

# **Official Transcript of Proceedings**

## **NUCLEAR REGULATORY COMMISSION**

Title:                   Public Meeting on the Integrated Action Plan  
                              for the Modernization of the NRC's Digital  
                              I&C Regulatory Infrastructure

Docket Number:     (n/a)

Location:             Rockville, Maryland

Date:                 Wednesday, March 30, 2016

Work Order No.:     NRC-2286

Pages 1-175

NEAL R. GROSS AND CO., INC.  
Court Reporters and Transcribers  
1323 Rhode Island Avenue, N.W.  
Washington, D.C. 20005  
(202) 234-4433

UNITED STATES OF AMERICA  
 NUCLEAR REGULATORY COMMISSION

+ + + + +

OFFICE OF NUCLEAR REACTOR REGULATION

+ + + + +

PUBLIC MEETING ON THE INTEGRATED ACTION PLAN FOR  
 THE MODERNIZATION OF THE NRC'S DIGITAL I&C  
 REGULATORY INFRASTRUCTURE

+ + + + +

WEDNESDAY

MARCH 30, 2016

+ + + + +

ROCKVILLE, MARYLAND

+ + + + +

The Public Meeting met in the  
 Commissioners' Hearing Room at the Nuclear Regulatory  
 Commission, One White Flint North, 11555 Rockville  
 Pike, at 8:04 a.m., John Lubinski, Acting Director of  
 the Office of Nuclear Reactor Regulation,  
 facilitating.

PRESENT:

JOHN LUBINSKI, NRR, Facilitator

ROSSNYEV ALVARADO, NRR/DE/EICB

STEVEN ARNDT, NRR/DE

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
 1323 RHODE ISLAND AVE., N.W.  
 WASHINGTON, D.C. 20005-3701

MARISSA BAILEY, NRR/DE

ROYCE BEACON, NRR/DE/EICB

NORBERT CARTE, NRR/DE

EUGENE EAGLE, NRR

JAMES TODD KEENE, NRR/DPR/PGCB

JONAH PEZESKI, NSIR/Cyber Security

Directorate

PAUL REBSTOCK, JR, RES/DE

DEIRDRE SPAULDING-YEOMAN, NRR/DE/EICB

RICHARD STATTEL, NRR/DE/EICB

JENNIFER TOBIN, NRR/DPR/PRMB

ALSO PRESENT:

JOHN CONNELLY, Exelon

RAY HERB, Southern Nuclear

STEVE HUTCHINS, NEI/Exelon

JASON REMER, NEI

PUBLIC PARTICIPANTS:

DAN CRONIN \*

JOE HOLONICH \*

MARVIN LEWIS \*

JOSEPH PAPPIO \*

PAUL PRIMAVERA \*

TIMOTHY SMITH \*

KEN SCAROLA \*

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

\*Present via telephone

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

(202) 234-4433

## T-A-B-L-E O-F C-O-N-T-E-N-T-S

PAGE

## Welcome and Introductions

Todd Keene.....5

## Overview of Meeting

John Lubinski.....11

## Overview of Integrated Action Plan

Marissa Bailey.....16

## Discussion of Common Cause Failure Working Group

## Action Plan (WGAP)

Rossnyev Alvarado.....28

## Discussion of 10 CFR 50.59 WGAP

Deirdre Spaulding-Yeoman.....31

## Discussion of IEEE 603 WGAP

Royce Beacon.....47

## Discussion of IEEE 7-4.3.2 WGAP

Richard Stattel.....54

## Discussion of Cyber Security WGAP

Jonah Pezeshki.....59

Break.....75

## Discussion of Additional Digital I&amp;C Activities and

## Longer-Term Actions

Steve Arndt.....76

## Industry Perspective of the Integrated Digital I&amp;C

## Action Plan

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

(202) 234-4433

## T-A-B-L-E O-F C-O-N-T-E-N-T-S (Cont.)

	<u>PAGE</u>
Jason Remer.....	97
John Connelly.....	100
Open Discussion.....	112
Meeting Recap; Review of Action Items; Closing...	166
Adjourn.....	175

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

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

2 (8:03 a.m.)

3 MR. KEENE: Good morning, everyone. I  
4 would like to thank everyone for attending this  
5 public meeting, it's a Category III public meeting.

6 My name is Todd Keene, the Project  
7 Manager in the office of Nuclear Reactor Regulation.  
8 We are here today to discuss the draft Integrated  
9 Action Plan for the Modernization of the NRC's  
10 Digital I&C Regulatory Infrastructure.

11 Before we start the meeting I would like  
12 to cover a few administrative topics for security  
13 purposes.

14 OPERATOR: Okay, I'm sorry.

15 MR. KEENE: Yes, Angela?

16 OPERATOR: Did you want me to go ahead  
17 and begin and make the introduction?

18 MR. KEENE: Yes, please.

19 OPERATOR: Okay, one moment. Welcome to  
20 the NRC Public Meeting for Digital Instrumentation  
21 and Control conference call. At this time all  
22 participants are in a listen-only mode until the  
23 question and answer session of the call.

24 At that time to ask a question please  
25 press star followed by the number one. Now I would

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1       like to turn over the call to Todd Keene. You may  
2       begin.

3                   MR. KEENE: Good morning. I would like  
4       to thank everyone for attending the meeting. My name  
5       is Todd Keene, I am the Project Manager in the Office  
6       of Nuclear Regulation.

7                   We are here today to discuss the draft  
8       Integrated Action Plan to Modernize the NRC's Digital  
9       I&C Regulatory Infrastructure.

10                  Before we start the meeting I would like  
11       to cover a few administrative topics. For security  
12       purposes for visitors here in the Headquarters  
13       Building NRC policy dictates that visitors have to  
14       wear their visitor badges conspicuously displayed.

15                  Visitors with badges in the vicinity of  
16       the conference room will not require an escort.  
17       However, if anybody needs to leave this floor and go  
18       on to a different floor you will be required to have  
19       an escort.

20                  There are restrooms in the hallway right  
21       outside the Commission Hearing Room. In case of an  
22       emergency please follow directions of the NRC staff  
23       members.

24                  Emergency exits are either through the  
25       lobby or outside this door to the right and that will

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701



1 get you out to the street.

2 Please take this opportunity to silence  
3 your cell phones as a courtesy to all attendees. For  
4 the personnel here in the Commission Hearing Room  
5 there are attendance sheets at the entrance of the,  
6 when you came in through the door to your left or  
7 also here on the table.

8 Please take the opportunity to fill out  
9 the attendance sheet so we can make sure that everyone  
10 is properly accounted for.

11 For attendees on the phone bridge please  
12 send an email to myself or Ms. Jenny Tobin. Our  
13 email addresses are included on the public meeting  
14 notice.

15 The purpose of this meeting is to provide  
16 an opportunity for the NRC staff to present a draft  
17 Integrated Action Plan for the Modernization of the  
18 NRC's Digital I&C Regulatory Infrastructure and  
19 solicit comments from stakeholders and the public.

20 This meeting is being transcribed to  
21 facilitate documentation of the comments that are  
22 received.

23 Keeping that in mind for personnel that  
24 have questions when they request for the transcribed  
25 -- to assist in the transcribing of the meeting that

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

(202) 234-4433

1       you state your name, your affiliation either with the  
2       company or as a member of the public, and then your  
3       question, that way for clarity in the transcription.  
4       The transcription will be included in the meeting  
5       summary.

6               This is a 4-hour Category III Public  
7       Meeting to allow for public and stakeholder  
8       discussions. This meeting will not decide any staff  
9       or agency positions.

10              It will not interpret regulations other  
11       than what is currently established by guidance or  
12       staff position.

13              There are public meeting feedback forms  
14       available at the front of the office, or, excuse me,  
15       when you entered. For those online it is NRC Form  
16       659 and is available on the NRC website.

17              I'd like to open up the meeting today for  
18       introductions of the NRC staff that are making  
19       presentations. When it comes time for the NEI  
20       presentation, which is on the agenda, I'll hold off  
21       the introductions until then. So, please, all right.

22              MR. PEZESHKI: Oh. My name is Jonah  
23       Pezeshki. I work with --

24              MR. KEENE: Microphone, Jonah.

25              MR. PEZESHKI: Oh, I'm sorry, apologies.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 My name is Jonah Pezeshki. I work in NSIR, that's  
2 the Office of Nuclear Security and Incident Response,  
3 and in the Cyber Security Directorate.

4 MR. BEACOM: Hi. My name is Royce  
5 Beacom. I am in the Office of Nuclear Reactor  
6 Regulation, EICB. I am here for the IEEE 603 Action  
7 Plan.

8 MS. ALVARADO: My name is Rossnyev  
9 Alvarado. I am with NRR I&C Branch. I am here for  
10 the Common Cause Failure Working Group.

11 MR. LUBINSKI: Good morning. John  
12 Lubinski, I am currently the Acting Deputy Director  
13 for Engineering for the Office of Nuclear Reactor  
14 Regulation.

15 On Monday next week I'll be returning to  
16 my permanent position as the Division Director for  
17 the Division of Engineering in NRR. I also currently  
18 have the title as the Chair of the NRC's Steering  
19 Committee for the Digital I&C activities.

20 MS. BAILEY: Good morning. I am Marissa  
21 Bailey. I am the Acting Director until Sunday,  
22 midnight, for the Division of Engineering in the  
23 Office of NRR.

24 MS. SPAULDING-YEOMAN: Good morning. I  
25 am Deirdre Spaulding-Yeoman, Instrumentation and

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 Controls Branch. I am here for the 50.59 Working  
2 Group.

3 MR. STATTEL: Good morning. My name is  
4 Richard Stattel. I am also in the Instrumentation  
5 and Controls Branch and I am representing the IEEE-  
6 7-4.3.2 Working Group.

7 MR. HUTCHINS: Steve Hutchins, Exelon  
8 Generation, currently on loan to NEI.

9 MR. CONNELLY: John Connelly,  
10 Engineering Manager for Capital Projects at Exelon.

11 MR. REMER: Jason Remer, NEI.

12 MR. HERB: Ray Herb, Southern Nuclear,  
13 Digital Principle Engineer.

14 MR. LUBINSKI: So for the folks at the  
15 table we figured out you do have the microphone  
16 buttons. When it's red you are on and when it's  
17 black you are off.

18 MR. KEENE: Okay. Now with the agenda,  
19 as stated in the public meeting notice on the second  
20 slide we'll go through the agenda today, which is  
21 both an overview of the Action Plan, discussion of  
22 the key Working Group planned actions, and carrying  
23 on through the regulatory infrastructure actions that  
24 will be covered by various speakers, and stepping  
25 through and -- throughout this -- as we carry on into

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 the discussion for the individual Working Group  
2 actions each of the Working Group leads will be  
3 presenting for approximately five minutes, which will  
4 allow us a short period of time, about ten minutes,  
5 to carry on, or to have specific questions about that  
6 Working Group Action Plan.

7 In order to keep to the agenda the  
8 intention is to move to the next Working Group action  
9 item and if there are still additional questions  
10 we'll put it in a parking lot and come to at the end  
11 of the, towards the last hour of our public meeting  
12 and get those open action items.

13 With that I'll turn it over to Mr.  
14 Lubinski.

15 MR. LUBINSKI: Thanks, Todd. I  
16 appreciate everyone being here today. As we all know  
17 this is a very important topic. Why are we here? We  
18 do have the SRM that was recently issued by the  
19 Commission that asked for an Action Plan within 90  
20 days.

21 We know we just issued their current  
22 revision of the Action Plan just last week, so we  
23 know a lot of the folks today haven't had an  
24 opportunity to fully digest it.

25 However, we appreciate the fact that many

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 of the folks here today have had an opportunity to  
2 review that document.

3 I do believe that it is important to have  
4 early engagement and the purpose of the meeting today  
5 is for us, and that's why we put a presentation  
6 together of what was our thinking and logic into what  
7 we put into the Plan at this point and we would like  
8 to get early input on the prioritization of  
9 activities, what are the near term, what are the long  
10 term, and any initial concerns we have.

11 As noted, the Federal Register Notice was  
12 issued today seeking comments on the Plan. Different  
13 than many times when we issue documents such as in a  
14 rulemaking process that those go out and we would do  
15 a full comment resolution, we don't plan to do that  
16 in the next 30 days as we get this document back.

17 This will be a living document over the  
18 next 30 days and we expect to have more public  
19 interactions as we develop the document.

20 We have the leads right now for five of  
21 the items that are in the Action Plan. Of course,  
22 at any point you guys can call me or anyone else  
23 involved with the activity, but if you have specific  
24 issues about any of those items in those work groups  
25 we've got the lead for those work groups and please

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 contact them, you have their emails and phone  
2 numbers, they're on the meeting notice.

3 So if you have comments, questions, along  
4 the way you don't have to wait until the end of the  
5 closed period, in fact, we'd appreciate if you get  
6 those to us early so we can keep the dialogue going.

7 So from a background on why we're here,  
8 it really starts even, you know, much prior to the  
9 SRM. If you look we did have activities to improve  
10 our regulatory processes back from the 2007 to 2011  
11 timeframe and we believe we had many successes that  
12 came out of those activities.

13 The end result of the products were a  
14 series of interim staff guidance documents and, you  
15 know, for those who don't know when we talk about  
16 interim staff guidance, ISGs, these are an effective  
17 way of putting in place more quickly supplements to  
18 our Standard Review Procedure.

19 It allows us to get them out quickly, use  
20 them, and then based on feedback update the SRP with  
21 the lessons learned.

22 So we've been using these documents and  
23 going through a licensing oversight experiences since  
24 2011 and we have identified that there are a need for  
25 some improvements to some of the ISGs.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1           We also as we were going through the  
2       development of our IEEE 603 rulemaking, as many know  
3       the regulation has already endorsed IEEE 603, but  
4       it's a 1991 version and we were looking at the updated  
5       2009 version and incorporating that into the  
6       regulations and as part of that, interactions with  
7       the public as well as our internal actions and  
8       interactions as well with the IEEE Committees, we  
9       believe there are still some technical issues that  
10      need to be evaluated and resolved, and that helped to  
11      identify that.

12           In parallel, as we were developing the  
13      IEEE 603 we were looking at what other activities did  
14      we need to do in the Digital I&C area and we put  
15      together a draft Action Plan back in 2015 that was  
16      shared with the industry.

17           It was issued for public consumption  
18      prior to a Commission meeting we had back in the  
19      December timeframe. Based on our SRM we have now  
20      gone the next direction of updating that and coming  
21      up with more of a different format, if you will, so  
22      this is the first version of the Integrated Plan.

23           Next slide, please. Jenny, next slide,  
24      please. Got it, okay. So what's the goal right now?  
25      The goal is to modernize the Digital I&C regulatory

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701



1 infrastructure to enhance our capability, be more  
2 timely, efficient, and effective.

3 We believe a lot of what we are doing is  
4 effective but we can always be more effective and  
5 also be more efficient, and we want to be clear,  
6 predictable, and flexible in our guidance as we move  
7 forward.

8 So we're going back to those principles  
9 as we move forward. As we do we are looking at  
10 definitely being performance-based and technology  
11 neutral.

12 We are trying early on to reach alignment  
13 on what are the key technical issues, which is one of  
14 the purposes today, what are the key technical issues  
15 that need to be addressed.

16 We don't think we can really change the  
17 regulatory structure until we know what the key  
18 technical issues are first, why update guidance based  
19 on issues that may need to be changed from a technical  
20 standpoint.

21 We are looking at any near-term policy  
22 and guidance issues that need to be addressed,  
23 definitely from a policy standpoint. Clear from the  
24 Commission they want to see the big picture on what  
25 issues may come to them either through policy or

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 rulemaking, so we are trying to identify what are  
2 those near-term issues so they are aware of where the  
3 staff is going.

4 We are looking at the tools and methods  
5 of becoming more effective in developing our plans.  
6 And then the most important part and the most  
7 challenging part for us right now is integrating our  
8 near-term policy and guidance with our longer-term  
9 actions.

10 We need to be aligned on a long-term  
11 action, but we know there is many of the near-term  
12 actions and technical issues need to be resolved  
13 first.

14 So what I would like to do now is turn to  
15 Marissa Bailey and she will give an overview of what  
16 we have in our current Digital I&C Integrated Action  
17 Plan.

18 MS. BAILEY: Thank you, John. Thanks,  
19 John. Can you go ahead to the next slide, please?  
20 So before I give an overview I'll just start at a  
21 high level to put the Integrated Action Plan into  
22 context.

23 I think a number of you know that in the  
24 February the Commission did issue us an SRM and it  
25 directed the staff to develop an integrated strategy

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 to modernize the Digital I&C regulatory  
2 infrastructure, and the staff is currently in the  
3 process of developing that integrated strategy.

4 This slide here basically just provides  
5 some of the highlights for that standard -- for the  
6 SRM.

7 In the SRM the Commission wanted the  
8 staff to ensure that key near-term regulatory  
9 improvements such as the endorsement of a new version  
10 of IEEE 603, the reevaluation of NRC's position on  
11 digital system common cause failure, and also  
12 updating the digital system 50.59 guidance, that  
13 those near-term regulatory improvements are  
14 considered in the broader context of what needs to be  
15 done to improve the overall regulatory framework.

16 The staff's development of the Integrated  
17 Digital I&C Action Plan is a big part of the overall  
18 strategy, of what the overall integrated strategy  
19 that's been directed by the SRM.

20 The Integrated Action Plan provides  
21 details as to how the NRC staff will address near-  
22 term actions, as John mentioned. It also discusses  
23 some of the longer-term actions that will be  
24 considered for improvement based on the identified  
25 needs and some basic principles.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 As you know the Action Plan identifies 12  
2 topical issues. After some fairly significant  
3 interaction with stakeholders we identified five of  
4 them for near-term action and these five topics will  
5 be discussed by the staff today.

6 The remaining seven topics have been  
7 identified as important activities that need to be  
8 addressed to complete the Digital I&C infrastructure  
9 modernization effort, but for which specific actions  
10 have not yet been identified.

11 As the broader strategy is completed  
12 those additional actions will be more fully  
13 integrated into the Plan.

14 I would also like to just highlight that  
15 in the SRM the Commission provided some guiding  
16 principles, and that includes that the new  
17 requirements should be performance-based and  
18 technology neutral.

19 And the staff is applying those guiding  
20 principles as we move forward in developing both the  
21 integrated strategy and also the Integrated Action  
22 Plan.

23 So next slide, please. I'll just review  
24 briefly the history of the Digital I&C Action Plan.  
25 An earlier version of the Digital I&C Action Plan was

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 shared with the public and stakeholders at our  
2 January 2016 public meeting.

3 And that earlier version was organized  
4 more as a listing and a rough prioritization of  
5 licensing oversight and infrastructure topics that  
6 the staff felt needed to be addressed.

7 The feedback that we received from  
8 stakeholders, specifically via NEI's February 23,  
9 2016, letter that provided comments on the January  
10 version of the Action Plan, that feedback has been  
11 incorporated into this latest version of the Action  
12 Plan to the extent practicable.

13 You may not see a one-to-one correlation,  
14 but we did take a look at those comments and as much  
15 as we could we did try to integrate them, or include  
16 them into the current version of the Action Plan.

17 That includes public comments, or your  
18 comments, on the prioritization of the topics that's  
19 included in the Action Plan. For example, staff  
20 agrees first to work with stakeholders to identify  
21 key inputs and aspects that need to be considered  
22 when revising their current NRC policy on Common  
23 Cause Failure.

24 NEI's letter contained specific  
25 stakeholder proposals for ways to address this

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 technical issue.

2 Although the NRC staff did not  
3 significantly change the Plan on how it will review  
4 the current NRC position on Common Cause Failure in  
5 Digital Systems, the staff is considering these  
6 technical proposals as well as those identified by  
7 the staff as part of revising the CCF policy and the  
8 guidance that accompanies the staff guidance for  
9 licensing evaluations and for oversight processes.

10 Last week we had our first technical  
11 meeting on CCF and another will be scheduled for April  
12 26th. So that's just an example of how we tried to  
13 incorporate comments into the Action Plan.

14 The Integrated Action Plan also contains  
15 more details than the earlier version of the Plan  
16 regarding the process that Staff is planning to use  
17 to address the five near-term technical areas, which  
18 we believe to be of utmost importance for dealing  
19 with first.

20 And, finally, the Integrated Action Plan  
21 addresses the directives that are contained in the  
22 Commission's February SRM.

23 Next slide. This slide gives an outline  
24 of the Integrated Action Plan. As I mentioned the  
25 Integrated Plan incorporates more details regarding

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 the five near-term topical areas plus a number of  
2 additional activities identified as being important  
3 to resolve as part of the modernization effort for  
4 Digital I&C Regulatory Infrastructure.

5 The revised Plan is not considered to be  
6 an Integrated Plan in that it addresses the need for  
7 engaging with internal and external stakeholders to  
8 first reach alignment on resolving key technical  
9 issues before incorporating the results of this  
10 effort into staff or Commission policy and guidance  
11 documents.

12 Then we would follow that by addressing  
13 the longer term activities that's also in the Action  
14 Plan. Again, the outline is provided here. I'd like  
15 to note that the Integrated Plan is not considered  
16 final at this point.

17 We hope to incorporate insights that we  
18 receive from stakeholders before proposing adoption  
19 of the Plan to the Commission and then the Plan will  
20 continue to be revised as deemed appropriate over the  
21 next four weeks while the staff's response to the SRM  
22 is being prepared.

23 And it is likely that the Plan will  
24 continue to evolve further as new ideas are  
25 identified and the Steering Committee reviews them

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 and deems them appropriate for inclusion in the Plan.

2 Next slide. In their SRM the Commission  
3 also directed the staff to engage to public in  
4 workshops and meetings with relevant IEEE Standard  
5 Setting Committee, with licensees, vendors, and other  
6 stakeholders to reach common understanding of the  
7 Digital I&C regulatory challenges, priorities, and  
8 potential solutions to address them.

9 To this end we have provided the draft of  
10 the Integrated Action Plan for public comment and the  
11 purpose of this meeting is to get your input on the  
12 Plan.

13 As John noted we are also requesting  
14 written feedback from stakeholders by April 24, but  
15 we would also like to get feedback at this meeting.

16 We were directed by the Commission to  
17 develop the integrated strategy in 90 days, so we are  
18 working towards a May 25 due date.

19 Although we are planning on a number of  
20 interactions, as you can see from this slide, given  
21 our timeline we do not plan to provide responses to  
22 the feedback we receive from stakeholders outside of  
23 the revision of the Action Plan itself.

24 As you can see from this slide in  
25 addition to completing the strategy -- As you can see

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701



1 in addition to completing the Integrated Strategy and  
2 Action Plan we are moving forward with some of the  
3 near-term actions, including CCF and the 50.59  
4 guidance.

5 In terms of the feedback that we would  
6 like from you, I just want to point out some of the  
7 key questions that we'd like to get your thoughts on.

8 First, are we focused on the correct  
9 regulatory challenges? Are we working on the highest  
10 priorities? Is anything we are working on not needed  
11 or are there areas that are missing from the Plan?

