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UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

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MEETING BETWEEN THE U.S. NUCLEAR REGULATORY COMMISSION (NRC) AND FLORIDA POWER & LIGHT COMPANY (FPL) TO DISCUSS ACCEPTANCE REVIEW OF THE TURKEY POINT DIGITAL INSTRUMENTATION AND CONTROLS LICENSE AMENDMENT REQUEST

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TUESDAY,

SEPTEMBER 13, 2022

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The Meeting convened via Videoconference, at 2:00 p.m. EDT, Bhagwat P. Jain, NRR/DEX/ESEB, presiding.

PRESENT:

BHAGWAT P. JAIN, NRR/DEX/ESEB

ROSSNYEV D. ALVARADO, NRR/DEX/EICB

ERIC J. BENNER, NRR/DEX

MICHAEL R. BREACH, NRR/DEX/EMIB

WARREN BUSCH, FPL

STEVE CATRON, FPL

CLAYTON CROUCH, Dominion Energy

GREG S. GALLETTI, NRR/DRO/IQVB

BRIAN HAYNES, Framatome

JOHN HEFLER, Framatome

MICHAEL HOWARD, Zachry Nuclear

KENNETH MACK, FPL

MICHAEL L. MARSHALL, JR., NRR/DORL/LPL1

SEAN C. MEIGHAN, NRR/DRA/ARCB

RICHARD J. STATTEL, NRR/DEX

JUSTIN A. VAZQUEZ, NRR/DRO/IOLB/HFT

MICHAEL D. WATERS, NRR/DEX/EICB

JACK Y. ZHAO, NRR/DEX/EICB

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P R O C E E D I N G S

2:00 p.m.

MR. JAIN: It's 2:00. Hello. Good afternoon, everyone. My name is B.P. Jain, and I'm a Senior Project Manager in the NRR's Division of Operating Reactor Licensing. Along with Michael Marshall, we perform the project management function for all things digital.

Today's meeting is between the U.S. NRC and the Florida Power & Light Company. On July 30th, the FPL had a digital LAR, or license amendment request, for Turkey Point Units 3 and 4 to replace three systems with digital systems. In this meeting, the staff will discuss with FPL the status of the staff's ongoing acceptance review of the Turkey Point digital LAR.

Be mindful this is an observation meeting, meaning the attendees will have an opportunity to observe the NRC performing its regulatory function or discussing regulatory issues. And also, following the business portion of the meeting, attendees will have an opportunity to ask questions of the NRC staff or make comments about the issues discussed. At this meeting, the NRC is not

soliciting any comments towards regulatory decisions.

Today's meeting is scheduled for two and a half hours and will include staff's presentation. We will display the presentation, and a link is provided in the chat. Those of you who don't have access to Teams video portion, you can download the presentation using ADAMS' ML number for the presentation. The ML number for the staff presentation is ML22251A173. I will repeat, ML22251A173. The information is also provided in the public meeting notice posted on the NRC public website, which you can access.

The NRC welcomes feedback. If you have any comments on any aspect of the meeting, please contact me or Michael Marshall and we will provide the necessary forms for the feedback.

A couple of points of etiquette. If you're not speaking, please keep your cell phone and video on mute. If you're speaking, please identify yourself.

Now, with that, I will ask Eric, our Director of Division of Engineering and External Hazards, to make opening remarks. Eric.

MR. BENNER: Thank you, B.P. and all. So

this was a monumental point for the NRC of receiving this application. I'm going to get a little ahead of the presentation, but I'm going to take that liberty. We found that the application was of very high quality for the information that was in there, so that's good.

The items that we're going to discuss today were all identified by the applicant as missing information, so that's also good. And this is where maybe we could have done a better job in pre-application. We thought it was kind of a given that for that missing information, because we acknowledged that there would be some missing information, that the application would be clear on, you know, pretty well describing what that information would be and when it would be provided. So that's really the gist of the meeting today is to convey those areas where we want the applicant to better describe what it is that will be provided and commit to a time frame by which that information will be provided.

So with that, we expect that it would be a fairly simple action to provide the supplemental information because we're not saying we need the substantive information. We need a description of

it, and we need when it's going to be provided. The description of it is so we can be clear that, okay, we're going to get what we need. The schedule is going to be mainly so we can line that up with our review process to ensure that we can conduct this review in a manner that meets the applicant's requested date.

So, you know, we put a lot of information on the slide, so it's very transparent, the specifics of what we're looking for. We're going to have a good dialogue. I actually have to peel off for another meeting for a little while, but I'll be back at the end, and I've told my staff that if they need me to come back, just reach out to me and I'll come back.

So I think, you know, given the dialogue we've had so far, I fully expect that the dialogue today will be very successful, and we'll quickly get to a point where we'll have accepted the application and have started the detailed technical review.

So I'll stay on for any opening remarks that FP&L wishes to make, but then, like I said, I'm going to go to another meeting but can be brought back, if needed.

MR. JAIN: Thank you, Eric. Jarrett, would FPL like to make opening remarks?

MR. MACK: Yes, B.P. This is Ken Mack, the Nuclear Fleet Licensing Manager. So I'll just say thank you to Eric and B.P. and the NRC in general for the opportunity to hold this public meeting, and we look forward to the discussion and any questions. Thank you.

MR. JAIN: Thank you, Mack. Well, now let's move on with the presentation.

All right. So the purpose of this meeting, as we said before, the purpose is to meet with Florida Power & Light and talk about and discuss the status of staff's acceptance review of the amendment request application. I also will include some acceptance review issues in here, and we'll also discuss technical areas which could pose a review challenge because we may not necessarily have a basis to make a regulatory finding at this point.

The issues we will discuss, the acceptance issues, we will describe what's missing. And then there are areas we would like to discuss to gain a better understanding of the application.

The purpose of this whole exercise here

is to communicate to Florida Power & Light that there's an opportunity to supplement the amendment request and also will allow applicant a path forward.

Now, first I will provide an introductory and overview the acceptance review, and then the technical staff will provide a detailed presentation.

So as Eric said, FPL submitted a license amendment request on July 31st, and this is available, the public versions, in ADAMS Number 22213A015. Now, the proposed amendment would allow the use of digital I&C for the reactor protection system, engineered safety features actuation system, and nuclear instrumentation system, along with other changes.

Now, the Turkey Point amendment request for the complex digital upgrade is quite detailed and is about 1700 pages long. So the acceptance review team is made up of the staff from six NRR divisions and ten technical branches. The acronyms you see on these slides, they're explained on the last slide, slide number 25, so you don't have to scratch to know.

Now, Richard Stattel, our Electrical and I&C Branch in NRR, is the team lead for this Turkey Point LAR review, among other staff. Other staff is

also on the line, and, as they contribute to the meeting, they will introduce themselves.

And this and the next slide, I will provide a high-level overview of our acceptance review process and the acceptance status of the LAR. For a request for licensing action, the staff performs an acceptance review to determine whether the application contains sufficient information both in scope and depth. That will allow the staff to complete a detailed technical review and make accepted findings.

The high-level acceptance status, as of to date, is staff recognized that FPL has provided significant information in many, many technical areas to support the digital mod. But we have identified some acceptance issues which are sufficient. Basically, they're called sufficient items. That is missing information that staff needs to make its reasonable assurance findings.

They also identified potential technical challenges in other areas and because we do not currently have those bases to make regulatory findings. The staff needs supplemental information to accept the application for review. The staff will

provide FPL an opportunity to supplement the LAR.

Now, based on the information FPL had provided in pre-submittal meeting, the staff had expected that FPL will provide supplement for equipment qualifications and the control room mods regarding HFE during the LAR review. But in addition to that, staff also noted some unexpected missing items in the LAR, such as the schedule of six implementation items, they're called promised information, is not provided; their system failure modes and a fact analysis is also not included in the LAR; EQ test summary reports for revised strike on equipment is not provided. This is equipment, you know, that was not reviewed as part of the approved topical report. The staff will discuss the details of the missing items in the presentation.

In addition, the staff noted that many of the missing items are self identified by FPL and expected to be available later as part of the FPL development process.

Here's the path forward for the acceptance of the LAR application. FPL is provided with an opportunity to supplement the application. What FPL needs to do is to describe the supplemental

information that they will provide and also provide a specific schedule when that information will be made available for staff's review and when it will be docketed. Staff will consider these specific descriptions and schedules for supplemental information in deciding whether FPL's requested completion date can be supported.

So staff's technical presentation is grouped broadly in three categories. The technical staff will cover each one in detail in the following presentation. One, there are sufficiency items, as we talked before, like missing information that staff needs for its reasonable assurance findings. Then there are three potential review challenge areas. These are the areas where we may not have a basis to make reasonable assurance findings yet. And, lastly, we have identified four discussion topics to provide the staff a better understanding of the LAR.

