

Official Transcript of Proceedings
NUCLEAR REGULATORY COMMISSION

Title: Advisory Committee on Reactor Safeguards
 ESBWR Subcommittee

Docket Number: (n/a)

Location: Rockville, Maryland

Date: Wednesday, July 22, 2009

Work Order No.: NRC-2979

Pages 1-84

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

1 UNITED STATES NUCLEAR REGULATORY COMMISSION

2 + + + + +

3 ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

4 + + + + +

5 ESBWR SUBCOMMITTEE

6 + + + + +

7 WEDNESDAY

8 JULY 22, 2009

9 +++++

10 The Subcommittee convened at 8:30 a.m.

11 room T2-B3 at Nuclear Regulator Commission

12 Headquarters 11545 Rockville Pike, Rockville,

13 Maryland, Dr Michael Corradini, Chair, presiding.

14
15 SUBCOMMITTEE MEMBERS PRESENT:

16 MICHAEL CORRADINI, Chair

17 J. SAM ARMIJO

18 SAID ABDEL-KHALIK

19
20
21 CONSULTANTS TO THE SUBCOMMITTEE PRESENT:

22 THOMAS S. KRESS

23 GRAHAM B. WALLIS

24

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24

NRC STAFF PRESENT:

CHRISTOPHER BROWN, Designated Federal Official

JANELLE JESSIE

DAN BARSS

JAMES KELLUM

TOM KEVERN

MIKE EUDY

CRAIG HARBUCK

NIMA ASHKEBOUSSI

ALSO PRESENT:

GINA BORSH

RICK WACHOWIAK

TOM HICKS

JOHN COSTELLO

MARK PAUL

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24

TABLE OF CONTENTS

Opening Remarks and Objectives. 4

Conduct of Operations

 a. FSAR Chapter 13. 6

 b. SER/OI Chapter 13. 32

Technical Specifications

 a. FSAR Chapter 16. 60

 b. SER/OI Chapter 16. 67

Committee Discussion. 78

Adjourn 83

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

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

8:31 p.m.

CHAIR CORRADINI: All right. Let's begin. We'll come to order. This is a continuation of the meeting from yesterday on the ESBWR Subcommittee.

My name is Mike Corradini, Chair of the Subcommittee.

ACRS Members today in attendance are Said Abdel-Khalik, Sam Armijo and our consultants Tom Kress and Graham Wallis. Christopher Brown is the ACRS Staff Designated Federal Official for this meeting.

The purpose of the meeting is to review, discuss Chapters 13 and 16 of the Staff's draft SER with open items and associated documents. We'll hear presentations from representatives of the Office of New Reactors and the Applicant Dominion and GEH.

The Subcommittee will gather information, analyze relevant issues and facts and formulate proposed positions and actions as appropriate for deliberation by the full committee.

I'll just parenthetically say that the expectation is that with the meeting in August we'll have a letter on the draft SER with open items in September.

The rules for participation in today's

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 meeting were announced as part of the notice of this
2 meeting previously published in The Federal Register
3 on July 2nd, 2009.

4 At this time, we have received no requests
5 from members of the public wishing to make an oral
6 statement.

7 A transcript of the meeting is being kept
8 and will be made available as stated in The Federal
9 Register notice.

10 We request the participants in the meeting
11 use the microphones located throughout the meeting
12 room when addressing the Subcommittee. Participants
13 should first identify themselves and speak with
14 sufficient clarity and volume so that they can be
15 readily heard.

16 Please silence all cell phones. That's a
17 good addition.

18 We will now proceed with the meeting and
19 I'll call upon Janelle Jessie to start us off from the
20 Office of New Reactors to introduce the presenters and
21 start us down the path.

22 MS. JESSIE: Good morning, Dr. Corradini
23 and good morning to the rest of the committee. My
24 name is Janelle Jessie. I'm the Project Manager for
25 Chapter 13 and we're going to hear presentations from

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 Chapter 13 and 16.

2 And continuing with the format that we had
3 yesterday, we'll begin with presentations from the
4 Applicant and that'll be followed by presentations
5 from the Staff.

6 So, with that, I'll turn it over to Gina
7 Borsh who'll be presenting Chapter 13 from the
8 Applicant's perspective.

9 MS. BORSH: Thank you. All right. Let's
10 talk about Chapter 13. To begin with, the subject is
11 conduct of operations and I think as most of you know,
12 most of the information in this chapter is outside the
13 scope of the DCD. So, we've added our COL FSAR-
14 specific information to this chapter and to other
15 parts of the COLA.

16 And I just want to mention, in Chapter 13,
17 we have included information about the physical
18 security and about fitness for duty, but we are not
19 going to be talking about that in this session because
20 that review by NRC is under a separate schedule.

21 Generally, in this chapter, we're
22 following using the same types of programs, processes,
23 procedures that we use for our existing units at
24 Dominion and so, the first Section 13.1,
25 organizational structure and in this section, we've

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 defined the North Anna Unit 3 organizational
2 structure. It includes construction which, of course,
3 is new for us. We don't have that currently for our
4 operating plants and we talk about the operations
5 organization and then we include a training schedule
6 that shows the initial training for the plant staff
7 based on a fuel load date or a fuel load assumption.

8 13.2 is about training. Here we
9 incorporate the NEI template on training and that is
10 NEI Template 06-13. It's been approved by the NRC and
11 we're using that.

12 Then to address a couple of COL items, we
13 added some information about reactor operator and non-
14 licensed plant staff training and we provided the
15 training schedule.

16 For emergency planning, we incorporate the
17 emergency plan itself in part 5 of our COLA. We also
18 include our evacuation time estimate in that part of
19 the cola.

20 CONSULTANT KRESS: Let me ask you about
21 the training.

22 MS. BORSH: Sure.

23 CONSULTANT KRESS: Do you have a simulator
24 of some sort?

25 MS. BORSH: Will we have a simulator?

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 CONSULTANT KRESS: Yes.

2 MS. BORSH: Yes. Yes.

3 CONSULTANT KRESS: For AP? I mean for the
4 -- the ESBWR?

5 MS. BORSH: ESBWR.

6 CONSULTANT KRESS: You guys actually
7 helping put one of those together?

8 MR. WACHOWIAK: Yes, I think that's part
9 of the offer. Right? That's included. The
10 simulator's included. Even though like we said the
11 other day, it's not described in the DCD.

12 CONSULTANT KRESS: Um-hum.

13 MR. WACHOWIAK: But, it is included as
14 part of the project.

15 CONSULTANT KRESS: This would be the first
16 ESBWR simulator?

17 MR. WACHOWIAK: Yes.

18 MS. BORSH: All right. So, part 5 has the
19 emergency plan. It has our evacuation time estimate.
20 Then we go back into 13.3 of the FSAR itself and here
21 we identify the Operations Support Center and
22 communication interfaces that it has with the control
23 room and the TSC.

24 And then we also address another COL item
25 in the DCD by identifying the EOF and the

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 communication interfaces that it has with the control
2 room and the technical support center and finally, to
3 address the last COL item in this section, we added
4 the description of our decontamination facilities.

5 CONSULTANT KRESS: I thought the state was
6 supposed to be involved in emergency planning. Put
7 together. Do you guys do that or do you operate with
8 the state or --

9 MS. BORSH: Yes, we operate with the
10 Commonwealth and we submitted the Commonwealth and
11 county plans for emergencies to the NRC for review
12 under separate cover and FEMA performed that review
13 for the NRC under their Memo of Understanding.

14 CONSULTANT KRESS: You already have an
15 emergency plan for the plant center there.

16 MS. BORSH: Yes, and basically, they're
17 using --

18 CONSULTANT KRESS: This is a suggested
19 addition to it?

20 MS. BORSH: Yes, really, it's not much of
21 a change, you know, because it's about North Anna.

22 CONSULTANT KRESS: Yes.

23 MS. BORSH: It's not about North Anna
24 Units 1 and 2.

25 CONSULTANT KRESS: Yes.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 MS. BORSH: They're about North Anna.

2 CONSULTANT KRESS: Yes.

3 MS. BORSH: So.

4 CONSULTANT KRESS: Okay.

5 MS. BORSH: Thanks. But, that is
6 included. FEMA did do a review. When we get to open
7 items, you'll see there are some that we're working to
8 -- we, the Commonwealth and the counties along with
9 Dominion's support, are working to resolve.

10 CONSULTANT WALLIS: Is this EOF in the
11 same place as it is for the existing reactors?

12 MS. BORSH: Yes, that's our plan right
13 now.

14 CONSULTANT WALLIS: It is and it's 30
15 miles away?

16 MS. BORSH: No, our EOF is on site.
17 Right, John? John Costello, would you like to
18 explain? This is John Costello. He is our -- he's
19 our emergency planning supervisor.

20 MR. COSTELLO: John Costello and I'm the
21 Fleet Supervisor for Support Services for Emergency
22 Preparedness for Dominion and the subject matter
23 expert for the COL group for the emergency plan for
24 North Anna Unit 3.

25 With respect to emergency operations

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 facility, the early site permit and the major features
2 plan and the COL emergency plan contemplated a single
3 emergency operations facility at the Glen Allen
4 Dominion offices which are about 30 miles away from
5 the North Anna station.

6 The staff came back with a request for
7 additional information saying that there was
8 insufficient information for them to make a judgment
9 based on that and we have a request for additional
10 information that's looking for more information in
11 that regard and I'll refer to Gina relative to the
12 status of responding to that request for additional
13 information.

14 MS. BORSH: Yes, the response is going to
15 show that we are going to use the existing --

16 CONSULTANT WALLIS: So, it is going to be
17 30 miles away?

18 MS. BORSH: No, right -- no, so by August
19 4th, we owe the response to NRC and you know about the
20 response, John, the content response.

21 MR. COSTELLO: Yes, so the existing EOF is
22 within 10 miles. Therefore, there is a backup EOF
23 required and an exception on the docket for North
24 Anna's Unit 1, Unit 2 for a facility that's at this
25 Glen Allen Dominion offices.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 So, the EOF, the local EOF and the central
2 EOF is how we differentiate between the two.

3 CHAIR CORRADINI: Which is which? I'm
4 sorry. I'm a little confused at this point.

5 So, which one local? The one that is 10
6 miles away is local?

7 MR. COSTELLO: The one that is within 10
8 miles --

9 CHAIR CORRADINI: Okay.

10 MR. COSTELLO: -- is referred to as the
11 local EOF.

12 CHAIR CORRADINI: Okay.

13 MR. COSTELLO: And the one that's about 30
14 miles away is referral to as the central EOF and when
15 it was approved as a backup, it was approved as a
16 common backup for both the North Anna plant and the
17 Surry plant.

18 CHAIR CORRADINI: I see.

19 MR. COSTELLO: So, it's behind the 20-mile
20 criteria that was in place at the time for both of
21 those sites.

22 CONSULTANT WALLIS: When will the main
23 function be performed? Will it be performed at the
24 10-mile facility or will there be some sort of sharing
25 of functions between these two facilities? I don't

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 quite figure out how that would work.

2 MS. BORSH: Maybe you should explain,
3 John, why we have two. Why we have a local and a
4 central.

5 MR. COSTELLO: Well, the reason that we
6 have the two currently is because NRC guidance
7 requires that if your EOF is within 10 miles, you need
8 to make provisions for a back-up facility between 10
9 and 20.

10 We went in for an exception as to the
11 distance for something other than between 10 and 20.
12 This is back in the --

13 CONSULTANT WALLIS: So, the main one is
14 really the 10-mile one and the other one's a backup.

15 MR. COSTELLO: Correct.

16 CONSULTANT WALLIS: Okay.

17 MR. COSTELLO: Now, totally separate,
18 there is a rule change that's working through the
19 system that would remove the words near site from the
20 regulation and I don't think that's a controversial
21 part of the rule change. So, as far as the
22 application is concerned, it talks about having the --
23 runs the operations facility for Unit 3 when it
24 survives to be consistent with Unit 1 and Unit 2 and
25 that what happens in the future following that rule

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 change is a separate matter.

2 CHAIR CORRADINI: Thank you.

3 MS. BORSH: Yes. Okay. We're good. In
4 Section 13.4, it's called operational program
5 implementation and basically what that is is the table
6 that shows the milestones for the different
7 operational programs that are described throughout the
8 rest of the FSAR. So, it shows when we'll be
9 implementing all those different programs.

10 In 13.5, we talk about plant procedures.
11 We describe the administrative and operating
12 procedures that the operating organization is going to
13 be using to conduct routine activities and abnormal
14 and emergency activities.

15 We have a COL item in the DCD that we
16 address by describing the procedure development plan
17 and we address the calibration, inspection and testing
18 procedures. Explaining that we'll have procedures for
19 that. That was an RAI -- NRC issued a DCD RAI that
20 requested that a COL item be specifically added to
21 Chapter 13 to address this issue and so, GE put the
22 COL item in and we addressed it by saying yes, we'll
23 have procedures for these activities.