12 Do we have the right scope and  
13 assumptions for the detailed working group plans?  
14 And, finally, what does near-term success look to our  
15 stakeholders, what does it look like to you?

16 Hopefully you can provide us this  
17 feedback at this meeting or in the written comments  
18 that you wish to provide.

19 So before I turn it over to the staff to  
20 discuss the details of the five near-term actions I  
21 would like to know if you have any questions for  
22 either me or John.

23 MR. REMER: Marissa, thank you very much,  
24 and thanks for this integrated schedule, that's one  
25 of the comments that we had is if we could lay out a

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 schedule so we could help support that because  
2 unfortunately there is just a handful of us that are  
3 probably going to be staffing most of these things.

4 In the April 26th meeting I didn't  
5 realize that that had already been decided. We may  
6 have challenges supporting that, so we could have  
7 discussion.

8 I know we are on a tight timeframe, but  
9 that would be something we would want to discuss.

10 MS. ALVARADO: Actually, we talked with  
11 people in NEI and they suggested that because you  
12 were having a meeting on the 27th.

13 MR. REMER: Okay, all right. So that  
14 may -- I was out a few days.

15 MS. ALVARADO: Okay. But if not we can  
16 like take this discussion offline and we can  
17 reschedule it as necessary.

18 MR. REMER: Okay, very good. Thank you.

19 MS. ALVARADO: Okay.

20 MR. CONNELLY: With the overarching  
21 concern, just to reiterate, the overarching concern  
22 is that there is a limited pool of people who are  
23 involved in a lot of these groups, so, you know, we  
24 kind of need an integrated schedule so we can get all  
25 the resources brought to bear at the appropriate

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 time.

2 MR. LUBINSKI: This helps immensely.

3 MR. CONNELLY: We appreciate that.

4 MR. LUBINSKI: We -- Actually what I'm  
5 going to ask as a takeaway from this meeting, and I  
6 always end up dumping this on Todd, our Project  
7 Manager, is that we do have a formatted schedule of  
8 many of the meetings coming up and we'll make sure we  
9 get that posted publicly so that people can look at  
10 those meetings.

11 And, again, when we do this is, you know,  
12 if you look there is an integration of schedules here  
13 and they are near term through the end of April now  
14 is what you are seeing.

15 As we develop the Plan you're going to  
16 see more that go out and beyond April, right, it'll  
17 go May, June, July, August, all the way through.  
18 We've got dates even in January of next year for  
19 certain activities in dealing with some of the IEEE  
20 Committees.

21 In there are the specific actions that  
22 are in each of those Action Plans, so many of the  
23 things you see on this list, such as the April 26th  
24 meeting, that's one of the specific action items.

25 What we need to understand is we get

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1        comments on those dates is any delay in those dates  
2        delays success of items in those Action Plans as we  
3        move forward.

4                So that's not on the overall Integrated  
5        Plan, that's on the actual CCF Plan. But as Ross  
6        said, you know, please work with her offline if we  
7        need to move that date around.

8                MR. HUTCHINS: Steve Hutchins. Just to  
9        confirm, we did coordinate with industry and we are  
10       scheduled for a 26th meeting on the CCF, a 27th  
11       meeting for a pre-meeting, and then the 28th is the  
12       50.59 Appendix D meeting. So to limit travel we did  
13       agree to all those dates.

14               MR. LUBINSKI: So at this point, you  
15       know, the rest of the room also, if there is anyone  
16       in the room right now that has any comments or  
17       questions for Marissa or myself.

18               MS. BAILEY: Or on the phone.

19               MR. LUBINSKI: I was going to go to the  
20       phone next.

21               MS. BAILEY: Yes, okay.

22               MR. LUBINSKI: Okay, no one in the room.  
23       If we could jump to -- Did you have something, Ray?

24               MR. HERB: Those areas that you had said  
25       that you would like to see feedback on they weren't

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 in the presentation, can you, I think there was like  
2 five areas where you asked --

3 MS. BAILEY: Sure.

4 MR. HERB: Could you maybe send those out  
5 in the minutes or I guess --

6 MS. BAILEY: We can include them in the  
7 minutes, and if you want I can repeat them again.  
8 It'll take a few seconds.

9 MR. HERB: Sure, yes.

10 MS. TOBIN: I believe they are on the  
11 last slide of the presentation at the end of the day.

12 MS. BAILEY: Oh, well there you go.

13 MR. HERB: Oh, okay.

14 MS. BAILEY: Okay, thank you.

15 MR. HERB: Thank you.

16 MS. BAILEY: All right, so I don't need  
17 to repeat them.

18 MR. LUBINSKI: Great question. And  
19 we've got Slide 25 for those in the room as we go  
20 through each of the topics these are the areas that  
21 we want to make sure we clearly get in our facilitated  
22 discussion today. Jenny, who is controlling the  
23 phone line?

24 MS. TOBIN: Angela.

25 MR. LUBINSKI: Angela, if you could ask

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 if there is any questions on the phone line at this  
2 time.

3 OPERATOR: Thank you. We will now begin  
4 a question and answer session. If you would like to  
5 ask a question please press star then one and please  
6 record your name.

7 MR. LUBINSKI: Angela, can I assume there  
8 is no questions at this point?

9 OPERATOR: Correct, we have no  
10 questions.

11 MR. LUBINSKI: Okay. Then we'll go to  
12 the next presentation and we'll turn to, is it Ross  
13 next?

14 MS. TOBIN: Ross, yes.

15 MR. LUBINSKI: Ross.

16 MS. ALVARADO: Okay. I am Rossnyev  
17 Alvarado, I am the lead for the Common Cause Failure  
18 Action Plan.

19 Next slide, please. The SRM SECY-15-  
20 0160 directed the staff to consider updates to the  
21 policy on Common Cause Failure as part of the  
22 Integrated Action Plan to modernize the regulatory  
23 framework for I&C assistance.

24 One of the most significant issues  
25 associated with digital assistance is the potential

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 for Common Cause Failure. The SRM SECY-93-087  
2 provides the acceptant criteria for the evaluation of  
3 Common Cause Failure.

4 The staff implemented this direction in  
5 its Branch Technical Position 7-19, in Chapter 7 of  
6 the Standard Review Plan and specifically BTP 7-19  
7 provides guidance to ensure a diverse mean is  
8 available to mitigate Common Cause Failure, including  
9 adoption of internal diversity, simplicity of design,  
10 and use of manner operator action.

11 The staff has effectively licensed  
12 digital assistance using this guidance for the past  
13 several years. However, the staff believes the  
14 assumptions in SECY-93-087 should be reevaluated in  
15 light of the significant technological evolution that  
16 has occurred in the past 20 years.

17 In addition, the current regulatory  
18 treatment and acceptance criteria has been  
19 problematic for licensees upgrading their digital  
20 assistance.

21 External stakeholders are looking for  
22 clear NRC staff guidance on matters to analyze the  
23 potential for Common Cause Failure.

24 Due to current status and external  
25 stakeholders request this Working Group is currently

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 performing an evaluation of the NRC position in an  
2 effort to either modify or affirm this position.

3 This Working Group will prepare a  
4 technical basis and a SECY Paper outlining our  
5 findings and recommendations to the Commission.

6 In parallel with this effort the staff  
7 will maintain appropriate interfaces with industry  
8 stakeholders to identify what activities, if any, can  
9 be performed to contribute with addressing this  
10 issue.

11 In this regard the staff had a public  
12 meeting on March 21st in which external stakeholders  
13 discussed the current NRC position and identified  
14 areas that the staff should consider evaluating.

15 In addition, we are planning another  
16 meeting for April 26th, which we are still  
17 coordinating with NEI.

18 The desired outcome of this effort is to  
19 improve the ability of licensees to evaluate a  
20 proposed design or system modification to digital  
21 safety system.

22 This concludes my presentation. Is  
23 there any questions regarding the Common Cause  
24 Failure Plan or Working Group?

25 MR. LUBINSKI: We can start at the table

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701



1 and then go to the room. Anyone in the room any  
2 questions or comments?

3 (No audible response)

4 MR. LUBINSKI: Angela, any questions on  
5 the phone line?

6 OPERATOR: Not at this time.

7 MR. LUBINSKI: Okay. So, you know, with  
8 respect to this and, you know, we have this as a high  
9 priority near-term action and as part of the SRM we  
10 wanted to make sure we had a common understanding of  
11 the important issues and from the comments received  
12 from NEI previously we believe this is definitely one  
13 of the near-term issues that need to be addressed.

14 MR. CONNELLY: John Connelly.  
15 Excellent. We wholeheartedly agree that 50.59 and  
16 Common Cause Failure are our highest priorities right  
17 now.

18 MR. LUBINSKI: Great. We won't ask that  
19 question at the end of the next presentation then.  
20 Thanks.

21 MR. CONNELLY: In fact, we'll cover it  
22 in our presentation.

23 MR. LUBINSKI: Good.

24 MS. ALVARADO: Very good, thank you.

25 MR. LUBINSKI: Deirdre.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 MS. SPAULDING-YEOMAN: Next slide.  
2 Hello, I am Deirdre Spaulding-Yeoman, lead for the  
3 50.59 Working Group.

4 Next slide, please. The 50.59 Action  
5 Plan describes the activities and schedules for  
6 improving guidance for using Digital I&C with the 10  
7 CFR 50.59 process.

8 The purpose of the activities is to  
9 address the need for clarity of mutual industry and  
10 NRC staff understanding that NRC guidance is being  
11 properly translated into industry actions.

12 Based on public meetings and discussions  
13 with industry representatives additional guidance is  
14 needed for assessing whether the impact of new  
15 digital equipment will a) result in more than a  
16 minimal increase in the likelihood of occurrence of  
17 a malfunction of a system or component, important to  
18 safety previously analyzed, b) create the possibility  
19 for an accident of a different type than previously  
20 evaluated, and c) create the possibility for a  
21 malfunction of a system or component important to  
22 safety with a different result than previously  
23 analyzed.

24 Regulatory Guide 1.187, Guidance for  
25 Implementation of 10 CFR 50.59, changes tests and

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 experiments, provides the NRC staff's endorsement of  
2 industry guidance for evaluating the impact on plant  
3 safety analysis for plant modifications performed  
4 under 50.59.

5 The objectives of 10 CFR 50.59 are to  
6 ensure that licensees 1) evaluate proposed changes to  
7 their facilities for the effects on the licensing  
8 basis of the plant as described in the FSAR, and 2)  
9 obtain prior NRC approval for changes that meet  
10 specified criteria as having a potential impact on  
11 the plant license basis.

12 With a specific focus on Digital I&C one  
13 goal of the 50.59 Working Group is to review Appendix  
14 D to NEI 96-07 for a potential endorsement in Reg  
15 Guide 1.187.

16 As part of the Working Group's review it  
17 will integrate the staff's 10 CFR 50.59 activity with  
18 the staff activity for addressing Common Cause  
19 Failure in Digital I&C equipment.

20 Upon receipt of Appendix D the staff will  
21 begin its review. A public meeting, as stated  
22 previously, is going to be held on April 28th to  
23 engage NEI and other external stakeholders in a  
24 discussion of the information in Appendix D.

25 NRC staff will continue its review,

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 subsequent public meetings will be held, and we will  
2 continue to engage external stakeholders.

3 Are there any questions or comments at  
4 this time regarding the 50.59 Working Group Action  
5 Plan?

6 MR. REMER: Thank you, Deirdre,  
7 appreciate that. Is your plan right now  
8 substantially different than it was before you were  
9 required to put the plan together?

10 In other words, we have been working on  
11 the 50.59 thing for a couple years now and so I just  
12 wondered is the notional idea and where you were going  
13 to the same or has it changed?

14 MS. SPAULDING-YEOMAN: Yes. We believe  
15 that the same philosophy and ideas are within this  
16 current Plan. Again, the purpose is to reach out to  
17 you to get your feedback and comments.

18 If you see anything that differs from  
19 your perspective please let us hear what you have to  
20 say.

21 MR. REMER: Okay, good. Thank you.

22 MR. LUBINSKI: Yes, so the plan is, you  
23 know, and, Jason, you said, still we are looking at  
24 the document coming in and our goal would be to review  
25 the document and hopefully endorse the document as

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 written.

2 If there is changes needed to it that we  
3 don't agree with then we would need to engage with  
4 you to either get you to address those and change  
5 them or put some type of condition in our approval.

6 MR. REMER: Right.

7 MR. LUBINSKI: But that's the way the  
8 Plan is laid out at this point.

9 MS. SPAULDING-YEOMAN: That is correct.  
10 The Plan is to, as part of that, to review Appendix  
11 D.

12 MR. REMER: Right. An original thought  
13 was to get a preliminary look so we could come have  
14 a preliminary view that okay, NRC was going to endorse  
15 this, it would take a year or so, so we could begin  
16 the process of implementing that in our plants.

17 Is that still the thought or is there  
18 some --

19 MS. SPAULDING-YEOMAN: Well at this time  
20 the staff has not reviewed the document --

21 MR. REMER: Right.

22 MS. SPAULDING-YEOMAN: -- so we cannot  
23 at this time say whether or not we will be endorsing  
24 it.

25 MR. REMER: Oh, yes, for sure. But I

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1       guess the idea was the thought was originally,  
2       correct me if I am wrong, guys, that we were going to  
3       have, you know, kind of the preliminary look, like an  
4       acceptance review, so then we could begin the process  
5       of implementing that in our stations whether than  
6       waiting a whole year or so, however long it would  
7       take to review it is --

8               MS. SPAULDING-YEOMAN:   John, would you  
9       like to talk about the NRC policy regarding this?

10              MR. LUBINSKI:   Sure, yes.   Yes, so if  
11      you look at our schedule itself, and we didn't put  
12      the schedules in the Plan, but if you look in the  
13      Plan itself it shows a pretty aggressive schedule on  
14      the NRC's part in reviewing the NEI document.

15              Again, we haven't received the NEI  
16      document, we expect it to come in this Friday. Is  
17      that still the plan, do you guys know?

18              MR. HERB:   Yes, that's still the plan.

19              MR. LUBINSKI:   Yes, good, thanks.

20              MR. HERB:   Yes, this is Ray Herb, from  
21      Southern Nuclear.   Yes.

22              MR.   LUBINSKI:       Good.       So   the  
23      confirmation is yes we'll be getting it this Friday.  
24      And then the Plan calls for a pretty aggressive  
25      schedule for getting back to you with questions and

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1        comments, I think the June timeframe. Is that --

2                MS. SPAULDING-YEOMAN: That is the plan  
3        that we are currently, the schedule that we are  
4        currently working towards.

5                MR. LUBINSKI: Okay.

6                MS. SPAULDING-YEOMAN: Again, it is a  
7        very aggressive schedule for the staff, so --

8                MR. LUBINSKI: So if we were to look in  
9        accordance with our normal processes, such as like  
10       reviewing a topical report, it may take two to three  
11       months to even do the acceptance review, where we'll  
12       be at the point of actually completing our initial  
13       evaluation by the end of that timeframe.

14               So I think that would meet your objective  
15       of, you know, are we close -- Are you guys close to  
16       the target or are we, you know, far apart, and the  
17       June timeframe will tell us that.

18               It also assumes that we'll be close to  
19       the target at that point in time so that, you know,  
20       we don't expect -- If there are significant RAIs, of  
21       course, that is going to change that schedule.

22               MR. HERB: Right. Good, thanks.

23               MR. LUBINSKI: Okay.

24               MR. CONNELLY: Just to clarify though --  
25       John Connelly, Exelon. I think what Jason was

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 alluding to, there is going to be some period of  
2 latency between -- We're obviously going to have to  
3 interact and decide whether or not we are close or  
4 far apart.

5 MR. LUBINSKI: Yes.

6 MR. CONNELLY: But once we get to the  
7 point, the supposition of endorsement, ultimate  
8 endorsement, once we get to that point there is a  
9 period of latency for getting it codified.

10 MR. LUBINSKI: Yes.

11 MR. CONNELLY: We had previously talked  
12 about doing some kind of interim memo from the NRC  
13 that says these are methods that are deemed  
14 acceptable, is that something that we can still  
15 entertain?

16 MR. LUBINSKI: What we would like to do  
17 then is -- You know, we're not going to make that  
18 decision today, but as far as your comments back on  
19 the Plan that is what we are looking for.

20 Just a second ago Ray had the schedule  
21 that's in the Plan there and if you believe in your  
22 comments back on the Plan that there is an interim  
23 step in there please provide that and your reasoning  
24 and justification for it and then we can make a  
25 decision whether to include that into the Plan or

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701



1 not.

2 MR. HERB: This is Ray Herb, Southern  
3 Nuclear. I think, yes, what we're looking for is  
4 that time period when both NEI 01-01 would still be  
5 effective, which is the current guidance, and when it  
6 would be sunsetted and the new 96-07 Appendix D would  
7 take over and we would need time in the industry to  
8 like do change management and make sure everybody is  
9 onboard and doing the, does the switch over.

10 And so I guess that would be part of when  
11 you do your acceptance, how long NEI 01-01 will still  
12 be around and whether it will be grandfathered in,  
13 because the modification process in the industry  
14 often times is a two to three year process from  
15 beginning to end and so there will be things that  
16 are, what they have done through the old methodology  
17 and things with the new methodology that are kind of  
18 -- So there would need to be a, I guess a  
19 consideration when you adopt it into regulation when  
20 it actually goes effective and when NEI 01-01 goes  
21 away.

22 MR. LUBINSKI: Yes, let me just --

23 MR. HERB: Well to back that, I guess  
24 issues for stuff that were already done.

25 MR. LUBINSKI: Yes. Let me address two

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 issues here. You know, first at the high levels,  
2 they're the kind of comments we want to get, Ray.  
3 And when I say the comments, is we'd like to get back  
4 from you what you see in our actions right now and  
5 specifically, and I encouraged, you know, comments  
6 early to Deirdre on this so that she can evaluate and  
7 navigate that in, but where do you see this fitting  
8 in the timeline that we have established, what are  
9 the key points that you want to get from the  
10 standpoint of, you know, rescinding our approval of  
11 NEI 01-01 and then approval and your acceptance  
12 review process type thing that you are talking about  
13 and get that specifically in there.

14 What's also from our current plan is we  
15 don't plan to make any changes to the regulations,  
16 50.59. The 50.59 regulation we don't see that as a  
17 concern.

18 So when we talk about the documents that  
19 we're reviewing, it's guidance, not regulation. You  
20 used the term backfit, I just want to make clear we  
21 are not backfitting anyone along the way, we don't  
22 plan to backfit.

23 The concerns we have had in the past with  
24 the NEI 01-01 guidance is how it is being implemented  
25 versus the 50.59 requirement itself, so I just wanted

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 to make sure that's on the table.

2 And if we need to in our process get some  
3 kind of clarity in how that's implemented we would  
4 look for that feedback as well.

5 MS. SPAULDING-YEOMAN: Angela, are there  
6 any questions from people on the line?

7 OPERATOR: Yes, we do have one. Dan  
8 Cronin, your line is open.

9 MR. CRONIN: Hello. This is Dan Cronin  
10 from the University of Florida and I just had a bit  
11 of a scoping question. You know, research and test  
12 reactors use the same 50.59 rule and processes to  
13 perform Digital I&C modifications and I noted on the  
14 draft Plan that it's very specific to nuclear power  
15 plants, at least in the headings and titles.

16 Is there any intent to change the NEI or  
17 EPRI guidance in such a way that it would exclude  
18 non-power reactors from the scope? Because currently  
19 those are the documents that we're using as well, so  
20 we're very interested in how the guides move forward.

21 MS. SPAULDING-YEOMAN: Yes, the staff  
22 recognizes that and so we do have members of the  
23 Working Group who are representing those other areas.

24 So if there are any impacts currently to  
25 how they are conducting their programs we would know

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1       that because they are active participants in the  
2       Working Group.

3               MR. CRONIN:   Okay, great.   So it's just  
4       the way that the headings are in this draft Plan that  
5       specifies nuclear power plants but in fact it's  
6       intended to mean all Part 50 licensees, right?

7               MS. SPAULDING-YEOMAN:   Yes.   Thank you  
8       for the comment.   We'll take that back to evaluate  
9       whether or not we want to do anything different with  
10      the title of the Working Group, but, yes, as it stands  
11      this is an all-encompassing effort.

12              MR. CRONIN:   All right, thank you.

13              MR. LUBINSKI:   And with respect to that  
14      I'm going to ask NEI from the standpoint, because NRC  
15      looks at it from the standpoint of the RTRs R Part 50  
16      licensees, the same requirement does apply, and if  
17      the guidance is applicable we would endorse it for  
18      RTRs as well.

19              But I would ask NEI from the standpoint  
20      of your focus, whether it's more on the power reactors  
21      or do you believe it's applicable to both from what  
22      your --

23              MR. REMER:   Yes, we'll take that as an  
24      action.

25              MR. LUBINSKI:   Okay, thanks.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 MS. SPAULDING-YEOMAN: I'm looking  
2 around, I don't see any other questions, so --

3 OPERATOR: We do have one more on the  
4 phone.

5 MS. SPAULDING-YEOMAN: We do, okay, very  
6 good.

7 OPERATOR: Joe Holonich, your line is  
8 open.

9 MS. HOLONICH: Hi, John and Deirdre, this  
10 is Joe. I just -- I don't have a question, I just  
11 want to make a statement and make sure people have  
12 thought about this.

13 NEI is going to submit this to us but  
14 what happens if they don't get a fee waiver?

15 MR. LUBINSKI: So that would be the  
16 question I guess towards NEI.

17 (Laughter)

18 MS. HOLONICH: I mean the bottom line is  
19 I don't know that I could make the argument for the  
20 fee waiver this document and if we don't have a fee  
21 waiver are they going to pay the fee or are they going  
22 to withdraw the document or what's Plan B for them if  
23 they don't get a fee waiver?

24 MR. REMER: So I don't remember the way  
25 they started, it was before time, is it was an NRC

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 concern that kind of kicked this whole process, so I  
2 would hope that however it was done originally it  
3 could be done the same way, because it will improve  
4 safety across the fleet.

5 So we haven't addressed that yet, and we  
6 haven't even talked about it, but that may be an item  
7 we should discuss.

8 MR. LUBINSKI: Yes, let's put that --

9 MS. HOLONICH: In case -- There is a real  
10 possibility that you could not get a fee waiver,  
11 especially now the climate is a little different than  
12 it was when this was first initiated because of  
13 pushback from OMB on the CFO to tighten up on fee  
14 waivers.

15 So it's just something I wanted to make  
16 sure you guys considered as you did this.

17 MR. REMER: Thanks.

18 MR. LUBINSKI: Thanks for raising that,  
19 Joe, and we'll put that down in our actions as we are  
20 going through the process of looking, because, again,  
21 this is one of the items that has really an  
22 endorsement of an industry documentation where these  
23 other items are NRC-generated documents.