The technical staff will discuss in detail issues under each of the three categories which I identified in the previous slide. Richard Stattel will discuss I&C and EQ-related issue. Justin Vazquez will discuss HFE-related issues. Sean Meighan will discuss accident dose consequence

analysis. Greg Galletti will discuss VOP issues.

With that, I will ask Richard Stattel to lead the acceptance issue presentation. Richard.

MR. STATTEL: Hello, everyone. I am Richard Stattel. I'm the lead reviewer on this particular project. And first of all, I'd like to thank the applicant for such a thorough application because there's a lot of information in here that we've been poring over. I truly appreciate the ISG-06 mapping that was included in the application. I had actually created my own map before I even realized that was there, and I kind of was able to compare them. So I was able to find information for all of the areas that are called for in ISG-06 alternative review process. Right up-front, I'll just mention that. So that was very helpful in conducting our acceptance review.

Do you have the presentation up there? Oh, okay, okay.

All right. So the first issue I'd like to talk about is the EQ. So for EQ, we knew in advance because we had discussed the supplement that would be provided later on for certain items where the testing was not complete or, for some reason, the

test results were not available at the time of submittal. So we knew that was going to happen, so there was no real surprise there.

What we observed, though, is that we saw that as an implementation item in the up-front letter there, but we observed that there's really not a lot of specifics on exactly what EQ summary reports or what specific equipment would be included in that supplement down the road here. So my main goal here is I know I'm going to get that information and we're going to be able to evaluate that, but I want to avoid a misunderstanding up-front here where we're expecting information on certain equipment and then we don't get it and then, you know, we end up in this tail-end discussion of requests for information and whatnot. So my main goal in this item, in this particular acceptance item, is to have you provide a better description of what's in the EQ plan, which we don't have access to right now, and what specific equipment would be included in those summary reports that would be provided.

Now, I mentioned Tricon platform components in this slide here because this is another thing that we're a little bit uncertain about. We

see that, in the application, that there are several Tricon platform components that have been revised, improved, upgraded since the NRC evaluated the platform in 2012. And that's understandable. This is normal. We see this for just about every application we get in these areas. However, the LAR refers to testing that was performed prior to that 2012 evaluation. So when I look at the LAR discussion of EQ for the platform, it's referring back to those old tests and the question comes up, well, does that test, do those test results still, are they still applicable for the revised component. And we understand that, oftentimes, the revisions are minor and they wouldn't affect the environmental qualifications of that equipment, and that's fine. But what we're looking for is kind of an evaluation or an analysis that makes that conclusion. So we just want to make sure that that's not missed.

We also saw in the license amendment request there was a statement, at least one statement, where subsequent testing was done on Tricon components after the 2012 approval, and we want to make sure that there's an understanding that the summary of those test results would be included

in the supplement or that we would expect to see those results.

In addition, we see that the LAR refers to the revised version of the topical report, and it points to that for evidence of that revised equipment being qualified. However, we see that that's an attachment, right, which actually that's very helpful for us, too, because that kind of helps us understand what evolution the platform has gone through since 2012. But it doesn't seem to include the environmental qualification summary information that I would expect to see, okay? And the bottom paragraph here is really just a quote from the ISG-06, so what we expect to see for the summary reports is the results of the qualification testing, right, just a summary, and compare the standard test limits to which the equipment has been qualified and should compare the equipment qualification test limits to the licensee established plant environmental conditions.

Now, I did see in the system requirement specification where there's requirements that have been established for the environment into which the system will be installed, for the most part. I don't

think the seismic environment was really defined in that particular document. But the important thing to note here is the generic topical report, even as it is updated, it does not say anything about Turkey Point, so it doesn't compare -- so it, basically, establishes the environmental conditions in the envelope to which the system is qualified, but it doesn't make any type of assessment of whether that qualification makes the system compatible with the environment into which it's going to be installed at the plant because it's not plant specific, right. So we see some areas in the topical report where that aspect of it is missing.

So I wanted to quote this back to you. This is from the ISG. And that's really what we're going to be looking for, and we've identified a couple of shortcomings there.

So with that in mind, what we've done is, and this applies to all of these acceptance issues, we have created new open items. And once we start having meetings, we'll start having discussions about whether RAIs are required. This one I would say no because we already have, we would have already had a plan supplement in the pipeline. And what exactly,

you know, we can have some dialogue and discuss what exactly would be the content of that supplement so we don't have any surprises and we don't have any late-stage RAIs that we could avoid at this time.

So if there's any questions on this particular one, I'm willing to address those.

MR. BUSCH: Yes, this is Warren Busch. I'm the staff engineer for FPL and the project engineer for this modification in this licensing activity. We understand the issue. We don't have any difficulty in providing you a better description of the equipment that's going to be qualified and when that's going to occur. We also plan on giving you access to the EQ plan through the electronic portal that we've set up.

MR. STATTEL: Okay.

MR. BUSCH: That document hasn't been posted yet, but it will be in the near future. So that should be available to you before you have to complete the acceptance review.

MR. STATTEL: Okay. Yes, that would be very helpful. And, of course, you know, once we start having our regular meetings to discuss the open items, we can kind of flesh this out exactly, and you

can determine the content, the specific content of that supplement as we go on.

MR. BUSCH: Okay. And then I'm going to defer the questions about the topical report. The NRC had reviewed Version 4, and the topical report that was attached to the LAR was 4.3. And you brought up the testing that was done before Revision 4 was reviewed by the NRC.

MR. STATTEL: Correct.

MR. BUSCH: And then the changes that have occurred between 4 and 4.3 lack the qualification summary information you were looking for. And I'd like to defer this to Brian Haynes who is the Framatome licensing manager for this project to see if he has any comments on that.

MR. HAYNES: Thank you, Warren. No, Rich, I think I understand what you've got. In 4.3, there is information that's available with regards to supporting the summary level of some of the additional EMC and post a previous SER review that's been done, and all of those reports are readily available, so we'll be making those available to staff to support that.

I also, I know that we'll be looking at

any of the platform upgrades and traceability that's occurred since the previous revision, so we'll have all of that documentation available for review, too.

MR. STATTEL: Brian, just a quick question. So I kind of made an assumption that a lot of these revised modules, Tricon modules, that they didn't really need to be retested because the revisions didn't affect their qualification level. Is that a true statement in this --

MR. BUSCH: That is. That is true.

MR. STATTEL: Yes. I thought so, yes.

MR. BUSCH: Yes. Most of these, there was a supplemental testing that was done, Rich, that was reflected in 4.3 that did some post SER testing to address some of the qualification levels, so that report is available and we'll provide it. Most of the maintenance activities that were performed to the platform itself were, you know, very insignificant at the hardware level, so we'll be able to address that with you, but no real impact to the previous revision.

MR. STATTEL: Okay. Yes, I suspected as much, and I was kind of scouring the 3.7 section, the EQ section, trying to find that discussion, and I wasn't able to locate that. So, yes, once we open,

start discussing our open item discussions, I think you can point us to the right places and we can kind of piece that together.

MR. BUSCH: Right, yes.

MR. STATTEL: Okay, all right. Thank you.

MR. BUSCH: Okay. Thank you. Yes.

MR. ZHAO: This is Jack Zhao, the I&C technical reviewer at NRC. I just want to mention that we find that there is an EQ summary report for the SVDU. I think we'll find these acceptable, okay. For all the future testing for some of the unqualified components, you know, if it does include similar information in your supplemental summary report, that should be, you know, similar to the EQ report for the SVDU, you know.

MR. HAYNES: Yes. And, Jack, you're exactly correct. When we talked about the supplemental reports that would come in for the following equipment that still requires qualification testing, those qualification summary reports are going to be of the same nature as what we're looking at for platform and SVDU.

MR. ZHAO: Okay. That's good. Okay.

Thanks.

MR. JAIN: Are there any other questions or comments on issue number one?

MR. BUSCH: I have one more comment. It's kind of generic, but we might as well discuss it in the context of this issue, and that is the information that would be docketed and the information that would be available, it's our bias, I'll say, to make the information available and then docket either the documents that are required or the pages out of the documents that are required to support the safety evaluation. Some of the references in the presentation to the Tier 3 kind of may indicate a regulatory process bias to docket more information than we have planned.

MR. STATTEL: So this is Rich Stattel. So I'd like to explain that bias, where that comes from. So when we're evaluating the system and, like, for instance, when we're determining regulatory compliance to specific criteria, when we make those safety conclusions, we have to base them on something. We have to have a basis for those conclusions, and the basis cannot be an audit report. It has to be, it has to be founded on something that

is docketed.