24 CONSULTANT WALLIS: These procedures like
25 the Emergency Operating Procedures, are they very

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 similar to what you have for the other reactors?

2 MS. BORSH: As far as the development of
3 them, you know, obviously, they'll be different
4 because it's a different design, but yes, we'll use
5 the same process to develop the procedures.

6 CONSULTANT WALLIS: I'm reading the SER.
7 There's a very short section on Emergency Operating
8 Procedures. There's a lot of time spent or writing
9 spent on some of the other procedures, but Emergency
10 Operating Procedures which seem to be important,
11 there's just a tiny little section. Why is that?

12 Maybe the Staff would answer that later
13 on, but I was a bit surprised that more attention
14 wasn't paid to Emergency Operating Procedures which
15 would seem to be important.

16 MS. BORSH: Oh, yes.

17 CONSULTANT WALLIS: Yes.

18 MR. WACHOWIAK: The Emergency Operating
19 Procedures are being developed under the Human Factors
20 Engineering DAC as part of the DCD.

21 CHAIR CORRADINI: There's your answer. I
22 was waiting for --

23 CONSULTANT WALLIS: That's the answer.
24 Okay. So --

25 MR. WACHOWIAK: And we had extensive

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 discussions with the staff to insure that the
2 specifics of the Emergency Operating Procedures are
3 listed in the DAC and in the ITAAC to insure that
4 that's done.

5 CONSULTANT WALLIS: So, that's what I --

6 MR. WACHOWIAK: So, they don't have as
7 much to do on those because they're generic.

8 CONSULTANT WALLIS: Okay. Thank you.

9 CHAIR CORRADINI: So, can I just follow-up
10 with then? You had a question though, Tom?

11 CONSULTANT KRESS: That's okay.

12 CHAIR CORRADINI: No. No. Go ahead. Go
13 ahead.

14 CONSULTANT KRESS: I was just wondering if
15 these were symptoms based?

16 MR. WACHOWIAK: Yes.

17 CONSULTANT KRESS: All of the new ones
18 are.

19 MR. WACHOWIAK: It's similar to the
20 existing BWR emergency procedure guidelines which then
21 would be used to develop procedures. We're working
22 with the Owners' Group currently to set up something
23 that works for ESBWR, is in the same spirit as the
24 existing BWR procedures, but do the types of things
25 that we need rather than just some things that apply

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 to BWR4, 5 and 6 that don't apply to ESBWR. There's
2 things that apply to ESBWR that don't work for the
3 other plants. So, but we're working with the Owner's
4 Group to make sure that we have a consistent set of
5 guidelines.

6 CONSULTANT KRESS: These will include all
7 the active systems?

8 MR. WACHOWIAK: Yes.

9 CONSULTANT KRESS: As well as the passive?

10 MR. WACHOWIAK: That's correct.

11 MEMBER ABDEL-KHALIK: Are there any site
12 specific deviations from the DCD that would impact the
13 Emergency Operating Procedures?

14 MS. BORSH: We don't have any site
15 specific deviations from the DCD. There are none.

16 We have a couple of exemption requests
17 that are in the tech specs, but those are going to be
18 eliminated in Rev 6 of the DCD and I'll explain that.

19 MEMBER ABDEL-KHALIK: Are there any site
20 specific characteristics that would result in -- that
21 would have any impact on the Emergency Operating
22 Procedures developed on a generic basis?

23 MR. WACHOWIAK: I can't think of any right
24 -- at this point. It's similar to the way we put the
25 PRA together in that we define the boundary of what is

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 site specific and what's generic to cover all of the
2 emergency actions.

3 MR. HICKS: One of the things that we have
4 to do is we have to develop a plant specific technical
5 guideline based on the generic technical guideline and
6 that identifies any types of things like what you're
7 talking about, site specific characteristics and then
8 that gets submitted to the staff for their review and
9 identifies all the differences between the generic
10 guideline and the plant specific and then that's part
11 of the procedure development program, development of
12 that and then the procedures are based on that.

13 MEMBER ABDEL-KHALIK: And who would do
14 that? You or GEH?

15 MR. HICKS: I don't know who. Probably
16 GEH has most of the responsibility for developing
17 that. I don't know. It's a contractual thing.

18 MR. WACHOWIAK: I think that's something
19 that's spelled out in the contract who would do that
20 part, but in general, it's just like the -- I would
21 expect it to be just like the existing BWRs where
22 generically the guideline is developed and then the
23 individual plant would do their plant specific
24 procedures based on that guideline and the guideline's
25 pretty prescriptive. You know, it tells you what

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 calculations you have to do, gives the curves and all
2 the various things like that, but they typically are
3 implemented on a plant specific basis.

4 Now, it's quite possible that whatever
5 arrangement that Dominion makes with their supplier
6 would include something to address development of
7 those procedures.

8 But, once again, I think it's outside of
9 this process who specifically does that.

10 The guidelines are developed generically
11 just like they are for the existing BWR.

12 MS. BORSH: But, Dominion --

13 MEMBER ABDEL-KHALIK: I'm just trying to
14 understand the process by which any site specific
15 deviations or site specific characteristics --

16 MR. WACHOWIAK: Right.

17 MEMBER ABDEL-KHALIK: -- are integrated
18 into the generic Emergency Operating Procedures that
19 will be developed by GEH.

20 MR. HICKS: Well, I think the way it works
21 is the generic guideline is the starting point and
22 then the plant specific technical guideline comes from
23 that and then there's a plant specific writer's guide
24 that's based on the plant specific guideline and then
25 the EOPs are written to the writer's guide. I think

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 that's --

2 CHAIR CORRADINI: What do you mean by
3 writer? The last -- that intermediate one, can you
4 explain? I understand generic to plant specific
5 technical guidelines to action procedures. What's a
6 writer's --

7 MR. HICKS: What we're saying the writer's
8 guide has the -- it says contains objective criteria,
9 requires emergency procedures developed that they're
10 consistent in organization-style content and use of
11 the terms.

12 CHAIR CORRADINI: Oh. Oh. Oh. Kind of
13 like an outline that this procedure must have this and
14 this and this and this. Is that your point?

15 MR. HICKS: Yes.

16 CHAIR CORRADINI: Okay.

17 MS. BORSH: Right and this whole process
18 is a generic process for the industry. Correct?

19 MR. WACHOWIAK: Right.

20 MS. BORSH: This is not something that we
21 created just for North Anna.

22 MR. WACHOWIAK: This is following the --
23 and I believe it's intended to be incorporated into
24 the generic BWR emergency procedure guidelines and
25 would just be the ESBWR portion of the emergency

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 procedure guidelines.

2 You would address under the existing
3 program plant-specific features by following the
4 process that's outlined in the emergency procedure
5 guideline and we would expect the same thing to happen
6 for the new plants.

7 So, things to address, we talked yesterday
8 like the -- we said that the hydrogen tank would be
9 located sufficiently away from anything that's
10 important. Yet, if there was something to address
11 from that point of view, specifically, the site would
12 have to say okay, the pressure wave can affect what
13 and then they would develop their symptoms from what
14 would see that specific pressure wave even though it
15 doesn't really affect the -- may not affect many of
16 the downstream actions that have to be taken to put
17 the plant into a safe stable state. The symptoms
18 might be different there. That's one example from
19 something we had yesterday.

20 MEMBER ABDEL-KHALIK: Okay. Thank you.

21 MS. BORSH: There are six open items in
22 Chapter 13's SER and all of them are related to the
23 emergency plan. One of them is about developing
24 Emergency Action Levels. We're following in NEI
25 template 07-01 that's being developed for passive

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 plants and so there's an item to track closure
2 approval of that and our incorporation of it.

3 There's a description of the HSI function
4 rather than HFI function in the TSC and the EOF.

5 We talk about human systems that interface
6 versus SPDS which is normally used in the emergency
7 plan. So, there was a clarification question about
8 how does HSI relate to SPDS and we're addressing that
9 in an RAI response.

10 Then we're going to clarify the proposal
11 of the EOF location as John was talking about earlier
12 and there are two RAIs on ITAAC. One for on-site
13 exercises and one for off-site exercises and we're
14 addressing those in the RAI response.

15 CHAIR CORRADINI: What's an OSC?

16 MS. BORSH: Oh, I'm sorry. Operations
17 Support Center.

18 CHAIR CORRADINI: Oh. Thank you. I was
19 trying to remember what it meant. So.

20 MS. BORSH: Yes, I know.

21 There are two confirmatory items in this
22 chapter and then also FEMA as we talked about earlier
23 did a review of the off-site plans and there are open
24 items associated with the results of their review that
25 the Commonwealth and the counties are working on and

NEAL R. GROSS

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

1 Dominion's supporting that effort.

2 CHAIR CORRADINI: So, they've done a
3 review and they have requests and you, Dominion, and
4 the county and whatever are working on their results
5 also?

6 MS. BORSH: Correct.

7 CHAIR CORRADINI: So, I know I'm afraid to
8 ask this question, but I've got -- the Staff will
9 probably know the answer to this. So, let's say FEMA
10 has items. So, do you need them to sign off on them
11 being resolved before NRC signs off? I'm concerned
12 about two Federal agencies getting mucked up. Excuse
13 my English, but --

14 MS. BORSH: It looks like Dan would like
15 to -- Dan, would you like to answer that question?

16 CHAIR CORRADINI: I had a feeling I'd see
17 familiar faces.

18 MR. BARSS: Dan Barss. I'm the Team
19 Leader for the Emergency Preparedness New Reactor
20 License Team and the regulatory requirements on this
21 have not changed with the Part 52 process.

22 CHAIR CORRADINI: Oh. Okay.

23 MR. BARSS: And the NRC always bases its
24 ultimate finding on reasonable assurance on a review
25 of on-site plans which the NRC does and on FEMA's

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 review of the off-site emergency plans and NRC's
2 review of FEMA's review.

3 We take FEMA's review into our
4 consideration when we look at the totality of the
5 emergency planning. We look at the on-site plans.
6 They look at the off-site plans and give us a report.
7 We consider that report in making our ultimate
8 decision.

9 CHAIR CORRADINI: Okay.

10 MR. BARSS: So --

11 CHAIR CORRADINI: So, that's how it's
12 suppose to work process-wise?

13 MR. BARSS: Yes.

14 CHAIR CORRADINI: So, that means you guys
15 are always on the same page?

16 MR. BARSS: Yes.

17 CHAIR CORRADINI: Okay. That makes me
18 feel good. Thank you.

19 MEMBER ABDEL-KHALIK: Now, what does the
20 work development on the bullet mean?

21 MS. BORSH: The Emergency Action Levels --

22 MEMBER ABDEL-KHALIK: Right.

23 MS. BORSH: -- have to be developed for
24 the passive plants. You know, we have -- we need
25 different Emergency Action Levels than those that

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 exist now for the active plants which are -- do you
2 know that there's an NEI Template 99-01 that covers
3 that?

4 MEMBER ABDEL-KHALIK: I'm not familiar
5 with that particular template, but I'm just --

6 MS. BORSH: There's -- John, would you
7 like to explain that?

8 MR. COSTELLO: Certainly. In the
9 beginning, there was a standard review plan and it had
10 a list of events that applicants, licensees had to
11 clarify emergencies at different levels. Leading up
12 and certainly after the TMI event in 1979, NRC issued
13 a NUREG with example initiating conditions 0610 and
14 that was finally published and endorsed by NRC in
15 NUREG-0654 Rep 1 which is a combined NRC/FEMA document
16 and a appendix. It had example initiating conditions
17 for the four emergency classes that the regulation
18 describes. So, that's 1980/1981.

19 In 1992, NRC endorsed an industry
20 alternative proposal. A different way to classify
21 emergency. NUMARC-NESP-007.

22 Several years later, the industry came up
23 with a NEI document 97-03 and while that was being
24 reviewed incorporated into this EAL scheme shutdown
25 events and that document that has this comprehensive

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 set of Emergency Action Level criteria initiating
2 conditions is referred to as NEI 99-01. Rev 4 of that
3 document was endorsed by NRC.

4 Industry has continued to work with that.
5 There have been other changes. Post-9/11 changed the
6 criteria for some of the security events. For
7 instance, an NRC Bulletin went out and licensees made
8 modifications. It's been incorporated into a Revision
9 5 of NEI 99-01 that the Commission has looked or the
10 Staff has looked at.

11 When it got to Emergency Action Levels and
12 Bruce Musico is very familiar with this from the
13 staff, we worked on ITAAC and we came up with an ITAAC
14 to Staff -- working with the industry, Staff came up
15 with an ITAAC, presented it to the Commission about
16 Emergency Action Levels.