24 OPERATOR: We do have another question  
25 that came up.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 MR. LEWIS: Hi. My name is Marvin Lewis.  
2 Please bear with me, I'm still back in 1960 when I  
3 got my first computer about the size of a desk from  
4 GE and you guys know that almost as well as I do, but  
5 that's okay.

6 My big question is a real simple one,  
7 HEP, Human Error Probability. My problem is this,  
8 that there is also probabilities with equipment,  
9 namely hanging tags that block a red light like it  
10 happened at Three Mile Island Number 2 and there is  
11 probably that aren't human error but human caused  
12 like Stuxnet and the control rods that got dropped  
13 through the reactor causing a meltdown at Chalk  
14 River.

15 I am wondering, I see a lot about HEP, I  
16 see a lot about probability, I am wondering if anybody  
17 is doing anything with these other issues? Thank  
18 you.

19 MR. LUBINSKI: Thank you Marvin, we  
20 appreciate that. As part of our response to the  
21 Commission we will be providing a SECY Paper that  
22 talks about the landscape of I&C and our expectation  
23 will be an enclosure, but it may be part of the Paper,  
24 of what the issues are from the standpoint of overall  
25 with digital -- Or, I'm sorry, instrumentation and

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 control and general, whether it's analog or digital.

2 The focus on the Action Plan will then be  
3 what we're addressing from a digital standpoint, so  
4 that will not be the focus of the Paper itself. With  
5 respect to if any of those digital issues do go into  
6 human reliability and human factors we will be  
7 looking at that and that came up as a big issue in a  
8 recent meeting on Common Cause Failure of looking  
9 from the standpoint of a Common Cause Failure more  
10 collectively with the digital equipment, it's not  
11 just the software itself, but the entire system.

12 So with respect to those digital issues  
13 you cannot really take the human factors side out of  
14 that, that will be a specific part of that as you go  
15 forward.

16 So I guess it's going to be -- A hybrid  
17 of an answer to your question is with respect in  
18 general, human factors with respect to I&C overall,  
19 that is not a focus we have right now.

20 However, with respect to any changes we  
21 are looking or any challenges we have in the digital  
22 areas we will be looking at the human factor aspects  
23 and how they impact.

24 MR. LEWIS: Can you give me a reference,  
25 a contact person, anything, that I can follow this up

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701



1 with?

2 MR. LUBINSKI: At this point I would say  
3 you can keep me, John Lubinski, as your first point  
4 of contact and then we will get you in contact with  
5 some other folks as necessary, and my number is (301)  
6 415-1270.

7 MR. LEWIS: I'm sorry, I missed your  
8 name.

9 MR. LUBINSKI: John Lubinski, L-U-B, as  
10 in Bravo, I-N-S-K-I, and my email is  
11 john.lubinski@nrc.gov.

12 MR. LEWIS: Okay, good. Yes, okay,  
13 fine. Thank you, you'll get a call from me, and I  
14 appreciate it greatly. Thank you, bye.

15 MR. LUBINSKI: Thank you.

16 OPERATOR: You have no further  
17 questions.

18 MS. TOBIN: Thank you, Angela.

19 MR. LUBINSKI: Okay.

20 MS. TOBIN: I see no questions here, so  
21 we will move to our next item on the agenda and,  
22 Royce.

23 MR. KEENE: I was going to say -- Excuse  
24 me, this is Todd Keene. If I can interrupt you one  
25 minute, Royce. Just for everybody that's online

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 while we were doing the meeting it was brought to my  
2 attention that the webinar link had dropped off our  
3 public meeting notice.

4 I have updated it, so for anybody that  
5 still wants to, has the opportunity to register and  
6 get on the webinar it is available and on the line  
7 and I have sent out a few emails to some individuals  
8 that have provided this information.

9 So if you have any other information  
10 please include it in the public meeting feedback form  
11 as well. Sorry, Royce, thank you.

12 MR. BEACOM: Good morning, everyone. My  
13 name is Royce Beacom. I am here to discuss the IEEE  
14 603 Working Group Action Plan.

15 First of all, yes, the staff is to ensure  
16 that any proposed new or revised requirements  
17 maintain the high level of principles directed by the  
18 Commission.

19 Now those high-level principles were  
20 embedded in John's discussion of the strategy that we  
21 are taking, but I think they are also important and  
22 very important to the Working Group.

23 Let me state those principles. They are  
24 that any new or revised requirements should be  
25 performance-based versus prescriptive-based. Any

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 new requirements should be technology neutral.

2 Any new requirements should apply to both  
3 operating and new reactors and any new requirements  
4 should not have to be an unnecessary impediment to  
5 the development of Digital I&C in the nuclear  
6 industry.

7 The first bullet is inclusive of the  
8 second as to be sure that the new requirements are  
9 acceptable with a standard development organization  
10 for the 603 standard.

11 I was on the NRC Rulemaking Working Group  
12 which developed a SECY. I am also the Chairperson  
13 of the IEEE Working Group for 603. I was able to  
14 communicate the tangibles, as the IEEE Working Group  
15 called them, the tangibles, the actual changes that  
16 should be corrected in the standard within the  
17 standard itself, and then when they became publicly  
18 available I was able to provide them with a discussion  
19 of background of the additional conditions that the  
20 NRC had proposed in the SECY.

21 The IEEE Working Group reviewed those  
22 conditions and identified which ones should be  
23 included in the next revision of the standard.

24 Now, the standard revision process is  
25 underway, we are guessing for the 2018 version it

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 will be. So we have continued to have involvement  
2 in the IEEE NPEC Working Group in publishing the  
3 standard revisions at the biannual meetings.

4 The objective of this Working Group is to  
5 provide a recommendation as to which version of the  
6 603 standard will provide the most streamlined  
7 process to be incorporated by reference in  
8 rulemaking.

9 We have to be very careful and aware of  
10 the IEEE process. The IEEE process like I said is  
11 undergoing the revision to the standard and we are  
12 assuming it will be the 2018, it could be 2019  
13 depending how the process works out.

14 But based on the IEEE policy that a  
15 standard revision life cycle is ten years we must  
16 have the -- the IEEE standard must be revised and  
17 published by 2019, so that's our drop down out.

18 Now, if the staff will consider if there  
19 is any proposed new or revised requirements that we'd  
20 like to discuss with the IEEE Working Group that can  
21 be done.

22 The IEEE Working Group will then consider  
23 if they have to change the scope of the next revision  
24 and if that's possible within the timeframe allowed  
25 for the revision or go to the next revision of the

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 standard entirely. That all depends on what this  
2 Working Group comes up with and the NRC staff as a  
3 whole.

4 We also must be in close contact with and  
5 alignment with the other standards, such as 7-4.3.2,  
6 our sister standard on digital. Although 603 is  
7 technology neutral we do reference 7-4.3.2 for all  
8 the digital issues.

9 And also in the next revision of the 603  
10 standard we would like to have a CCF requirement  
11 revised. That we're going to keep close watch on on  
12 how the NRC addresses that issue as well.

13 That's all I have. Any questions on the  
14 603 Action Plan?

15 OPERATOR: As a reminder to ask a  
16 question please press star one.

17 MR. REMER: Royce, thank you for that  
18 presentation. So you are saying the main objective  
19 or the outcome of your short-term group will be to  
20 provide a recommendation for a way ahead?

21 MR. BEACOM: Yes, right, a go ahead with  
22 which version of the 603 standard to go with.

23 MR. REMER: All right, thank you.

24 MR. LUBINSKI: And to clarify that,  
25 Jason, just to make sure there is a common

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 understanding for everyone, is that our  
2 recommendation at this point is that we will not be  
3 continuing to evaluate the 2009 standard and we will  
4 instead be looking towards the 2018 standard and any  
5 issues that we believe need to be addressed as part  
6 of that standard so that we can allow the IEEE  
7 Committee to fully address those and work with the  
8 industry to understand whether or not they would look  
9 at incorporating or making any changes. Is that  
10 correct, Royce?

11 MR. BEACOM: That's correct, yes.

12 MR. LUBINSKI: Other questions in the  
13 room?

14 (No audible response)

15 MR. LUBINSKI: Angela, is there any on  
16 the phone line?

17 OPERATOR: No. Actually we have one  
18 coming up, one moment.

19 MR. LUBINSKI: Okay, thank you, we'll  
20 wait. While we are waiting for the question I'll  
21 just continue to expand.

22 We do believe it is important to get back  
23 to the Commission since the Plan was prompted by our  
24 review of the IEEE 603/2009 and the Commission  
25 disapproved publication at this time based on not

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1       having sufficient information to make a decision on  
2       that.

3               So we believe it is important to get back  
4       to the Commission in the 90-day Plan letting them  
5       know what we plan to do with respect to 603, which is  
6       one of the reasons it rose to the level within the  
7       Plan.

8               OPERATOR: We can have a question from  
9       Timothy Smith, your line is open.

10              MR. SMITH: Yes, good morning. I was  
11       curious as to why we are looking exclusively to the  
12       IEEE standards? We stated earlier that the  
13       Commission is looking towards a performance-based and  
14       technology-neutral type of standard.

15              So I was wondering why the staff hasn't  
16       considered ISA-84 as a possible alternative, that  
17       there are plenty of performance-based and granted  
18       it's more of a risk-based performance-based approach,  
19       but I was curious as to why the staff hadn't looked  
20       at that standard, or hadn't looked to that standard.

21              MR. LUBINSKI: Well let me start and I'm  
22       going to ask Royce to follow-on here. With respect  
23       to 603 itself that standard is currently endorsed in  
24       the NRC regulations, it's the 1991 version of the  
25       standard, and it is one of the requirements we have

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 of the active: if there are consensus  
2 standards that have been approved by consensus body  
3 groups and that we find them acceptable we would  
4 endorse them through our regulation.

5 So that's the reason 603 is getting  
6 attention. I'll ask Royce about the ISA standard and  
7 if he wants to provide insights on that.

8 MR. BEACOM: Well, yes, I'll continue  
9 though first with the 603 standard. That one is  
10 continued to be used by applicants not only for  
11 digital, like I said it's technology neutral and it's  
12 used for analog as well as digital.

13 So hopefully it can be used for any  
14 technology in the future as well. So we try to  
15 maintain that standard, the IEEE tries to maintain  
16 that standard as technology neutral.

17 Of course we are always considering  
18 whether to use the other standards as well as much as  
19 we can, but in fact as of right now we have not got  
20 into risk-based as far as any reference to a  
21 particular requirement within I&C.

22 If you notice 603 does not have any sort  
23 of risk-based discussion within it.

24 MR. LUBINSKI: I would appreciate from a  
25 comment standpoint, it sounds like you are

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701



1 recommending that we look at the ISA standard and we  
2 would like to receive that as a written comment then  
3 so that we can evaluate that, whether or not it would  
4 be evaluated in accordance with the 603 plan or in  
5 our longer term activities.

6 And it would sound like from what I am  
7 hearing today looking at the risk that would be a  
8 longer term activity that we could at endorsing that  
9 type of standard.

10 So we would appreciate if you believe  
11 that's your recommendation and that's what I'm  
12 hearing you say is provide that in writing to us so  
13 that we can consider that moving forward.

14 MR. SMITH: Now to whom may I send this,  
15 please?

16 MR. LUBINSKI: The Federal Register  
17 Notice had a contact, it was Todd Keene, K-E-E-N-E.  
18 Todd's email address is todd.keene@nrc.gov.

19 MR. SMITH: Okay, thank you.

20 MR. LUBINSKI: Thank you.

21 OPERATOR: We have no further questions.

22 MR. BEACOM: Thank you.

23 MR. LUBINSKI: Thanks, Royce.

24 MR. STATTEL: Okay. I am Richard  
25 Stattel and I am representing the IEEE 7-4.3.2

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 Working Group. Next slide. So this slide shows the  
2 key planned activities from our Action Plan.

3 The NRC recently proposed several  
4 regulatory requirements regarding system  
5 independence and data communication as conditions in  
6 the proposed rule to incorporate IEEE 603 into  
7 regulation 10 CFR 50.55(a).

8 Some of these conditions were applicable  
9 to only new reactors or to only operating reactors.  
10 In the staff's requirement memorandum the Commission  
11 directed us to consider broader regulatory challenges  
12 and stated that Digital I&C safety requirements  
13 should be technology neutral, however, guidance  
14 should be tailored if necessary.

15 So in response to that we recognized that  
16 some of the proposed digital-specific conditions that  
17 were in that proposed rule would align with the scope  
18 and purpose of IEEE 7-4.3.2.

19 The NRC staff will interact with the  
20 IEEE, the NPEC Working Group, to discuss future  
21 development of IEEE 7-4.3.2 and to determine whether  
22 such conditions should be pursued within that  
23 industry consensus standard.

24 We will also be evaluating the  
25 possibility of including these conditions in the Reg

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 Guide, Reg Guide 1.152 or as part of the next Standard  
2 Review Plan update.

3 So essentially that's our planned  
4 actions. Are there any questions?

5 OPERATOR: Again I'd like to remind all  
6 participants if you have a question at this time  
7 please press star one.

8 MR. LUBINSKI: While we are waiting for  
9 the phone line, and I don't hear any questions in the  
10 room yet, you know, as we discussed with 603 it's a  
11 very similar reasoning on the 7-4.3.2 on why we're  
12 getting back to the Commission.

13 Again, they were conditions that we had  
14 proposed to the Commission to be part of the IEEE 603  
15 rulemaking and we believe it's important at this time  
16 to get back to the Commission to let them know, again,  
17 we're not trying to look at the 2009 603 standard and  
18 put these conditions into the rule, but we do want to  
19 continue to evaluate those conditions, whether  
20 they're applicable or not, should they be applicable,  
21 and get them into the right process.

22 As Rich stated 7-4.3.2 seems to be the  
23 more appropriate place to address those. We also  
24 have the benefit that our leads internally here,  
25 Royce and Rich, are also members of those two

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 Committees.

2 Royce is the Chair of the IEEE 603.  
3 Excuse me, Rich, Chair or Member of the --

4 MR. STATTEL: I'm a Member, but I'd also  
5 like to mention the timing is somewhat different for  
6 the IEEE 7-4.3.2 standard.

7 MR. LUBINSKI: Okay.

8 MR. STATTEL: We have just issued the  
9 2016 version of that standard, it was published last  
10 month. So the Working Group has not reconvened to  
11 discuss the scope of the next revision, but generally  
12 we're on about a 5-year, a five, 6-year cycle, so  
13 presumably the next version of 7-4.3.2 would be, you  
14 know, five years from now.

15 So because we don't have a revision in  
16 progress when we meet this Summer, the NPEC Working  
17 Group, our first order of business will be to discuss  
18 the scope of the next revision and that's when we  
19 hope to basically interact and discuss those  
20 conditions that were part of the proposed rule and  
21 decide whether they should be included within the  
22 scope of that next revision.

23 MR. LUBINSKI: Thanks, Rich, I  
24 appreciate that clarification. Because as Rich said  
25 after the July meeting that could change some of the

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 actions and our scheduling after that and we would be  
2 modifying our Action Plan at that point  
3 appropriately.

4 MR. REMER: So, Rich, what you are saying  
5 is that the end of this Action Plan with the NRC will  
6 be to come up with your position about what you would  
7 suggest to the IEEE Committee, is that what you are  
8 saying?

9 MR. STATTEL: Well that's kind of our  
10 starting point.

11 MR. REMER: Okay.

12 MR. STATTEL: So there's a meeting in  
13 July that the NPEC will be having. Both myself and  
14 Deanna Zhang will be, we're members of that group.

15 I've already discussed this with the  
16 Chair, which is Warren Odess-Gillet, and he has  
17 agreed to include that in the agenda for the July  
18 meeting and we'll basically be going through each of  
19 the proposed requirements and basically formulating  
20 positions from the IEEE's perspective and they will  
21 be making recommendations to the NPEC group and we're  
22 hoping to get a letter, basically a position letter  
23 from IEEE to the NRC stating how they intend to  
24 address those issues.

25 MR. REMER: Okay. One way or the other

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1       though it's still four to five years out before you'd  
2       actually see something on that probably?

3               MR. STATTEL: Yes, and the timing is --

4               MR. REMER: Okay.

5               MR. STATTEL: It's a little -- I mean  
6       it's fortunate in that we can interact early in the  
7       revision process, but it's unfortunate that, you  
8       know, it's going to be five years before we see any  
9       product.

10              MR. REMER: Okay.

11              MR. STATTEL: So I'm not sure that's  
12       going to meet the expectations of the Commission as  
13       far as getting these things addressed.

14              So, you know, I don't want to predict the  
15       future too much, but I think there is a strong  
16       possibility that we would simply proceed with the  
17       endorsement of the current, the standard that's just  
18       been issued and then add provisions within the Reg  
19       Guide 1.152.

20              That would probably be a more timely  
21       approach to addressing these.

22              MR. REMER: Thanks.

23              MR. LUBINSKI: Angela, are there any  
24       questions on the line?

25              OPERATOR: I'm showing no questions at

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 this time.

2 MR. LUBINSKI: All right, thank you.  
3 Okay, can we turn to Jonah?

4 MR. PEZESHKI: My name is Jonah Pezeshki.  
5 I am the lead for the Cyber and Design Working Group.  
6 So the current regulatory framework provides  
7 programmatic cyber security requirements, as I'm sure  
8 you are aware.

9 As such operating reactor licensees and  
10 COL applicants are not currently expected to submit  
11 design information used to address cyber security  
12 requirements for NRC review.

13 In the case of peer reactors the first  
14 opportunity for the NRC to inspect the implementation  
15 of the cyber security program typically occurs after  
16 the design certification applicants have completed  
17 the design of systems that support safety, security,  
18 and emergency preparedness functions.

19 Similarly, for operating reactors,  
20 design information only becomes available for  
21 inspection when a system is entered into the  
22 operating reactor licensee's cyber security program.

23 In each case this delay between design  
24 and cyber security review increases the regulatory  
25 uncertainty for both COL holders and for operating

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 reactor licensees.

2 The ACRS has also raised concerns  
3 associated with the control of access to plant  
4 equipment and networks. Specifically, the ACRS has  
5 stated that control of access to critical plant  
6 systems should be reviewed as part of the design  
7 certifications and COL application reviews.

8 To address both concerns the NRC has  
9 conducted a review of existing cyber security  
10 regulation and guidance as it relates to the  
11 evaluation of cyber-related design information.

12 Based on this assessment the NRC has the  
13 regulatory authority to review voluntarily submitted  
14 cyber security design information and provide  
15 insights on its potential impact to a licensee or  
16 applicant's required cyber security program.

17 The NRC also has the appropriate  
18 regulations and regulatory authority to ask the  
19 licensee and/or applicant questions related to the  
20 potential security impact of Digital I&C elements, or  
21 design elements, I'm sorry.

22 However, currently the Standard Review  
23 Plan does not include sufficient guidance to enable  
24 staff to conduct these reviews.

25 Given this, the Cyber Security Design

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701



1 Working Group is in the process of developing an  
2 update to the Standard Review Plan as well as other  
3 related regulatory documents to provide guidance for  
4 supporting cyber security design licensee reviews.

5 The Working Group is also developing a  
6 SECY Information Paper summarizing the plant  
7 processes to address cyber security design licensing  
8 reviews.

9 The Cyber Security Design Working Group  
10 will continue to engage the ACRS throughout this  
11 development process. A meeting to brief the ACRS on  
12 the NRC's intended approach for evaluating cyber-  
13 related design information is currently scheduled for  
14 May 17th.

15 The Working Group will also continue to  
16 hold public meetings to gather stakeholder input.  
17 Public meetings have previously been held in April  
18 and August of last year.

19 Also, we have three meetings currently  
20 targeted for June and August of this year, though  
21 those have not been scheduled yet.

22 The staff expects to incorporate feedback  
23 from these meetings and submit the finalized SECY  
24 Information Paper to the Commission in October of  
25 this year.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1                   At this time I would like to solicit any  
2                   questions from the audience.

3                   OPERATOR: We have a question from Joseph  
4                   Pappio. Your line is now open.

5                   MR. PAPPIO: Yes. The previous speaker,  
6                   I think I heard you say that regulatory guidance would  
7                   not be available for five or six years.

8                   My question, my reaction to that, is how  
9                   do you reconcile that with the Project Aim goals to  
10                  create a more efficient regulatory body and the fact  
11                  that the industry needs -- One of the problems I think  
12                  and the industry needs is criteria on what would be  
13                  acceptable and what would not be acceptable and the  
14                  need is now.

15                  So what are you doing to improve your  
16                  efficiency with regard to reviews that are coming in  
17                  now and establishing specific criteria that can be  
18                  used by the staff and understood by the industry  
19                  without having to go through this long back and forth  
20                  process of I would call "bring me a rock," which is  
21                  what we have been experiencing for a long time.

22                  MR. STATTEL: Hi, this is Richard  
23                  Stattel. I was the one who mentioned the 5-year  
24                  delay. I did not mean to imply that it takes five  
25                  years to write or issue a Reg Guide, and that's

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 certainly not any metric that we would operate by.

2 What I was referring to is basically the  
3 timing of this particular standard. This standard  
4 was just issued last month, so it will take five years  
5 for the IEEE to issue the next version of that  
6 standard.

7 As it turns out, the proposed rule, the  
8 requirements in the proposed rule, were being  
9 developed at the same time as the current standard  
10 was being developed.

11 So the scope of that revision, of the  
12 standard, of the 2016 IEEE standard, had already been  
13 decided five years ago, so it wasn't really practical  
14 to include those criteria within that standard.

15 So the real delay, the 5-year delay that  
16 I am referring to is really just the cycle for IEEE,  
17 not the Reg Guide. In fact, Paul Rebstock, he's here  
18 in the room, he is tasked with developing the next  
19 version of Reg Guide 1.152 and one of the near-term  
20 actions that we have is to make a decision on what  
21 version of IEEE 7-4.3.2 we will be providing, or  
22 addressing, within that Reg Guide.

23 MR. LUBINSKI: So, Rich, what I think I  
24 heard you say and maybe you can expand on is if we go  
25 to the NPEC in July, which is the next meeting, and

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 the discussion is that this may be incorporated into  
2 the next standard and it may be five years from now,  
3 our alternate approach would be to look at endorsing  
4 the 2016 standard and look at the specific conditions  
5 as part of that approval through that Reg Guide  
6 process and that would be a much more timely process,  
7 is that correct?

8 MR. STATTEL: That's correct, yes.

9 MR. PAPPIO: So does that mean that --  
10 At what point in time will the industry have an  
11 understanding of the specific criteria that has to be  
12 met in order to pass an NRC review for a submitted  
13 design? At what point in time will that occur?

14 MR. LUBINSKI: Well at this point we have  
15 current guidance, and let me, you know, make that --  
16 One of the things we didn't state at the beginning of  
17 the meeting is the NRC has guidance on what the  
18 requirements are for reviews.

19 We have our regulations, we have our  
20 guidance documents, and if we are reviewing  
21 applications today and if another application came in  
22 today we would review it in accordance with our  
23 existing guidance.

24 The purpose now is looking at, forward  
25 looking at improvements to that process, and we

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 agree, we don't want to take five years to improve  
2 the process.