So if there are statements in the LAR submittals, you know, something in this document that can support my safety conclusions, I will use that; believe me. If I audit something and I only use that to confirm a conclusion but I'm not basing my conclusion on that audit, right, then that's okay, too. That information does not need to be docketed.

But what we see in several cases, there's just not the material, I'm not seeing the material in the LAR, and I'm going to point these out in several places through the presentation here. I'm not seeing the material in the LAR or the system requirement specification that I would need to provide a basis, and that's kind of a challenge for us because I can't write a safety conclusion and then base it on a claim of compliance, for example. So I would need something more than that. I would need to know how the requirement is being met, and some of those answers just aren't at the system requirements level. And we understand that, and we understand the design hasn't progressed to the lower levels yet. And we also recognize that the design will progress over the course of the next six months, so we know that a lot

of that information will become available.

But I will also point out, though, that ISG-06 does call for some documents. Like, one good example of this is the FMEA, the system-level FMEA. That's actually a very important one for us because there are two specific regulatory criteria that we really rely on a system of FMEA to determine compliance, and that is single failure criteria of IEEE 603 and the independence criteria both for communications, basically just independence criteria of IEEE 603.

Now, those are very important because the single failure criteria, it's really all about the effects of a single failure and what they are and what they aren't. So in order to know what the effects are, I really need to base that compliance determination on a failure modes and effects analysis at the system level. So that's one of the documents that we would absolutely need to be docketed because I know you had suggested that that would available for audit, but I wouldn't be able to use it as a basis if we allowed that.

MR. CATRON: Yes, Rich, this is Steve Catron. I think we understand that any of the

information relied upon by the staff to make that decision is required to be docketed. I think what Warren was offering is that our intent is to docket those documents that are clearly required by the guidance, and then we would make other information available for audit and, if necessary or if the staff determines that any of it is necessary, we are willing to docket that. But our going-in priority has been to make sure that we're docketing only those things which are clearly required, and then we would make other things available and, if necessary, we can provide others on the docket.

So we understand, and we just want to work with you to make sure that we're docketing the correct information.

MR. STATTEL: I agree. And it's a more complicated process than a lot of people realize, but that's absolutely the right way to approach this. Once these documents are available on the portal and we're able to review them, we would basically, if we identify information that we absolutely need for our safety conclusions, we would let you know that so you can either extract them, put them in an RAI response, or submit them in some other form. That's fine. We

can work with you on that.

MR. WATERS: Hey, this is Mike Waters, and I fully support what Rich said. I think I agree, too. One other thing is, beyond seeing it on the portal, is sometimes, for the open item process, the open item response will summarize something very well and that response can be translated into a submittal, which answers the question, as well.

MR. STATTEL: Yes. Now, in a later slide, I'm going to talk a little more about that particular issue.

MR. CATRON: Okay. Thank you.

MR. JAIN: So if you are done with issue number one, can we move on to second one? FPL, any more questions?

MR. BREACH: Yes. This is Michael Breach with Mechanical Engineering and Inservice Testing Branch. I see the seismic qualification, for instance, for the Tricon components. Am I to assume that the information provided is complete and specific to Turkey Point?

MR. HAYNES: So, yes, this is Brian Haynes with Framatome. So as Rich mentioned earlier, the information that we have, we have profiles and

requirements identified for the Turkey Point specific site, and that's going to be addressed in the detailed design. We also have, as part of the platform qualification that was submitted and also the qualification for the SVDU, those reports will be bounding and those will be shown to be applicable for the unit as we move forward.

MR. BREACH: Okay. And your seismic information in the LAR, you have, let's say, you have tested the equipment to a specific spectra, so will you have a site-specific spectra or you have a spectra included that's supposed to be generic and bound the Turkey Point spectra?

MR. HAYNES: At this point, we believe that the generic qualifications that we followed for both Tricon and also the SVDU, as will be other components, but, in particular, these two items that, when we qualified these, we used the EPRI guidance, and we believe that those are going to be bounding. But the specific analysis that will show that these are applicable to Turkey Point will be available to you during the detailed design, and the additional qualification items that are performed in support of the project will also show that they are bounding and

traceable for acceptance at Turkey Point.

MR. STATTEL: This is Rich. Let me jump in here. So for seismic in particular, there were certain aspects of that testing that did not meet the EPRI guidance, right. But we accepted that, so it, basically, is qualified up to a certain level. So we know what that level is because that we have reviewed that in the topical report.

The site-specific spectrum, it is discussed in the license amendment request, right, Section 3.7. But the actual spectrum are provided in the EQ qualification plan is what it says. And that plan is something that I think I heard earlier that was going to be made available for us to review that, so we will be able to see those site-specific spectrum.

So in this case, basically, we would overlay the site-specific spectrum with what we know the qualification levels are because we have those spectrum already. And as long as they're underneath that, that's what we would use for our safety conclusions. Does that make sense?

MR. HAYNES: Correct. And like we said, those curves and those profiles, Rich, you're exactly

correct, are in the EQ plans. Those will be made available. And, again, the existing qualifications are certainly bounding to the profiles at Turkey Point.

MR. STATTEL: Yes. So today I can't do that because I don't have access to the plan, but, once I get access to that plan, I will certainly overlay those. That should be pretty evident that it's bounding.

MR. JAIN: Can we move on to the next one?

MR. ZHAO: This is Jack Zhao. When can you make that plan, the EQ plan, available, you know, on the portal?

MR. HAYNES: So if I can speak on this, Warren, or you can or Jarrett can, but right now we have posted the elements and items that were required to support the D.3 review. As we move forward now and looking at acceptance, then we would start making those available because the plans are currently available. We just need to post them when the staff is ready.

MR. ZHAO: Okay.

MR. JAIN: Okay. With that, if there

are no more questions, Richard, let's move on to the next issue.

MR. STATTEL: Okay, very good. Okay. So in the license amendment request, you provided these figures in Chapter 2 there. And there are a number of new components that you have categorized them as not previously reviewed by the NRC.

Now, what I'll say here is, principally, the components, the system components that we're concerned about are the SVDU, the Framatome nuclear instrumentation signal conditioning components, and the peer-to-peer network components, right, which, in those figures, are identified as new scope, not previously reviewed.

Unlike the Tricon platform components which were previously evaluated, these components are not within the scope of the Tricon platform; and, therefore, we don't have anything safety evaluation to fall back on for those. And, therefore, it kind of, it kind of raises some red flags.

Now, the isolators and the other type of ancillary power supplies, those types of components, we understand that, you know, they would be Appendix B supplied components. However, it occurs to us that

some of those components in the SVDU, NIS, and peer-to-peer network components are digital. And so we want to have the opportunity to apply the digital review guidance that we have.

So that's kind of what this is about here. So for those portions of the systems, I kind of went back to ISG-06. And, again, I'm not, you know, Tier 3, I'm not calling your system a Tier 3 system or anything like that. We're not holding you to that. But I'm looking at the section, the D.9 section, and I'm kind of going through that section for requirements that would be needed for a Tier 3 system, and there are some components of that that it seems that are not present here that I would be looking for, and the next slide, I think, talks about what those specific components are for my evaluation.

Can you go to the next slide? Well, that's V&V. Okay. So I see what happened here. So I had another slide that I inserted in there, but it didn't make it into the presentation. So I'll just talk to it. That's fine. Yes, okay.

So it might be better for me to just share my screen.

MR. VAZQUEZ: Rich, I've got it ready

here if you want me to share my screen. I can pull it up for you.

MR. STATTEL: Okay, okay.

MR. VAZQUEZ: Okay. One second. It should be coming in just a moment. Rich, is this the one that you were speaking of?

MR. STATTEL: Yes, that's it.

MR. VAZQUEZ: Okay. Great.

MR. STATTEL: Okay. Right. So this is, I'm calling it Tier 3 information, but, basically, these are the components we have not seen before, and I went through the Tier 3 information from ISG-06, and this is the type of information.

Now, some of this you already have covered. So the application software planning and processes. The reason I included this one here, and D.4 provides a little bit more guidance on what the requirement, submittal requirements are for that. But the reason I included this is because these are digital components, and they're not, it doesn't appear to us that they would be covered under the Tricon development processes that we've reviewed.

So we're kind of wondering, well, what are the processes; and some of these components,

we're not sure about all of them, but some of these components appear to have application development properties. Now, the SPDS, you know, clearly, you're going to be developing an application-specific screens for the SPDS, so there's some development process that goes along with that. Now, if that's the same as the Tricon process, just let us know that and we can evaluate it that way. But we don't know right now.

