you know, as I look at these ITAAC, and as I read the Lessons

12   Learned, I mean, clearly there were examples in there of ITAAC that were not

13   really sufficient. So what happened -- I mean, there are examples in there; were

14   the examples in there actual ITAAC, or were they made up? I mean, were they

15   scenarios the staff developed to give examples of what not to do, or were they

16   actually pulled from actual ITAAC --

17   MARK KOWAL: The training -- are you referring to the training

18   manual that was --

19   CHAIRMAN JACZKO: No, the Lessons Learned.

20   MARK KOWAL: Oh, the Lessons Learned, those were the actual

21   ITAAC that were used in the demonstration project. They're real ITAAC.

22   CHAIRMAN JACZKO: So the ones that, you know, were -- maybe

23   it's the training manual that I'm thinking of, then.

24   MARK KOWAL: Yeah, your comment earlier -- the "and/or"

25   comment --

1   CHAIRMAN JACZKO: Yeah.

2   MARK KOWAL: That comes out of the RIS. That was --

3   CHAIRMAN JACZKO: Oh, it was a RIS, okay.

4   MARK KOWAL: It was in the RIS.

5   CHAIRMAN JACZKO: Yeah.

6   MARK KOWAL: And, because it introduces -- we wanted to be as

7   objective and clear as possible.

8   CHAIRMAN JACZKO: Right.

9   MARK KOWAL: The training manual is mostly real ITAAC as well.

10   You know, we --

11   CHAIRMAN JACZKO: So what happened to those?   Did they get

12   fixed? I guess that it was in the RIS, so there -- here's an example of one, says

13   this is -- applicant should ensure that the ITA matches the acceptance criteria.

14   So, you know, here the -- it says example one. This one, I'm assuming, is not an

15   actual -- because it says --

16   MARK KOWAL: Right.

17   CHAIRMAN JACZKO: -- the X-Y-Z systems --

18   MARK KOWAL: Yeah.

19   CHAIRMAN JACZKO: -- it's not a real one. But if you encounter

20   these -- did the staff, I mean, did the staff --

21   MARK KOWAL: No, we encountered those, and that -- it was

22   probably, X-Y-Z was put in there so that we didn't single out a --

23   CHAIRMAN JACZKO: Okay.

24   MARK KOWAL: -- particular design or something. But --

25   CHAIRMAN JACZKO: Because, I mean, the inspection in that

1 case says, the ITA piece says, inspections of the as built system will be

2 conducted -- I mean, yeah, and it's one of these kind of meaningless statements.

3 So did those get corrected --

4   MARK KOWAL: Well --

5   CHAIRMAN JACZKO: -- in the COL, or how was that addressed,

6 then?

7   MARK KOWAL: Those -- I'm not sure that those specific ones have

8 been corrected. We have throughout the review process, we've asked RAIs in

9 this area. You know, historically, I think the ITAAC have been -- haven't been

10 reviewed for inspectability and, you know, clarity as -- you know, the original AP-

11 1000 ITAAC, and as we've learned and progressed, we've recognized this, that's

12 what we're trying to do is educate everyone. We're taking these lessons, we're

13 incorporating them into the EPR, the APWR designs, and the COLs.

14   CHAIRMAN JACZKO: If we look at the AP-1000, which is the most

15 relevant one right now, I mean, are there ITAAC like this in the AP-1000?

16   MARK KOWAL: Yeah, I believe there are. I'd have to confirm that.

17   CHAIRMAN JACZKO: So when, I mean, how -- when do we

18 change them? I mean, when do they get fixed? I mean, don't they have to be

19 fixed before COL issuance?

20   MICHAEL JOHNSON: It is true, Chairman, that, as we have -- as

21 we've done these exercises like the training, for example --

22   CHAIRMAN JACZKO: Oh, good.

23   MICHAEL JOHNSON: As we've done these exercises --

24   MALE SPEAKER: Nobody knows what they're talking about.

25   [laughter]

1   MARK KOWAL: These training exercises, for example, we have

2   learned that -- and then been able to improve our ability to create ITAAC. That's

3   one of the values of this exercise. Of course, there are certified designs that

4   have ITAAC that have already been approved. We're sort of form fitting lessons.

5   We've improved -- made improvements in the AP-1000 ITAAC, based on this

6   training. We've made improvements in the other ITAAC going forward, APWR,

7   EPR, as we talked.

8   CHAIRMAN JACZKO: So, again, and I appreciate that, and I keep

9   forgetting, I mean, some of these are incorporated in the design cert. So can you

10   give -- can you just give us all the ITAAC, the ITAAC -- I mean, I'd be curious as

11   to how many have ITA pieces that say something along the lines of, "We will do

12   inspections and know more." I mean, I'd be very interested in that, because I'm

13   not sure that that's really what the ITAAC are intended to do.