3 So from the standpoint of what guidance  
4 is today, we're ready to receive an application.  
5 With respect to this specific issue that Rich is  
6 talking about, the conditions that were in the rule  
7 that seem to be more applicable to the 7-4.3.2  
8 standard, what we would say is if the IEEE, based on  
9 the meeting in July, has a schedule that's longer,  
10 such as a 5-year schedule, we would look at an  
11 alternate approach, we would address that in the  
12 review of the current 7-4.3.2, we would propose  
13 conditions and put that out, the Reg Guide that  
14 endorses it, out for public comment to the industry.

15 And we don't have the specific timeframes  
16 yet, because we first need to get the input from IEEE,  
17 that schedule would be developed shortly after the  
18 July meeting if we go that direction.

19 Is that correct, Rich?

20 MR. STATTEL: That's correct. Paul,  
21 would you like to say anything?

22 MR. LUBINSKI: We're waiting for, Paul  
23 Rebstock is approaching the microphone to provide  
24 further information.

25 MR. REBSTOCK: Yes. I would just say

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1       that the way Rich described it is accurate. We have  
2       guidance that's out there already. If people have  
3       questions about it we can talk about those, but  
4       there's something there.

5               It's not like the industry is at sea with  
6       no indication of what it is that we want, the  
7       information is already there.

8               The improvements that we plan to make  
9       will make things better and answer some questions in  
10      advance and simplify things.

11              Whether we -- How much goes into the next  
12      revision of Reg Guide 1.152 and how much goes into  
13      the next revision of the associated industry standard  
14      and then from there into 1.152 is going to depend in  
15      part on the IEEE schedule.

16              I have already gone through the 2010  
17      version of 7-4.3.2 and have a considerable amount of  
18      notes and a considerable amount of work already done  
19      toward issuing the, or preparing the revised Reg  
20      Guide.

21              I haven't -- I have put that on hold  
22      because of the work that was ongoing by the IEEE to  
23      generate the current version of the standard, so  
24      we'll proceed from there.

25              MR. LUBINSKI: So, Paul, let me ask in

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 helping to clarify the question, one of the reasons  
2 I believe we're going to the IEEE Committee with this  
3 is we believe the Standards Committees, whether it's  
4 IEEE or other Standard Committees, overall have a  
5 goal that they'd like to have their standards  
6 endorsed with no conditions and, therefore, if we are  
7 talking to them in July about potential conditions if  
8 they felt they were significant enough and wanted to  
9 address them early they could.

10 But what we do believe is it's the  
11 likelihood that these may not rise to that level and,  
12 therefore, we would come with the alternate approach  
13 and, therefore, I'm looking back to Rich, and at that  
14 point when we modify our Action Plan to talk about  
15 how we're capturing things in the Reg Guide we would  
16 be putting that out again to the public to make sure  
17 that they fully understand what our actions are and  
18 what are steps are in that review process, is that  
19 correct?

20 MR. REBSTOCK: Yes. Yes, our gold  
21 standard is the one-page Reg Guide that says do what  
22 the industry standard says, but if the industry  
23 standard can't support that then we have to have more  
24 in the Reg Guide.

25 MR. LUBINSKI: So we can't speak for IEEE

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 on how they are going to react in July?

2 MR. REBSTOCK: Right.

3 MR. STATTEL: One other thing I would  
4 like to mention is in reviewing these criteria there  
5 is also a strong possibility that this could end up  
6 as part of the Standard Review Plan instead of the  
7 Reg Guide process.

8 But it's a similar process for updating  
9 that, so we're looking, you know, one to two years  
10 for the update.

11 MR. LUBINSKI: Okay. So we're talking  
12 about, I see another comment, I just want to make  
13 sure we're talking about 7-4.3.2, so is this on 7-  
14 4.3.2 still, right, or did you want to talk about --

15 (Simultaneous speaking)

16 MR. HERB: No, I wanted to ask the --  
17 This is Ray Herb from Southern Nuclear. I wanted to  
18 ask the questioner what's your affiliation and were  
19 you actually talking about 7-4.3.2 or were you  
20 talking about the cyber requirements?

21 MR. LUBINSKI: That was a question for  
22 the gentleman online who asked the question about the  
23 5-year timeframe. Angela, is it possible to put the  
24 questioner back on the phone?

25 OPERATOR: Yes, one moment. Please

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701



1 press star one and I can open your line. Joseph,  
2 your line is open.

3 MR. PAPPIO: Okay. Joseph Pappio, I'm  
4 with Mitsubishi Nuclear Energy, and my question was  
5 on 7-4.3.2.

6 MR. HERB: Thank you.

7 MR. PAPPIO: Thank you.

8 MR. LUBINSKI: Thanks. Okay, so I'm  
9 going to look around the room here, we're on Jonah's  
10 issue of cyber. Were there any questions, comments,  
11 from people in the room here on the path forward and  
12 the proposed actions?

13 MR. REMER: Could I ask -- Jonah, thanks  
14 for your presentation, but could I ask the forcing  
15 function for this?

16 Other than the ACRS, I know they have a  
17 concern, industry, operating reactors have just gone  
18 through a big rollout of cyber security requirements  
19 and spent a lot of money, a lot of time, a lot of  
20 effort, bringing ourselves into compliance with the  
21 -- we got regulations.

22 And we are not feeling an acute need to  
23 improve this area, we feel it's in pretty good shape.  
24 I understand that maybe in some new plants and some  
25 people that are interested in more, maybe more

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1       certainty, so could you comment at all on --

2               MR. PEZESHKI:   You pretty much hit the  
3       nail on the head with that one.   Most of the questions  
4       coming mostly from new reactors and just reducing the  
5       regulatory uncertainty since they have such a large  
6       timeframe between the design of cyber security design  
7       elements and their actual implementation where they  
8       just want to be sure that they are on the right track.

9               And so just traditionally the NRC has not  
10       reviewed design and so they are just constantly  
11       nervous that when they actually get to the finish  
12       line they might be stopped at that point.

13              MR. REMER:   Right.   But I just -- The  
14       only comment I wanted to add is I would just hate to  
15       inadvertently provide guidance that will actually  
16       slow us down on the modernization side right now.

17              MR. PEZESHKI:   I don't expect this to.  
18       One of the points that I made, although I admit that  
19       I was talking about it quickly so it might have been  
20       glossed over, is that these reviews would be for  
21       voluntarily submitted cyber-related information, and  
22       so the key word there is voluntary.

23              If existing reactors believe that they  
24       are on track, which I can't imagine they wouldn't be,  
25       they just simply would integrate the systems into

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 their cyber security plan and it would just operate  
2 as normally.

3 MR. REMER: Thank you.

4 MR. LUBINSKI: That was a key point that  
5 Jonah brought up there from a voluntary. Another key  
6 point, you may not have picked up a word that he had,  
7 was that there is an Information Paper going to the  
8 Commission.

9 We're not looking at rulemaking. There  
10 were a couple public meetings we had last year on the  
11 topic and our current position that we are moving  
12 forward with is that this would be voluntary on the  
13 part of the industry.

14 They could decide when they want that  
15 part of the review, and as Jonah said it's the new  
16 reactors that are pushing for this. Now there would  
17 be guidance that would need to be issued to make that  
18 happen.

19 The current guidance we don't believe is  
20 sufficient to allow us to do the review as part of  
21 the process, which is why we have in there the SRP.

22 So the key point, we think it is  
23 important to get back to the Commission at this point  
24 and let them know what our direction is through the  
25 Information Paper and that's why it's a high priority

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 in the Plan.

2 With respect to the SRP implementation we  
3 would be interested in comments on the timing of that.

4 MR. PEZESHKI: That's correct. And  
5 although it has not been scheduled yet I would expect  
6 that the upcoming public meeting would discuss more  
7 details of the SRP and soliciting feedback regarding  
8 the additions that we intend to make.

9 MR. LUBINSKI: We do know that NEI's  
10 Digital I&C Working Group does have new reactors, so  
11 if we have a misperception or a miscommunication of  
12 the importance of that we'd like to hear that as well.

13 We do have -- We didn't introduce all the  
14 members of the NRC's Steering Committee that we have  
15 for Digital I&C, but we are representing five  
16 different offices in the NRC.

17 I am representing NRR, Brian Thomas is  
18 representing Research, Mike Mayfield is representing  
19 NRO, Jim Anderson is here representing NSIR, and  
20 while this is a reactor program we do have an ad hoc  
21 member from NMSS because they are interested in  
22 digital on that side as well and we need to make sure  
23 that we are communicating and coordinating so we're  
24 not conflicting in where we are going.

25 Other questions for Jonah?

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 OPERATOR: We do have a question from  
2 Timothy Smith.

3 MR. PRIMAVERA: Actually, this is Paul  
4 Primavera, NuScale Power, regarding cyber security  
5 and IEEE 1012 security analysis V&B activities.

6 What is going to be done or will it be  
7 considered on how to integrate the normal security  
8 analysis V&B activities that get done at every step  
9 in the software life cycle from concept phase onward  
10 with regular cyber security design analysis?

11 You cannot leave it up to the utility or  
12 licensee to do cyber security when cyber security is  
13 not built into the design at the very beginning.

14 MR. PEZESHKI: Okay, this is Jonah  
15 Pezeshki again. And, one, I just want to comment  
16 that you are absolutely correct, cyber security  
17 should be integrated into any design from concept  
18 pretty much to obsolescence.

19 Whether or not we can rely on the  
20 facility to perform that, to be honest, from a  
21 regulatory perspective, our role is just to ensure  
22 that once it is operational that it is secure.

23 This is why traditionally we have relied  
24 on a programmatic approach for cyber security. What  
25 we want to add is a means to review cyber security in

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 a design space mostly to ensure that mostly new  
2 reactors are aided as needed to reach that same  
3 programmatic expectation.

4 But that's pretty much the extent of what  
5 we currently can enforce upon licensees and  
6 applicants given our current regulation.

7 MR. PRIMAVERA: Thank you.

8 MR. LUBINSKI: Other questions on the  
9 phone line?

10 OPERATOR: No further questions.

11 MR. LUBINSKI: Okay. We have finished  
12 our discussion of the first five topics in our Digital  
13 I&C Action Plan. We do have seven others and I'm  
14 going to turn, Steve Arndt is going to talk about --  
15 I'm sorry?

16 MS. TOBIN: It's a break.

17 MR. LUBINSKI: Is it break time now, ah.

18 FEMALE PARTICIPANT: Great.

19 MALE PARTICIPANT: About 15 minutes.

20 MR. LUBINSKI: So, yes, they get to be  
21 the nice guys, there you go. I was going on to the  
22 next topic and they're calling for a break. I should  
23 have known that Steve was already getting up from the  
24 table, he knew it was coming.

25 Okay, so 15 minutes and we'll regroup at

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 9:45. And a reminder, you know, you're in NRC area,  
2 there is a cafeteria across the hall, the restrooms  
3 are outside here, you can go there unescorted in this  
4 area. Okay, thanks.

5 (Whereupon, the above-entitled matter  
6 went off the record at 9:30 a.m. and resumed at 9:49  
7 a.m.)

8 MR. KEENE: All right, good morning.  
9 We're here to continue the meeting. I turn it over  
10 to Steve Arndt.

11 MR. ARNDT: Thank you. As mentioned, my  
12 name is Steven Arndt. I work in the Office of Nuclear  
13 Reactor Regulation.

14 I'm going to talk briefly about the rest  
15 of the items in the plan. If you're looking at your  
16 slides it should be Slide 23.

17 The rest of the integrated plan, in  
18 addition to the five near-term activities, include a  
19 number of different activities that we believe are  
20 necessary for the strategy of updating and  
21 modernizing our regulatory infrastructure.

22 But neither need to be informed by the  
23 resolution of the activities that are in the near-  
24 term list, i.e. common cause failure 50.59, cyber and  
25 the two standards, or really can't be worked because

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 of priority work assignments and resources and things  
2 like that.

3 But primarily they're not near-term,  
4 because they have to be longer-term, because they are  
5 influenced very heavily by the activities associated  
6 with the near-term activities.

7 It's important to understand this is not  
8 necessarily a complete list. This is where we are,  
9 as of this day, in March 2016. We're in the process  
10 of working a couple other issues that may or may not  
11 end up in the action plan.

12 We're also interested in feedback from  
13 the external stakeholders as to whether or not we've  
14 missed anything, whether or not there's activities  
15 that are of lesser importance or greater importance.

16 So as part of our effort, we're looking  
17 at the broader scope of things that are necessary for  
18 improving the regulatory infrastructure.

19 For example, in the comments we received  
20 on the earlier version from NEI, they talked about  
21 the need to look at international standards. That's  
22 currently not one of our activities, but we're  
23 evaluating it to determine whether it should be one  
24 of our activities. It hasn't worked its way into  
25 this version of the plan as of this day in March.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701



1           There was a comment earlier associated  
2           with some of the more risk-informed standards. So  
3           that's something that we're going to be looking at.  
4           So there exists a body of comments that have occurred  
5           over the last three, four, five years.

6           Another example would be the comment that  
7           occurred when we were doing our review with the ACRS  
8           on Reg Guide 1.168. And the ACRS recommended we look  
9           at a graded approach to that standard. Which  
10          endorses IEEE-1012. So that's another thing that  
11          might eventually be part of this plan.

12          Also, as is noted in the draft plan  
13          that's been published, this is going to be  
14          reevaluated and updated by the steering committee on  
15          a certain frequency. So some of these may work their  
16          way into the plan eventually.

17          Next slide please. Currently, Items 6  
18          through 12, in the plan, are shown on this Slide 24.  
19          These are the activities that currently exist.

20          The first one is the concept of  
21          additional guidance on embedded digital devices. As  
22          most people know, we've been working on a regulatory  
23          information summary in this area that provides  
24          additional information on this issue.

25          We're actually holding a webinar on April

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 6th to discuss with the stakeholders our comments  
2 resolutions on the public comments associated with  
3 that. Once that has been issued, once we've looked  
4 at some of the other key technical issues, such as  
5 the 50.59 issue in CCF, we're going to possibly do  
6 more work in guidance, updating our development to  
7 support embedded digital license.

8 We understand this is a very important  
9 aspect of the regulatory infrastructure, but it is  
10 dependent upon the other work that we are currently  
11 working on.

12 MR. LUBINSKI: Before you get on the next  
13 issue, Steve, if I can?

14 We think it's very important, that April  
15 6th meeting, the webinar that we're having, we  
16 believe we have a document that fully consider all  
17 the comments we received on the draft. And if we get  
18 to the meeting and discuss our comment resolution, we  
19 will be moving forward and issuing that document,  
20 unless we hear a major red flag that's raise.

21 So that's really the level it is that  
22 we're being able to provide information. Of course  
23 if there's a major reply we need to get back together.

24 And if we do that, it is likely that the  
25 RIS will be issued prior to us submitting this plan

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 to the Commission. And that's why it's referenced  
2 in here where we're going.

3 MR. CONNELLY: John Connelly with  
4 Exelon. Do we have a ETA for when that's going to  
5 be available for Industry review? The draft RIS.

6 MR. ARNDT: Go ahead.

7 MR. LUBINSKI: It's actually a final RIS.  
8 And, Gene, as part of the webinar next week, are we  
9 putting up the RIS and the comment resolution on the  
10 website? So what we'll do is -- okay, in addressing  
11 Gene, Gene Eagle=s our lead for that, Alex Garmoe is  
12 the project manager. So we're going to do a takeaway  
13 from this to make sure that we have posted the comment  
14 resolution and the current version of the RIS prior  
15 to the meeting.

16 And, Gene, if we can talk to Alex to get  
17 that up as soon as possible?

18 MR. EAGLE: Right. And I'll make that a  
19 key item.

20 MR. LUBINSKI: Thank you, that will be  
21 very helpful. Thanks for the comment, John.

22 MR. ARNDT: Yes. And I wanted to  
23 mention, as I go through these, none of these  
24 particular topics should be a surprise to the  
25 Industry because, or to the other external

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 stakeholders, because in one form or another, we've  
2 discussed them either as a follow-up to the work done  
3 in the early part of the decade associated with the  
4 old program or as follow-ups to other specific  
5 actions that have been discussed in public meetings  
6 before.

7 So the first was --

8 MR. LUBINSKI: I'm sorry, just I did want  
9 to comment to Gene. Gene, as we get that up on the  
10 public, whether it's in ADAMS or our website, can we  
11 make sure that the meeting notice, for that meeting  
12 next week, clearly has the ADAMS accession numbers so  
13 people can get to them?

14 MR. EAGLE: Yes.

15 MR. LUBINSKI: Thank you.

16 MR. EAGLE: I believe that it's already  
17 gone out. Did they --

18 MR. LUBINSKI: But we can always update  
19 it.

20 MR. EAGLE: Okay. Right.

21 MR. LUBINSKI: Okay.

22 MR. KEENE: So, John?

23 MR. LUBINSKI: So the comment for people  
24 on the phone is the meeting notice had already gone  
25 out for the April 6th meeting, but will update it

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 with links to those documents.

2 MR. KEENE: So, John, just for  
3 clarification. That we'll investigate it, but since  
4 it's a final RIS it's not really out for public  
5 comments. It's already been out for public comment  
6 twice in the last three years. So it's not really  
7 being --

8 MR. LUBINSKI: It's not for public  
9 comment, but since we're talking about it, they need  
10 to see a version of it. That's why we want it up  
11 there.

12 MR. KEENE: So we'll coordinate how to  
13 do that.

14 MR. ARNDT: Thank you. The second item  
15 up there, which is Item 7 in the plan, talks about  
16 regulatory document infrastructure improvements.  
17 And what we're talking about there is looking at ways  
18 to structure our regulatory documents in a more  
19 effective and efficient way.

20 One example is the SRS effort that our  
21 Office of New Reactors underwent. And when they did  
22 that, they restructured some of the overlap and the  
23 ways in which we look at how the regulatory  
24 requirements are met in the SRP.

25 So this effort is really not to change

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 anything, but it's to restructure it so it's a more  
2 efficient and effective way of developing our review  
3 plans, looking at the different documents and  
4 understanding better how to write that in a less  
5 inefficient way. Both for the licensees and  
6 applicants as well as the staff.

7 The third item up there, which is Item 8  
8 in the plan, guidance for evaluating proposed  
9 alternatives to reg guides and endorse standards.  
10 This is an issue that has come up occasionally and  
11 was discussed in the SECY on the 603.

12 And it really highlights the fact that  
13 for IEEE standards, which are the primary ones that  
14 are endorsed in our regulation and reg guides,  
15 there's not a particularly well defined alternative  
16 evaluation process, like it is in some other  
17 standards, like ASME.

18 And when an alternative is proposed,  
19 under the 50.55(a) process, we don't have a lot of  
20 guidance on how to evaluate that alternative. So  
21 this is basically looking at providing some  
22 additional guidance.

23 The fourth item up there, which is Item  
24 9 in the plan, is looking at digital licensing. And  
25 this is primarily the activities that would be

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 follow-on activities to the ISG-6 activity. And this  
2 is basically the lessons-learned associated with  
3 that.

4 And we've had several lessons-learned  
5 discussions associated with ISG-6, and other related  
6 items. Such as an earlier decision on acceptable of  
7 licensing amendments, better timing of some of the  
8 documentation and better understanding what is needed  
9 to be document and docketed. Those kind of  
10 activities are in that particular item.

11 The sixth item up there, which is -- I'm  
12 sorry, the fifth item up there, which is Item 10.  
13 Improve guidance for evaluation of highly integrated  
14 digital technology.

15 This is looking at the whole issue of new  
16 control rooms via it at a plant or an operating plant  
17 or for new reactors that look at the integration of  
18 digital systems across different boundaries that we  
19 don't traditionally see in operating plants. And all  
20 the different EDO sequences associated with the  
21 communications issues associated with that and other  
22 integrations.

23 This has been an ongoing discussion,  
24 particularly in our Office of New Reactors. And this  
25 is basically an evaluation of what, if anything,

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 needs to be done to the regulatory infrastructure  
2 associated with that.

3 If you look at the sixth item up there,  
4 which is Item 11 in the plan. That's improvement to  
5 regulatory consistency between licensing and  
6 inspection.

7 This has been a criticism that the  
8 Industry has provided to the Commission that we don't  
9 always do as good as we could about integrating our  
10 guidance and our discussions between our inspection  
11 staff and our licensing staff.

12 And this is something that we've taken  
13 under consideration to look at whether or not our  
14 guidance is effective and sufficient. This really  
15 is going to depend very highly on the effective  
16 implementation of updated 50.59 guidance. As well  
17 as other guidance.

18 So that's in there but is in the longer-  
19 term actions because of that activity.

20 And the last item up there, which is Item  
21 12 in the current version of the action plan, is  
22 looking at the topical report evaluation and update  
23 process.

24 This is something that the NEI and other  
25 stakeholders has been, and the staff, have been

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701



1 talking about since 2007. Associated with, what is  
2 the best and most effective way of using topical  
3 reports in our process and what is the appropriate  
4 frequency and mechanism for updating topical reports.

5 We've gone back and forth on the  
6 importance of that. But it's something that the  
7 staff and the Industry, as well as other external  
8 stakeholders, has discussed for quite awhile. So  
9 that's included as well.

10 At this point I'm going to conclude my  
11 comments on the additional items in the action plan  
12 and take questions on these.

13 OPERATOR: As a reminder, to ask a  
14 question, please press \*1.

15 MR. LUBINSKI: Thanks, Angela. We'll  
16 start in the room with questions, comments.

17 MR. REMER: Thanks, Steve, this really  
18 helps clarify it in our mind kind of where we're at  
19 on these things.

20 The whole action plan is to come up with  
21 some thoughts, ideas and technical guidance that will  
22 work for everybody. And then when we put it into  
23 some form that allows us to read it and understand it  
24 and train on it, et cetera.

25 My question is, as far as these action

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 plans, so we do the CCF, we do the first action. We  
2 come up, okay, this will work. Does the result of  
3 that flow into one of these to actually implement it  
4 through either rulemaking or guidance or what have  
5 you? Or how does that happen, in your mind, right  
6 now?

7 MR. ARNDT: No. The individual actions,  
8 in the first five near-term activities, are in and of  
9 themselves, specific actions that we will take to  
10 completion.

11 The current version of the plan does not  
12 have completion milestones, in some cases. I'll use  
13 CCF for an example.

14 It gets us through the Commission making  
15 a decision as to what, if any, modifications are going  
16 to be necessary. At that point, they'll tell us and  
17 we'll update that part of the action plan to include  
18 the follow-on activities necessary to implement the  
19 Commission direction.

20 In the case of the 50.59 guidance, it's  
21 much more complete because we have a guideline.

22 MR. LUBINSKI: And if I could add to  
23 that, there's not the direct link between there,  
24 okay, from the standpoint of saying, this one item  
25 fully relates to another item in whole. But in part

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 it will.