The TXS portion when I look at the NIS, when I read the NIS signal processing, signal conditioning functions, they're pretty well described in the LAR, but it's also apparent that those are going to also require some application development activities to develop the logic, developing of the logic for the CPLDs that are used there, and we'd like to have a little bit better understanding of what that process is. Now, it could be part of the commercial grade dedication, and, again, we don't see those commercial grade dedication reports either, so we don't know what the critical characteristics are for that. But we want you to be aware right now we recognize these as being digital components that may or may not involve application development

activities, and we want to be aware and we want to evaluate what those activities are. So that's why that first bullet is there.

Any questions on that one? Okay.

Now, the next one is the response time confirmation report. Again, that's something that we would, you know, we've kind of evaluated the process that's used for response time on Tricon, on the Tricon itself. But it occurs to us that these components can impact the system response time; and, therefore, we want to have an understanding. We're expecting a description of how response time is factored in to the overall system response time.

And I also see that there's an implementation item, the fourth one, that talks about how the time response for the Tricon. But, again, Tricon, we've already reviewed, we understand how you calculate response time and then how you verify that during testing in the later phases. We don't know how that's done for these other components. That's why I included that.

The platform level FMEA. Again, we're just kind of looking for something similar to what we have seen for the Tricon. I'm not exactly sure how

detailed a report that would be for these components. You know, for some of them, it might be a very simple analysis. I'm not sure if they exist as something that you could provide or give us audit access to.

And then the next bullet is just really EQ. It's really just the EQ test. And I think that maybe that was intended to be part of this EQ supplement later on, but I wasn't quite sure of that, whether that was intended to be included there.

And then the commercial grade dedication reports, and I believe the implementation item one also covers that particular one.

So, again, not all of the information for Tier 3 application, I'm not asking for that, right. And I understand it. These are just components of your overall system, but they are not within the scope of the Tricon platform, and that's why we're asking this question. Okay.

MR. HAYNES: Okay. So, Rich, just a quick point of clarification. This is Brian Haynes with Framatome. Again, the SVDU was developed under the same program, same elements, as what the Tricon platform was. The NIS program and some of the other items that you're discussing, those are being

developed under the current Framatome development processes and procedures. So these elements, as part of the detailed design, will be available to you.

And then with regards to the NIs, there is commercial grade dedication aspects associated with the TXS modules, I think, as you mentioned.

And the intent would be is that, any of these devices for any of the qualification reports that you don't have now, would be, at the latest, would be submitted in total as part of the overall EQ supplement.

MR. STATTEL: Okay, okay. All right. Any other --

MR. BUSCH: This is Warren. I think that the items listed here do map to products that are in the plan for development. One thing we haven't done is reviewed these products against the description in the D.9 section of ISG-06. So it's something we'll take a look at when we prepare our supplement.

MR. WATERS: Yes, this is Mike Waters. So a key here, of course, is the clear understanding when all these subtexts will be available for NRC to look at of course, and you'll see that in the acceptance review letter.

MR. JAIN: Any other comments? Yes, go ahead, Rich.

MR. STATTEL: And I'll just mention I had used the term Tier 3-like review process. I kind of regret that. But we can work it with you on this. Just like we had discussed earlier, if you can provide access on the portal for us to review these in an audit, you know, we're happy to identify the information that we would need to support our safety conclusions. So we can work with you on that, as well.

MR. HAYNES: Okay. Thank you, Rich. And really appreciate this summary that you provided on the Tier 3 level information. That was important for us to be able to understand, so I think it helps us a lot. Thank you.

MR. STATTEL: You're welcome. Next slide. All right. I guess if you want to switch back, or that's fine.

MR. VAZQUEZ: I can keep presenting for the next two slides and then hand it back --

MR. JAIN: Okay. Why don't you go ahead, Justin.

MR. VAZQUEZ: Sure, sure. Everyone,

this is Justin Vazquez. I'm with the human factors team in the NRR Division of Reactor Oversight. I believe I've had a chance to speak with many of you during our pre-submittal discussions. So, yes, I'll be speaking to some human factors engineering considerations, and I'd like to start by echoing Richard's thanks regarding the depth of the information that was provided in the submittal. The organization of the human factors engineering material in particular align with what was discussed in the pre-submittal meetings. We found those meetings to be very supportive and informative as we began to review the material in the LAR submittal.

That being said, I will be discussing two acceptance issues related to human factors information that is needed to support our acceptance review.

Now, the first item, as you see on the slide here, is related to the implementation items that were included in the amendment request submittal letter. And if you've had a chance to look at the slides ahead of this meeting, you'll know that B.P. will be discussing some general considerations associated with the implementation items shortly,

but, for now, I'll be focusing in on the particular implementation item that was associated with the HFE verification and validation activities.

So the discussion of the implementation items in the submittal letter indicates that there are certain information that's not available at this stage of review. And this is acceptable and to be expected, given the nature of the submittal, that certain information will not be available until later in our technical review process. However, in order to accept the application, we do need some additional details at this time to provide assurance that we will have that information to provide the appropriate scope and depth of information that we need in a timely manner to support our technical review and safety determination.

And specifically regarding the implementation item for verification and validation, the submittal did not provide any indication as to what particular stage of validation testing within the stage testing approach that is discussed in the submittal, what particular stage is expected to be credited as providing the information that will be necessary and sufficient for the NRC to make the

eventual safety determination. And the reason that this was of note as we began looking at the submittal is that, based on our pre-submittal discussions, we were under the impression that that final integrated system validation, the ISV, results were not expected to be available prior to the point at which the NRC will need to have finalized its safety determination. However, the implementation item, as it was written, it didn't provide indication as to which particular stage would be available at what point during the review period.

So in order to determine whether or not we'll have the information needed within the time needed to support the requested review schedule, we will need clarification to support the acceptance review regarding what stage of validation is being credited, when that credited validation testing is expected to be completed, and when the report, the summary report addressing the credited validation results is expected to be submitted.

And so for a bit of additional context on that last point, as we've discussed before, the NRC review guidance contained in NUREG-0711, it supports applications that include only the implementation

plan being provided with the initial submittal. However, this guidance calls for those submittals to follow up the implementation plans with a results summary report or some kind of equivalent report that discusses the results of those validation activities.

And NUREG-0711 also specifies what needs to be included in that report. And it also clarifies that a summary of information is appropriate and acceptable, as long as any referenced supporting documents are made available for NRC review.

And so, as such, for the purposes of us being able to plan our audit activities in support of the technical review, we will also need indication regarding when any supporting documents referenced will be available for our review.

And I should say that, in light of the discussions earlier in this call, I'll clarify that the supporting documents, they can be made available in that electronic portal that Warren Busch and Steve Catron referenced earlier. However, the result summary reports or equivalent reports on the validation results, those reports themselves with the information specified in 0711, those do need to be included on the docket. And similar to what Rich

discussed, any other information that hasn't been docketed that we find to be substantial to our safety evaluation, and this might play, in particular, with this review because there's going to be a good amount of, we expect, at least, from the pre-submittal discussions, an amount of deviation from the NUREG-0711 criteria, anything that we find to be substantial to making our safety determination would need to be docketed, as well, as it's identified and we'll be able to discuss that as we get into the technical review phase.

So that's, I think, everything for this acceptance issue that you see on the screen here. Before I move on, are there any questions regarding this particular item as it relates to that V&V implementation item?

MR. BUSCH: This is Warren Busch. I don't have any questions. I don't think we'll have any problem providing you with the information. It is consistent, our plan right now is in accordance with the plans that we discussed in the pre-submittal meetings, so I think we understand this one. And, Brian, do you have any questions about it?

MR. HAYNES: No, no questions. No, no,

questions. I think Justin covered it, so thank you.

MR. VAZQUEZ: That's great, that's great. Thanks. Yes, yes, and I think this speaks to what Eric spoke of at the top of the meeting is that, I mean, we got a lot of good information in the pre-submittal meetings, but it's just a matter of the timing that we need because that is kind of that third element, too, of our acceptance review is the scope, depth, and also making sure that we can meet time lines. So we appreciate your understanding on that one.

Okay. I'll go ahead and move on to the next one, B.P., unless you had anything else.

MR. JAIN: No, you go ahead.

MR. VAZQUEZ: Okay, okay. Moving on to item four. So, yes, so the next item has some ties to the one that was just discussed. As I indicated before, under the NUREG-0711 process, we can accept the implementation plans, as long as we get that result summary report containing information on the docket and also, if there are any reference documents, they're made available.