17 Then when the first attempt to try and use
18 that came through for an applicant with a complete and
19 integrated plan for an ESP application came in, the
20 Staff was -- we found out we had a difference of
21 professional opinion relative to the level of detail
22 that needed to be put in with Emergency Action Levels.

23 CHAIR CORRADINI: Can you describe what
24 that means?

25 MR. COSTELLO: Well, that means that

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 industry thought the ITAAC meant we're going to do
2 this later. We're going to do this after plant design
3 is more firm. We'll have those EALs in place prior to
4 the plant going into operations.

5 CHAIR CORRADINI: Whereas Staff felt --

6 MR. COSTELLO: Staff said you can give us
7 more now.

8 CHAIR CORRADINI: Okay. Okay. I thought
9 that's what it meant. Okay. Thank you.

10 MR. COSTELLO: So, that particular
11 applicant did that and I can't provide you any details
12 on that because that was a different applicant.

13 With that, for the rest of the applicants
14 who were working on the COLs, the solution, the
15 success path that we had was to develop a passive
16 reactor Emergency Action Level scheme to complement
17 the existing reactor scheme of 99-01 Rev 5. So, that
18 was developed.

19 Now, some of the other applicants who are
20 using non-passive designs are interested in how this
21 comes down on digital I&C which isn't in the 99-01
22 scheme. So, there are some overlaps that'll be
23 addressed, but the 07-01 was the document that was put
24 together for Emergency Action Levels and initiating
25 criteria for passive plans and that's been going back

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 and forth between the staff and the industry for some
2 time. It was, in fact, sent to Mr. Williams by NEI
3 yesterday afternoon after 4:20. What we hope is the
4 last version of that 07-01 document.

5 Now, all of the applicants received RAIs
6 about the EAL. So, the Dominion application has
7 several dozen pages in its appendix one that list
8 initiating conditions and Emergency Action Levels and
9 criteria.

10 The RAI says well, take that out and
11 commit to implementing 07-01 as worked out between the
12 industry and the staff.

13 CHAIR CORRADINI: And that's how that open
14 items is sitting?

15 MR. COSTELLO: Yes, sir.

16 CHAIR CORRADINI: So, if we could just go
17 back two steps. So, right now, you guys are in a
18 state of negotiation between the Staff and the group
19 of passive reactor applicants on this number which
20 I've already forgotten. Right.

21 And then you said something about digital
22 instrumentation that I want to understand what you
23 said there.

24 MR. COSTELLO: Well, within the new -- the
25 07-01 passive design EAL scheme --

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 CHAIR CORRADINI: Right.

2 MR. COSTELLO: -- which was written for
3 the ESBWR and the AP-1000 it addresses digital I&C
4 events, loss of instrumentation and control, as a
5 criteria for assigning an Emergency Action Level for
6 classification.

7 CHAIR CORRADINI: Okay.

8 MR. COSTELLO: So, the existing fleet of
9 plants obviously don't have that, but some of these
10 new designed plants that are not passive design will
11 need that to pass muster.

12 So, I believe, you can't quote me on this,
13 I believe what goes into NEI 07-01 for the passive
14 plants relative to that concern will be mirrored as an
15 optional if you have it in NEI 99-01 Rev 5. So, it
16 would be available to both sets of applicants.

17 CHAIR CORRADINI: But, just to be clear,
18 just to be clear, that all fits together from the
19 standpoint of if some digital I&C failure occurs this
20 trips an action level which then trips procedures, et
21 cetera. That's how this fits together when you had
22 mentioned it here. Right?

23 MR. COSTELLO: Yes, sir.

24 CHAIR CORRADINI: Okay. Okay. Thank you.

25 MEMBER ABDEL-KHALIK: Let me ask my

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 question and it's sort of much more general fashion.
2 If a site emergency is declared at North Anna and it
3 has something to do with Unit 1 or Unit 3, would the
4 same sort of implied message of level of severity be
5 conveyed?

6 MS. BORSH: Yes.

7 MEMBER ABDEL-KHALIK: And how is that
8 assured?

9 MS. BORSH: Through -- it should be -- and
10 I'll -- I should defer to John. John, go ahead.

11 MR. COSTELLO: Well, the two different
12 Emergency Action Level schemes, the Unit 1 and Unit 2
13 and Unit 3, we'll have will assign emergency
14 classification levels, notification of unusual event,
15 alert, site emergency, general emergency to a certain
16 set of symptoms or events that are diagnosed relative
17 to that design. So, if you have a loss of off-site
18 power on Unit 2, you'll end up at one particular level
19 in the emergency classification scheme. If you have
20 that loss of off-site power on Unit 3, because of its
21 design, you might not end up at the same emergency
22 class. But, they'll both address the various losses
23 that can drive them into the emergency class levels.

24 Now, for the -- then the event is
25 classified and once it's classified, then the

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 emergency plan provides for notification of NRC and
2 the Commonwealth of Virginia and the local governments
3 and the communication to them is that emergency
4 classification level which addresses what response
5 actions their plans drive them to take or the severity
6 of the event relative to that plan.

7 MS. BORSH: So, it's the emergency plan
8 and the defined action levels which are following the
9 industry standard and the NRC guidance that take us --
10 each unit whether it's Unit 1, 2 or 3 to the
11 appropriate classification and then once that event is
12 classified --

13 MEMBER ABDEL-KHALIK: Yes, I understand.
14 You know, the underlying reason for my question, you
15 have two completely different plant designs on the
16 same site and in an emergency, you're going to declare
17 some kind of status and I would imagine those four
18 levels in terms of words are the same, but they don't
19 mean the same for the various plans and I was trying
20 to assure --

21 MS. BORSH: The symptoms --

22 MEMBER ABDEL-KHALIK: -- that the same
23 message is being conveyed.

24 MR. HICKS: The cause that gets you to
25 that point is different, but once you're there --

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 MS. BORSH: Right.

2 MR. HICKS: -- I think it's suppose to be
3 uniform. Once you get to that point. What gets you
4 there is different.

5 MR. COSTELLO: As an example, at our
6 Millstone site, we have a CE plant for I think it's
7 Unit 2 and a Westinghouse 4-loop plant for Unit 3 and
8 each has its own unique EALs relative to their designs
9 ending up with one of those four emergency classes
10 which drives a level of response both on-site and off-
11 site.

12 MEMBER ABDEL-KHALIK: Thank you.

13 MS. BORSH: And that's it for us on
14 Chapter 13. Return it to Janelle.

15 MS. JESSIE: Thank you, Gina, for your
16 presentation which the Staff believes was a good and
17 informative overview of the conduct of operations and
18 now, we're going to hear presentations from the Staff,
19 basically all of the Staff who are involved in Chapter
20 13 -- in the Chapter 13 review and we're going to let
21 them do it for their respective sections all at once
22 just to minimize the shuffling of folks coming up.

23 So, we'll begin with Jim Kellum. Jim is
24 going to present Sections 13.1, 2 and 5.

25 MR. KELLUM: As Janelle said, my name's

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 Jim Kellum. I'm from the Operator Licensing Branch of
2 NRO.

3 So, the sections that we addressed were
4 13.1, 13.2 and 13.5. 13.1 being the organizational
5 structure of the applicant, 13.2 being training and
6 13.5 being plant procedures.

7 As an overview, for all three of those
8 sections, there are no open items. Okay. However,
9 there are two confirmatory items. Those are both in
10 13.1. Those both have to do with gaseous and liquid
11 waste programs and those were as a result of RAIs
12 written by the RP folks.

13 CHAIR CORRADINI: So, just take this and
14 help me out with this one. So, in this context, the
15 confirmatory item means that everything else is
16 cleared out -- everything else is cleared relative to
17 open items and then you'll be looking at the end of
18 construction as an ITAAC for these items as
19 procedures. Can you just remind me about that? I'm
20 sorry.

21 MR. KELLUM: Tom, did you want to address
22 these confirmatory items?

23 CHAIR CORRADINI: It's just more I want to
24 understand what you do and when you do it for a
25 confirmatory item.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 MR. KEVERN: All right. For -- this is a
2 process question again. When we issue --

3 CHAIR CORRADINI: Sorry about that, but
4 yes.

5 MR. KEVERN: When we issue a request for
6 -- and it's going to be a two-part answer. I'm only
7 going to give you one part of the answer and then
8 we'll have to go elsewhere.

9 So, the first part of this, in the process
10 when we issue a request for additional information,
11 it's outstanding. It goes to the applicant. The
12 applicant responds and the process we've set up within
13 the Office of Nuclear Reactors for all the applicants
14 is that the applicant provides -- and this is good for
15 -- this is applicable in design certification process
16 as well as for all the COL applicants, the applicant
17 responds to the -- provides a response to the request
18 for additional information and in addition to that, if
19 there is a change to the DCD or the FSAR involved, we
20 get a draft change to the -- now that particular
21 document so that the Staff not only sees the response
22 to the question, they also see what the applicant is
23 proposing as far as a text change to the DCD or the
24 FSAR as applicable.

25 At that point in time, if the Staff is

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 satisfied with the response, why then -- well,
2 actually, if they are not satisfied, then there's a
3 supplemental RAI issued.

4 If they're satisfied with the response,
5 then it moves over to the confirmatory bin and the
6 confirmatory means that we were satisfied with the
7 response. However, it is not yet incorporated into
8 the docketed version, oath and affirmation version of
9 the FSAR or DCD. So, that's why we keep the separate
10 bin as a holding pattern until we see the next
11 revision of the FSAR or DCD.

12 CHAIR CORRADINI: Thank you.

13 MR. KELLUM: Okay.

14 CHAIR CORRADINI: Happy. Thank you.

15 MR. KELLUM: So, there's those two
16 confirmatory items and they're in Section 13.1. Both
17 related to liquid gaseous waste.

18 In the three sections, there are numerous
19 COL items. DCD was incorporated by reference and what
20 we did was we evaluated those COL items and the
21 supplemental information in there and compared that
22 not only to the Standard Review Plan, NUREG-0800, but
23 also some of the related applicable CFR and Reg Guides
24 associated with that.

25 For example, the organizational structure,

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 the COL item from the DCD basically said that this
2 will be provided by the Applicant. So, that was
3 pretty wide open for Dominion to provide that. So, we
4 looked -- Dominion then provided their organizational
5 structure. We reviewed that against the standard
6 review plan which also referenced 10 CFR 50.40(b)
7 which is that they're technically and financially
8 qualified, et cetera and also like Reg Guide 1.8 which
9 is the qualification and training required and in the
10 organizational structure, they provided positions and
11 how that would be laid out. Obviously, the positions
12 -- all those positions aren't filled. So, their
13 résumés and all would be submitted at a later date.

14 As far as for training, training
15 incorporates the NEI document 06-13 Rev 1 and what
16 that is is it's a NEI document that's the training
17 implementation plan for a training program description
18 and that contains all the things from, for example, 10
19 CFR 50.120, but has a list of different training
20 programs that are required. There's nine of them and
21 in addition to that, NEI 06-13 also requires general
22 employee training, management training. Those type
23 things.

24 And for the operator licensing, it
25 references all the applicable 10 CFR 41.43 written

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 exams for reactor operators, senior operators, 10 CFR
2 50.59 for the requal program and so forth.

3 Additionally, then plant procedures, a lot
4 of the plant procedures are laid out. There is
5 numerous -- I think there's about 30 supplemental
6 items. That covers everything from EOPs, alarm
7 procedures, calibration, instrument test procedures
8 and largely what you're looking for -- we are looking
9 for there and what's required by the standard review
10 plan was that they had a program in place to implement
11 those procedures and fulfill the requirements like the
12 10 CFR 50 Appendix B and the quality assurance program
13 to make sure that we had all those -- that those
14 procedures would be prepared accordingly.

15 The procedures themselves under procedures
16 content were not required to be submitted at this time
17 and that procedure review would be part of the
18 construction inspection program at a later date.

19 So, looking at all those references and
20 then looking at what the applicant had submitted and
21 what was incorporated by reference, we had determined
22 that the COL information item, supplement items can be
23 closed and that it met the requirements of the
24 standard review plan.

25 MS. JESSIE: Any questions? All right.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 Next up we're going to have Bruce Musico present 13.3.

2 MR. MUSICO: Good morning. My name is
3 Bruce Musico. I'm a Senior Emergency Preparedness
4 Specialist, NRC's Office of Nuclear Security and
5 Incident Response. I was the principal reviewer of
6 the emergency plan submitted as part of the COL
7 application that Dominion provided us.