2 And let me use the example of the digital  
3 I&C licensing process. One of the items, if you look  
4 in our action plan right now is, we have the lessons-  
5 learned from the implementation of licensing actions.  
6 And we believe there are changes needed to the ISGs  
7 that would help improve efficiency and effectiveness  
8 as we move forward.

9 We also know that as we go through these  
10 first five items, there may be issues that come out  
11 of that, that would feed into it.

12 So if you were to look at what we have  
13 today, as far as potential licensing changes, they  
14 would fall under that process. And then you could  
15 come out after, as Steve said, we've mapped out to  
16 the point of getting our final decision on a  
17 Commission position, on CCF and whether it changes.

18 That would have to be implement through  
19 changes. And we would need coordinate the timing of  
20 that. Because we don't want to update our guidance  
21 every six months to put a new item into it. So we'd  
22 have to look at the prioritization.

23 Unfortunately, we can't layout the  
24 specifics, but what we will do is, in an integrated  
25 plan, try to draw that link to some of these items.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 Is there a dependency or a partial dependency?

2 And we're looking for feedback on that as  
3 well.

4 MR. REMER: So you're saying that once  
5 you submit the plan and we go through the Item 1,  
6 just as an example, and you say receive the direction  
7 from the Commission that this needs to be a rule,  
8 let's just say, so you would proceed with rulemaking  
9 on CCF. But you would also, wouldn't you, want to  
10 look at all the other related kind of activities that  
11 could either cause confusion or not be clear?

12 MR. LUBINSKI: Right.

13 MR. REMER: That's where I'm trying to,  
14 in my mind, I'm trying to draw the link. Because in  
15 our action plan we've got the regulatory  
16 implementation piece kind of rolling all that up  
17 together. But I can see you're kind of breaking it  
18 up, which is fine, just we want to understand.

19 MR. ARNDT: Right. In your examples,  
20 when we get a decision from the Commission and if  
21 it's a, for example rulemaking, then we will flush  
22 out that aspects of Item Number 1. But we'll also  
23 draw more specific links to, say for example Item  
24 Number 6, which is embedded digital, or Item Number  
25 10, which is the licensing process, that would be

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 more specific pointers to those plans based on the  
2 decision or the action or whatever we did in Item  
3 Number 1 or Item Number 2.

4 So that's going to be part of the  
5 evolution of the plan as it moves forward.

6 MR. LUBINSKI: And the challenge at this  
7 point, and we are seeking recommendations, comments  
8 on how to do this is, let me go another direction on  
9 the example of CCF.

10 We could make a decision in going forward  
11 that does not include rulemaking on CCF. It could  
12 be a codification of the current process of the  
13 modifications we believe are such that don't require  
14 rulemaking.

15 MR. REMER: Right.

16 MR. LUBINSKI: But do require updating a  
17 guidance.

18 MR. REMER: Right.

19 MR. LUBINSKI: So we need to understand  
20 that and the importance of that guidance. Jonah  
21 mentioned earlier about cyber. That there needs to  
22 be an update of the SRP.

23 So again, as we're going through those,  
24 we want to look at the importance in getting the  
25 efficiency of having, if we're making changes to

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 guidance documents or SRPs, that we're doing it in a  
2 more collective way to capture those items.

3 MR. REMER: Right. So one of our  
4 comments will probably be something in the effect of,  
5 show some of the linkages there. And if you layout,  
6 I think the Commission said kind of a performance  
7 outcome base --

8 MR. LUBINSKI: Yes.

9 MR. REMER: -- what does that look like?  
10 I mean for our guys, it's like, okay, how do we do  
11 this thing better. How do we make sure we meet the  
12 regulation and get to put in digital I&C  
13 modifications, efficiently.

14 MR. LUBINSKI: Yes.

15 MR. REMER: So we're just trying to make  
16 sure we have a clear line to the end.

17 MR. LUBINSKI: Yes.

18 MR. REMER: Which is being able to put  
19 those things in.

20 MR. LUBINSKI: We appreciate the  
21 comment. And we'd also, as part of the comment, if  
22 you have recommendations --

23 MR. REMER: Right.

24 MR. LUBINSKI: -- for looking at the  
25 links, we'd like to see that as well in where you

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 think it is.

2 Because sometimes the recommendation  
3 also would be based on your understanding. And if  
4 we have a different understanding, it would be good  
5 to meet on that so that we understand and can talk  
6 about, how do we bring that together.

7 MR. REMER: All right.

8 MR. ARNDT: Other questions?

9 OPERATOR: I have a question on the line.  
10 Marvin Lewis, your line is open.

11 MR. LEWIS: Thank you. Hi, sorry. Well  
12 no, I'm not sorry. I really have some substation  
13 about all this computerization. What you call the  
14 digitalization. Which is fine.

15 I really don't have authority, fine. But  
16 I listen to your presentation, I think it's very  
17 understandable, it's in plain English, I appreciate  
18 that. A little too many abbreviations for me, but I  
19 can put that on the computer and find out what they  
20 are.

21 My problem is that I listen to it and it  
22 just seems to be a way of taking answers down further  
23 in time. Farther, farther away in time. And not  
24 really coming up with what you need, when.

25 I hope I am being incorrect, you can use

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1       this as a comment. And if I am incorrect, then  
2       please. Thank you.

3               MR. LUBINSKI: Thanks, Marvin, we  
4       appreciate that. Let me respond to that a little  
5       bit, to make clear how we got to where we are and how  
6       we proceed forward. And I do appreciate that comment  
7       because it helps us to re-base on where we are in  
8       this discussion.

9               If I go back when the, you know, what  
10       most recently prompted us to be having this meeting  
11       is the SRM that the Commission issued. And that was  
12       based on a rulemaking on the IEEE-603.

13              And the comments during the Commission  
14       meeting, and that transcript, is online. And some  
15       of the vote sheets that are available on the SRM  
16       itself, talked about trying to understand in an  
17       integrated way, how this IEEE-603 fit into this  
18       process, what does it solve, what does it not solve  
19       and what are the important issues, and are we focused  
20       on the important issues.

21              I believe that's why the Commission  
22       looked at a 90-day timeframe for us to provide this  
23       back to them. Is that they wanted to make sure that  
24       we were prioritizing our activities and our work.

25              As Steve said, we can't do everything all

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701



1 at the same time, based on the amount of effort that  
2 it's going to take. And then also there is  
3 dependencies as well.

4 So the Commission wanted us to look at  
5 that. They also wanted to understand whether there  
6 were any policy issues. So that when they are ruling  
7 on any policy issues in the future, they could see  
8 the integration of other policy issues.

9 They looked at the 603 rulemaking as a  
10 policy issue. Of course it's a part of rulemaking.  
11 So therefore they were asking the question of,  
12 whatever potential rulemaking may be coming down the  
13 line, what other potential policy issues and let me  
14 know the big picture.

15 So the purpose in having the 90 days is  
16 to make sure that we are focused on the correct  
17 activities and focused in the correct timeframes.  
18 And have an understanding to the Commission that they  
19 know what type of policy issues they will be seeing.

20 The SRM did ask if there were any policy  
21 issues right for consideration, that we include those  
22 in the paper. At this point, we have not identified  
23 any policy issues that would be provided to the  
24 Commission.

25 However, as you see in our action plan,

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 we talk about item that may have a potential policy  
2 issue that would come to the Commission at a later  
3 date. So that they fully understand what's coming.

4 So I don't know if that fully addresses  
5 your comment, Marvin, but the discussion today is  
6 putting the plan together, the activities and making  
7 sure there's a coordination and integration between  
8 them.

9 And as far as the work, we're not slowing  
10 down on the important activities. We had a slide up  
11 earlier that talked about where we are in looking at  
12 common cause failure.

13 We've already had a meeting, we're having  
14 another meeting this morning. Or I'm sorry, in the  
15 month of April.

16 We're not slowing down in 50.59. We  
17 believe they are very important issues. So we have  
18 those on the schedule.

19 And when we talked about the IEEE, we've  
20 already scheduled discussions in July, at the next  
21 meeting of NPEC.

22 So for those issues, we've got a schedule  
23 and we're working those and we're trying to get some  
24 near-term results.

25 MR. LEWIS: I respectfully suggest you

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1       also include ISOs. International Standards  
2       Organization. I'm not very impressed with ISOs, but  
3       at the same time, they might touch upon subjects that  
4       you haven't looked at. Thank you.

5               MR. LUBINSKI: I appreciate that  
6       comment. And I think maybe there's some slide  
7       presentation that NEI is going to have that talks  
8       about that as well. So what I'm going to do is hold  
9       off on that subject. But I am taking that comment  
10      now and we'll talk a little more when we hear John  
11      Connelly's presentation. Does that sound good, John?

12             MR. CONNELLY: Yes.

13             MR. LUBINSKI: Okay, good.

14             MR. ARNDT: Okay, if those are the only  
15      questions, what I'm going to do is I am going to go  
16      to the next slide, which is the interaction slide,  
17      and just tee this up as we get ready to have this  
18      conversation.

19             And then turn it over to Industry for  
20      their presentation and then I'll come back to this  
21      slide afterwards to lead the discussion of not only  
22      general comments about the plan, but issues  
23      associated with, are we looking at the right  
24      challenges, are we working on the highest priorities,  
25      is there something that we don't have that's missing,

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 are the things that are high priorities that should  
2 be low priorities.

3 And the biggest issue really is, what  
4 does long-term success look like and are we moving in  
5 the right direction. Are the things we put in the  
6 plan and the broader strategy the right things. And  
7 will it get us where we want to go.

8 I appreciate the fact that NEI provided  
9 a comment letter on February 23rd on our previous  
10 version of that. Unfortunately, we did not have this  
11 kind of conversation before that.

12 And also some things have changed and the  
13 structures changed a little bit sense then. So some  
14 of those comments are overcome by events.

15 But we also are going to go back and re-  
16 look at that set of comments, as part of our  
17 evaluation. In addition to this meeting, in addition  
18 to additional comments.

19 At this point, I'm going to turn it over  
20 to the Industry, let them give their presentation.  
21 Hopefully that will answer some of the questions as  
22 well as tee-up some more questions that we can discuss  
23 during our broad discussion of the plan.

24 MR. LUBINSKI: Great. Would you, in  
25 doing that, would you like us to ask questions along

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 the way, John, or hold till then?

2 MR. CONNELLY: It might be more efficient  
3 to bundle them up at the end.

4 MR. LUBINSKI: Great.

5 MR. CONNELLY: Once we've gone through  
6 the entire presentation I think it's going to foster  
7 some questions and some discussions.

8 MR. LUBINSKI: Thanks.

9 MR. REMER: All right, I'm going to make  
10 a few introductory comments. This is Jason Remer  
11 from Nuclear Energy Institute representing the  
12 Digital I&C Working Group that's been commissioned  
13 about a year ago by the I&C Group. The chief nuclear  
14 officers involved in U.S. Nuclear Power Plants.

15 It's a great opportunity to participate  
16 today. Thanks for really making this available so  
17 we can have an interchange of ideas.

18 We've actually, from when we read the  
19 plan to where we are now, we have a lot better  
20 understanding of kind of what you intend. And so  
21 some of our comments we just had to mark them off  
22 like, okay, that makes sense. So it is good to have  
23 this feedback.

24 This is a very important topic for  
25 Industry. To quote Commission Ostendorff, "no more

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 important issues improve safety in our plants and to  
2 get this digital I&C modifications done right. We're  
3 seeing increased movements toward that in our plants,  
4 especially in non-safety areas. There's a plethora  
5 of modifications happening, even today, in a non-  
6 safety area."

7 And we hope after we finish this work,  
8 with our working group and your working group, that  
9 we can say the same for safety applications. That  
10 we know how to do it, we can do it efficiently and it  
11 actually improves safety in our plants.

12 As you know, our nuclear plants today are  
13 challenged to improve cost performance, improve  
14 efficiency, while continuing our steady and historic  
15 trend to improve safety and performance. All those  
16 things are up, but costs have to go down.

17 And the only way, that we can see to drive  
18 cost down while improving safety, is to apply digital  
19 technologies. That's been the case for our non-  
20 safety systems. It greatly improves our efficiency  
21 while minimizing the amount of manpower required to  
22 do calibrations, maintenance, parts replacements, et  
23 cetera.

24 We got this report on Friday, so we  
25 haven't had the time to really provide detailed

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1        comments.    So what we're going to be providing is  
2        kind of notional thoughts about what we see at first.  
3        And actually our discussion this morning has really  
4        helped us to that end.

5                Some    additional    thoughts    and    just  
6        suggestion or thinking on this, as you have mentioned  
7        before, needs to be revolutionary not evolutionary.  
8        We need to make some pretty big steps here.

9                We think we can make them.    Technology  
10       and science is on our side.    OE is on our side.    And  
11       so hopefully with clear thinking and some creativity  
12       here, we can break through this barrier and actually  
13       get something done.

14               So anyway, we really appreciate the  
15       opportunity and we turn this over to John now for our  
16       formal presentation.

17               MR. CONNELLY:    Thank you, Jason.    John  
18       Connelly, Exelon.    I'm also the NEI Technical Issues  
19       Task Force Chairman.

20               So first, to reiterate something that  
21       Jason just said, I'd like to express my sincere  
22       appreciation for this venue and this opportunity to  
23       exchange ideas and to interact with the staff as we  
24       continue to refine the digital action plan.    I think  
25       this is extremely helpful and we'll move this in the

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 direction of a success.

2 First slide. Much of this is a  
3 reiteration of what Jason just said. Obviously  
4 achieving a clear path forward for digital  
5 modifications is a very urgent need for the Industry.  
6 As Jason alluded to, this is a priority for the  
7 nuclear strategic issues, Advisory Committee at NEI.

8 As we look, and I've presented in  
9 delivering other presentations, kind of an internal  
10 Exelon OPEX on what we see in the non-safety related  
11 space. In terms of reduction of initiating events.

12 We believe that digital does provide some  
13 very clear advantages in terms of improving, further  
14 improving, margins of safety.

15 Digital is pervasive. We're a small  
16 sector in a very large industry. The industrial  
17 controls industry. And if you look outside of the  
18 nuclear, I mean digital is everywhere. It's  
19 pervasive. And we need to take maximum advantage of  
20 that.

21 We see potential opportunities and safety  
22 related modifications to further improve margins of  
23 safety.

24 And you've alluded to it in NRC  
25 presentations in previous venues that there's a lot

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701



1 of uncertainty and perception of financial risk in  
2 terms of doing large scale digital modifications.  
3 Ocone being the classic example.

4 To circle back up to my opening comment,  
5 we share a goal of safe operations. It's imperative  
6 that we work collaboratively to create an environment  
7 where we have the ability to move forward in  
8 modernization.

9 Next slide please. Again, to reiterate  
10 a previous thought, we are in full and complete  
11 alignment that common cause failure in Application of  
12 50.59 are the highest priorities for this initiative.

13 Once we get those issues resolved,  
14 there's a nearly equally urgent need to establish a  
15 clear, unambiguous, and I quoted the word "roadmap"  
16 here, but a clear understanding of how to navigate  
17 through the process and what the expectations are and  
18 what the regulatory guidance is.

19 It's kind of comprised of two pieces. A  
20 technical piece and a regulatory piece. And we've  
21 alluded to that numerous times throughout the  
22 morning. And previous meetings.

23 Next slide please. This gets back to  
24 some of the comments that the Commissioners made in  
25 the SRM. Digital technologies will continue to

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1        evolve over time.    So the technology, neutrality and  
2        performance based criteria are really key to getting  
3        this right.

4                    The state of the industry will continue  
5        to advance overtime.    And the regulatory framework  
6        needs to recognize that prescriptive or architecture  
7        based solutions are probably not in our best interest  
8        in the long-term.    You know, performance based  
9        criteria.    And that was the message the Commissioners  
10       were sending us.

11                   But at the same time, the basic concepts  
12       really don't change.    You know, structure development  
13       processes, high quality hardware and software,  
14       comprehensive testing protocols.    And similar to what  
15       the Nuclear Navy uses.    Very robust testing  
16       protocols.

17                   And human factors, the appropriate  
18       application and human factors engineering, as one of  
19       the participants on the phone mentioned earlier.  
20       Human factors is a big part of it.    So those basic  
21       concepts really don't change.

22                   Next slide please.    So the nuclear  
23       sector, we are unique in many regards.    But when it  
24       comes to protecting the health and safety of the  
25       public, you know, where there are other industries

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 out there who have concurred the digital domain.

2 But there are operating experiences out  
3 there where other industries have gotten this wrong  
4 and there have been very significant implications.  
5 There are many, I just listed a handful here.

6 But the point of this slide is that other  
7 industries have concurred the digital domain and  
8 improved safety. And there are opportunities for us  
9 to learn from their having gone through this process.

10 You know, Aerospace and others and  
11 lessons to be learned. Their Petrochem, so forth.  
12 Other industries take safety very seriously, as do  
13 we.

14 Next slide please. So let's talk briefly  
15 about technical frameworks. What's become apparent  
16 to us, as we've gotten further and further into this  
17 process, that really at the core of its technical  
18 issues, you know, how to address common cause  
19 failure, how to mitigate the risks of common cause  
20 failure, how to arraign consistent with design and  
21 licensing basis, execution of 50.59.

22 So defending against all forms of common  
23 cause failure with an appropriately graded approach,  
24 based on safety significance, a clear alignment on  
25 using the well bedded concepts of 50.59, analyses

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 where necessary to demonstrate the ability to cope  
2 with the possibly of failures and malfunctions and  
3 assuring that these components, the systems and  
4 components that we purchase are, purchase and deploy,  
5 are robust and fully vetted.

6 A clear and efficient technical framework  
7 is kind of an enabler in our opinion. So if we  
8 understand the technical elements of this, the  
9 regulatory elements can match them.

10 Next slide please. And again, these  
11 points have been made throughout the morning.

12 The regulatory framework, obviously  
13 there's some areas where the staff has identified  
14 that additional work is required or revisions to some  
15 of the regulatory framework itself.

16 The Commissioners made this very clear.  
17 Performance based technology, neutral, consistent  
18 across both legacy and new build plants. And it's  
19 been discussed several times this morning. ISG-6,  
20 potential revisions to BTP 7-19, IEEE-603 and 7-  
21 4.2.3, IEEE-1012.

22 So there are a lot of known issues. And  
23 just as an aside, if you look at the digital working  
24 group, we've actually kind of broken the next element  
25 of this down into two constituent pieces. There's a

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 technical piece and a regulatory piece.

2 So what we're doing right now is we're  
3 doing a formal review and looking at all of the  
4 regulatory environment in its totality. In trying  
5 to identify those things that are potentially areas  
6 that we would want to revisit. Look at things that  
7 were best practices, as the Industry is implementing  
8 them right now, may not be fully aligned with the  
9 regulatory framework.

10 So what we're producing as part of that  
11 is basically a, I don't want to use the term, but  
12 kind of a gap analysis, if you will, or a regulatory  
13 analysis. So hopefully that will help shape some of  
14 these discussions.

15 Next slide please. This kind of follows  
16 on to that last comment.

17 Obviously the Common Cause Failure Task  
18 Force, which is the successor to NEI 01-01. 9607  
19 Appendix D, Task Force, again, a successor to NEI 01-  
20 01. The Technical Issues Focus Group, which Ray Herb  
21 chairs. The Regulatory Framework Focus Group and the  
22 Training and Communication Focus Groups.

23 So the last three, I just want to take a  
24 moment to talk about these in a little more detail.

25 The Technical Issues Focus Group of the

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 Digital Working Group, we're trying to look more  
2 holistically and look at the methods by which the  
3 Industry implements digital upgrades and identify  
4 opportunities to improve efficiency and execution.

5 The regulatory piece that I mentioned  
6 earlier is looking to identify specific issues in the  
7 interfaces and things that we think are ripe  
8 opportunities for us to streamline and make more  
9 efficiency to process as an enabler.

10 And then the final piece of this is  
11 training and communications. In fact, this actually  
12 ties into a point that was made earlier in terms of  
13 headquarters and regional folks being on the same  
14 page in terms of how we do these mods.

15 When we look at the training and  
16 communications piece of this we think that there's  
17 some real opportunities here to help get that level  
18 of understanding driven down, both in the Industry  
19 and potentially within the staff, with the  
20 Application of 9607 Appendix Delta and some of the  
21 technical basis behind common cause failure. So we  
22 think there's some opportunities for us to  
23 collaborate and get that understanding more broad.

24 Next slide please. So the digital action  
25 plan, as was alluded to earlier, you know, we just

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 got this on Friday. We appreciate the opportunity  
2 to look at this.

3 I know most everybody that's in the room  
4 has had an opportunity to go through it rather  
5 quickly, the detailed contents. And I appreciate the  
6 April 24th or the request to get comments back by  
7 April 24th. That will give us a little bit of time  
8 to get more detail put behind this.

9 But there were just, our first pass  
10 through this, there were a couple of things that kind  
11 of jumped out at us. And based on comments this  
12 morning, I may retract some of the bullets that were  
13 in here, but I did want to talk about it briefly.

14 The Industry, again to reiterate, the  
15 Industry agrees that Items 1 and 2 are the highest of  
16 priorities. We did look at some of the other issues  
17 that were on the top five list and we feel a little  
18 more comfortable this morning, based on this morning  
19 comments about IEEE-603 and what the scope of that  
20 look likes and 7-4.3.2 and what the scope of that  
21 looks like.

22 It doesn't sound like those are going to  
23 compete for resources. Our concern was that 603  
24 probably didn't, there's no urgency within the  
25 Industry to resolve 603, but understanding that now

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 this is to set the table for future revisions to 603,  
2 we feel a little better about that.

3 What we were concerned about is that  
4 there is a limited pool of people who can be involved  
5 in this and we want to make sure that we have the  
6 priorities right, based on what the needs are.

7 There's a couple of issues on the bottom  
8 seven, if you will. The remaining seven items that  
9 kind of struck us as something that we want to be or  
10 that are a bit more urgent to us. And we alluded to  
11 it earlier.

12 The upcoming RIS on embedded digital  
13 devices. That's kind of a big thing for the  
14 Industry. And we want to get ahead of that.

15 Another thing that kind of jumped out at  
16 us. There's a couple of places where there are  
17 synergies between individual line items that we think  
18 may warrant further discussion about potentially  
19 combining pieces' parts of it in order to reduce the  
20 total number of items that we have to cover. I mean  
21 we can leverage some of the synergies between the  
22 action items.

23 There is one thing, and we've alluded to  
24 this earlier, and this is the perfect opportunity to  
25 bring it up. Because we have a very limited pool of

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701



1 people who are subject matter experts in this, and I  
2 know that the same dynamic exists within the staff  
3 and within the Industry. You know, there's people  
4 who are being engaged in this.

5 What we're finding is that because of the  
6 compressed timeline and the expertise that we need to  
7 bring to bear on this to resolve it in an efficient  
8 and expedient fashion, there's a lot of meetings, a  
9 lot of interaction, a lot of discussions. So it  
10 would be hugely beneficial to the Industry if we could  
11 get kind of an integrated schedule put together so we  
12 know we got the right resources brought to bear at  
13 the right time, reviewing the right documents in  
14 advance and being able to provide comments back in a  
15 timely fashion.