14   RICH LAURA: Chairman, Rich Laura, and I work on the ITAAC

15   team for Mark Kowal, and just to add a little more background on that training,

16   that occurred over several years, and Mark gave a high level discussion on it.

17   And essentially, yes, all those problems more or less got addressed.

18   CHAIRMAN JACZKO: Okay, okay.

19   RICH LAURA: A lot of them were through RAIs --

20   CHAIRMAN JACZKO: Okay.

21   RICH LAURA: And specifically, we're doing reviews on the SRP

22   14.3.

23   CHAIRMAN JACZKO: Yes.

24   RICH LAURA: We used hundreds of hours of inspection or

25   auditing, we used contractors, we worked very closely with our licensing staff.

1   Now, as far as --

2   CHAIRMAN JACZKO: So you don't think -- you don't think that

3   there's anymore ITAAC like this that are still there? They all got addressed?

4   RICH LAURA: For ITAAC that are certified already, you know, we

5   have to use judgment of which ones are significant that are broken, totally

6   broken, and they would not work as written. And in those cases, I think we've

7   only found one or two, we work closely with the vendor and the workshops, and

8   those got either added or corrected.

9   CHAIRMAN JACZKO: Okay. So that it doesn't -- so your view is,

10   there aren't any more problematic ones?

11   RICH LAURA: No significant ones. Now, you know, when you look

12   at ITAAC that were developed, I don't know, 10 years ago, and you look at where

13   we are today, where we're much -- we know better what we're looking for, you

14   know, they might be worded a little better today. So that --

15   CHAIRMAN JACZKO: I don't mean to be overly critical here, but I

16   read this in five minutes and realized --

17   RICH LAURA: Right.

18   CHAIRMAN JACZKO: -- this wasn't acceptable.

19   RICH LAURA: Right.

20   CHAIRMAN JACZKO: I find it very hard to see that, with all the

21   reviews that we did, that it took RAIs and it took a difficult path to determine that

22   that was not an acceptable ITAAC. I mean, that's what I'm a little bit frustrated

23   here by. This is not rocket science we're talking about. It says nothing. It says,

24   "Inspections of the as-built system will be conducted." That doesn't tell me a

25   single thing, so I appreciate what you're saying and I don't mean to be very

1 critical, but -- and it's -- you know, and I've approved these design certifications. I

2 mean, in theory I've signed off on these things, but if this stuff is in there, you

3 know, and if this is limited work authorization that's been approved. It says testing

4 will be performed to confirm -- I mean, that doesn't tell me anything.

5   RICHARD LAURA: Well, if you look at little higher level, those are

6 probably all the specific issues we found over several years of looking at maybe

7 4,000 or 5,000 ITAAC. So you know, what we found is yeah, there were some

8 problems. We got that word out through the RIS. We trained our own staff

9 better, and we had a number of interactions and we continue focusing, but we've

10 only found really one or two that were highly significant that were broken.

11   CHAIRMAN JACZKO: Okay.

12   RICHARD LAURA: Now the one --

13   CHAIRMAN JACZKO: Would you want to -- let me ask you this

14 question. Would you consider this one to be highly significant and/or broken? I

15 shouldn't say --

16   RICHARD LAURA: Which one is that?

17   CHAIRMAN JACZKO: This is the mud mat for -- this is in the LWA,

18 I think, right?

19   LAURA DUDES: Yes, correct.

20   CHAIRMAN JACZKO: That testing will be performed to confirm

21 that the mud mat, waterproof mud mat interface beneath the nuclear island base

22 mat has a minimum coefficient of friction to resist sliding of 0.7. Do you think --

23 does that ITAAC meet the quality standards and expectations that you have?

24   MARK KOWAL: I would say it probably could have been a little

25 cleaner, and --

1   CHAIRMAN JACZKO: All right, so this one got through, okay.

2   LAURA DUDES: Yeah, I think the case with that, and the reason

3 that that was raised in the panel -- it's not necessarily going back to the quality of

4 that ITAAC, and I need to continue to remind people as we go through this that

5 the ITAAC tables that are pulled out are really a shortened version of a

6 systematic, significant review. There's an enormous amount of licensing basis in

7 Tier 2 information --

8   CHAIRMAN JACZKO: Okay, that would support that.

9   LAURA DUDES: For which we would always expect, today with

10 the operating reactors --

11   CHAIRMAN JACZKO: This is from an LWA, which is there --

12   LAURA DUDES: Yes.

13   CHAIRMAN JACZKO: And that doesn't have the Tier 2.

14   LAURA DUDES: Well, there is a document that supports -- there is

15 a safety evaluation and a submittal that is on the docket that supports the

16 technical basis under the limited work authorization.