And in the submitted license amendment request, in addition to that HFE verification and

validation implementation plan, as was discussed during the pre-submittal meetings, there were also the two additional implementation plans that were provided covering other elements under the human factors program within 0711. However, similar to the case with the verification and validation implementation plan, there wasn't any information submitted on when that result summary report or an equivalent report would be made available for review; and, again, we do need that information to make the timeliness determination to support the acceptance review.

So, again, in order to accept the submittal, we'll need that clarification regarding those two implementation plans, as well. And also, again, for the audit planning purpose, it would be helpful to have the indication as to when any supporting documents would be available, as well.

So I think, given that you understood the previous slide, this one is probably pretty straightforward, but are there any questions about the second item, human factors?

MR. BUSCH: No, I think we understand. Thanks.

MR. VAZQUEZ: Great, great. Okay, okay. In that case, B.P., I'm probably going to go ahead and stop sharing, and I'll let you take control for the remainder of the presentation.

All right. Thanks, everyone.

MR. JAIN: So, Rich, could you cover this one, item five? Hello, Rich?

MR. STATTEL: Yes, yes, I'm here, I'm here.

So the table that you provided up-front in the letter, the implementation item table, again, and this is just kind of a common theme for all of these items, there's not a lot of specificity involved with these, right, so we want to have a better definition of what each one of those items entails. We talked about this a little bit earlier. And, of course, we'd like to have some better definition of what's to be docketed versus what's going to be put in audit space.

I'll just mention the plans. So EQ we talked about in pretty good detail. The plans, which is the second item, those are, you know, ISG-06 clearly says that those are not required to be docketed, right, and we're not expecting that. So

we expect those to be made available.

The third item, the FMEA is required to be docketed, so we do need that one on the docket. The fourth item is, it's just kind of a statement of what's going to happen after the license amendment is issued or after the FAT is performed. There's no docket requirements for that.

The fifth item is talking about the supplement for the tech specs. I think we understand that one. And the final item is the HFE item that we've already discussed.

So, again, you can see the information that we're requesting here, and we'll be putting, you know, some form of this into the acceptance letter. Any questions on this one?

MR. BUSCH: No questions. Thanks. Brian, any questions?

MR. HAYNES: No, no, questions. Thank you.

MR. STATTEL: The next set of slides I want to talk a little bit about them. So these, what we're calling review challenges, and I don't see these as being showstoppers. I'll say that right up-front, but they are going to be challenging for us.

And there's a common theme here. All three of them kind of have to do with creating a basis for our safety conclusions.

Now, when we write our, when we perform our safety evaluation and we write our conclusion, there are some things we can base our conclusions are and there are other things we cannot base our conclusions on. So I'm going to list, I'm going to tell you a few things that we're really not able to base our safety conclusions or regulatory compliance determinations on, and I'll talk about those briefly.

So the first one would be claims of compliance. If we have a regulatory requirement and then I see in the LAR that it simply says the system complies with that clause, I can't use that as a basis. Requirements to meet a regulatory requirement, and this kind of comes down to this slide right here. So when we look at the LAR, there are several clauses, particularly IEEE 603, there are several clauses where, in the licensee response, there's just simply a pointer to other system requirement spec. And when I go to the system requirement spec, it's just a restatement of the requirement, okay. So just restating the

requirement. That doesn't give me anything that I can provide a basis for because I really need to know how that requirement is met, and I'm not, in some cases, not all cases, but in some cases I'm not able to really find that in the system requirement spec.

Capabilities of the system. Just because a system is capable of doing something, I can't use that capability as a basis for it does that thing that's required by regulation.

And the final one is, and this one is hard, right, non-implementation. And what I'm talking about here is negative requirements, and I see this in some of the system requirements, particularly with communication. Okay. And that kind of feeds into the next two slides.

So in the communication network, the peer-to-peer network and the communications links to the DCS, there are several negative requirements in the system requirement spec. And those negative requirements are very important because those are the way that I see that the system requirements is implementing or enforcing independence, okay; and it's really hard to prove a negative requirement. So there shall be no communications between this device

and this device and in different divisions, for example.

And I don't want to get into specifics, and I know I'm going to be crossing into some proprietary territory here. But you have to understand, I understand why the negative requirements are there because it basically establishes, you know, kind of an intent to meet the regulation. But, again, it's really hard for me to base a safety conclusion on those negative requirements. And when I see those, I'm going to be looking for something beyond that that, you know, up to the point of, you know, reviewing design details to make sure that none of those negative requirements have been inadvertently implemented.

Now, of course, the things that we can base our safety conclusions on. That's design details which explain how the requirement is being met. Descriptions. And I see that a lot in here. In the responses to the regulatory requirements, there's descriptions that describe how the system will meet the requirement. In some cases, it's no different than what the existing system is, so I can kind of fall back on that, too. So I can use that,

at least in part, to support my safety conclusions. Tests are always great. I can always base safety conclusions on test results when I have them. And that really kind of answers the question of this shows me that the requirement is being met, not just how it's being met. It's a demonstration that the requirement is being met.

And then, finally, implementation details, which I think at this stage of the project I don't have a lot of that. And I think in a lot of these cases it's a review challenge because, you know, what I see in front of me today, in a lot of areas I'm not really seeing what I need to finalize a safety conclusion, but I'm also aware that those design details will become available as you proceed with the design, and I'll be able to audit that material and I can use that as a confirmation on top of what's in the system requirements.

So I don't see it as a showstopper, particularly for the IEEE 603 criteria because I know, at some point in time, I'm going to have an FMEA in front of me and I'm going to have some software requirement specification that I an audit and review and confirm the requirements are being

met. So I'm not characterizing any of these as an acceptance issue, but they are going to require additional work on our part as we proceed through the evaluation.

Okay. Unless there's questions on IEEE 603 in particular, let's move on to the next slide.

The peer-to-peer network. Just a few words about this. Now, we did evaluate the peer-to-peer network capabilities of the Tricon during the topical report review. We didn't know exactly how it was going to be used or what it was going to be used for because we didn't have the application in front of us at that time. And when I look at this peer-to-peer implementation, it seems consistent. It's using dedicated Tricon communication modules, which is what we had evaluated. But it's going to be a bit of a challenge here because all Tricons in all divisions in all channels are all connected to the same network, and there's nothing wrong with that from a regulatory perspective. But that fact, that architectural fact means that I'm not going to be able to base my independent safety conclusion on communication independence on the architecture; and, instead, it's going to rely on how the application is

developed. And this kind of feeds back. There's a lot of negative type requirements in the system requirement spec that basically put restrictions on what communications can happen and what communications cannot happen, and those restrictions are really the way that independence is instilled in the system. And right now, since that software is not developed, the function blocks are not developed, it's going to be a bit of a challenge for us to develop a basis for that.

So we want to work with you on that. We understand that there's some confirmatory information that will become available as the design, as the function blocks are written and the design is implemented. There is some discussion about function blocks in here, which I will use to the best of my ability. But it's a challenge, and I'm going to ask you guys to kind of help me to develop the basis for that.

Okay. That's the peer-to-peer network. Any questions on that?

MR. BUSCH: I just want to add that the requirements that we have, besides the purposes you stated, serves to provide traceability forward into

the design process. We would expect the documents that you're looking for to be evaluation or validation type documents that would validate the critical characteristics of it. So I think that we have a plan that covers these items, but there may be some supplemental information, like you stated, that will be required to answer this, and we'll work with you on that.

MR. STATTEL: Yes, you know, I mentioned the architecture because there are system architectures that literally have no communication interfaces that cross between channels, so you can just a draw a brick wall between the channels. And in those cases, it's really easy up-front to base an independence argument. Communications of channel B is not going to impact channel A safety functions because there are none, right. That's a really easy thing to base your conclusions on.

And I understand why you want to have the connectivity between channels and across divisions, and that's fine. But I can't use the architecture or the interface architecture as a basis for that independence, meeting that independence criteria.

So I think it's challenging. We will be

challenged on this, by the way, as we go forward with this. So I think, though, having read the system requirements associated with the interfaces, I think you have the right plan here to establish the independence, but right now I'm not seeing the evidence that it is established.

MR. BUSCH: Understood.

MR. HAYNES: Yes. And I think, like you said, Rich, it's going to be some application level, so through traceability from those requirements down through implementation at SRS and SDD, we're going to start providing that information that you'll be able to see.

MR. STATTEL: Very good, very good. The next slide, this is the last one, I think, of the review challenges that I identified.

So, now, communication interface with the DCS, this is an interesting one because there's several statements in the LAR that talked about the topical report review and how we had approved the TCM interfaces to non-safety systems. Okay. This is safety to non-safety communication interface. And while that is true, we did not evaluate them used in the way that you're doing it here, these particular

DCS interfaces. So the TCM has two different types of communication links on them, and one uses serial ports and the other uses network ports, right. And the communication interface that we had anticipated would be used for this for this type of function, the DCS function, we had thought that it would be the network port, like the peer-to-peer network port, and we didn't really evaluate the use of the serial port.