16 So it would be hugely beneficial, with  
17 all praise, if we can get an integrated schedule of  
18 all the various activities that are going on.

19 One last set of comments I'd like to  
20 provide. Things that we think are worthy of  
21 consideration, again, this will provide this in the  
22 formal comments back to the staff. But some thoughts  
23 that we'd like to set the table with.

24 There are international standards that,  
25 in terms of like platform dedication and safety

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 integrity levels, that we think may warrant some  
2 discussion. You know, can we use TUV standards, can  
3 we use CE standards.

4 I'm sorry, next slide other way. Slide  
5 10. Conceptually what we're talking about here is  
6 the platform itself.

7 There are dedication entities that are  
8 really good at looking at the core of a product. The  
9 operating system level, the hardware level. You  
10 know, how this would handle a divide by zero error,  
11 how does it handle buffer overflows. Those sort of  
12 bread and butter kind of platform validation stuff.

13 But if you come up from that one level,  
14 you know, extract up from that one level, it's the  
15 application software that gets loaded onto those  
16 devices. And the way it interacts with the plant and  
17 its consistency with the licensing basis.

18 We think there's some opportunities to  
19 let the heavy lifting, the platform heavy lifting,  
20 happen in another venue and focus our energies on how  
21 we implement them in the plant and how we are  
22 consistent with our design and licensing basis.

23 Again, this has been alluded to a few  
24 times before, the international standards, IAEA, in  
25 depth. There's some other bodies of work that we can

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 draw from on an international level.

2 And again, this is something to  
3 reiterate, a point that's been made repeatedly.  
4 There are other regulatory structures that we may  
5 want to consider looking at as part of this exercise  
6 as this matures. You know, the FDA, FAA, Department  
7 of Defense. To the extent they can and will share  
8 information.

9 Kind of in line with that is the  
10 technical methods used by other sectors. There are  
11 some opportunities. We believe that there may be  
12 some opportunities there to do things more  
13 efficiently and in a more efficient way.

14 And with that, that concludes my  
15 presentation. I'd like to open up the discussion.

16 MR. LUBINSKI: Thanks, appreciate it.  
17 I'm going to ask, there's a lot of NRC folks in the  
18 room. This is an opportunity to ask some questions  
19 of you guys, so we're going to take that opportunity.

20 And I appreciate, as you said, you've  
21 only had the document for a few days. And that was  
22 one of the reasons that I thought was important to  
23 have the meeting today.

24 You know, you saw what's written on  
25 paper, but it's good to have the opportunity to ask

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 the questions up-front. So we're here as well for  
2 you to ask us questions of, what were you thinking,  
3 what did you mean, what was the process that you plan  
4 to follow.

5 If I could just ask a couple questions to  
6 make sure I get some clarity on where we are in some  
7 of the thinking. As you said, John, may have changed  
8 based on what you heard this morning. But the one  
9 that jumps out at me, that I have to ask about, is on  
10 Slide 9. Your fourth sub-bullet.

11 It says, some of the concepts contained  
12 within the detailed action plans appear to be  
13 contradictory of the tenants of the SRM. And I don't  
14 know if that was a miscommunication or do you believe  
15 now there's still some miscommunication? So we need  
16 to understand that.

17 MR. CONNELLY: Yes, I'll speak to that.  
18 So one of the directions from the, or in the SRM, was  
19 to make it -- the environment that we need to have is  
20 one where it's not prescriptive requirements and  
21 technology neutral.

22 MR. LUBINSKI: Yes.

23 MR. CONNELLY: And again, we haven't  
24 really had enough time to go through this in detail,  
25 but we want to make sure is that we're staying true

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 and consistent to the direction in the SRM and make  
2 sure that what we create is more performance based,  
3 less prescriptive, you know. More open to flexible  
4 approaches I guess is the best way to say that.

5 And these are comments that we'll capture  
6 in the review.

7 MR. HERB: I think we specifically were  
8 pointing out to the Items 3 and 4. They seem to like  
9 essentially reiterate the very specific conditions  
10 placed on the Industry consensus standards. And so  
11 it seems to be going down that same path.

12 Which seems to be not in line with the  
13 requirements of the objective based and high level.  
14 And really applied to all new plants, old plants and  
15 next generation nuclear, stuff like that. So we just  
16 -- that's really what that comment gets to.

17 MR. REMER: Yes. And I think --

18 MR. HERB: And also, we didn't think it  
19 really got to the fourth comment, which was, is it  
20 going to inhibit the plants doing digital?

21 And really, that was the Industry's  
22 biggest concern with those conditions the way we  
23 thought it would inhibit. And so if we continue  
24 forward with that, in the plans, it's really not  
25 addressed in the last issue.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 MR. REMER: Yes, it looked like you were  
2 just going to go forward with 603, re-implementation.  
3 And that's like, well, that's not really what we want  
4 to do.

5 And so that was part of our thinking with  
6 that. So I think we could have maybe backed off with  
7 that a little bit right now. Based on what we now  
8 understand.

9 MR. LUBINSKI: Let me just repeat back  
10 what I'm hearing from you to make sure I fully  
11 understand. And I appreciate, I do appreciate the  
12 comments.

13 So from the standpoint of prescriptive  
14 and being performance based and technology neutral,  
15 what I'm hearing from you is there was not a lot of  
16 meat in how we were getting there and you'd like to  
17 see more meat on that.

18 And then with respect to items that may  
19 be countered to that, or some of the conditions that  
20 were in the 603 rulemaking, that are going into now  
21 the discussions with the IEEE as well as the 7-4.3.2.  
22 And it's a concern of whether we're just trying to  
23 now keep the prescriptiveness and get it into that  
24 process.

25 And then from the last is, your

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 understanding now of the 603, which really applies to  
2 your second sub-bullet about the top five issues, the  
3 process that were in for 603, 7-4.3.2 sounds  
4 appropriate to you guys, however, from the standpoint  
5 of making sure we're not just trying to shoehorn the  
6 specific requirements, then that's a concern. Is  
7 that what we're hearing?

8 MR. CONNELLY: Yes. The discussion this  
9 morning did help inform some of the message that we're  
10 trying to deliver here. It doesn't sound like those  
11 two activities are going to compete hugely for  
12 resources. This is to set the table for future  
13 iterations.

14 So it doesn't sound like it's going to  
15 have an adverse impact on our ability to make forward  
16 progress.

17 MR. LUBINSKI: Yes.

18 MR. CONNELLY: And that wasn't outwardly  
19 clear from, our first review of the digital action  
20 plan, that wasn't outwardly clear. So the comments  
21 this morning were very helpful.

22 MR. LUBINSKI: Good. If there's any  
23 comments that help, can help clarify the wording to  
24 that in our plan, please provide those.

25 We still have Rich and Royce are here.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 I don't know if they have any additional comments,  
2 but I'll just say that from a resource standpoint,  
3 yes, we don't see significant resources right now in  
4 competing with the other activities.

5 I think the comment that will take a  
6 little bit of resources on our part, is going to be  
7 working with our internal stakeholders, as well as  
8 external stakeholders, with respect to some of those  
9 conditions. In making sure that we look at those  
10 from a performance based standpoint, while some may  
11 be prescriptive.

12 So we need to make sure that's factored  
13 into the plan.

14 I'm looking at Royce and Rich and I'm not  
15 seeing any shaking of the heads the wrong way. So  
16 I'll take that as an affirmation there that we'll  
17 take that comment from today, to make sure the way we  
18 word this and move forward, we can do that.

19 With respect to that also, the -- and  
20 there's not a lot of clarity on some of those  
21 conditions right now because what went to the  
22 Commission talked about a different set of standards  
23 for operating reactors versus the new reactors, and  
24 the Commission to give clear direction that there  
25 will not be those different requirements.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701



1                   So yes, we had not went through the  
2 process of evaluating what those conditions will be,  
3 look like, with the IEEE committees and as we have  
4 these discussions. So there will be a lot of work  
5 in those discussions.

6                   MR. HERB: Ray Herb, Southern Nuclear.  
7 I think that like a part of it we didn't really  
8 understand was also the number, right? The exception  
9 based alternatives.

10                  And I think that that's, hopefully that  
11 will be a process that will be a little more  
12 streamlined, a little easier. Because that was  
13 really the only one we saw that really integrated in  
14 the new plants and next generation.

15                  And so that was really what our comment  
16 got to is that some of these -- that was almost like  
17 for new plants and next generation where we had the  
18 exception base. We would rather have that all  
19 integrated into the real plan going forward.

20                  MR. LUBINSKI: So from a priority  
21 standpoint is your comment that you believe that  
22 should be higher and have a more detailed plan right  
23 and worked on sooner or --

24                  MR. HERB: Yes, that's just Southern  
25 Nuclear's opinion. But we haven't discussed that

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1       amongst --

2                   MR. LUBINSKI:   Okay.   So on that issue,  
3       since we're on that.   So just looking again at Slide  
4       9, we talked about your first bullet, and I appreciate  
5       that clarification so we can understand from the SRM  
6       and where there was some misalignment in  
7       understanding.

8                   And then on your second bullet, top five  
9       issues that did not appear to be the hot priority.  
10      That was the 603 and 7-4.3.2.   And now there's an  
11      understanding of, sounds like we're in the right  
12      place according to --

13                  MR. CONNELLY:   Yes, it was specifically  
14      to that comment.   And frankly now that we know that  
15      there's not going to be quite the competition for  
16      resources, that it appeared may be the case, I think  
17      those can be resolved in relatively short order.

18                  As we alluded to, the regulatory  
19      framework issues, the embedded digital devices, we  
20      see those as urgent, urgent needs.

21                  MR. LUBINSKI:   Yes, so that was an  
22      action.   That was kind of like a bottom seven that  
23      should be moved up.   Embedded digital devices and  
24      then some of the regulatory framework.   And maybe if  
25      we could tease that out a little bit.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 I know it's early, you just started to  
2 look at this, but can we talk about each of those?  
3 And if you were to be proposing what type of action  
4 plan or where to go on those, can you talk high level  
5 about what you would see? And we'll start from with  
6 the embedded digital devices.

7 Because we put this and we know we're  
8 issuing the RIS and coming forward with that and then  
9 the question would be, what would be the next steps  
10 after that?

11 MR. CONNELLY: This is going to be a  
12 little off the cuff because we do want to take a  
13 little more time to look at this in more detail.

14 MR. LUBINSKI: Sure. We're not holding  
15 you to it, we're just trying to have a conversation.

16 MR. CONNELLY: Agreed. And then  
17 obviously the top five are, there are detailed  
18 discussions about the top five, but when you get into  
19 the next seven, we don't really have enough detail to  
20 look at those, yet.

21 But just looking at the higher level  
22 summaries, obviously I've alluded to embedded digital  
23 devices and what we're, you know, if you look at the  
24 SSPS card issues and everything that attached to that  
25 and the fact that frankly you can't buy a claw hammer

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 that doesn't have a computer in it anymore, a lot of  
2 what we're seeing, a lot of the issues that we need  
3 to address, are fundamentally tied to embedded  
4 digital device in pervasiveness of that technology.  
5 So we see that as fairly urgent.

6 Regulatory document infrastructure,  
7 again, that ties back to Items 1 and 2. So there is  
8 dependency there, but we see that as a fairly urgent  
9 thing.

10 MR. REMER: Yes, let me interject in that  
11 one too. I'm sorry.

12 MR. LUBINSKI: Go ahead.

13 MR. CONNELLY: No, that's fine.

14 MR. REMER: I think if you think about  
15 it as a roadmap, and that's what we were trying to do  
16 with ours is pick a point out in a future, in a state  
17 if you will, where do we want to be? And pick that  
18 and said, okay, how do we get to that point?

19 And for me I see, the first two are, yes,  
20 we got to get there, through that. But it gets a  
21 little fuzzier when I think, okay, how are you guys  
22 thinking about rolling all these guidance regulatory  
23 requirements, ISGs, opinions all up together and  
24 somehow sorting through that.

25 You got to slide you presented a few

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 months back that had the whole network of the digital  
2 I&C stuff on it, for lack of a better work. How do  
3 we sort through that?

4 That's kind of like my garage, right?  
5 There's good stuff in there and there's a lot of  
6 trash. How do I get rid of the trash, keep the good  
7 stuff and then add something that makes sense for the  
8 future?

9 So I'd personally like to see kind of how  
10 do you roll up some of these regulatory  
11 infrastructure questions into one thing and make some  
12 of this action plans within that one group and then  
13 pick a state out there. I know it might not be the  
14 final state or the right one, but maybe it's one we  
15 can kind of shoot for to say, in a perfect world,  
16 this is how I'd like to see it. Maybe a rule in  
17 guidance. Or maybe not a rule.

18 You know, I'm not proposing that we do a  
19 rule, but that's kind of what comes to me. It gets  
20 quite fuzzy when I get down into the second life  
21 thing. So anyway.

22 MR. CONNELLY: Good point. Let me give  
23 an example. Item Number 11, improvement of the  
24 regulatory consistency from licensing to inspection.

25 And we kind of touched on this a couple

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 times this morning, but policy originates from  
2 headquarters but it's the regional folks that have to  
3 put that into action.

4 And if you look at, for example, common  
5 cause failure in 50.59. One of the things that I  
6 think would be beneficial for both the staff and for  
7 the Industry, is for everyone to have a clear  
8 understanding of what common cause failure is, what  
9 has to be evaluated in the 50.59 process.

10 And frankly this is something that we  
11 believe the Industry hasn't done as well as we could  
12 have done. In terms of the execution of 50.59. It  
13 isn't that the technology itself is flawed, is how  
14 it's documented and how you demonstrate consistency  
15 with licensing basis.

16 So one of the things that we have  
17 identified internally is that we need to have a  
18 structured rollout of the common cause failure  
19 guidance and how to apply it using NEI-96-07 Appendix  
20 D. We need to do that in a very structured sort of  
21 way. So that everybody understands how to do it  
22 correctly.

23 One opportunity that we think exists  
24 there is to share those implementation workshops with  
25 the regional folks and with headquarters, so

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 everybody is approaching this from a common level of  
2 understanding.

3 Now with this, with Items 1 and 2, this  
4 Item Number 11 kind of ties directly into that. And  
5 there could be other opportunities where we can  
6 improve the level of understanding, both across the  
7 Industry and across the staff, and how to implement  
8 these things.

9 So where the, you know, the comment was  
10 a little vague. There are things that we think could  
11 be elevated or would be candidates for integration  
12 with other activities. This would be an example of  
13 that.

14 And again, we want to get this into the  
15 form of a formal comment so we can give it to you in  
16 a form that's more digestible. But that's kind of  
17 our thinking.

18 MR. LUBINSKI: Yes. Yes, we appreciate  
19 that. The more specific the comments can be, we'd  
20 appreciate that. So we understand.

21 You know, I guess thought processes here  
22 as we go through and then maybe you can help me with  
23 some of the clarity is, yes, I guess the underlying  
24 assumption.

25 You know, an underlying assumption is if

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 we endorse or issue new guidance on implementation of  
2 50.59 reviews, we just had the assumption, of course  
3 we're going to be coordinating with the regions,  
4 issuing guidance to the regions, making sure that  
5 there's technical guidance out there.

6 Okay, so that was kind of the assumption  
7 of what the next steps are. Versus when we looked  
8 at Item Number 11 of a more holistic, it gets more to  
9 Jason of, what do you see as the future state of where  
10 do you ensure the integration of the licensing in the  
11 inspection side. So that's kind of the clarity.

12 I will agree Jason's comment we're  
13 struggling with a little bit, is looking at the future  
14 state, right? What does your vision look like as you  
15 go forward?

16 And we're working on that as well as part  
17 of this plan and whether or not we can have a true  
18 future state as we move forward in the next 90 days.  
19 That's going to be difficult.

20 But yes, to put it as a longer-term  
21 action though and keep it in there and our focus and  
22 keeping the plane moving that way I think is important.  
23 Because as you said, John, we don't want to pull away  
24 the resources from addressing the significant issues  
25 at this point, right?

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701



1 I think, and correct me if I'm wrong, I  
2 think it would be failure on the part of the plan if  
3 we were to say, well, let's not do any of these  
4 activities up front. Put CCF and 50.59 off until we  
5 know what your vision looks like at the end point,  
6 right?

7 So see heads shaking there that agreed  
8 that, yes, that's -- so we need to do it in a uniform  
9 way that, and start to put more resources on that  
10 longer-term vision as we address some of the first  
11 items.

12 Where I struggle with a little bit, and  
13 maybe you can help me, is when I think about the  
14 regulatory infrastructure or the regulatory  
15 structures, as you guys said. Hopefully as part of  
16 the paper we provide the Commission we're going to be  
17 giving a full view of I&C.

18 And as part of that, talk about I&C and  
19 then also talk about the difference between analog  
20 and digital and why there's different challenges.  
21 And why we're trying to address these different  
22 challenges in these action plans.

23 Steve Arndt and Rich Stattel are going to  
24 be working on that document for us to try to capture  
25 the bigger picture of where we are.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 But from a regulatory framework, if I'm  
2 going through that process and what they're going to  
3 be writing down, most of the regulatory, you know,  
4 we're not reinventing the wheel from a regulatory  
5 framework, right?

6 NRC has been around since 1975. And  
7 we've had regulations, we've had licensing, we've had  
8 oversight, right, we got research. So we think, as  
9 you come out, you end up in the same regulatory  
10 framework. Right? Of the decision points.

11 So I'm trying to understand where you  
12 guys are from the connection between your technical  
13 groups and your regulatory groups. Because we think  
14 that once technical issues resolve, it kind of tells  
15 you where you go.

16 Does it go to a rule, does it go to  
17 guidance, does it go to oversight, does it go to  
18 licensing? So can you help me with that a little  
19 bit?

20 MR. CONNELLY: Yes, I'll try to provide  
21 a little bit of insight here. So consider ISG-6 for  
22 example.

23 There are elements, and I know this has  
24 already been identified within the staff, there are  
25 elements that have, you know, that there is already

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 an understanding that there's ways to streamline and  
2 simplify and attenuate the financial risks that go  
3 along with an ISG-6 type harmonization.

4 You know, the example that everybody  
5 always cites is that the license amendment doesn't  
6 come until the very end of the ISG-6 process. So  
7 from a utilities being risk adverse perspective,  
8 you've already invested the preponderance of the  
9 modification, you've already invested very heavily in  
10 it and the license amendment doesn't come until the  
11 tail end of the process. So that's just an  
12 inherently risky thing and I think that's already been  
13 acknowledged as something that's worthy of  
14 revisiting. And the content and the frequency with  
15 which you submit paper, the various supporting  
16 documents. So we believe that that process can be  
17 streamlined and simplified to get a more concise path  
18 to the finish line. Does that help?

19 MR. LUBINSKI: Yes, that helps. Okay,  
20 so from the standpoint of in a licensing area where  
21 it's a little more, using Jason's word, revolutionary  
22 in the way we do some of the licensing aspects.

23 MR. CONNELLY: Okay, right.

24 MR. REMER: Yes, and the other thing that  
25 I think has caused up a lot of problems and confusion

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 is you have a BTP 7-19 that lays down kind of an  
2 interpretation of a particular thought. That that's  
3 all we have to go back to in a particular area. And  
4 so people interoperate it differently. And it's  
5 unclear sometimes what it means and how it can be  
6 applied.

7 So when I'm talking about cleaning out  
8 some stuff it may just be like changing that or  
9 removing it or saying, hey, we supersede that with  
10 this other guide. Or actually we don't need that  
11 anymore because now we've got a IEEE guidance  
12 document or whatever.

13 Just to make it more clear that, okay,  
14 we're going back to the source. Yes, the general  
15 design criteria is the big one, but after that you  
16 know digital does require some more detailed thought  
17 processes to evaluate, so.

18 MR. LUBINSKI: Okay, thanks. I've asked  
19 a lot of questions so far, I'm going to be quiet for  
20 a minute and ask other NRC folks, maybe if they have  
21 any other questions they'd like to depose from you  
22 guys.

23 MR. ARNDT: Okay, let me go first. I  
24 have three or four questions on specific technical  
25 things that you raised in your presentation. Either

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 intentionally or unintentionally. I want to get some  
2 clarification of what I heard.

3 If you go to Slide 6. On that, when you  
4 were discussing performance objectives and things,  
5 you used words that sounded like you were concerned  
6 about the commercial grade dedication process and how  
7 that is implemented in digital space. Did you mean  
8 to say that?

9 MR. CONNELLY: Less in terms of  
10 commercial grade dedication, more in terms of, are  
11 there other methodologies we can use to get platforms  
12 reviewed, endorsed.

13 MR. ARNDT: Okay.

14 MR. CONNELLY: That was the comment on  
15 the TUV and --

16 MR. ARNDT: Yes, I'll get to that in a  
17 second. Okay, I understand now.

18 On Slide 7 you highlighted known issues,  
19 including ISG-6 that we just got down talking about.  
20 The BTP 19, which of course is the common cause  
21 failure issues. The various issues associated with  
22 603 and 7-4.3.2, which we've discussed at some  
23 length.

24 The current version of the plan doesn't  
25 have an explicit discussion of IEEE-1012 and the

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 associated reg guide. This is something that's been  
2 discussed by the Industry and the staff a number of  
3 times. There's a letter from ACRS recommending us  
4 look at that.

5 Does this raise to that same level as the  
6 ones listed there and do you think that we should  
7 either interrogate this as a separate item or as a  
8 part of one of the items currently in the plan?

9 MR. CONNELLY: I don't know that it rises  
10 to the same level. But, so for example, one of the  
11 comments from the Commissioners was, less  
12 prescriptive, more performance criteria based where  
13 IEEE-1012 tends to be very, thou shalt do X, Y and Z.

14 This is another opportunity for us to  
15 come up with more risk informed graded approaches  
16 that are performance based rather than a checklist of  
17 compliance, if you will. Does that help?

18 MR. ARNDT: Yes. So I would ask that  
19 when you send in your formal comments, if you can  
20 either tie that to a specific current action or make  
21 a recommendation for a new action. Either to this  
22 particular point or a more general point associated  
23 with it.

24 MR. CONNELLY: Okay.

25 MR. ARNDT: That would help us understand

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 where you're going.

2 MR. CONNELLY: Just as a quick follow-up  
3 comment to that too as well. I mentioned that one  
4 of the working groups that we have, within the digital  
5 working group, is to look at the regulatory  
6 infrastructure.

7 MR. ARNDT: Okay.

8 MR. CONNELLY: We hope to proceed just a  
9 series of formal comments. You know, this is worthy  
10 of consideration, this conflicts or this, there's a  
11 gap here.

12 We're trying to get more of a cohesive  
13 review of everything that's in the regulatory  
14 landscape right now and provide that feedback back to  
15 the staff.

16 MR. ARNDT: Okay. If you go to Slide  
17 10, I'll do the -- this is kind of seemingly out of  
18 order, but helpfully it will make sense.