8 I can't quite see that slide there. So,
9 I'll work off of my notes and not turn away as often.

10 This slide shows the basic parts of the
11 COL application or COLA as we refer to it that was
12 submitted. It consists basically of the on-site plan,
13 the off-site emergency plans. The applicant submitted
14 an evacuation time estimate or ETE as we call it.
15 Submitted a proposed set of ITAAC inspection tests
16 analyses and acceptance criteria and importantly, this
17 COLA application reference the ESP major features
18 emergency plan that Dominion had previously submitted
19 incorporating the site safety analysis report from
20 that plan into the COLA, into the COL application.

21 The earlier ESP early site permit ESP
22 application, as I said, contained major features,
23 emergency plan. I was the reviewer of that
24 application at the time and the Staff's finding are
25 contained in NUREG-1835 which was issued September

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 2005.

2 In addition, the COL application
3 incorporates by reference the ESBWR Design Control
4 Document which the NRC is currently reviewing under a
5 separate docket.

6 Also, I was one of the principal reviewers
7 of that particular DCD.

8 This slide just summarizes the applicable
9 regulations and guidance that the staff used to
10 evaluate the emergency plans that were submitted in
11 the application. It's pretty straightforward.

12 This slide lists some of the basic aspects
13 of emergency planning, the concepts associated with
14 emergency planning and preparedness. There are
15 emergency planning zones or EPZs as we refer to them.
16 There are two, the 10-mile EPZ and the 50-mile EPZ.
17 There is an on-site plan and there are off-site
18 emergency plans for the affected state and county
19 governmental agencies.

20 With respect to the affected states, the
21 state plans would need to cover both the 10 and 50-
22 mile emergency planning zones and the risk counties
23 which are affected by the 10-mile emergency planning
24 zone would also have to have their individual plans.

25 In addition, there are plans associated

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 with various support agencies that are referred to in
2 the emergency plan as providing support to the utility
3 in the event of an accident or an emergency such as
4 hospitals, ambulance, fire departments and such and
5 also, there are plans associated with various Federal
6 agencies. The NRC being one of those.

7 The specific emergency plans that we
8 looked at and our review was a joint review with the
9 Federal Emergency Management Agency, FEMA, and we at
10 the NRC looked at -- focused on the on-site plans
11 which included the proposed on-site plan for the North
12 Anna Unit 3 which included the ITAAC inspections,
13 tests, analysis and acceptance criteria and the
14 evacuation time estimate.

15 In addition, the COL application included
16 the off-site plans which consisted of the Radiological
17 Emergency Response Plan for the Commonwealth of
18 Virginia. In addition, there are five affected or
19 risk counties within the 10-mile EPZ. Each one of
20 which has its own Radiological Emergency Response Plan
21 and those also were submitted for review and also, the
22 state of Maryland plan was submitted for review
23 because the state of Maryland is affected by a very
24 small portion of the 50-mile EPZ regarding the
25 distance from the north end of site.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 CHAIR CORRADINI: Just a matter of
2 information since I don't remember. The 10-mile EPZ
3 is an outgrowth originally from 10 CFR 100. The 50
4 mile is also out of 10 CFR 100 calculation or is this
5 evolved at the 50 mile?

6 MR. MUSICO: Well, that's not exactly
7 correct --

8 CHAIR CORRADINI: I figured it wasn't.
9 So, I figured you tell me it --

10 MR. MUSICO: -- in that the -- well, I can
11 clarify that because 10 CFR 100 does come into play.
12 Specifically 100.21(g). The concept of the 10 and 50-
13 mile EPZs were a product of the Three Mile Island
14 accident.

15 CHAIR CORRADINI: Oh. Okay.

16 MR. MUSICO: And as a result, there was a
17 construct that was set up within to provide pre-
18 planning. The 10-mile emergency planning zone
19 basically provides a distance within which prior
20 planning needs to be made and in the event something
21 were to happen that actions needed to be taken beyond
22 the 10-mile emergency planning zone, the in-place
23 structure for that 10 miles could be expanded on an ad
24 hoc basis or case-by-case basis.

25 The 10-mile emergency planning zone is for

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 the plume exposure pathway. Primarily, direct
2 exposure to a radioactive plume that might be released
3 from the plant during a severe accident.

4 The 50-mile emergency planning zone is an
5 ingestion pathway zone in which the interdiction of
6 various food stuffs and such would be necessary if the
7 accident was severe.

8 Now, getting back to 10 CFR 100, the
9 evolution of the emergency planning requirements was
10 piecemeal to a certain extent in that looking
11 specifically at 10 CFR 100, that -- I hope I'm correct
12 on this. That focuses on siting criteria. The
13 acceptability of the site and one of the things that
14 we looked at specifically for the early site permit,
15 for example, was in 10 CFR 100.21(g). One of the
16 criteria is that there are no significant impediments
17 to the development of emergency plans.

18 Well, you'll see that exact same statement
19 in the emergency planning regulations and that was one
20 of the bases for the evaluation of the early site
21 permit. The concept of the early site permit was
22 primarily focused on the siting characteristics and
23 just happened to be incorporated with respect to the
24 major features emergency plan.

25 CHAIR CORRADINI: Okay.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 MR. MUSICO: So, it is addressed in part
2 100, but it basically duplicates and overlaps what's
3 in the emergency planning regulations.

4 CHAIR CORRADINI: Thank you.

5 CONSULTANT WALLIS: How far is Richmond
6 from this? The site.

7 MR. MUSICO: Oh, I'm going to need some
8 help on that. Richmond?

9 MS. BORSH: About 50 miles.

10 CONSULTANT WALLIS: It's about 50.

11 MR. MUSICO: It's within the 50 mile --

12 CONSULTANT WALLIS: Comes within the 50
13 mile --

14 MR. COSTELLO: About 30/35 miles away to
15 the center of it.

16 CONSULTANT WALLIS: So, Richmond's
17 entirely within the 50-mile range or so?

18 MR. COSTELLO: That is correct.

19 MR. MUSICO: Okay. The next slide please.
20 This slide indicates the standards of review that were
21 applied to the review of the application.

22 As you can see, the NRC reviews the on-
23 site plans and the reviews basically look at --
24 confirm that there are two things that are satisfied.
25 One, in our case, that the on-site emergency plans are

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 adequate and second, whether there's reasonable
2 assurance that they can be implemented and you'll see
3 that's the same standard of review that FEMA uses in
4 their review of the off-site emergency plans. Whether
5 the off-site emergency plans, the state and the county
6 plans are all adequate and whether they had reasonable
7 assurance that they could be implemented.

8 When we get FEMA's determination, their
9 findings and determinations regarding the adequacy of
10 the off-site plans, we do look at that and the NRC
11 makes an overall determination based on its evaluation
12 of the on-site plans, the review that we did, and a
13 review of FEMA's evaluation of the off-site plans and
14 we make a final reasonable-assurance determination
15 that adequate protective measures can -- will be taken
16 in the event of a radiological emergency and these
17 words are taken directly out of the regulations as far
18 as our standard of review.

19 This slide just lists the basic facilities
20 that are located on-site and off-site. On-site we
21 have -- during an emergency, the Control Room, of
22 course would be pivotal. We have a technical support
23 center, an operational support center. Off-site, we
24 have an emergency operations facility. The state and
25 counties each have their own respective emergency

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 operations center. The NRC has an office in Atlanta,
2 Region II and we also have an emergency response
3 center here in our Rockville office and various other
4 Federal agencies have their own facilities to respond
5 to an emergency in support of an accident at the North
6 Anna site.

7 The next slide shows that there are common
8 emergency planning features associated with the site
9 that has multi-units.

10 In this case, we're looking at the
11 existing North Anna site where there are two units and
12 Dominion is proposing to add an additional -- a third
13 unit on the site, but as you can see from this slide,
14 there are common EP features that are directly related
15 to all three units. Whether there's one unit on the
16 site, two units on the site or three units on the
17 site, these are common features which include the
18 emergency operation facility. For example, in that an
19 EOF would be supportive of an accident at any one of
20 three units.

21 The off-site emergency plans for the
22 states and the counties essentially are unchanged as
23 far as adding an additional reactor on the site.
24 There are some slight nuances associated with the off-
25 site plans which would primarily be procedure-level

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 detail. For example, if there was an injured and
2 contaminated person at Unit 3 and the site requested
3 an ambulance, they would have to tell the ambulance
4 company which unit to go to and so, a procedure update
5 would be necessary and that's a minor detail. But,
6 essentially, the off-site plans are unchanged.

7 The 10-mile and 50-mile emergency planning
8 zone are common to the site whether there's one
9 reactor, two reactors, three reactors and the
10 evacuation time estimate, ETE, is applicable to the
11 existing 10-mile EPZ irrespective of the number of
12 units.

13 With respect to the evacuation time
14 estimate, the ETE is critical in that it supports the
15 decision that's finally made by the off-site
16 authorities not by the utility with respect to whether
17 evacuation or sheltering in place is necessary as a
18 result of a severe accident.

19 The utility would analyze the accident and
20 in accordance with their procedures would recommend a
21 protective action off-site and then the off-site
22 authorities would take into consideration any off-site
23 conditions. For example, if it was in the winter, if
24 it was at night, there was construction activities
25 which might impede various evacuation routes and the

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 off-site authorities would have the authority and
2 would make the final determination and implement the
3 protective action recommendations to the general
4 population.

5 The ETE exams the 10-mile emergency
6 planning zone and the times it would take to evacuate
7 under various scenarios. There are 26 protective
8 action zones within the 10-mile EPZ. These are
9 essentially sub-zones within the 10-mile area that
10 facilitate evacuation or recommendations for
11 sheltering in that they are determined by geographical
12 or political characteristics or boundaries in
13 determining the feasibility of implementing
14 evacuation, for example.

15 And finally, the NRC did review the ETE
16 that was submitted by Dominion and concluded that the
17 ETE is consistent with the NRC regulations and
18 guidance and is, therefore, acceptable.

19 Okay. Open items. As Dominion mentioned,
20 there are a number of open items. They identified six
21 open items associated with emergency planning which is
22 correct. There was an additional open item which is
23 the first one which is focused on the certified
24 design. ESBWR design certification application which
25 is currently under review and this particular open

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 item is there to address the final review and
2 determination by the NRC with respect to the certified
3 design, the ESBWR.

4 The NRC identified seven open items. They
5 are discussed and detailed in the safety evaluation
6 report and FEMA, Federal Emergency Management Agency,
7 in their off-site review of the off-site plans and
8 procedures, identified 37 open items.

9 With respect to FEMA's open items, there
10 are 16 basic planning standards for emergency
11 preparedness that the NRC and FEMA looks at, but FEMA
12 looks at only 15 of the 16 planning standards. One of
13 which deals primarily -- deals specifically with on-
14 site areas. So, FEMA just looks at all the rest.

15 Of those 15 off-site planning standards
16 that FEMA looked at, they determined that three of
17 them were found adequate and 12 of which were found
18 adequate, but corrections must be made. These
19 resulted in 37 open items that they identified in
20 their report to us and currently, FEMA is working with
21 the Applicant, Dominion, and the Commonwealth of
22 Virginia and the adequacy of the off-site emergency
23 plans is dependent on the satisfactory resolution of
24 the off-site items.

25 CHAIR CORRADINI: Can I just ask about

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 that, sir?

2 MR. MUSICO: Sure. Sure.

3 CHAIR CORRADINI: You have two operating
4 plants and now, you're going to put a third operating
5 plant in theory there. What is it about the 12 where
6 corrections were to be made? Where they because of
7 the addition of the third plant? What's the character
8 of the open items? Just to get a feeling for it.

9 MR. MUSICO: Well, I think I'm going to
10 let Dan handled this one.

11 CHAIR CORRADINI: So, you're the one that
12 says everything's in concert and we're all on the same
13 page.

14 MR. BARSS: We use a common guidance
15 document, NUREG-0654 and hopefully, yes, we are on the
16 same page at the ultimate end.

17 In between and when FEMA was doing their
18 review, they identified a number of items which as
19 they compared the existing plans to the guidance, they
20 found some issues that they thought needed correction.
21 So, those are the items they've identified and that
22 are being worked on and resolved.

23 CHAIR CORRADINI: So, just to -- I'm
24 sorry.

25 MEMBER ARMIJO: I want to understand what

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 -- these open items, do they have anything to do with
2 Unit 3?

3 CHAIR CORRADINI: Right. That's what I
4 was about to ask.

5 MEMBER ARMIJO: Or are they --

6 CHAIR CORRADINI: And another way to put
7 it is are Units 1 and 2 going to have to go back
8 correct things because of their review for 3?