And what that means, the network port is where the test access point devices came in. So when we evaluated that, we were assuming that the test access point, or the TAP, would be the data diode to enforce one-way communication over to the non-safety system.

Now, you've characterized the links to the DCS as one way, but we don't understand how that's enforced because, when we read about the TCM, it doesn't really do that. It describes all the serial links as being two-way links. So, again, it's kind of a similar situation with PTP network in that it appears, and, you know, please correct us if we're wrong on this, but it appears that the means of implementing or enforcing one-way communication to the DCS is by only writing software that communicates

outward and not writing software that receives communication because everything we've read about the serial ports is that it's two-way communication. So, again, it's relying on software development to satisfy that requirement for one-way communication.

So in absence of an actual physical data diode, if I'm relying on software, then we're going to want to look at that software. That's kind of where that one comes in, so it's very similar to the PTP issue.

And, again, I don't see a showstopper because, you know, as the design is developed and you figure out how the one-way communication is enforced, you know, that will become visible to us and we can develop a basis for our safety conclusions.

MR. BUSCH: Okay. I think we understand. The one-way communication we talked about in the LAR was for data flow, and there are some configurations that are credited in the Tricon for that safety to non-safety interface in addition to the application programming. We certainly, we've spent some time evaluating that interface and the implementation and the protections afforded to it, and I think we can provide you the information you

need.

Brian, do you want to add anything?

MR. HAYNES: No, I understand what Rich is saying. I think there's going to be some IP discussions, obviously. And, again, the detailed design, I think, is going to present the information that you need.

So I understand the challenge and the issue, and I don't have any further questions.

MR. STATTEL: Brian, this is Rich. I'll just tell you right now you're going to get asked the question of, if there's no handshaking, why is there even a receive line on that serial port? Why do you even need it, right? Because in other designs, we only have a transmit line, and if there's no receive line it's very easy to make a case that it's one way. You see what I'm saying?

MR. HAYNES: I understand, yes.

MR. STATTEL: So that's the review challenges. And I'll just mention, for all three of these items, I've created open items, so you'll see them, I guess, the next round when we transmit those to you. And we'll basically start the discussions on how we can start addressing these.

Now, as far as the acceptance review letter is concerned, we're not expecting you to really respond to these. We're just kind of up-front identifying these as challenges for our review for the detailed evaluation.

MR. BUSCH: Okay. Thank you. You answered my question --

MR. HEFLER: Hey, Rich, this is John Hefler. Can you hear me?

MR. STATTEL: Yes, I can. I can hear you, John. Well, actually, now I can't.

MR. JAIN: Yes, we can't hear.

MR. STATTEL: Can somebody unmute him? I can see that he's muted.

MR. HAYNES: Maybe we can come back to this, Rich, if we need to.

MR. STATTEL: That's fine. I'd really like to hear what John has to say, but okay.

MR. JAIN: We'll catch him later. So next item, there's some discussion topics. And, Rich, next one was Ross. Are you going to be speaking to that? That's access point.

MR. STATTEL: Yes. Well, I've already mentioned it, but let's go to that slide.

MR. JAIN: Yes.

MR. STATTEL: I can talk to that, yes. I put a quote at the bottom there, and this is a little bit unusual. So when we did the topical report review, again, we assumed that a test access point would be used for all communications out to the non-safety system, and that's not the case, I can see, in your design. That's okay, but, unfortunately, we haven't reviewed that.

But in the bottom here, we actually have an application-specific action item that was included in the topical report. Even though it's not listed as one of the application-specific action items, it's very specific to model number of the TAP used, so that's something that I've already put that in the open item list.

And if you're using a different model, because I'll just mention. So when we reviewed this PACU and PADCU model TAP device, we actually pulled the schematics of that up. We got it down into the design details of that, and we confirmed that it's actually a physical one-way diode that goes through an op amp circuit, and so we actually confirmed that there's no way data can go backwards through that.

And so that's why, because we got into that level of detail in that review during the Tricon topical report review, we kind of put a place keeper in here that if you use a different type of data diode than that, then we're going to want to do a more detailed review on whatever that becomes, you know, up to and including reviewing schematics of that.

And the other thing we would be looking to identify is if there is reliance on software or configuration control, make sure that's done properly to enforce that function of the test access point.

And I think Rossnyev, is Rossnyev on the call? Did you have anything to add to that, Rossnyev?

MR. JAIN: She was on the call.

MR. STATTEL: Okay.

MS. ALVARADO: Yes, I'm here. I just couldn't find the button. Yes, no, Rich actually summarized it pretty well, so I don't have anything else to add.

MR. STATTEL: Okay. Very good.

MR. JAIN: Okay. Move on to the next one. Richard, you again.

MR. STATTEL: Okay. I think this one is

based on a little bit of a misinterpretation. So our guidance for self diagnostics, you know, we're perfectly willing to allow you to credit self-diagnostic functions for eliminating tests, right, which is what you're doing here. And we reviewed that, and we see that there's an FMEDA in there included. And so we seem to have the information we need to support that, right, but one little function of our BTP guidance is that it encourages you to do that, but, if you're going to rely on self diagnostics, you need to have an independent way of monitoring the diagnostics themselves to make sure they're still working.

So in the LAR, there's a discussion of the BTP 717 guidance, but, in the response, it basically says if the self diagnostics fail to function, our operators can basically fall back to more traditional means of monitoring system operability. But that's not what this guidance is about. This is guidance of making sure that the self diagnostics is working, not the system. We understand that you can do manual surveillance on the system to verify system operability. What we want to see is some periodic means of verifying that the

diagnostics is functioning on a regular basis.

And the fear is an absence of alarm is not accepted, okay? I'm just going to say that right out. So just I can't, if I have a system and I'm going to credit its own self diagnostics for telling me that there's something wrong and it's not operable, I can't just say, oh, if there's no alarm, it's definitely operable. It's just, I can't, I need to have something more than that.

So we're actually not asking for a lot here, and we think you have the capabilities to do this and we think that you probably already have the plans to put this in place because we also noticed that the self diagnostics functions is transferred over the link to the DCS. So I'm pretty sure that some diagnostics information is available on your DCS, so it's right in front of the operator. So all we're asking you to do is like a check to periodically make sure that the diagnostics is functioning, and that's what the guidance calls for. So I think there's a slight misinterpretation of what the guidance intent was there.

MR. JAIN: Any questions?

MR. STATTEL: And on this issue, we've

had this discussion with several other applicants for our other systems. And once we have an understanding of this, we can point you to some precedents where they've addressed this particular criteria.

MR. HAYNES: Okay. Thank you, Rich. We appreciate that clarification. And, again, there's, I think, several items. It sounds like your proposed solution that we'll discuss looking at use for DCS's is very simple, and then we've also got information, obviously, at the platform level that's very detailed. So I think this will be a follow up.

MR. STATTEL: Okay. Yes, and I did put an open item in here for this one, so we can discuss this further.

MR. BUSCH: I think the precedents you mentioned would be very helpful.

MR. STATTEL: Absolutely, yes. The most recent one, of course, is the Waterford system, the Waterford core protection calculator.

MR. BUSCH: Okay.

MR. JAIN: No more -- oh, go ahead, go ahead.

MR. STATTEL: I'll just mention the Vogtle Unit 3 and 4, they do a similar thing. And,

you know, they basically have operator rounds. It's not a surveillance. You know, we're not asking you to do a surveillance on diagnostics, but they have, like, an operator round and system engineering walk-down function just to periodically verify. And the frequency, you know, it doesn't have to be, it can be whatever makes sense for you. But there just has to be some means of verifying that the self diagnostics remains functional over time.

MR. ZHAO: Yes. In Vogtle, some may rely on this topic unless they approve that.

MR. JAIN: Thank you. If there are no more discussion on that, can I ask Sean to discuss your topic number three?

MR. MEIGHAN: Hi, everyone. This is Sean Meighan, and I'm responsible for accident dose consequence analysis. And can you move to the next slide for us?

MR. JAIN: Sure.

MR. MEIGHAN: Thank you. So the first two bullets that you see are associated with the two design basis accidents where you have dose consequence analysis, and that would be your main steam line break and your small break LOCA. Inside

the LAR, the detailed information associated with initial conditions is not provided in the LAR and detailed information on what changes in the LAR are affecting the dose analysis are not clearly identified.