19 In your second bullet you talk about  
20 looking at international standards to identify  
21 opportunities. The international standards  
22 structure, for nuclear at least, is the IAEA document  
23 then flows into the IEC documents and then there is  
24 a three tiered IEC structure.

25 MDEP really isn't an international

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 standard. So I assume, by this comment, you mean the  
2 former, the current international standard structure  
3 that exists. The IAEA high level documents and the  
4 IEC documents and their structure associated with it.

5 MR. HERB: Yes, it's not a standard.  
6 That's just a current effort within the NRC to look  
7 at those standards for harmonization. So that's all  
8 we were referring to is maybe the output from that  
9 harmonizations effort going forward.

10 MR. ARNDT: Okay. So I would ask you,  
11 in your comments, to let us know, is what we're doing  
12 okay, should we elevate that, should we put more  
13 resources on it, should we move quicker? Basically  
14 what's comment?

15 As you know, we've got some relatively  
16 small effort in that area. Both in terms of  
17 participation in the IEC standards writing and some  
18 effort to use those standards, but in a very limited  
19 way. So if what we're doing is okay but we need to  
20 highlight it or more or whatever.

21 The last question is on that first  
22 bullet, and you talked about it briefly. The what  
23 is done in most cases, by TUV and CE and various other  
24 things, is to certify a platform based on a particular  
25 standard. Such as IEC 61508 or 61516.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701



1           One thing we could look at is doing that  
2           effort based on the international standards. But  
3           another way of looking at that is to ask an  
4           independent body to do it based on our current  
5           endorsed standards. 603 or 7-4.3.2 or whatever.

6           If you could tell us a little bit more  
7           about what you're thinking associated with that, it  
8           would help us understand and be able to evaluate that  
9           better.

10           MR. HERB: This is Ray Herb, Southern.  
11           I think what we intended with that, with that bullet  
12           was, as a first cut is really -- and one of the issues  
13           with the draft RIS, for embedded digital, a lot of  
14           the issues that came out of the RIS, or at least some  
15           current incarnation, is identification of digital  
16           components.

17           And through a third party dedication  
18           process, they get pretty deep and heavily into that.  
19           And so that would add an additional layer of assurance  
20           that either they were or were not digital components.  
21           And if they were, were they appropriately vetted and  
22           tested and sufficient, of sufficient quality to meet  
23           the safety integrity levels.

24           And so I don't know that the initial cut  
25           of that would be on the system level component, but

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 more of a component based qualification standard that  
2 would kind of enhance the current guidance we have  
3 COTS equipment. And so that's kind of where we were  
4 going. And then if we can get further --

5 So really when you would go to the system  
6 level of buying a system, you really are still talking  
7 about the individual components, rather than the way  
8 the system is architect and put together. And that  
9 part was still governed under the review of the NRC.

10 We're just saying, maybe we can help  
11 streamline that approval process by using those  
12 components that already have a pedigree associated  
13 with them. That would be maybe an alternative or a  
14 supplement to the 106/439 process that's already been  
15 approved at NRC.

16 MR. ARNDT: Okay. So it would help us  
17 to understand the comment is, that context, where in  
18 the regulatory structure you'd like us to consider  
19 adding it or modifying something or replacing  
20 something associated with either the component level  
21 or the platform level, so we have a better  
22 understanding of where we're thinking about looking  
23 at it. Okay?

24 MR. CONNELLY: Just one follow-on  
25 comment. And maybe I didn't express it as clearly

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 as I could have. What we're trying to do here is  
2 kind of differentiate between the three layers, if  
3 you will.

4 There's the operating system and core  
5 hardware layer, there's the application software that  
6 gets layered on top of that for how you're going to  
7 handle a specific function, and then there's the  
8 interface to the plant and how it's made consistent  
9 with design and licensing basis.

10 So really what we're trying to get to is  
11 kind of draw a dividing line at the lowest levels.  
12 You know, let that be the focus of entities that are  
13 engaged in that all the time and then focus more on  
14 the application layer and how it interfaces with the  
15 plant. It's a concept we wanted to get on the table.

16 MR. ARNDT: Okay. It sounds like that  
17 concept is aligned but not identical to what Ray just  
18 said.

19 MR. CONNELLY: Yes.

20 MR. ARNDT: So if you can let us know  
21 exactly what you're asking us to look at, appreciate  
22 that.

23 MR. CONNELLY: Okay.

24 MR. LUBINSKI: Yes, Rich.

25 MR. STATTEL: Yes, this is Rich Stattel.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 I heard you make some recommendations with regard to  
2 streamlining or simplifying or consolidating the  
3 regulatory infrastructure. And one of the things  
4 that came to mind was that this was one of the key  
5 objectives of ISG-06.

6 And I would like to mention that we've  
7 had some experience with this. So what ISG-06  
8 attempted to do is we took guidance from various  
9 sources and we tried to consolidate it into the  
10 standalone ISG-06 document.

11 So it's a combination of paraphrasing  
12 from various guidance documents or simply cutting and  
13 pasting out of those documents, the relevant guidance  
14 and putting it in one place. And conceptually it  
15 sounded pretty good, it sounded like a good idea at  
16 the time, but in practice it's created some problems  
17 and I'd like to point that out.

18 So what we end up with is guidance that  
19 appears in more than one document, right? And what  
20 has happened since ISG-06 was issued, in what five,  
21 six years now, those source documents have undergone  
22 changes. And that guidance has changed.

23 So like as I'm performing the Diablo  
24 Canyon evaluation, I kind of look at both of them.  
25 And I actually see conflicting guidance.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1           So we've actually created conflicts in  
2     the process of trying to streamline and simplify the  
3     process. We've actually made it more complex.

4           So I just caution the group here. I  
5     think there's been a lot of good ideas and there's a  
6     lot of good thoughts about simplifying, but it's a  
7     little bit more difficult goal to accomplish than  
8     what might appear on the surface.

9           In truth, those source documents can't,  
10    we can't supersede them. A lot of them are IEEE  
11    standards. They're consensus standards.

12           We can't do that in an ISG, we can't do  
13    that in an NRC document. So they're going to have  
14    to remain as independent sources.

15           So I'm kind of leaning toward, I don't  
16    know the solution to this, but I'm kind of leaning  
17    towards, instead of trying to duplicate the words,  
18    let's provide the appropriate references to those  
19    source documents. But just a word of caution on  
20    those ideas.

21           MR. CONNELLY: Yes, I would agree, Rich.  
22    And I would certainly align with the reality that  
23    this is not going to be a trivial exercise. These  
24    are complex issues and it's going to take a lot of  
25    careful consideration as to how we go about doing

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 this.

2 MR. LUBINSKI: Next Monday? Monday the  
3 4th we're having a ACRS subcommittee meeting. The  
4 main purpose is to talk about the license amendment  
5 request for Diablo. But the ACRS has also asked us  
6 to provide a brief overview of lessons-learned.

7 Some of this was already discussed last  
8 summer with the Industry as a lessons-learned. And  
9 Rich will be giving a presentation where we have about  
10 ten, 12 slides on lessons-learned. Rich just gave  
11 you one of the discussion points.

12 So that will feed in, we will be using  
13 that to feed into the ISG-06 process. Thanks, Rich.

14 MR. STATTEL: Thank you.

15 MR. LUBINSKI: We have Gene Eagle --

16 MR. CONNELLY: Will that presentation be  
17 publically available? Is that something we can get  
18 access to? We would like to see that.

19 MR. LUBINSKI: Yes, the ACRS meeting is  
20 a public meeting.

21 MR. CONNELLY: Okay.

22 MR. LUBINSKI: And of course, anyone can  
23 come in and observe the meeting. I'm going to ask,  
24 let's see, Christina is sitting in the audience,  
25 maybe she can answer the question. Will those slides

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 be put up on -- okay. So, for those on the phone,  
2 everything in that meeting with the ACRS will be made  
3 public, including the transcripts of the meeting.  
4 From a timeliness standpoint, you can, I'm going to  
5 put Rich, you can contact Rich right after the meeting  
6 and he'll make sure he can email -- right. Before  
7 it goes to ACRS it takes a couple weeks to get that  
8 out. But from a timeliness standpoint, they'll be  
9 made public that day, so we have no problem emailing  
10 those slides to you at that point in time.

11 MR. CONNELLY: Okay, thank you.

12 MR. LUBINSKI: Good. Gene Eagle had a  
13 question.

14 MR. EAGLE: Yes. Gene Eagle, instrument  
15 control group out of the NRR office.

16 Recently EPRI put out a document that was  
17 dealing with the probabilities and of any measures,  
18 mitigating measures. And they had a diagram in there  
19 that I thought personally was very good.

20 It did not have any numbers on it, but it  
21 did kind of emphasize the point of having the RIS or  
22 the probability of something taking place and the  
23 consequences of that taking place. Which is  
24 obviously a very big concern in the nuclear area and  
25 safety.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 I think one of the things that was quite  
2 interesting, that's been brought up, is terminology.  
3 And there's been a little concern about the fact that  
4 this EPRI document might be a copyrighted document,  
5 so I have several questions.

6 One of them is, you'd be able to, in the  
7 Appendix D, the NEI 96-07, in adopting or using that  
8 EPRI document as a basis. Could you take care of,  
9 or you think you'd be able to take care of any  
10 problems with terminology and names that might be  
11 copyrighted?

12 Because once you put it out, that makes  
13 it more public, doesn't it? Is there anything you  
14 can help us on that?

15 MR. HERB: I think that the intention  
16 from EPRI, and I don't speak for EPRI, by the way,  
17 this Ray Herb from Southern Nuclear. I think the  
18 intention from EPRI is to release that at a either  
19 reduced cost or as a free document in the future. So  
20 I mean it will be copyrighted by EPRI.

21 But every effort has been made in the  
22 Appendix D document to not say that the EPRI document  
23 is required to do the analysis. It is just one  
24 method.

25 And it's a method that we believe is

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701



1 correct. Because we worked them together. But if  
2 another method is developed and you have a perfectly  
3 acceptable method to do those same analyses for CCF  
4 susceptibility, then the Appendix D does not prohibit  
5 that.

6 MR. LUBINSKI: Yes, I --

7 MR. HERB: I think it only references it  
8 once.

9 MR. LUBINSKI: I appreciate it. I think  
10 what you're hearing from Gene also, and kind of a  
11 preview of the discussions we'll have on the 50.59  
12 document you provide, if there is some discussions in  
13 there that need some clarification and that you  
14 believe that the clarification shows up in the EPRI  
15 document, we're going to probably ask you to, well,  
16 can you provide that clarification just in this  
17 document itself so that it becomes public.

18 MR. EAGLE: Another thing that's been  
19 brought up a lot, during some of our meetings earlier  
20 last week, was the fact that sometimes the actual  
21 wording in our ISGs and our branch technical position  
22 and then how it's actually used sometimes or how the  
23 people have a concept of it. And sometimes we really  
24 need to go back and read the actual words themselves.

25 Now for example, in the four point NRC

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 policy on D3, that is defense-in-depth and diversity.  
2 And it very clearly says, the applicant shall assess  
3 the defense-in-depth and diversity of the proposed  
4 instrument and control system to demonstrate that the  
5 vulnerabilities to common mode failures have been  
6 adequately addressed.

7 Now, in going back to the EPRI document,  
8 they talked a lot about these mitigating  
9 circumstance, mitigating measures and preventative  
10 measures. Again, back in our BT 1.9, we were talking  
11 about design attributes to eliminate consideration of  
12 CCF. Which is, I think, is one of the big things  
13 we're talking about here.

14 In this we said, many system design and  
15 testing attributes, procedures and practice can  
16 contribute to significantly reducing the probability  
17 of common cause failure. Which is, to me, this is  
18 very much along the lines of these conceptual ideas  
19 of the risk versus benefit, the incidents versus  
20 consequences.

21 But then there was kind of a gap and we  
22 said, okay, what are the items that can prevent us  
23 from even having to consider common cause failure.  
24 And we said there were two, either one could do it.

25 And one of them was sufficient diversity

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 and the other one was the famous testability of the  
2 100 percent testing. And of course the definition,  
3 you test every input, test every output and every  
4 internal state and you got it.

5 But that obviously is a very difficult  
6 thing to attest and that's a very simple device. And  
7 it's unusually simple. In fact, they even use a  
8 simple term in there.

9 That although there may be possibility in  
10 certain items where, you know for instance, some  
11 future FPGAs or something like that might achieve it.  
12 And my question is, would it be helpful if we went  
13 back to talking about an adequate testing or  
14 sufficient testing? In other words, something in the  
15 gap.

16 Because I think the example we like to  
17 look at was that SSPS card that brought about some,  
18 a lot of 50.59 concerns.

19 But the technical part of it, when they  
20 got through looking at that thing, that had had  
21 hundreds of thousands of tests of combinations. And  
22 when they got through looking at it, there was  
23 absolutely no question that card have been thoroughly  
24 tested to an adequate and sufficient level that we no  
25 longer had a real safety concern of it being there.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1                   So my question is, if you could answer,  
2                   what about this idea of a gap in here? We can fill  
3                   this gap somehow with somehow of defining or just  
4                   bringing about adequate testing or sufficient  
5                   testing. Would that be a help?

6                   MR. CONNELLY:       John Connelly with  
7                   Exelon. That would be a huge help.

8                   And you alluded to it. The SSPS card  
9                   issue, I'm sorry, I'm doing this from memory, but as  
10                  I recall, that was subjected to two to the 27 test  
11                  cases.

12                  You know, obviously a very rigorous and  
13                  comprehensive testing protocol, but was it 100.0  
14                  percent? You know, that's kind of the discussion we  
15                  got into.

16                  Is 99.9999 percent good enough, vs. a 100  
17                  percent. And yes, I think that would be very  
18                  beneficial, very helpful, to get some constraints, if  
19                  you will, put around that concept.

20                  MR. LUBINSKI:    If I can on this? This  
21                  is a good discussion, but I think it more appropriate  
22                  is a good discussion as part of the CCF meetings.  
23                  And we have one coming up on the 26th we talked about.

24                  So I think rather than, you know, we want  
25                  to use our time to talk about the action plan more.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 But yes, if we can bring that up at the appropriate  
2 meeting as we move forward.

3 And Gene kind of teed-up an idea to talk  
4 about. And Ross is nodding over there so she, not  
5 nodding off, but nodding yes. But we can bring that  
6 up. So good, thanks, Gene.

7 MR. EAGLE: Okay, advertisement again.  
8 Remember on April 6th we do have our webinar. It's  
9 only about one hour, two to three. And hopefully  
10 you'll give us back John to do the introduction or  
11 welcoming.

12 MR. LUBINSKI: That's the embedded  
13 digital device. So, okay. Other questions,  
14 comments from the room here?

15 I'm going to go to the phone line in a  
16 minute, but Norbert's coming up to the microphone  
17 there.

18 MR. CARTE: Norbert Carte, senior  
19 technical reviewer. Can we go to Slide 7 for a  
20 second?

21 I think there might be some  
22 misunderstanding about what performance based should  
23 address. I believe the direction was for the  
24 regulatory requirements to be performance based, not  
25 necessarily to develop guidance that's performance

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 based.

2 Now I agree performance based guidance  
3 can be helpful, but I think part of the problem with  
4 regulatory uncertainty is performance based criteria.  
5 And the example is independence. So two channels  
6 must be independent.

7 And it took a lot of discussion about how  
8 to actually achieve independence. And the digital  
9 communication ISG is one aspect of that.

10 So I think performance based criteria can  
11 be very problematic. They can lead to regulatory  
12 uncertainty.

13 I think we could use some very  
14 prescriptive guidance about this is how you can  
15 achieve the performance based criteria in the  
16 regulations, but I think we need both. And I think  
17 the goal of just eliminating or trying to implement  
18 performance based guidance has the risk or runs a  
19 significant risk of introducing regulatory  
20 uncertainty.

21 Because what it takes to achieve  
22 independence for digital communication may be  
23 different for you then for me. And then we'll argue  
24 about that. There's nothing to resolve that  
25 argument. Nothing to mediate that. And maybe the

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 regulator always wins in that discussion.

2 MR. LUBINSKI: Did you want to respond  
3 to that John?

4 MR. CONNELLY: No.

5 MR. LUBINSKI: No?

6 MR. CONNELLY: No.

7 MR. LUBINSKI: Yes, and I think that's  
8 interesting. I appreciate that comment, Norbert.  
9 And I think there's also, I'll say a cultural aspect  
10 to that that we, as NRC, as a regulator and also as  
11 the Industry, is reg guides that are issued or  
12 guidance that's issued that can be prescriptive in  
13 nature, could be one way of meeting the requirement.  
14 Doesn't necessarily mean it's the only way.

15 And that's the, again, the cultural part  
16 we need to get by, that there may be 90 percent of  
17 the community that would say, oh yes, I'm going to  
18 follow that process and it may be prescriptive and 90  
19 percent of the people are happy, okay. You know, the  
20 other ten percent still can come in with an  
21 alternative means, right? Because again, the  
22 regulations themselves are performance based. Just  
23 may be more questions or issues that need to be  
24 addressed before we get there.

25 If there's no other questions -- before

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 I go to the phone I want to go back to Slide 10 I  
2 believe it is. Talking about the, you know, and this  
3 gets a little bit to, I said we'd come back to a  
4 comment Mr. Lewis made earlier. His was talking  
5 about international standards.

6 You've expanded that beyond  
7 international standards and talked about some other  
8 federal agencies as well. And Steve hit just a  
9 little bit, but I'm going to ask, when you say examine  
10 in the standards, I can read this in two different  
11 ways. Okay?

12 One is, as we're developing our  
13 standards, are we looking at other industries, are we  
14 looking at international communities for ideas and  
15 standards and ways of doing things better?

16 And I think that is part of our current  
17 process. And no matter what we do we do that. And  
18 we're starting to look at that from the standard of  
19 our CCF.

20 I mean going forward, 50.59 is a little  
21 different because it's a, you know, very much an NRC  
22 specific. But anything in the technical area we  
23 currently do that.

24 I can also read it as in looking towards  
25 harmonization, if you will, with the international

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701



1 standards. And looking at Jason's comment earlier  
2 is, are you recommending an end goal to be able to  
3 look at and say, rather than have an NRC specific  
4 standards trying to work more towards adopting the  
5 international standards instead.

6 MR. CONNELLY: Well this kind of ties  
7 into your previous comment, you know, as far as maybe  
8 90 percent of the industry aligns with this  
9 methodology, but the other ten percent wants to bring  
10 a different approach.

11 What this was trying to get to, if you  
12 look at the degree of penetration that digital  
13 technology has gotten international versus  
14 domestically, there is a delta there. So there are  
15 things that are working in other venues that we think  
16 are worthy of consideration.

17 If you look at some of the, well  
18 obviously the new bills. So domestic new bills have  
19 got the same high degree of integration.

20 But legacy plants across the world, we're  
21 kind of on the other end of the spectrum in terms of  
22 the amount of digital technology that we've deployed.  
23 So we would like to look at some of those  
24 international standards and how did they do it, how  
25 did they get further down the path then we did.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 That's --

2 MR. LUBINSKI: And learning from the  
3 ideas. And saying, as we're looking at CCF, what is  
4 the international community doing in this area.

5 So we're looking at another technical  
6 issue. What is the international community doing to  
7 get lessons-learned?

8 MR. CONNELLY: Okay.

9 MR. ARNDT: Steve Arndt. With respect  
10 to that comment, our current action plans in the  
11 action, the integration action plan, doesn't have  
12 that level of granularity.

13 As I think we've talked about at the CCF  
14 workshop last week, we are already planning to do a  
15 lot of that work in the CCF area. And we may  
16 obviously do it in other areas as well.

17 So if you think that that level of  
18 granularity, particularly that item is needed in the  
19 plan itself, please let us know. Because that's  
20 something we want to take as input on how we structure  
21 what's actually in the plan.

22 MR. LUBINSKI: Maybe we can go to the  
23 phone now. Angela, do we have any comments or  
24 questions from people in the phone line?

25 OPERATOR: Yes. We have a question from

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 Dan Cronin. Your line is open.

2 MR. CRONIN: Hi. Dan Cronin, University  
3 of Florida. And I'm a member of the National  
4 Organization of Test Research and Training Reactors.

5 And I just wanted to make sure that  
6 there's some representation in the working groups,  
7 from the research and test reactor licensee  
8 committees. So I'm posing that as a question.

9 I appreciate this meeting and I see that  
10 it looks like there's going to be a real push here to  
11 wrap up some of these digital I&C issues in the next  
12 six or eight months. Particularly 50.59 and common  
13 cause, which are the two that are most important to  
14 the research and test reactor community as well.

15 But I'm a little concerned again that  
16 there may not be any research and test reactor  
17 representation in these groups. At least taking a  
18 look to make sure there aren't going to be show  
19 stoppers that are going to shut down any of our  
20 reactors.

21 MR. LUBINSKI: Yes, if I can respond on,  
22 yes, this is really two answers to the question. Let  
23 me start with the NRC's.

24 We don't have a joint working group  
25 between the NRC and the Industry. We're coordinating

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1       our activities.

2                       So from there standpoint of the NRC,  
3       we'll speak just for NRC and then I'll ask the  
4       Industry to speak for their working group.

5                       So we are coordinating internally from  
6       that standpoint. Norbert Carte just stepped up to  
7       the microphone and wanted to add a comment on that.

8                       MR. CARTE:     Yes, Duane Hardesty is  
9       participating in the 50.59 group. So we are in  
10      contact with the research and test reactors.

11                      And Duane and they normally contact the  
12      I&C group to do the reviews. So we are keeping them  
13      in mind.

14                      MR. LUBINSKI:   Yes, we have -- thank you.  
15      So that was a specific example. And there was a big  
16      interest in the embedded digital devices from the RTR  
17      group as well. So they have been involved.

18                      So I'll let the Industry speak from their  
19      side.

20                      MR. REMER:    Yes, from our standpoint, we  
21      definitely have representation at NEI in the research  
22      and test reactor area.

23                      I will take that as an action just to  
24      double check. I have kept Janet involved with our  
25      activities, but I'll take that as an action to make

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1       sure she understands.

2                   MR. CRONIN: Did you say Janet?

3                   MR. REMER: Yes.

4                   MR. CRONIN: Okay, Janet Schleuter --

5                   MR. REMER: That's right.

6                   MR. CRONIN: -- is the point of contact  
7       at NEI?

8                   MR. REMER: That's right.

9                   MR. CRONIN: Okay, thank you. And,  
10       Norbert, the two 50.59 working group, you said was  
11       you and Duane. Is that strictly internal? Those  
12       working group meetings are all internal, there's no  
13       public --

14                   MR. CARTE: Yes, internal --

15                   MR. CRONIN: -- those meetings?

16                   MR. CARTE: Yes, that is correct.  
17       Internal to the NRC. We're including the regions  
18       research and test reactors. As well as different  
19       offices inside the NRC.

20                   MR. LUBINSKI: And as we move forward,  
21       if you look at the action plan, there may be  
22       opportunities where we're having public interaction.  
23       But we don't have public members of the working group.