9 MR. BARSS: Well, they're the state and
10 local plans. They're not the utilities plans. So,
11 it's the --

12 CHAIR CORRADINI: Oh.

13 MR. BARSS: -- it's the state plans that
14 FEMA's finding the problems or the issues with.

15 CHAIR CORRADINI: Okay. But, I guess --

16 MEMBER ARMIJO: It's not a Unit 3 problem.

17 CHAIR CORRADINI: -- it's not a Unit 3
18 problem.

19 MR. BARSS: Right. The state plan is the
20 state plan whether it's Unit 1, 2 or 3. It's the same
21 plan. So, it really doesn't impact the Unit 3 and I
22 believe that most of these items that they've
23 identified whether or not Unit 3 is there or not they
24 would still need to be corrected. When you look at
25 the state plan --

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 CHAIR CORRADINI: So, to put it a
2 different way, it's as if they kind of did a check and
3 when they did their check initiated by Unit 3, they
4 found some things that could be polished up.

5 MR. BARSS: I would agree with that. Yes.

6 CHAIR CORRADINI: Okay. Fine. Thank you.

7 MR. MUSICO: Slide 16. Slide 16 addresses
8 post-COL activities. After the COL which is an
9 operating license is issued, there are various
10 activities that the applicant must take. One of which
11 is to satisfy the ITAAC that had been developed and
12 reviewed by the NRC and the acceptance criteria in the
13 ITAAC must be successfully met before the initial Unit
14 3 fuel load. That is a basic concept associated with
15 ITAAC.

16 In addition, the applicant is required to
17 conduct a full participation exercise within two years
18 of the initial fuel load and this would be coordinated
19 with the off-site state and county governmental
20 agencies' plan and this is required by our regulations
21 and also required by our regulations are that the
22 detailed implementing procedures, this would be the
23 on-site Dominion implementing procedures in support of
24 Unit 3, must be submitted to the NRC no less than 180
25 days before fuel load.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 In conclusion, the SER safety evaluation
2 report reflects the Staff's current COL application
3 evaluation findings with open items.

4 The NRC's overall finding of reasonable
5 assurance is dependent upon resolution of the seven
6 NRC open items for the on-site plan and resolution of
7 the 37 FEMA open items with respect to the off-site
8 plan.

9 We would receive a final finding from FEMA
10 giving their assurance, giving their finding that
11 their -- the off-site plans are adequate and there's
12 reasonable assurance that they can be implemented.
13 From that, we can make our final finding which would
14 insure there's reasonable assurance that adequate
15 protective measures can and will be taken in the event
16 of a radiological emergency.

17 MS. BORSH: All right.

18 MEMBER ARMIJO: I guess I have a problem
19 with your requirement that the 37 FEMA open items are
20 really -- that's a reasonable thing. Because they
21 have to be resolved for the operating plants, the
22 current operating plants.

23 MR. MUSICO: Well --

24 MEMBER ARMIJO: And Unit 3 has just simply
25 triggered these FEMA findings. So, if you don't have

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 reasonable assurance for Unit 3 absent the closure of
2 these open items, how can you have reasonable
3 assurance for Units 1 and 2?

4 MR. MUSICO: Our review was focused on
5 Unit 3.

6 MEMBER ARMIJO: They're just unlucky.

7 MR. BARSS: This is Dan Barss. Let me try
8 to help you with the answer to that.

9 FEMA as you know and the NRC, too, have a
10 continuing and ongoing program where we evaluate every
11 two years an exercise that the licensee conducts and
12 the plans were reviewed many, many, many years ago.
13 In some cases in the early '80s for these and approved
14 and there's a continuing program of upgrading and
15 updating those programs that the FEMA and the NRC
16 maintain, but the exercise every two years is where we
17 see these plans demonstrated and reassure I just --
18 have reasonable assurance I guess that the plans can
19 and will be implemented if there is an emergency and
20 FEMA has reported to us that through those exercises
21 they have the continued reasonable assurance that the
22 state and local plans would adequately be implemented
23 to protect the health and safety of the public for
24 Units 1 and 2 even though they've identified a number
25 of items which they think need correction to give that

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 final finding of adequate.

2 They have not said that there is a problem
3 with the implementation of the emergency plan only
4 that they've identified some things that need
5 correction and they're working to resolve them.
6 That's the characterization of the findings that we've
7 gotten from FEMA.

8 CHAIR CORRADINI: So, in this instance, no
9 showstoppers?

10 MR. BARSS: At this point, there are no
11 showstoppers.

12 CHAIR CORRADINI: Okay. Thanks.

13 MEMBER ABDEL-KHALIK: We were told
14 yesterday that there was a change in the distance
15 between the plant and the maximally affected person.
16 Does that change have any impact on the evacuation
17 time estimates?

18 MS. BORSH: That's a good question, Said.
19 John, do you know the answer to that?

20 MR. COSTELLO: I don't know the detail of
21 the distance, but I cannot imagine that it would have
22 had a significant affect on the evacuation time
23 estimate.

24 MS. BORSH: Would you like us to take a
25 look at that and get back with you?

NEAL R. GROSS

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

1 MEMBER ABDEL-KHALIK: I mean it's a set of
2 facts. Right?

3 MS. BORSH: Yes. Yes, we'll check the ETE
4 and get back with you on that.

5 MR. MUSICO: Anything else?

6 CHAIR CORRADINI: No, go ahead.

7 MS. JESSIE: Okay.

8 CHAIR CORRADINI: Let's move on.

9 MS. JESSIE: And finally, we're going to
10 have Section 13.4 from Tom KeVERN.

11 MR. KEVERN: Operational programs is a
12 cost-cutting topic in that there are a number of the
13 different technical areas where operational programs
14 are required by the regulations. So, I'm actually
15 giving this presentation on behalf of several of the
16 reviewers for the aggregate of operational programs.

17 Operational programs is also unique in
18 that the primary regulatory basis is the State
19 Requirements Memorandum associated with SECY-05-0197
20 that was issued by the Commission a few years ago.

21 This document integrates the various
22 regulatory requirements in the various technical areas
23 for operational programs in that the SECY document
24 includes a generic table that identifies each of the
25 operational programs by title, identifies the specific

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 regulatory requirements associated with that program
2 and then provides the implementation of milestones.
3 All this on a generic basis.

4 The expectation is that the COL applicant
5 then will implement the requirements and, of course,
6 the standard review plan and the Reg 1.206, the 13.4
7 sections of those two documents and reinforce the SECY
8 document and provide review criteria.

9 But, the expectation is that the applicant
10 will address that generic table in two parts.

11 First, there will be a table in the FSAR
12 that is application specific, identifies again the
13 specific titles of those programs, the appropriate
14 regulations that require those programs and provide
15 the implementation milestones.

16 And then the second part of that is that
17 for each of those programs, the respective part of the
18 technical content or the technical section of the
19 FSAR, that has to provide what the SECY document
20 identifies as "fully described." So, there has to be
21 a complete description of the operational program and
22 that is provided for consistency and for uniformity in
23 the respective technical section of the FSAR.

24 So, in Dominion's case for Unit 3, they
25 did that. They specifically have Table 13.4-201 that

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 does provide -- cites specific aspects of that generic
2 table prior to the SECY and then they continue to do
3 a complete description of each of those programs in
4 respective parts of the FSAR.

5 So, correspondingly, the Staff's review
6 and evaluation is a two-part process also. The first
7 step is that the Staff does a complete review of that
8 Table 201, confirms that each of the programs
9 identified in the SECY generic table, and by the way,
10 that is very prescriptive and it is complete, so, it's
11 somewhat of a template for review, identify the
12 Staff's review confirms that each of those programs is
13 identified, technical regulations are referenced and
14 the appropriate milestones are identified.

15 And then the second part of the Staff's
16 review occurs in the respective SER technical sections
17 and for example, yesterday, we had both Chapters 9 and
18 12 presented and you heard the Fire Protection Program
19 being described in Chapter 9 and also the Radiation
20 Protection Program another operational that was
21 described in the Staff's evaluation for Chapter 12.

22 So, that's the two-part review process for
23 operational programs.

24 And then the conclusion, again, two-part
25 conclusion associated with the two-part review

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 process, we found in our review of Table 201 that it
2 was complete, reflected appropriately. The content of
3 SECY-0197 Table and then you've heard the Staff's
4 technical evaluation of the full descriptions,
5 complete descriptions of each of those programs in
6 every chapter with the exceptions of those provided in
7 Chapters 2, 3 and 14 that will addressed at the
8 Subcommittee meeting in August.

9 So, the first part of the conclusion is
10 that we found the Table 201 acceptable and the second
11 part of the conclusion is that with the exception of
12 the chapters you had not heard about, you've heard the
13 Staff's evaluation in those areas.

14 And then last but not least and again
15 consistent with the SECY document, there will be a
16 specific license condition for each of the COLs that
17 will very clearly mandate that each of those
18 operational programs has to be implemented consistent
19 with the content of the FSAR as well as implementation
20 schedule milestone -- implementation milestones
21 identified in the FSAR. That'll be a specific license
22 condition.

23 Didn't provide that for you right now
24 because the specific wording is still under
25 development by the staff, but the staff foresees that

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 there will be one license condition that will address
2 all of the operational programs collectively and then
3 just refer back to the specific prose of the FSAR for
4 the details.

5 Questions? That concludes my presentation
6 on 13.4.

7 CHAIR CORRADINI: Questions by the
8 Committee? No. Okay. Thank you.

9 MR. KEVERN: Okay.

10 CHAIR CORRADINI: Let's just move on to
11 your presentation for Chapter 16 if we could.

12 Thank you all.

13 MS. BORSH: Can we go back to your
14 question, Said, about maximally-exposed individual?

15 MEMBER ABDEL-KHALIK: Yes, ma'am.

16 MS. BORSH: Okay. When you look at the
17 FSAR as Marvin's pointing out, that analysis is done
18 for routine releases. It's not for an emergency
19 situation. So, the change in nearest residents should
20 not effect the evacuation time estimate.

21 MEMBER ABDEL-KHALIK: But, the implication
22 was that the population distribution around the plant
23 has changed.

24 MS. BORSH: Yes. Yes.

25 MEMBER ABDEL-KHALIK: And whatever the

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 purpose is, you would expect that a change in the
2 population distribution would have an impact on the
3 evacuation time estimate.

4 MR. PAUL: Do you want me to take that?
5 I can take that.

6 MEMBER ABDEL-KHALIK: Go ahead.

7 MR. PAUL: Okay. I'm Mark Paul, Dominion.
8 Every 10 years I think it is, we have to
9 redo our evacuation time estimate and obviously, over
10 a 10-year period evacuation, there's a shifting of
11 residences and businesses and it will have an affect,
12 but if we did the same study with the exact same
13 methodology, we'd be comparing apples to apples. We
14 really did a much better analysis this time. More
15 sophisticated analysis. It would be difficult to
16 compare exactly the former ETE with the current ETE.

17 MEMBER ABDEL-KHALIK: Okay.

18 MR. PAUL: And I think more importantly,
19 the location of one or two residences would be within
20 round-off error the ETE.

21 MEMBER ABDEL-KHALIK: So, that's the
22 extent of the change?

23 MR. PAUL: Yes.

24 MS. BORSH: All right. Chapter 16 in the
25 DCD includes the generic technical specifications and

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 bases and just as a little bit of background, GEH used
2 the NUREG-1434 technical specifications that were
3 created for BWR6 design and those are the improved
4 standard technical specifications that the industry is
5 using. It contains all the information that is listed
6 below which is standard for all standard tech specs.

7 We moved the -- we took the generic tech
8 specs, moved them to part 4 of our COL application and
9 created plant specific technical specifications by
10 filling in the brackets, the COL items that are listed
11 in the generic tech specs and the way we filled in
12 those brackets was we had three options basically that
13 were given to us by the NRC. We could provide the
14 plant specific information to address a COL item or we
15 could provide a bounding value if we didn't have the
16 plant specific value at this time or we could
17 reference a program that uses a methodology that the
18 NRC has approved to determine -- develop the plant
19 specific values and so, we used all three methods
20 throughout our technical specifications.

21 This is the list of COL items. The next
22 two slides are the list of the COL items where we
23 provided information. There are more COL items in the
24 generic tech specs, but the ones that provided either
25 an allowance, some sort of flexibility or that weren't

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 applicable to us are not included on this list.

2 So, these are the items that are -- where
3 we provided specific information. I wasn't going to
4 read through them all for you.

5 Right now in Rev 1 of our COLA, the
6 technical specifications, we request two exemptions
7 for the technical specifications based on the NRC
8 regulations, but these two exemption requests are --
9 we discussed them with GEH. They've helped us create
10 the exemption request and basically what GE is doing
11 is the exemption requests are generic enough so that
12 GE has agreed to put them in Revision 6 or has put
13 them in Revision 6 of the draft DCD which is going to
14 be submitted to NRC for review in August and we've
15 discussed this with Craig and his team, too. You
16 probably have seen that in the SER.