With the main steam line break, you have your current license basis and your AST provides the majority of the information, but the expectation is that that you provide the current licensing basis initial conditions assumptions and inputs, what's in the current licensing basis, and have another column showing what has changed between the current licensing basis and the proposed. That's fairly easy with the main steam line break because you have that design basis accident in your AST.

But as you note, inside your small break LOCA, and I'm reading from your LAR, it says, as no licensing basis small break LOCA exists, you performed an analysis. So I really have nothing to go on with respect to initial conditions, inputs, and assumptions with the small break LOCA.

So the second bullet provides a nice template, and I pointed back to your AST that you performed, and that would be the kind of treatment I

would hope for for any changes to your accident dose consequence analysis. So that's a useful format that Turkey Point has used before.

And I put in another ML associated with a current license amendment request, and that's actually a very nice table. You don't have to use it. I just thought you might want to take a look at it.

So that's my needs associated with main steam line break and small break LOCA.

Now, with respect to any of the other accident dose consequence analysis where you make the statement something such as, in the steam generator tube rupture, you state the radiological dose limits of 1.183 are met. Now, when I read that with steam generator tube rupture, what I hear is that you did your RADTRAD runs and your accident dose consequence analyses are slightly different, but they meet the 10 CFR 50.59, no more than minimal increase in the consequences of an accident. But I need that affirmative statement for any of the accidents where you address dose. If you say we meet 1.183, I need the affirmative statement saying not only that they're bounded by some other accident that you have,

like your LOCA, or that they meet 1.183. If you're addressing dose and you don't say that they don't meet the more than minimal increase in 50.59, that opens up the question for me.

MR. HOWARD: Hi. This is Mike Howard, Zachry Nuclear and responsible for the safety analysis portion of the evaluations here.

With respect to that, I've got a couple of targeted questions from the submittal review and have developed tables that I think will meet the needs that you've asked for here in response to those questions.

With respect to the second bullet, in most cases, everything has simply been evaluated. We have not done specific analysis on each of the events. So, ultimately, I think we can probably revise this statement to be a more positive statement, something along the lines of that the bounding safety analysis dose calculations continue to apply. Would a statement like that be sufficient?

MR. MEIGHAN: Oh, yes, that would be perfect, yes.

MR. HOWARD: Okay. Because --

MR. MEIGHAN: And once -- oh, go ahead.

MR. MEIGHAN: -- in, like, the case of the steam generator tube rupture, the way the evaluation is set up is basically preparing the operator, the actual operator actions in the manner in which the operators will diagnose and follow through their actions and the timings of their actions compared to what's assumed in this analysis. And so specifically for steam generator tube rupture, it's expected that the operators will actually end up terminating or isolating the faulted steam generator somewhere between seven and ten minutes earlier than what's assumed in the safety analysis.

So, you know, assuming that the operators can diagnose, they've got the appropriate diverse indications available to them to be able to follow through the EOPs and apply their training, it's expected that the dose release associated with the software common cause failure would actually be fairly significantly bounded by the dose analysis from the safety analysis.

MR. MEIGHAN: Okay. Yes, I think we're on the same page. If your analysis shows that dose hasn't increased or decreased, just state that. And you actually leaned into something that I should have

paid more attention or highlighted a bit more. What I really need is detailed information on what changes in the LAR are driving the change in dose consequence analysis.

Like, for example, in your main steam line break, for someone who's really familiar, like you, who did this, it's probably obvious to you what the changes are. There's a sentence in there that says neither the main steam isolation, nor containment isolation, is required to obtain acceptable dose results. I need to know if that's a change to your current licensing basis and what changes are driving the change in the accident dose consequence analysis. I hope that makes sense.

MR. HOWARD: I get what you're saying, but, you know, from looking at it from a perspective of this being a beyond design basis event and, you know, being the case where we did actually do a dose analysis, you know, I don't believe it's the intention of this to necessarily go back and change the licensing basis, you know, that's reported in Chapter 15 but to simply demonstrate that the event can be mitigated and still meet the dose requirements without those functions available or, you know,

relying on the operators to manually actuate those particular functions.

MR. BUSCH: This is Warren Busch. I want to back it up a little bit. We do have an audit question in the D.3 audit that's in progress right now that's related to this. And in the audit response, the plan was to provide you with a table and also give the NRC access to the calculations that provide the basis for the table. And some of the D.3 responses will be revising, committing to revise the D.3 in order to include the information that you need, so it's not just documented in an audit response, that it's incorporated into the docketed document.

So we're working through that process right now. This particular issue, I think the audit question in-house, Q11, doesn't cover all of the aspects of this issue. And I'm wondering if this is going to be resolved through the D.3 audit process, or if this is separate from that.

MR. MEIGHAN: That's a good question. I was asked that earlier. I was hoping the answer got to you. Yes, this is, I think it's questions 11 and 12 inside the audit, and when we got the D.3 in prior to submission in LAR, we were asked to identify our

needs, our gaps inside the D.3 itself, if that was going to be part of the LAR. And I identified these. I did not intend to review this during the audit. Inside our branch, we tend to, with these type of questions, resolve it inside RAI space. But if it gets resolved inside the audit and you supplement the license amendment request with the tables and the information that I need, that would work just fine.

MR. BUSCH: Okay. Thank you. I didn't mean to interrupt a very healthy discussion.

MR. HAYNES: Thanks, Warren.

MR. JAIN: Any more questions on accident dose analysis? Any clarification needed? If not, then we will move on to the fourth topic of discussion, and Greg Galletti will discuss that. Greg.

MR. GALLETTI: Yes. Good afternoon. This is Greg Galletti with the Quality Assurance and the Vendor Inspection Branch. Myself and Deanna Zhang have responsibility for reviewing the VOP summary information that's been provided in the LAR. And really the nature of this particular discussion is to try to establish early on some good communication practices between us and the licensee

as it relates to the VOP implementation activities.

So with that, I did want to focus on the VOP summary that included, form our perspective, a detailed list of documentation, such as reports, specs, test results, et cetera, that are being developed during the implementation of the program and the intent for the VOP to evaluate those items as part of the implementation of the licensee oversight activities.

So with respect to that, we'd like to work with the licensee to better understand the scheduling of VOP oversight activities and oversight artifacts that will be produced as a result of those activities that will be developed for items identified in the VOP summary itself. Included in this would be software development, V&V type activities, design review, HFE, EQ dedication, and cybersecurity, as well as some others that are described in the VOP summary. And this would help to further support the staff's audit activities of the VOP and to support the staff's safety determination regarding the VOP summary review.

So with that, I would just pose the request to the licensee to work with us to try to get

a better understanding of the scheduling and the outputs, the artifacts if you will, that will result from implementation of the VOP itself.

MR. BUSCH: Okay. Our plan is to make the vendor oversight plan, the schedule that supports it, and the documentation of the activity available in the electronic portal to the NRC. And I think you've probably already seen in the vendor oversight plan the list of activities does have a corresponding schedule task activity on it, so we're managing the schedule of all of these activities. There's approximately 150 documents, plus some participation activities.

In accordance with the schedule, we can give it to you in that format or, if we need to, translate it or boil it down to something that's more meaningful to you; we can do that. But the vendor oversight plan, the schedule activity, the review that was completed, and the acceptance of the products, we plan on putting it in the portal and make it as easy for you as possible to understand what's there.

MR. GALLETTI: Okay. That would be excellent. Do you have a sense for when that will

be available in the portal?

MR. BUSCH: I don't have a firm date, but we discussed it and I think we're probably within a few weeks of having that up and available.

MR. GALLETTI: Okay. That would be excellent and really facilitate our review in this area. That's really all I had with respect to that topic.

MR. BUSCH: Okay. Thanks.

MR. JAIN: Anyone else has any comment or would like to add from FPL or anyone?

MR. STATTEL: Did John Hefler rejoin us?

MR. JAIN: No, I didn't see him.

MR. HAYNES: John called me, Rich, and he was having some technical difficulties. He was going to try to rejoin. But I think what he wanted to mention was just some clarification that is probably in the actual implementation of the comms link, but I think we'll get into that when we start talking and looking more in the detailed design.

MR. STATTEL: Okay. Very good.

MR. HEFLER: Am I connected? Can you hear me now, Rich?

MR. STATTEL: I can.

MR. HEFLER: You can?

MR. STATTEL: I can, yes.

MR. HEFLER: Okay. Good. Something that bothered me when you were talking about the serial link to the DCS, I think that there might be actually a lack of clarity in the LAR itself. We can talk about this possibly offline, but, if you go into the Section 3.14.3, which is the ISG compliance section, and look at Figure 3.1-17, that shows the net 1 connection from the Tricon TCM out to the DCS. So it's a network connection, it's not serial.

MR. STATTEL: Okay. I'm a little confused because there are several places in here where it's described as a serial link.