24                   MR. CRONIN: Okay, thank you very much.

25                   MS. SPAULDING-YEOMAN: This is Deirdre

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 Spaulding-Yeoman. Maybe the caller wasn't on the  
2 line earlier.

3 To reiterate, that there is a public  
4 meeting that will be taking place on April 28th. So  
5 we welcome your feedback and input at that time.

6 MR. LUBINSKI: Thanks, Deirdre,  
7 appreciate you highlighting that meeting and  
8 advertising for us. Angela, anyone else on the line?

9 OPERATOR: Yes. Next question comes  
10 from Ken Scarola.

11 MR. SCAROLA: Yes, hi, this is Ken  
12 Scarola. I'm a digital I&C and HFE consultant to the  
13 Industry.

14 But first let me say I'm very sorry that  
15 I'm not at the meeting today. My daughter had a baby  
16 last night, and I have grandpa babysitting duty for  
17 her 15-month old. So this is a busy day for us.

18 MR. LUBINSKI: Well congratulations, and  
19 it sounds like it's a much more important issue.

20 MR. SCAROLA: Well yes, but this is an  
21 important issue also. So, you know, my 15-month old  
22 is being very patient here, so we're okay so far.

23 I just wanted to comment that I listened  
24 in this morning, on and off, to many good concepts  
25 and plans. But I'm really concerned that none of

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1       these plans seem to explicitly address the most  
2       fundamental key issues that must be resolved to allow  
3       those plans to yield products that will make any  
4       substantial difference in the digital transition.  
5       And let me explain what that is.

6               In the NEI letter to the NRC of February  
7       23rd, which provided comments on the staff's initial  
8       plan, NEI stated that Industry and staff must reach  
9       agreement on two fundamental key issues.

10              The first are the defensive measures that  
11       can preclude the need to consider a CCF in  
12       deterministic safety analysis. And there was a lot  
13       of discussion from Gene Eagle on that point about  
14       adequate testing. Well, what is adequate testing.

15              Then Norbert talked about the  
16       prescriptive guidance that the staff has on  
17       independence. Well, we don't have that kind of  
18       guidance on CCF or what it takes to preclude CCF.  
19       And it's that lack of guidance that has really  
20       resulted in a very stagnant digital transition.

21              The second point that NEI made in their  
22       letter is that for CCFs that cannot be precluded, we  
23       need agreement on deterministic analysis methods that  
24       are consistent with the beyond design basis nature of  
25       some, and I stress some, of some CCFs.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1           So as stated in the NEI letter, I highly  
2       recommend that the staff's plan very explicitly  
3       address these two fundamental key issues, through a  
4       high priority action item with an expedited schedule.  
5       Then we can build on that agreement through the  
6       execution of the additional plan actions.

7           From what I've seen, the most recent NRC  
8       plan has not addressed this comment, saying that CCF  
9       and 50.59 are the highest priority, is just a sound  
10      bite. And that's not sufficient to bring the focus  
11      of Industry and NRC resources on these two  
12      fundamental issues. And that focus is absolutely  
13      necessary if we're going to make any progress on CCF  
14      or 50.59.

15           Now let me also say that, now once we  
16      have alignment on these issues, then we have the  
17      foundation to address all the issues that are in the  
18      staff's plan. Such as performance based review  
19      criteria, 50.59 evaluations, embedded digital  
20      devices, improvements in commercial grade dedication,  
21      digital product certification, a graded approach and  
22      the commensurate revisions and streamlining of staff  
23      guidance.

24           For example, how can we ever accept a TUV  
25      or any third product certification without first

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701



1 reaching agreement on the digital defensive measures  
2 needed to preclude CCF. And then ensuring that that  
3 third party review included an evaluation of those  
4 defensive measures.

5 It's just makes no sense that we could do  
6 anything like that, without first reaching agreement  
7 on defensive measures.

8 Well, I have a concern that without  
9 agreement on these issues, the efforts to achieve our  
10 regulatory environment, that embraces the digital,  
11 that transition, will certainly produce a lot of new  
12 paper, but not a lot of concrete results.

13 And I say this because it's evident  
14 through the recurring revisiting of the lack of  
15 digital transition progress, every ten years or so,  
16 since the late 1970's and we've had no market change.  
17 We keep revisiting this issue over and over again.

18 And the reason we do it is because we  
19 don't go after the fundamentals. The fundamentals  
20 have to be resolved first, then we can take on all  
21 the paper that supports those fundamentals.

22 Now please keep in mind, that prevention  
23 of CCF has always been the basis of all I&C regulatory  
24 criteria. Whether the source of the CCF was an  
25 earthquake, an EMI hazard, an electrical fault, a

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 shared signal failure or even a desire or  
2 manufacturing defect, certainly the complexity of  
3 digital systems presents some new potential sources  
4 of CCF.

5 But in the same manner that NRC, Industry  
6 have reach agreement on defensive measures to prevent  
7 CCF from all prior known sources, we can and must  
8 reach agreement on defensive measures for these new  
9 sources that are plaguing our digital transition.

10 So again, I encourage the staff to not  
11 address this with sound bites, but to address this by  
12 going after the key foundation issues. Thank you.

13 MR. LUBINSKI: Thanks. I'll start  
14 responding to your comment, and I'm going to turn to  
15 Ross in a second, is clearly the action plan is not  
16 designed to be sound bites and we don't believe it's  
17 sound bites.

18 We believe the fact that we have listed  
19 the common cause failure as one of the near-term items  
20 that needs to be addressed in reaching alignment on  
21 that, in moving forward, we think is very important.

22 What we were trying to lay out in the  
23 plan itself is the steps to get there. Not  
24 necessarily all the technical issues associated with  
25 each of these items.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1                   That comes as part of the meetings and  
2                   discussions. Ross, I'm going to ask you to provide  
3                   comments on how you would address this.

4                   MS. ALVARADO: Yes, this is Rossnyev.  
5                   Ken, I hear your comment. And we received that  
6                   comment in the NEI letter and we are looking into it  
7                   as a part of our technical evaluation. So we are  
8                   concerned. It's not that we have disagree, we're  
9                   still working on it.

10                  The one comment I want to make, Ken, and  
11                  I think we explained these on the meeting that we had  
12                  on March 21st, defensive measure is an EPRI concept  
13                  that is part of the EPRI document. Since that  
14                  document we don't have it, and it's not been endorsed,  
15                  we cannot use that concept as such. So we will have  
16                  to look into something similar to that, if that's the  
17                  approach that we want to take.

18                  And I think Gene wrote that up into the  
19                  issue that we're having, with these concepts being  
20                  defined in Appendix D. If that's the case, been  
21                  using Appendix D. If we don't have access to those  
22                  concepts or if the approval done by stakeholders  
23                  don't have access to that, we cannot use that.

24                  So I just want to point out that that's  
25                  an EPRI concept that we will have to work with you

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 guys to see how, if that's the path to go for common  
2 cause failure, how we can approach that.

3 MR. LUBINSKI: And if I can, I appreciate  
4 that, Ross. So it explains, we do want to look at  
5 these issues, we are going to look at these issues as  
6 part of CCF.

7 MS. ALVARADO: Right.

8 MR. LUBINSKI: Jason, you're one of the  
9 point of contacts, I guess, on the NEI letter that  
10 was referenced by Ken. So when we read that in the  
11 letter, we looked at it from the standpoint of the  
12 major comment, with respect to the action plan is,  
13 this needs to be a priority issue, which it is. With  
14 respect to the details, we're putting that into those  
15 meetings and plans.

16 And I'm seeing nodding from you that  
17 that's where your intent was with that comment?

18 MR. REMER: Yes, that's right. Just on  
19 the common cause, I would rather look at, if EPRI has  
20 a fantastic idea that will work, let's figure out how  
21 to get what you need to do your stuff, okay? Because  
22 if that's the only problem we got, we can solve that  
23 problem.

24 MS. ALVARADO: Oh, yes.

25 MR. REMER: Okay?

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 MS. ALVARADO: We haven't got to that  
2 yet.

3 MR. REMER: If it's the way to go, we can  
4 figure out something. We'll write a letter, I'll  
5 write a letter. You know, we'll do something. But  
6 if it's the right way, then we'll figure out how the  
7 rest works.

8 MS. ALVARADO: Okay.

9 MR. SCAROLA: So let me make a comment  
10 about sense of measures. Because this is certainly  
11 not an EPRI proprietary concept.

12 Seismic qualification is a defensive  
13 measure against an earthquake causing the CCF. EMI  
14 qualification is a defensive measure.

15 But a defensive measure is simply a  
16 title. There is nothing proprietary about that.  
17 It's a label.

18 So yes, certainly we can use the EPRI  
19 document as a starting point, for this discussion.  
20 But the EPRI document is not the only source of  
21 defensive measures. There are certainly other  
22 defensive measures and we ought to be talking about  
23 those and finding out how to reach agreement on them.

24 So I guess I have a different perspective  
25 on this because as a designer of I&C systems, I've

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1       been applying defensive measures to prevent CCF from  
2       all different kinds of sources, for my entire career.  
3       This is not new and unique to EPRI.

4               MR. LUBINSKI:   Ken, I appreciate the  
5       comment. And as we said, we want these comments to  
6       come during the CCF meetings. The next one is the  
7       26th of April.

8               And if you're able to participate in  
9       person, great, if not, by telephone would be great  
10      also so that we can address these issues as we move  
11      that issue forward.

12              Angela, someone else on the line?

13              OPERATOR: Yes,

14              MR. KEENE: John? One second, Angela.

15              MR. LUBINSKI: Oh, I'm sorry.

16              MR. KEENE: Just for clarification for  
17      the person that are listening on the, for people that  
18      are online or on the phone call.

19              The NEI comments that were delivered on  
20      February 23rd are in ADAMS. And the ADAMS accession  
21      number for the package is ML16067A356. And that will  
22      give you the two comments, which is the NEI letter,  
23      and then also the comments that came out as an  
24      attachment. And that's for additional information  
25      so they can go forward with it.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 MR. LUBINSKI: Thank you, Todd,  
2 appreciate it. Okay, Angela, the next person on the  
3 line.

4 OPERATOR: Question comes from Marvin  
5 Lewis.

6 MR. LUBINSKI: Yes, Mr. Lewis?

7 OPERATOR: Press \*6 on the user line.

8 MR. LEWIS: I'm on the line. I'm Marvin  
9 Lewis, sorry about that. One of my problems with the  
10 foundational issues is that they have to be reported.

11 I want to just give you an example.  
12 Hopefully I don't have to mention which reactor I'm  
13 talking about. Or reactors.

14 Mainly leaks through the ceiling and the  
15 control room. This is not reported. Sometimes it's  
16 just mopped up and it's not reported.

17 I think that water on a electronic  
18 console can cause CCF. Maybe I'm wrong, hopefully.  
19 Maybe the consoles are totally waterproof, forever.

20 But this is sometime that often is not  
21 reported. These small things are not reported. And  
22 these small things are, may or may not, cause CCF.

23 And I just bring this up as an example of  
24 the known unknowns. Whether they're known unknowns,  
25 I'm not sure.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 And this is an example of a way these  
2 issues can get around any consideration of CCF.  
3 Thank you.

4 MR. LUBINSKI: Okay, I'm going to respond  
5 first and I think Mr. Connelly wanted to comment as  
6 well is, when we talk about issues that you just  
7 brought up, water leaking onto electronic components,  
8 that's a concern, whether you're talking about  
9 digital systems or analogue systems, and does need to  
10 be addressed. And is a real day issue that we believe  
11 we are addressing.

12 From the scope, we don't see a difference  
13 in that, in the digital I&C aspects. If there is  
14 something that were different and unique, we would  
15 address that as part of the digital I&C actions.

16 Mr. Connelly, you wanted to comment?

17 MR. CONNELLY: Yes, I was going to say  
18 exactly the same thing. And to add to that, if you  
19 look at the EPRI research, what you're describing is  
20 environment disturbances.

21 Whether they be fire, flood, seismic.  
22 You know, could be any number of contributors. But  
23 those are environmental contributors to common cause  
24 failure and they are specifically addressed as part  
25 of this exercise.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701



1 MR. LUBINSKI: Thank you. And with  
2 respect to that, did EPRI identify anything unique  
3 with respect to digital versus analogue with respect  
4 to those kind of issues?

5 MR. CONNELLY: No. The same sorts of  
6 events can happen whether you're in the analogue  
7 domain or the digital domain. To varying degrees.

8 So for example, EMI/RFI. Analogue  
9 components can be affected by EMI/RFI. Digital  
10 components can be, but to varying degrees and  
11 depending on the application.

12 MR. LUBINSKI: Great, thank you.  
13 Appreciate that. Angela, do we have anyone else on  
14 the line with a question or comment?

15 OPERATOR: There are no further  
16 questions at this time.

17 MR. LUBINSKI: Okay, I'm looking around  
18 the room, don't see anyone walking to a microphone.  
19 And we actually are pretty close to being on schedule.

20 So I'm going to turn back to Todd.  
21 What's next on the agenda?

22 MR. KEENE: Next is just a recap and a  
23 discussion of action items.

24 MR. ARNDT: Before we do our final recap,  
25 in the room we've put up the questions again. We've

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 pretty much digressed into this after the questions  
2 for the Industry. But if anyone has comments on the  
3 broader issues associated with scope, priorities,  
4 missing items, the longer-term big picture strategy,  
5 this is your time to talk. Hearing none.

6 MR. LUBINSKI: John, you wanted to  
7 comment?

8 MR. CONNELLY: Yes, just to reiterate.  
9 We want to take the time and do the due diligence to  
10 go through the digital action plan in more detail.  
11 It does take a little time to digest it. Maybe we  
12 want to give this the full consideration that it  
13 deserves.

14 MR. LUBINSKI: Great. Yes, that's a  
15 lead into my next question, before we go to kind of  
16 a recap maybe is, docking those issues last Friday,  
17 Federal Register Notice went out today, we're having  
18 out meeting today.

19 I appreciate everyone participating. I  
20 personally got value out of the meeting today.  
21 Hopefully members of the Industry and the public did  
22 as well.

23 We do have, we've requested comments to  
24 be in by April 24th. We would like to get comments  
25 earlier, if people have those comments. Especially

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 if you believe they're significant comments or  
2 questions that need clarification.

3 And then the question I have is, should  
4 we be arranging for another public meeting or webinar  
5 and if so, the timing of that. The 24th is not that  
6 far away.

7 So I see a nodding of heads. Yes, that  
8 that's an idea. Any recommendation on a timeframe?

9 MR. REMER: You're saying before the  
10 public comment period closes --

11 MR. LUBINSKI: Yes.

12 MR. REMER: -- another meeting? I'm not  
13 sure.

14 MR. LUBINSKI: Because let me go from a  
15 timing standpoint, if we were to look at this. We  
16 plan to provide something to the Commission on the  
17 25th of May.

18 MR. REMER: Right.

19 MR. LUBINSKI: Which means that the  
20 action plan itself, we haven't put a hard date on  
21 this, but we're probably looking close to the end of  
22 April, beginning of May, that we'll have finalized  
23 that action plan.

24 So we don't have a lot of time between  
25 the 24th and the beginning of May to make those kind

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 of changes along the way. So that's why we're hoping  
2 to get comments early in going forward with this.

3 And we thought another meeting, whether  
4 or not it's a meeting on the action plan itself or a  
5 meeting on any specific items, if we felt that we  
6 were getting comments back that, you know, comments  
7 on the first five items may not be significant and  
8 there's no need to rehash those but, and I'm only  
9 pulling for example out is, if we said we want to  
10 have a meeting focused on two issues, such as embedded  
11 digital devices and ISG-06. Just if that were the  
12 case.

13 Not saying we would necessary those two  
14 issues, but if people wanted to pull those issues and  
15 said, should we be looking at these activities.

16 MR. CONNELLY: To your point, I mean  
17 there's a lot of moving parts. And let's just be  
18 blunt, there's a lot of moving parts to this and  
19 there's a lot of things that are dependent on each  
20 other. So frequent communications and frequent  
21 interaction I think is going to be beneficial parties  
22 concerned.

23 MR. REMER: Yes.

24 MR. CONNELLY: I'm not sure where we can  
25 dovetail this in, but I do think just having a

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 continuous dialogue is going to help us all.

2 MR. REMER: Maybe. Yes, I mean if we  
3 can do it right after the comment period closed, or  
4 something like that, to give us a chance to get all  
5 our stuff together and then talk about it. Maybe  
6 that following week. Even at a telecom.

7 MR. LUBINSKI: Okay. Let's --

8 MR. REMER: This will be helpful.

9 MR. LUBINSKI: Yes, Todd talked about it.  
10 Let's take an action from the meeting here that NRC  
11 is going to investigate the timing for --

12 MR. REMER: Yes.

13 MR. LUBINSKI: -- and scope of another  
14 meeting. Whether it's before or after the comment  
15 period and definitely no later than the end of April.

16 MR. REMER: Yes.

17 MR. LUBINSKI: And what I encourage, I  
18 brought up at the beginning of the meeting, is if you  
19 have comments, please get them early, if you have  
20 questions, please call the points of contact. For  
21 the five items, people spoke today.

22 We've got the leads right there and  
23 you've got their phone numbers or emails. You can  
24 ask questions, provide comments to them.

25 You've got my name, email, phone number,

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1       you can call me and I'll get you in contact with the  
2       right person for any ideas on how to move this  
3       forward. Okay?

4               Okay, Todd, what's next? You do action  
5       items first or --

6               MR. KEENE: Actually I was going to cover  
7       the reactor side, but there's nothing else. We had  
8       a few of them.

9               I'm going to leave the NEI ones. I'll  
10       assume that you guys wrote down your own action items  
11       so I'm not going to task any item with any of these.

12              I'm going to go over the ones that I got  
13       out of our comments and --

14              MR. LUBINSKI: Now you are tasking them  
15       with one they already have is, there's a document due  
16       on April 1st.

17              MR. KEENE: But that was preexisting.

18              MR. LUBINSKI: Yes.

19              MR. KEENE: And this may not be an all-  
20       inclusive list, I'll also trust Jenny, she probably  
21       has better notes than I do, she always does.

22              All right, first one is 50.59. There was  
23       a review to ensure that we would take the comment  
24       under consideration to review for the, that it's not  
25       nuclear power plant specific and we need to ensure

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 that we have RTRs included in the, potentially in the  
2 title and in ensuring our thoughts. And our  
3 inclusion of the processes.

4 For 603, consideration of other  
5 standards. There's an example, is the ISA-84, the  
6 standard one that was brought up. And I think that's  
7 also included in what NEI discussed in their  
8 presentation.

9 There's a follow-on for the embedded  
10 digital device RIS. The meeting is happening next  
11 week, for the comment resolution. The meeting is  
12 going to be discussing the comment resolution  
13 document and we'll investigate and review how we can  
14 release the RIS and the comment resolution in  
15 conjunction, in support of that meeting.

16 Also, based on what Mr. Marvin brought  
17 up, Mr. Lewis had brought up, use the inclusion of  
18 the ISO standards to get back into the international  
19 standards.

20 NEI specifically requests that an  
21 integrated schedule of the planned events, and as  
22 part of division in what we were doing with the SECY  
23 paper and what the action plan is, that is an integral  
24 part of it. Just trying to get the visual, get the  
25 document to have the final product provide, we can

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 give an integrated timeline, but trying to get the  
2 document, or what will be included in the document,  
3 will be an integrated schedule. Obviously sooner  
4 rather than later we'll probably assess with your  
5 comments.

6 And investigation and timing of the scope  
7 of the second meeting not to be no later than the end  
8 of April. Anything that I missed?

9 Just one that I want to add as far as a  
10 comment that I think we'll take as an action too is,  
11 with respect to looking at some of the specific items,  
12 conditions with respect to 603 and 7-4.3.2, looking  
13 at those and making sure, as we address them, we're  
14 considering their performance based and technical  
15 neutral nature of those. I don't want to give a  
16 misperception in anyway.

17 MR. KEENE: Okay, that's all I have for  
18 as far as that. Other than close out of the meeting,  
19 I have no other action items.

20 MR. LUBINSKI: So closeout of the  
21 meeting, we had a Category 3 meeting today. We  
22 didn't make room right now for any additional public  
23 comments because everyone was participating as  
24 members of the public essentially, so appreciate  
25 that.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701



1 I want to say, first I want to thank the  
2 NRC staff who put together the document and got it  
3 out for public comment. A lot of great work done in  
4 a short period in time so my big thanks and kudos.

5 Same kudos to the folks who are  
6 participating today. Whether you're here in person  
7 or on phone.

8 As been stated a number of times, the  
9 document was just issued publically last Friday. So  
10 we do understand that you haven't had a chance to go  
11 through the document many times, but we do appreciate  
12 the time you took to go through it and appreciate the  
13 comments that you provided today and look forward to  
14 more comments.

15 From my standpoint, I believe that it was  
16 beneficial to have this meeting today. It allowed  
17 us to communicate more what our thinking was with  
18 respect to the plan so that people who were commenting  
19 and have an interest have a better understand of what  
20 we were trying to achieve and can focus your comments  
21 more on, you should clarify this versus we disagree  
22 and you should do something different. And we've  
23 heard some of those today.

24 And finally, we talked about this being  
25 a living document as we move forward and being updated

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 every six months. Well, it's going to be a living  
2 document over the next six weeks.

3 The NRC is not just sitting back and not  
4 changing the document, our folks are working on  
5 modifying the document. I would say as we speak, but  
6 we're in the room so not really as we speak, but we  
7 will continue over the next six months, or six weeks,  
8 to modify that document to put it together and  
9 incorporate these comments and improve the quality  
10 and clarity as we move forward.

11 And a final thanks to everyone who made  
12 presentations today. NRC staff and NEI, we  
13 appreciate you formulating your comments in a  
14 presentation. These will be made part of the meeting  
15 summary, what you provided today. And we do  
16 appreciate the clarification on all these comments  
17 that we had that were more clarified as the meeting  
18 went on.

19 So with that, thank you -- Todd, before  
20 I say adjourned you were going to say something?

21 MR. KEENE: Yes, I just want to reiterate  
22 and reemphasize the fact that although the meeting is  
23 being transcribed, written comments are acceptable  
24 and it makes it much easier for us to take them into  
25 consideration.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1           And as noted in the Federal Register  
2       Notice and on the meeting notice, due to the short  
3       timeline and the short turnaround requirements of  
4       this project, there will not be any written response,  
5       a dedicated written response, to any comments that  
6       are provided.

7           And that's just because this, keeping in  
8       mind this is an action plan. This isn't a regulatory  
9       requirement, this is what our staff's intentions in  
10      our integrated action plan is to resolve this.

11           MR. LUBINSKI: Okay, thanks, Todd. And  
12      we look like we're about 12 minutes early in our  
13      meeting and I don't think anyone's complaining about  
14      that. So with that, our meeting is adjourned.  
15      Thanks.

16           MR. KEENE: Thanks.

17           (Whereupon, the above-entitled matter  
18      went off the record at 11:48 a.m.)

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701