17 So, the exemption request, the first
18 exemption request deals with the description and the
19 bases for Surveillance Requirement 3.1.5.1. This is
20 about accumulator pressure and it talks about the
21 normal operating pressure in the bases and we don't
22 have normal operating pressure at this time. So, we
23 replaced it with some discussion about the design
24 details for the minimum accumulator pressure which is
25 really what's critical.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 MEMBER ARMIJO: This is part of the
2 Control Rod Drive System. Right?

3 MS. BORSH: Yes, that's right.

4 MEMBER ARMIJO: And why would it be
5 different for the ESBWR than for other BWRs?

6 MS. BORSH: The value?

7 MEMBER ARMIJO: I mean why would these
8 operating pressures -- why did you have to make these
9 -- request this exemption? Is there something unique
10 about --

11 CHAIR CORRADINI: Why don't you know the
12 value now? Is that your question?

13 MEMBER ARMIJO: Right. Sorry. Is there
14 something unique about the ESBWR control rods?

15 MR. HICKS: I think the expected pressure
16 was going to be -- that's sometimes going to be
17 determined in detail design. Isn't it?

18 MR. WACHOWIAK: Right. We know the
19 minimum. We know the maximum. We're just not -- we
20 haven't determined just yet what the normal operating
21 pressure of the accumulator -- not the reactor, but
22 the accumulators would be and that can vary to some
23 degree between those values.

24 So, I think what their exemption is just
25 doing is it's addressing this by putting in one of the

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 known analyzed values at this point in time.

2 CHAIR CORRADINI: But, just to get to
3 Sam's question, so, you're saying you want to give
4 yourself some flexibility within a range even though
5 the current BWR is operating in that range?

6 MR. WACHOWIAK: Yes, I think the existing
7 tech specs for current BWRs each plant is suppose to
8 put in their operating pressure and it can vary from
9 plant to plant which is why we don't have that right
10 now.

11 MEMBER ARMIJO: Okay. I --

12 MR. WACHOWIAK: But, it's within the
13 acceptable ban.

14 CHAIR CORRADINI: Sure. I understand.

15 MR. WACHOWIAK: The specific value.

16 MS. BORSH: The second exemption request
17 is where we expanded the bases discussion where we
18 talk about the differential pressure across the
19 Control Room HVAC Emergency Filter Unit and here we
20 provided additional discussion about how the
21 acceptance criteria were determined. It doesn't
22 affect the content of the tech specs. It doesn't
23 affect how we're going to operate the system, but we
24 included it there and as we talked about earlier, GEH
25 has talked with us about this and has agreed that

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 these are good changes to make for the generic tech
2 specs and they are in Rev 6.

3 The SER contains one open item for this
4 chapter. It's following several of the COL items that
5 are still open-ended. The two exemption requests are
6 being tracked and they're expecting to DCD Rev 6 with
7 the changes that we've proposed.

8 PTLR, as we talked about earlier, NRC is
9 reviewing it and in Chapter 5 of the tech specs we
10 reference the NRC approval document. So, it's just a
11 -- it's a tracking item. It's an administrative item.

12 The set point control program, NRC is
13 awaiting the final approved report for the methodology
14 that GEH will be using. That's being tracked because
15 we reference it in Chapter 5 of our tech specs.

16 There are a couple of RAIs that we have on
17 hazardous chemicals and we're providing response to
18 those. That's discussed in Chapter 5 also. So,
19 there's -- so, the control program is discussed there.
20 So, there's an open item Chapter 16 to keep track of
21 that and make sure that it's resolved adequately.

22 And then the batteries. We have values in
23 the tech specs, in Rev 1 of our tech specs that are
24 based on using the VRLA batteries. You guys have
25 probably been in discussions on that versus VLA

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 batteries and that's being changed as you probably
2 know in the DCD. So, we have to --

3 CHAIR CORRADINI: Well, we should know.
4 I don't remember to be quite honest.

5 MS. BORSH: Oh.

6 CHAIR CORRADINI: But, okay.

7 MS. BORSH: Okay.

8 MR. WACHOWIAK: I don't think the
9 granularity of our meetings hit that particular topic.

10 CHAIR CORRADINI: I'm shocked.

11 MR. WACHOWIAK: It happened in between
12 meetings that we had.

13 CHAIR CORRADINI: Okay. I got to report
14 to Stetkar about that.

15 MR. WACHOWIAK: Okay.

16 MS. BORSH: So, instead of using valve
17 regulated lead-acid batteries, we're going to be using
18 just vented lead-acid batteries and we'll have to
19 change the values in the tech specs to reflect that.

20 CHAIR CORRADINI: Okay. Thank you.

21 MS. BORSH: And that's it for us. I'll
22 just turn it over to Mike and Craig.

23 CHAIR CORRADINI: So, I'm going to ask if
24 you guys are going to -- this is just purely our
25 process. If it's going to take about a half an hour,

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 I'd rather just you do it now and then we'd conclude.

2 MR. EUDY: Okay.

3 CHAIR CORRADINI: Rather than break and
4 come back.

5 MR. EUDY: All right. I agree.

6 CHAIR CORRADINI: Is that --

7 MR. EUDY: We're ready.

8 CHAIR CORRADINI: All right. Go ahead.

9 MR. EUDY: I'm Mike Eudy, Project Manager
10 for this chapter.

11 CHAIR CORRADINI: Such a big audience, I
12 was curious.

13 MR. EUDY: This is the best part.

14 CHAIR CORRADINI: It apparently is. You
15 can tell by feet -- voting of the feet.

16 MR. EUDY: Appreciate Dominion's
17 presentation and the Staff agrees that it's an
18 accurate representation of the content of this chapter
19 for the FSAR and the Staff involved are here, listed
20 here.

21 The scope of our presentation and I'm
22 going to turn it over to Craig Harbuck, our technical
23 specification expert.

24 MR. HARBUCK: Good morning.

25 CHAIR CORRADINI: Good morning.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 MR. HARBUCK: As Gina mentioned, the
2 content for Chapter 16 covers part 2 of the FSAR which
3 essentially says we're incorporating by reference the
4 tech specs and then the details are over in part 4.
5 Which are plant specific tech specifications
6 consisting of the generic tech specs plus the site
7 specific information also known as COL information and
8 then the departures that were mentioned, we're going
9 mention them again and then a word about what we think
10 Rev 6 is going to do to North Anna's application.

11 The next slide, pretty much I've already
12 covered that and then gratefully we have a slide. It
13 talks about regulations and review guidance.

14 I would just point out that the three
15 options that were discussed earlier are based on the
16 Interim Staff Guidance that we issued final last
17 December and which, I believe, ACRS had an opportunity
18 to review and had no comments.

19 So, status of combined license
20 information, briefly, we have the three options:
21 Provide the actual operating information or provide
22 the usable bounding value that is usable for operation
23 and we wouldn't even know -- you know, we didn't have
24 arguments or justification for why that would be the
25 case and/or propose an administrative control program

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 to be specified in Chapter 5 of the tech specs. That
2 would require determining that information or those
3 values using the methodology that the staff has
4 reviewed and approved and also to require that a
5 control document be established to contain those
6 values.

7 And so, as Gina mentioned, North Anna in
8 response to our questions regarding the ISG went
9 through all the COL information that's listed in the
10 generic tech spec and identified which approach they
11 would use to resolve each of those items and option 1
12 was the most commonly used method and there are -- and
13 the staff reviewed the information that was provided.

14 However, there's four items that we're
15 still waiting for final information and those are as
16 listed.

17 The RCS pressure-temperature limits which,
18 I believe, is also an open issue in Chapter 5.

19 There's some questions about hazardous
20 chemicals. I've checked and that issue is still
21 waiting some additional information from North Anna
22 for the staff to resolve that. We don't have a
23 particular issue of tech specs. It's just that the
24 Control Room habitability requirements and Control
25 Room ventilation requirements optionally referred to

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 hazardous chemicals and the site needs to determine
2 whether that's an issue for them or not.

3 There was an item in the battery testing
4 on the use of a modified performance discharge test
5 and then battery parameters and operability criteria.
6 Again, that's related primarily to the shift to the
7 vented lead-acid batteries.

8 Use of option 2, provide usable bounding
9 information. There were not quite as many of those,
10 but the items involved are the minimum pressure and
11 the control rod drive scram accumulators, the duration
12 of the battery charger test and the Control Room
13 emergency ventilation filter maximum differential
14 pressure surveillance acceptance criterion. I think
15 all those were mentioned earlier.

16 And then option 3 was provide tech spec
17 that requires use of an improved program to determine
18 the information and the only area in which this is
19 specifically called out that's still remaining to be
20 resolved has to do with instrumentation settings and
21 the tech spec part of this is a bracketed item to
22 reference the methodology specifically. That
23 methodology has not been approved yet because we still
24 have some technical issues that are really part of the
25 Chapter 7 review, but we expect that to be resolved in

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 the context of the design certification and therefore,
2 we'd be able to complete that item for the North Anna
3 tech specs once that's done and that should happen in
4 the near future we expect.

5 Then the potential departures, they were
6 already mentioned. We've identified those in our SE,
7 but again, we'll take a look again to see what
8 Revision 6 does with that.

9 And the conclusion is that because of this
10 outstanding COL information, we're not able to yet
11 reach a conclusion about satisfying 50.36, but we
12 think it's not that big an obstacle to getting to that
13 point.

14 Now, I think there's a general open item
15 for the entire review that basically says you've got
16 to update your application to whatever the approved
17 design certification document is and so, that applies
18 to Chapter 16 also.

19 And now, I'm going to ask Nima Ashkeboussi
20 to talk about what we expect with Revision 6.

21 MR. ASHKEBOUSSI: Thank you.

22 As Craig discussed, Dominion is using the
23 three options from the ISG to address their COL
24 information and has two exemptions that are currently
25 in the application. This information may change based

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 on the DCD Revision 6.

2 Currently, GEH is in the process of
3 submitting Revision 6 to the ESBWR DCD.

4 The preliminary information we have
5 received regarding this DCD revision is that it will
6 reflect North Anna technical specifications at bases.
7 The specific sections include the electrical power
8 distribution design, the batteries, instrumentation
9 functions, the Setpoint Control Program and changes to
10 action and surveillance requirements which affects the
11 exemption requests in North Anna's current
12 application.

13 Dominion's adoption of these proposed DCD
14 revisions will potentially address previously
15 discussed open items and the two exemptions from
16 Chapter 16.

17 We're waiting for the formal submission of
18 Revision 6 to the DCD and as Craig mentioned,
19 Dominion's application's next revision should match
20 that and we're going to verify that when it comes in.

21 Thank you for the opportunity to present
22 technical specifications and we're happy to take any
23 questions.

24 CHAIR CORRADINI: So, just to make sure I
25 understand, so, with Revision 6, this is what you

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 expect to be different in a Revision 6 for this
2 chapter, but they'll be much more in Revision 6
3 changed. Correct?

4 MR. ASHKEBOUSSI: Right. This is just
5 Chapter 16 items.

6 CHAIR CORRADINI: I'm sorry.

7 MR. ASHKEBOUSSI: This is -- we'll be
8 expecting Chapter 16.

9 CHAIR CORRADINI: Okay. All right.
10 That's what I thought. That's what I thought you
11 meant. I'm sorry.

12 MR. WACHOWIAK: Yes, we've responded to
13 several hundred RAIs since Rev 5 and all of that
14 information needed to be incorporated in Rev 6.

15 CHAIR CORRADINI: Okay.

16 MEMBER ARMIJO: When will Rev 6 be
17 available?

18 MR. WACHOWIAK: The preliminary Rev 6 has
19 been given to the Staff so that they can begin their
20 writing of their SER. The schedule today shows that
21 end of August is the official Rev 6 submittal.

22 CHAIR CORRADINI: So, just to follow up
23 Sam's question, so, is this not the end of the revs I
24 assume, but this is -- the expectation is you're
25 close?

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 MR. WACHOWIAK: The expectation is that 6
2 is our best and final and the only thing that needs to
3 be addressed after Rev 6 would be referenced revision
4 numbers because some of the referenced LTRs are being
5 approved after we send in Rev 6. So, the actual
6 approved rev needs to be put in there. So, there's
7 administrative clean up and things like that and we're
8 still in discussion with the Staff on how we're going
9 to handle our incorporation of the aircraft-impact
10 rule. Which was late breaking here and it's -- we're
11 exploring options right now for how that's going to be
12 addressed, but we're going to be talking about that
13 separately anyway.

14 CHAIR CORRADINI: So, just one last thing,
15 so, when 6 comes out that we get a copy is there a
16 road map? Because I enjoy rereading these revisions,
17 but is there a road map that I can quickly look and
18 see what changes where?