MR. HEFLER: That's what I think is what's wrong. It's a network connection.

MR. STATTEL: Okay. Well, then I guess my question is a little different. Why aren't there port TAPs in that network connection, and why don't they conform to Section 3721 of the topical report?

MR. HEFLER: Okay. That's more of a design question, and I would like to defer that back to Framatome. But those are very good questions, but I think it's more accurate that they are network

connections and you've got the same issue with the TAP on the connection out to the security monitor, the central monitoring system.

MR. STATTEL: Well, the central monitoring system, I can see that that's a network connection and I can see that that's using the test access point, and the configuration is very similar. So my only question about the TAP is related to what model it is and if it's relying on software, what's the internals of that.

So that one is a different question, but, yes, what you just mentioned about the serial ports, that's a new one on me because I know I've seen the use of serial port terminology in several places in the LAR.

MR. HEFLER: If somebody, you know, from Framatome would like to comment, you know, at this time, or we can put that as something that would require explanation later.

MR. HAYNES: No. Like I said, I think this is a detailed design question that we're going to get into. I don't want to cover it here in this meeting.

MR. HEFLER: Okay.

MR. STATTEL: Fair enough.

MR. HAYNES: Thank you.

MR. JAIN: Any other issues to discuss before we move on? If not, I would outline our next step and the process of acceptance review.

The staff plan to issue an opportunity to supplement letter by September 16, by this Friday, and it will ask for the missing information which we identified in the five acceptance issues in the beginning of the presentation. It will not ask for any other information regarding challenging reviews or discussion topic or any of that.

I'd like to clarify that we are requesting FPL to provide their response by October 5th, so they could provide sooner, but, if that will pose an issue, we'd like to discuss that either now or separately because that's the date we're going to put in the letter. And, again, in your response, we are not looking for the actual supplemental information, but we do expect the specific description of the missing information that you will provide and the dates by which it will be provided.

And the staff plans to issue the acceptance decision by October 13th, assuming that

you provide your response by October 5th. Please be mindful that, you know, our ability to meet your requested schedule is clearly predicated on the schedule you provide of the actual information to us.

So with that, I will summarize the path forward for our staff's review. So staff is giving FPL an opportunity to supplement the license amendment request by October 5th, and then the NRC staff will review the application using the guidance for both the ARP and the Tier 3 processes in digital ISG-06 guidance. FPL will need to docket the required information that staff identified during the course of its review.

With that, the prepared presentation of staff has concluded. Now I will open the floor. This is an opportunity for public participation. If there are any questions from the public, please ask the question, identify yourself.

MR. WATERS: B.P., this is Mike Waters. Can I ask a question of Turkey Point before we get to the public?

MR. JAIN: Sure.

MR. WATERS: So we laid a path forward here. We've covered a lot of information and we're

looking for a response, I guess, in a couple of weeks. I mean, there's a lot for you to digest, but do you see any hard spots or challenges or issues to address the supplemental need, as you understand it right now, primarily in terms of what you'll provide and when?

MR. BUSCH: Well, this is Warren Busch. I think it's going to be challenging for us to work through what we believe is going to be satisfactory to satisfy the issues and then associate them with a schedule activity or change that. We are targeting the 5th, as you're requesting. I think we can make the 5th, but it is going to be challenging.

Brian, what do you think?

MR. HAYNES: Well, again, I understand the importance of the timing back to the staff and the requested dates. I would like to thank B.P., Rich, and Justin and Sean for the clarity today on what we're looking at and the staff's information and understanding that we're looking at identifying where the information is going to be provided and in making sure that we have that link to the scheduling and provide that. It's been very helpful. And, again, working with our customer in FP&L, we understand the

need, and we definitely want to support that date.

MR. STATTEL: This is Rich Stattel. I want to mention one thing. So I know we had a lot of discussion about the discussion topics and the review challenges, but I want to reemphasize that those are not acceptance review issues, and, basically, we've already put them in the open items list, so we already have the plans to work through those. Those are not really tied to the acceptance review letter. You won't see any mention of those topics in the acceptance review letter.

So that's not something we need to resolve between now and when that letter gets sent, okay? I just want to make sure that everyone understands that.

MR. HAYNES: Understand, Rich. Thank you.

MR. WATERS: All right. Thanks. Go ahead, B.P., go ahead and --

MR. JAIN: Yes. This is the opportunity for public participation; so if there are any question from the public, please identify yourself. One more opportunity to ask questions from the public.

MR. CROUCH: Yes. Hey, B.P., this is Clayton Crouch from Dominion Energy. I guess I'm the only one with my hand up.

Yes, I really appreciate you and the staff at the NRC of subject matter experts pulling this together, and we appreciate FPL and their vendors for sharing this information. It's a big help to those of us that are going to be following your lead.

You know, generically, it seems like the ISG-06 mapping and some site-specific data were some good catches that we had here. We've got a different vendor, so there's going to be a lot of different technical issues associated with our mods.

One of the things that I was wondering, on the digital I&C, project managers, B.P., you and Michael take the lead on that. And I'm curious, the other subject matter experts for the HFE, the VOP, are those going to be the same people that review all the other digital I&C ones, as well, for continuity, or will there be a different team of people reviewing them?

MR. JAIN: Mike Waters, do you want to answer that? MR. WATERS: Good

question. The general answer, because of resources, we'll have different leads. The broader goal is we're trying our best to keep the leads who are involved in the development of ISG-06, and we have a process here of peer review support and whatnot where the people involved, so be aware and consult everyone. I can't say they'll lead them because it's a resource issue, but, for I&C, we're definitely not going to do this in isolation from one review to the next for sure. It's one big team, and I'm certain that's true for HFE and other technical issues, as well, the way we work. And we're really adopting a innovative team approach among the disciplines for each license review.

It's also integrated along the different reviews that we'll do overtime. And depending on your schedule, you know, we recognize that we'll have multiple reviews going on in this data process, and we can only do so much with the resources that we have. I'll leave it at that.

MR. CROUCH: Yes, okay. That's good to know because, like you say, these are the first few people over the dam, but there's going to be a lot more of us coming along here. So, again, I really

appreciate you just sharing, making this information available to the public. I think that's a big plus for the whole industry, so thanks again.

MR. WATERS: Yes. And one follow-up from that is it's very important for, obviously, you and anyone else planning beyond Constellation and NextEra here is, you know, giving NRC awareness in the letter of intent well in advance of receiving an application, as you've learned here in multiple application meetings, it will make it more efficient when we receive it. Thanks.

MR. JAIN: Thank you, Clayton. I hear there are no more questions from the public. Is Eric there? Eric?

MR. BENNER: I am here, B.P.

MR. JAIN: Would you like to make closing remarks?

MR. BENNER: I am happy to. So, again, another good discussion. Like we said, we want to reiterate that the letter will only cover the five specific acceptance review issues we cover, but we felt like we were having this meeting, we had the review team, you know, enmeshed in looking at the review, so we felt it was beneficial to be transparent

and share everything we were finding.

So like Rich confirmed, the actual letter and the things we need are only those five acceptance review issues. The other information we shared today was, like we said, we'll address that through the open items list, audits, I mean, whatever mechanism is deemed best.

So I think we're in a good place. It sounds like FP&L understands our information needs. You know, the date is negotiable, right. I mean, I will say that, you know, a change in the date, you know, affects everything we do. But we don't want to set anyone up for failure. We can negotiate a different date for you to provide your response by, and we'll deal with that in our review. So we, I mean, like B.P. said, we plan to issue this letter by the end of the week, so, if you think a date other than October 5th is the better date, the sooner you get back to B.P. the better on that because we're not, if we're done, I mean, we have some internal communications we need to do. But if we're done, we'll launch on the letter so there's, you know, so it gives you all the maximum time to respond to it.

MR. BUSCH: We appreciate that. And we

have some internal discussions to do, as well. I can't commit for everybody, but our desire and our target is to get it done on October 5th.

MR. JAIN: Thank you.

MR. BENNER: So does FP&L have any closing remarks they want to make?

MR. MACK: Yes. So this is Ken Mack again. I would just say we appreciate the discussion and the opportunity. We understand, you know, what we need to do to support the NRC's review, and we'll do everything to make that happen. So, once again, thank you, and that's it.

MR. JAIN: Okay. Thank you, Mack. Before I conclude, I'd like to reiterate that the NRC welcomes feedback. If you have any comments on any aspect of the meeting, please contact me or Michael Marshall and we'll provide you the necessary forms for the feedback.

With that, if nothing else to discuss, the meeting will adjourn. Thank you, everyone.

(Whereupon, the above-entitled matter went off the record at 3:58 p.m.)