17   CHAIRMAN JACZKO: So this isn't itself the ITAAC, then. There is

18 something else which is actually the ITAAC.

19   LAURA DUDES: Well, you have an ITAAC but you also have to

20 inspect against the licensing basis, so I mean, we would literally be cutting and

21 pasting a large amount of information from Tier 2, which is the engineering

22 behind these nuclear power plants, into these ITAAC tables. So the ITAAC are

23 the Inspections, Tests, Analyses, Acceptance Criteria, but as we expect our

24 inspectors today of the operating reactors, when they're inspecting compliance,

25 to be aware of what the existing licensing basis is and do their inspection against

1   that and the regulations, it's very similar that the ITAAC will point you back to the

2   design basis and licensing basis. So there's more information than what is

3   actually contained in there, and we would expect that because an as-built

4   verification, I think someone said there's numerous ITAAC that are very clear,

5   which says a grip around the fuel pool bridge will open and close. Very clear.

6   But as Rolf had indicated earlier, there is some engineering that is going to be

7   associated with this, so we do inspect that.

8   CHAIRMAN JACZKO: Well no, and that's fine. I mean, I would just

9   take Mark at his word that he didn't -- this is probably not one that he thinks

10   would have gotten -- I mean, this doesn't really meet what we wanted it to do, so

11   again, maybe I don't honestly know whether this is a particularly significant

12   ITAAC from a structural safety perspective from the -- nor do I know whether this

13   is a difficult thing to meet or whether this is kind of no-brainer stuff in terms of the

14   structural integrity of the container. But as I said, I just -- you know, obviously

15   you've worked hard on this and you've tried to capture these things. We have a

16   COL issuance or decisions about COLs coming up. I just want to make sure we

17   don't miss an opportunity to fix something if we can fix it, because five years

18   down the road it will be too late. And it is a very different mindset, because we

19   have to get things right. Now obviously we missed it at the design cert in some

20   cases. We let ITAAC go through that were less than ideal, so let's not miss it

21   again at the COL, and if there are things we need to fix, we have time to do it.

22   Let's do it and get it right. So Bill, you want to say something?

23   BILL BORCHARDT: I think just listening to the discussion, there's

24   an operating reactor parallel situation which I think of as tech specs.

25   CHAIRMAN JACZKO: Yes.

1   BILL BORCHARDT: Tech specs might say you have to do a

2   functional test, that's all it says. So how do you figure out what a functional test

3   is? Well, you go to the licensing basis, you go to the industry codes and

4   standards, and they develop a test protocol and a procedure which we would

5   review. And I think ITAAC discussion is similar. You do a certain test in the

6   licensing basis, and all the things we reviewed -- there's the details. To have an

7   ITAAC that included all of those would one, be very voluminous; number two,

8   would lock you into an old technology, right? An old methodology. Maybe

9   there's a more enhanced methodology that the licensing basis got updated to, so

10   I think we were trying not to make it too burdensome and duplicative.

11   CHAIRMAN JACZKO: No, I appreciate that, and that's maybe

12   where there's a disconnect -- because I have a very different view of ITAAC,

13   which is that the ITAAC is supposed to be -- it's supposed to avoid problems.

14   And to do that, it has to be specific. In my mind, that was the intent of the

15   program all along was to avoid subjectivity and to avoid the process whereby we

16   have a discussion about what it really means. Did you meet the criteria or not?

17   If what we were really just interested in was the criteria, then these kinds of

18   things would be accepted, and that's just my view and I think that's maybe where

19   we're having a disconnect, because I think it's as you said -- that's where I think I

20   disagree with that, is that it wasn't intended to be flexible. Because with flexibility

21   comes the opportunity for uncertainty, and so anyway, as I said, I've approved

22   many of these things in design certifications, and like I said, it's the first time I've

23   ever looked at one, but --

24   MICHAEL JOHNSON: Chairman, can I just say, we -- I understand

25   the question and I think you're right on with respect to how important it is that

1 there's clarity in the meaning, that in fact when we get through and reach a

2 decision regarding the fact that the ITAAC has been closed, that that can

3 withstand scrutiny.

4   CHAIRMAN JACZKO: Yeah.

5   MICHAEL JOHNSON: I think we have a great opportunity in terms

6 of this LWA ITAAC that we're actually finishing up on. We'll take a look at that

7 actually from the perspective of the question that you've asked to make sure that

8 we understand with OGC on where we are and where we need to be with respect

9 to ITAAC, so we'll take that.

10   CHAIRMAN JACZKO: Great, thank you. Any other comments or

11 questions? Okay, thanks everybody. Good meeting.

12   [Whereupon, the proceedings were concluded]