19 MR. WACHOWIAK: When we submit Rev 6 --

20 CHAIR CORRADINI: We got a change
21 document.

22 MR. WACHOWIAK: -- there's a change
23 document for each chapter and the Staff does have that
24 change list in association with the preliminary
25 chapters.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 CHAIR CORRADINI: Fine.

2 MR. WACHOWIAK: So, if you wanted to get
3 started --

4 CHAIR CORRADINI: No, that's all right.
5 I just wanted to make sure that that was -- other
6 questions for the Staff or Dominion for Chapter 16?

7 CONSULTANT KRESS: Yes, I had -- just for
8 my information purposes, one of the potential
9 departures was the surveillance requirements on the
10 differential pressure across the emergency filter for
11 the Control Room.

12 Just for my information, what's that
13 about? I'm not quite sure I understand what that
14 issue is.

15 MR. HICKS: I think --

16 MS. BORSH: Craig. I think Craig --

17 MR. HARBUCK: I can essentially -- what it
18 is is it's -- there's some language in the bases that
19 they're wanting to -- because they're going to be
20 proposing a bounding value for that, they wanted to
21 provide a little more information in the bases and the
22 way the design certification rule Part 52 works, any
23 deviation from the generic bases would require an
24 exemption and a departure.

25 So, that's really all that's about.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 They're actually enhancing what the generic tech specs
2 would normally have.

3 CONSULTANT KRESS:

4 MS. BORSH: And the reason that we did
5 that was because we wanted to make it clear when the
6 surveillances were being done just want had to be
7 tested and what the intent of the surveillance was.
8 Right, Tom?

9 MR. HICKS: I think that's right. Yes.

10 CONSULTANT KRESS: That clarifies it.

11 CHAIR CORRADINI: Other questions from the
12 Committee? So, I'm going to do as we did yesterday go
13 around and ask comments from the Committee.

14 MR. KEVERN: Dr. Corradini, before you do
15 that --

16 CHAIR CORRADINI: Oh, I'm sorry.

17 MR. KEVERN: -- if I could -- partially in
18 response to the question you asked me earlier, if I
19 could do a brief Staff summary.

20 CHAIR CORRADINI: Sure. That would be
21 great. Thank you.

22 MR. KEVERN: Thank you.

23 At this point in time, the Staff has
24 completed all of our SER with open items for all 19
25 chapters. We presented all but three chapters to you

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 both in the meeting in June and then meeting yesterday
2 and today.

3 This morning, we e-mailed Chris the last
4 three chapters, 2, 3 and 14, that we completed and we
5 will be presenting those chapters to you August 21st.

6 At this point in time, we have
7 approximately 45 open items. There are several
8 confirmatory items, probably an equal number, that we
9 talked about earlier. So, you know the difference
10 between those. So, they're open items. Approximately
11 45 and that excludes the FEMA items that were talked
12 about today as well as the safeguards and security
13 items which you're not interested in.

14 CHAIR CORRADINI: Well, I wouldn't say
15 that. We're just not --

16 MR. KEVERN: Oh, I'm sorry. You --

17 CHAIR CORRADINI: We're out of the loop.

18 MR. KEVERN: Then we will be -- yes,
19 you'll be less interested in than the safety-related
20 and I did to put this in regulatory speak. So, bear
21 with me.

22 At this point in time, we've identified no
23 issues for which we do not see likely resolutions.
24 So, of those 45, we expect to move forward. So, to
25 put that in lay terminology, you know, no showstoppers

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 that we see -- the Staff sees at this point in time
2 for North Anna.

3 CHAIR CORRADINI: Okay.

4 MR. KEVERN: Thank you.

5 CHAIR CORRADINI: Good. Thank you so
6 much. I appreciate that.

7 So, I'll turn to the consultants.

8 CONSULTANT KRESS: I don't have a lot to
9 add over what I said yesterday, but I'm intrigued by
10 the fact this will be the first simulator for ESBWR
11 and I was wondering what the Staff intends -- how they
12 will go and say okay, that's a good simulator. It's
13 a good accurate representation of the design basis
14 accidents or whatever for this particular thing.

15 How will the Staff review that? Is that
16 part of an ITAAC or --

17 MR. KEVERN: Yes, sir, it is part of the
18 Staff review and unfortunately, we just lost Mike
19 Junge. He's the Chief of the Human Factors Branch and
20 that's part of the review that's incorporated into the
21 human factors and that's why when we presented Chapter
22 18 back last month we said yes, it's all incorporated
23 by reference. One minor item and so, but it is part
24 of the ongoing review and as far as the details of
25 that, it's embodied in our review of the DCD, but

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 specifically for North Anna, there will be -- Mike
2 Junge and his entire branch and team will be out doing
3 a detailed review and it is part, as he mentioned last
4 month, of the operator training activity.

5 CONSULTANT KRESS: Is there a standard
6 review plan for revising simulators or are they going
7 to have to wing it?

8 MR. KEVERN: Of course, we will not wing
9 it, but the details of the content of the SRP, I just
10 am not familiar with it. I'll get back to you.

11 CHAIR CORRADINI: But, I would expect
12 there must be given the fact --

13 MR. KEVERN: Yes, sir, there is.

14 CHAIR CORRADINI: Yes.

15 MR. KEVERN: And it's an ongoing effort
16 because Staff's not done this, of course, for a couple
17 of decades. So --

18 CONSULTANT KRESS: It's been a long time.
19 Yes.

20 MR. KEVERN: Right. I can get Mike back
21 here if you'd like to address that.

22 CONSULTANT KRESS: That's all right. I
23 was just intrigued by it. I'm sure you got it under
24 control.

25 CHAIR CORRADINI: Graham.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 CONSULTANT WALLIS: Yes, the simulators,
2 a question we raised when we're talking about the
3 ESBWR and the key thing there I think is that the
4 assumptions you make for design bases accident are not
5 all that realistic.

6 CONSULTANT KRESS: Yes.

7 CONSULTANT WALLIS: A simulator is suppose
8 to be realistic. It'll be interesting to see what the
9 difference is. If it can be adequately evaluated.

10 CHAIR CORRADINI: But, I mean here's
11 something I wrote down to myself. We checked on this
12 from the last meeting. Chris checked on it. There's
13 nothing that we have at least written down --

14 MR. BROWN: There is nothing.

15 CHAIR CORRADINI: You historians here as
16 consultants can correct this, but there's nothing
17 we've seen written down when you went through the CE-
18 80, the ABWR or the AP-600/1000 about you looking at
19 it.

20 But, I would think it might be interesting
21 to look at the standard review plan for the simulator
22 and see how that's being updated or appropriately
23 modified relate to these advance plans. That might be
24 a way to --

25 CONSULTANT KRESS: Yes, it's a real --

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 CHAIR CORRADINI: -- try to bring it up
2 and look at it.

3 CONSULTANT KRESS: That's a real important
4 part of the operating training.

5 CHAIR CORRADINI: Yes. So, I think that's
6 a way maybe to get at our curiosity so to speak.

7 CONSULTANT WALLIS: And I think we also
8 had the feeling that it might be more difficult to
9 produce a realistic model than a bounded model for
10 some of these phenomena. Anyway --

11 CHAIR CORRADINI: Well, wouldn't you say
12 this --

13 CONSULTANT WALLIS: -- that's not really
14 my question.

15 CHAIR CORRADINI: I understand, but just
16 to finish it just so we close it up, you guys
17 remember. I don't since I wasn't part of it. The
18 simulators for the current set of plants, is it the
19 impression that those are suppose to be realistic or
20 in some sense, aren't those simulations also in some
21 sense bounding like --

22 CONSULTANT WALLIS: It doesn't make sense
23 to train the operator on something which will not
24 happen. They ought to be trained on what's likely to
25 happen.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 But, anyway, that's not really the
2 discussion today. Is it? So.

3 CHAIR CORRADINI: Okay. Fine.

4 CONSULTANT WALLIS: Now, I think our job
5 -- are you asking me now about North Anna?

6 CHAIR CORRADINI: Yes, I am.

7 CONSULTANT WALLIS: I think our job is to
8 look at the documents and to listen to the
9 presentations and to reach a general conclusion about
10 whether or not the Staff went through appropriate
11 processes and whether or not we have adequate
12 assurance that the Staff's conclusions are valid and
13 my opinion is that we have adequate assurance that the
14 Staff is doing the right thing and that what we have
15 seen over these meetings has been believable and
16 appropriate and is fulfilling the appropriate function
17 of the COLA.

18 That's something to put in your letter --

19 CONSULTANT KRESS: I second. I second
20 that theme.

21 CHAIR CORRADINI: We will see your
22 consultant report. So.

23 CONSULTANT WALLIS: I'm always very
24 generous in my praise.

25 CHAIR CORRADINI: You are.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 CONSULTANT WALLIS: Thank you.

2 CHAIR CORRADINI: Sam.

3 MEMBER ARMIJO: I have nothing to add over
4 what Tom and Graham have said. I think the Staff's
5 review of the Dominion application has been very
6 thorough. I don't see any showstoppers that I can
7 stop. There are a lot of work yet to be done, but it
8 looks like it's all on track. So, I really don't have
9 any problems.

10 CHAIR CORRADINI: Said.

11 MEMBER ABDEL-KHALIK: I have no additional
12 comments on the material presented today.

13 CHAIR CORRADINI: Okay. So, I'll just
14 thank Dominion, GEH and the Staff for their efforts
15 over the last couple of days.

16 I don't have anything in particular to add
17 to what my colleagues have said.

18 I will, as I did last time, try to put
19 something together for the Subcommittee since
20 eventually we're suppose to come up with a letter on
21 this and get their kind of input from that.

22 Other than that, we're scheduled to be
23 together again on August 21st, a full day, on Chapters
24 2, 3 and --

25 MS. JESSIE: Fourteen.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 CHAIR CORRADINI: -- 14. Fourteen is
2 ITAACs. Right? Oh, boy. Oh, boy.

3 So, that's the end of actually a long
4 week. So, we might have more guest members of the
5 Subcommittee around that week since we'll have a
6 number of Subcommittee meetings that week. So, I'll
7 thank everybody and meeting's adjourned.

8 (Whereupon, the meeting was concluded at
9 10:11 a.m.)

10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

North Anna

3

North Anna Unit 3 Presentation to ACRS Subcommittee COLA - Chapter 13



Chapter 13, Conduct of Operations: Chapter Topics

- Organizational Structure of Applicant*
- Training*
- Emergency Planning*
- Operational Program Implementation*
- Plant Procedures*
- Physical Security*
- Fitness for Duty**

* FSAR contains supplemental information (beyond DCD content) on this topic

** Section was not part of the DCD

Chapter 13, Conduct of Operations: Supplemental Information

13.1 Organizational Structure of Applicant

NAPS COL NAPS Unit 3 organizational structure
provided

- Construction
- Operations
- Training schedule

Chapter 13, Conduct of Operations: Supplemental Information

13.2 Training

STD SUP Provided description of training program
(NEI 06-13A)

STD COL Reactor operator and non-licensed
plant staff

STD COL Provided training schedule

Chapter 13, Conduct of Operations: Supplemental Information

13.3 Emergency Planning

STD COL Description of Emergency Plan provided

STD COL Identification of OSC and communication interfaces with control room and TSC

STD COL Identification of EOF and communication interfaces with control room and TSC

STD COL Description of decontamination facilities

Chapter 13, Conduct of Operations: Supplemental Information

13.4 Operational Program Implementation

STD COL Provided operational program
implementation milestones

Chapter 13, Conduct of Operations: Supplemental Information

13.5 Plant Procedures

STD SUP Described the administrative and operating procedures that the operating organization (plant staff) uses to conduct routine operating, abnormal, and emergency activities

STD COL Described procedure development plan

STD COL Provided procedure implementation plan

STD COL Addressed calibration, inspection, testing procedures

Chapter 13, Conduct of Operations: SER Open Items

- Six NRC Open Items (re: Emergency Plan)
 - Development of Emergency Action Levels (EAL)
 - Description of HFI function in TSC and EOF
 - Clarify proposal for EOF location
 - Planned location of OSC
 - ITAAC needed to address onsite exercise
 - ITAAC needed to address offsite exercise
- Two Confirmatory Items
- FEMA Open Items on Offsite Emergency Plans



Presentation to the ACRS Subcommittee

North Anna Unit 3 COL Application Review

SER/OI Chapter 13 Conduct of Operations

July 22, 2009

ACRS Subcommittee Presentation

SER/OI Chapter 13

Staff Review Team

- Project Managers
 - Thomas KeVERN, Lead PM, DNRL/NGE1
 - Janelle Jessie, PM, DNRL/NGE1
- Technical Staff
 - Michael Junge, Chief, COLP
 - Jim Kellum, Lead Reviewer, COLP
 - Kevin Williams, Chief, NSIR/DPR/EP
 - Bruce Musico, Lead Reviewer, NSIR/DPR/EP
 - Jeffrey Cruz, Chief, DNRL/NGE1
 - Thomas KeVERN, Lead Reviewer, DNRL/NGE1

ACRS Subcommittee Presentation

SER/OI Sections 13.1, 13.2, 13.5

Content of COL Application

- FSAR Chapter 13, Sections 13.1, 13.2 and 13.5 incorporate by reference the associated sections of ESBWR DCD Chapter 13, Rev. 5.
 - 13.1 – Organizational Structure of Applicant
 - 13.2 - Training
 - 13.5 - Plant Procedures
- No Open Items
- Confirmatory Items - 13.01.02-13.01.03-5 and 13.01.02-13.01.03.06

ACRS Subcommittee Presentation SER/OI Sections 13.1, 13.2, 13.5

Supplemental Information

- All three sections contain COL items and supplemental information.
- Section 13.2, Training, incorporates by reference NEI 06-13A, rev.1 which has been endorsed by the staff.
- The supplemental information has been determined to be acceptable.



SECTION 13.3

ACRS Subcommittee Presentation

SER/OI Section 13.3

Summary of COL Application

- Onsite Emergency Plan (NAPS)
- Offsite Emergency Plans (affected States & Counties)
- Evacuation Time Estimate (ETE)
- Inspections, Tests, Analyses, & Acceptance Criteria (ITAAC)
- First COLA referencing an ESP *major features* emergency plan
- Incorporated by reference
 - NAPS Early Site Permit (ESP-003)
 - *Major features* (from ESP Site Safety Analysis Report/SSAR)
 - Staff's SER findings: NUREG-1835, Sept. 2005
 - ESBWR Design Control Document (DCD) (Docket No. 52-010)

ACRS Subcommittee Presentation

SER/OI Section 13.3

Regulations and Guidance

- Regulations
 - 10 CFR 52.77, 52.79(a)(21) & (a)(22)(i), 52.80
 - 10 CFR 50.33, 50.34, 50.47, Appendix E to Part 50
- Guidance
 - Regulatory Guide (RG) 1.206
 - NUREG-0800, Standard Review Plan (SRP)
 - Section 13.3, Emergency Planning
 - Section 14.3.10, Emergency Planning ITAAC
 - NUREG-0654/FEMA-REP-1, Rev. 1
 - NUREG-0696, NUREG-0737 (Suppl. 1)

ACRS Subcommittee Presentation

SER/OI Section 13.3

Basic Aspects of Emergency Planning

- Emergency Planning Zones (EPZs)
- Onsite Emergency Plan
- Offsite Emergency Plans
 - State & County Governmental Agencies
 - Affected States (10-mi & 50-mi EPZs)
 - Risk Counties (10-mi EPZ)
 - Private support organizations (hospitals, ambulance, etc.)
 - Federal agencies (e.g., NRC, FEMA, DOE, EPA, DOA)

ACRS Subcommittee Presentation

SER/OI Section 13.3

Emergency Plans

- NAPS (Unit 3) Emergency Plan (onsite plan)
 - Inspections, Tests, Analyses, & Acceptance Criteria (ITAAC)
 - Evacuation Time Estimate (ETE)
- Commonwealth of Virginia (offsite plans)
 - Louisa County Plan
 - Caroline County Plan
 - Hanover County Plan
 - Orange County Plan
 - Spotsylvania County Plan
- State of Maryland Plan

ACRS Subcommittee Presentation

SER/OI Section 13.3

Standard of Review

- NRC (onsite plans)
 - Whether the applicant's onsite emergency plans are adequate, and whether there is reasonable assurance that they can be implemented.
- FEMA (offsite plans)
 - Whether State and local emergency plans are adequate, and whether there is reasonable assurance that they can be implemented.
- NRC (complete & integrated plan)
 - NRC makes an overall determination based on its evaluation of the onsite plans, and a review of FEMA's evaluation of the offsite plans.
 - There is reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency.

ACRS Subcommittee Presentation

SER/OI Chapter 13.3

Emergency Response Facilities

- Onsite (NAPS site)
 - Control Room (direct operational control)
 - Technical Support Center (TSC)
 - Operational Support Center (OSC)
- Offsite (Dominion/County/State/Federal)
 - Emergency Operations Facility (EOF)
 - State & County Emergency Operations Centers (EOCs)
 - NRC Atlanta Off. (Region II) & Headquarters (Rockville, MD)
 - Other Federal agencies

ACRS Subcommittee Presentation

SER/OI Chapter 13.3

Multi-Unit Site (Units 1-3)

- Common Emergency Planning Features
 - Onsite Emergency Plan (NAPS)
 - Existing North Anna Emergency Plan (NAEP), Units 1 & 2
 - COLA proposed Unit 3 emergency plan
 - Emergency Operations Facility (EOF)
 - Offsite Emergency Plans (State & Counties)
 - Emergency Planning Zones (EPZs)
 - 10-mile & 50-mile EPZs
 - Evacuation Time Estimate (ETE), 10-mile EPZ

ACRS Subcommittee Presentation

SER/OI Chapter 13.3

Evacuation Time Estimate (ETE)

- Supports Protective Action Recommendations
 - Evacuation vs. sheltering in place
- Applies to the entire site (all 3 units)
- ETE examines the 10-mile EPZ
 - 26 Protective Action Zones (PAZs)
- ETE was updated in September 2008
- NRC reviewed ETE
 - Concluded that the ETE is consistent with NRC requirements and guidance, and is therefore acceptable

ACRS Subcommittee Presentation

SER/OI Chapter 13.3

Open Items

- 7 NRC Open Items
 - 1-1, Completion of ESBWR Design Certification review (SER)
 - 13.03-3, Submit acceptable Emergency Action Levels (EALs)
 - 13.03-4, Describe the Human-System Interface (HSI) function
 - 13.03-5, Submit exception request & ITAAC for new EOF
 - 13.03-6, Submit onsite exercise ITAAC
 - 13.03-7, Submit offsite exercise objectives (ITAAC)
 - 13.03-8, Identify location of Operational Support Center (OSC)
- 37 FEMA Open Items

ACRS Subcommittee Presentation

SER/OI Chapter 13.3

FEMA Open Items

- 15 offsite planning standards
 - 3 planning standards found “Adequate”
 - 12 found “Adequate – corrections must be made”
- 37 Open Items identified
- FEMA is working with Dominion & Commonwealth of VA
 - Adequacy of the offsite emergency plans is dependent on satisfactory resolution of the Open Items

ACRS Subcommittee Presentation

SER/OI Chapter 13.3

Post-COL Activities

- Inspections, Tests, Analyses, & Accept. Criteria (ITAAC)
 - A C acceptance Criteria successfully met before Unit 3 fuel load
- Full-Participation Exercise (includes offsite agencies)
 - Within 2 years of fuel load
 - If conducted more than 1 year before fuel load, an exercise testing the onsite emergency plans must be conducted within 1 year before fuel load
- Detailed Implementing Procedures
 - No less than 180 days before fuel load

ACRS Subcommittee Presentation

SER/OI Chapter 13.3

Conclusions

- SER reflects the staff's current COLA evaluation findings (w/OIs)
- NRC's overall finding of reasonable assurance
 - Resolution of the 7 NRC open items (onsite plan)
 - Resolution of the 37 FEMA open items (offsite plans)
- Final NRC findings will ensure
 - There is reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency



SECTION 13.4

ACRS Subcommittee Presentation

SER/OI Section 13.4

Operational Programs

- Regulatory Basis
 - SECY-05-0197 (Operational Programs for COLA)
- COL Items
 - STD COL 13.4-1-A Operational Programs
 - STD COL 13.4-2-A Implementation Milestones
- FSAR Table 13.4-201
 - Identifies required programs and describes implementation milestones
- FSAR Sections:
 - Address program technical description and milestones
- Staff Evaluation
 - FSAR Table 13.4-201 – completeness
 - Program technical description and milestones – respective SER Sections

ACRS Subcommittee Presentation

SER/OI Section 13.4

Operational Programs (continued)

- Conclusion
 - Consistent with SECY-05-0197 – adequate
 - Technical evaluation documented in SER Sections
- Post COL
 - License condition will address operational programs

ACRS Subcommittee Presentation SER/OI Chapter 13

Discussion/Committee Questions

North Anna

3

North Anna Unit 3 Presentation to ACRS Subcommittee COLA - Chapter 16



Chapter 16, Technical Specifications: Chapter Topics

- The ESBWR Technical Specifications were developed utilizing NUREG-1434, “Standard Technical Specifications General Electric Plants, BWR/6,” Revision 3.1, to the extent practical
 - Safety limits, limiting safety system settings, and limiting control settings
 - Limiting Conditions for Operation
 - Surveillance requirements
 - Design features
 - Administrative controls
 - Bases

Chapter 16, Technical Specifications: Supplemental Information

Each COL Item addressed by providing:

- Plant-specific information
- Bounding values
- Reference to a program that uses an NRC-approved methodology to determine plant-specific information

Chapter 16, Technical Specifications: Supplemental Information

- COL Items
 - Pressure and Temperature Limits Report (PTLR)
 - Plant Location
 - Minimum Qualification Standards for Unit Staff
 - Guidance Documents for Procedures
 - Multi-Unit Site Reporting Options
 - Annual Radiological Environmental Operating Report Format
 - Minimum and Nominal Control Rod Scram Accumulator Pressure

Chapter 16, Technical Specifications: Supplemental Information

- COL Items (cont.)
 - Allowable Values
 - Minimum SRNM Count Rate
 - Acceptance Criteria and Parameters for Batteries
 - Setpoint Control Program Methodology and Implementation
 - Ventilation Filter Testing Program (VFTP) - CRHAVS EFU Differential Pressure Acceptance

Chapter 16, Technical Specifications: Supplemental Information

Two exemption requests:

- Revising the Bases description for SR 3.1.5.1 for HCU accumulator pressure to eliminate the discussion of the specific expected pressure (normal operating pressure) of the accumulator and replacing it with the additional discussion of the design details of the minimum accumulator pressure
- Expanded Bases discussion of the acceptance criteria for the differential pressure across the CR HVAC Emergency Filter Unit (EFU)

Chapter 16, Technical Specifications: SER Open Items

- One Open Item
 - Exemption requests: expect to be unnecessary following DCD Rev 6
 - PTLR: awaiting final NRC approved report
 - Setpoint control program: awaiting final NRC approved report
 - Hazardous chemicals: to be resolved with follow-up RAI responses regarding FSAR Section 2.2.3
 - Batteries: COL item values to reflect VLA battery selection following DCD Rev 6



Presentation to the ACRS Subcommittee

North Anna Unit 3 COL Application Review

SER/OI Chapter 16 Technical Specifications

July 22, 2009

ACRS Subcommittee Presentation

SER/OI Chapter 16

Staff Review Team

- Project Managers – DNRL/NGE1
 - Thomas Kevern, Lead PM, DNRL/NGE1
 - Michael Eudy, Chapter PM, DNRL/NGE1
- Technical Staff – DCIP/CTSB
 - Mark Kowal, Branch Chief, DCIP/CTSB
 - Craig Harbuck, Lead Reviewer, DCIP/CTSB
 - Nima Ashkeboussi, Reviewer, DCIP/CTSB
 - Dayna Dority, Reviewer, DCIP/CTSB

ACRS Subcommittee Presentation

SER/OI Chapter 16

Scope of Presentation

- Content of Chapter 16
 - North Anna Unit 3 COL Application Part 2, “FSAR,” Chapter 16, and
 - Part 4, “Plant-Specific Technical Specifications”
- Regulations and Review Guidance
- Combined License Information Status
- Potential departures from DCD Chapter 16B
- Expected impact of DCD Revision 6

ACRS Subcommittee Presentation

SER/OI Chapter 16

Content of Chapter 16

- The North Anna Unit 3 FSAR, Revision 1, Chapter 16, “Technical Specifications,” incorporated by reference the generic technical specifications (TS) and bases
 - ESBWR DCD, Revision 5, Chapter 16, “Technical Specifications” and Chapter 16B, “Bases”
- ESBWR DCD Section 16.0, “Introduction,” lists and describes COL items (site-specific technical specification information)
 - Part 4 of the North Anna Unit 3 COL application provides plant-specific TS, consisting of generic TS and site-specific TS
- Two potential departures from the generic TS bases

ACRS Subcommittee Presentation

SER/OI Chapter 16

Regulations and Review Guidance

- 10 CFR 52.79(a)(30) - COLA must include technical specifications,
- 10 CFR 50.36 “Technical specifications,”
- 10 CFR 50.36a, “Technical specifications on effluents from nuclear power reactors,”
- NUREGs 1433 and 1434, Standard Technical Specifications for General Electric BWR/4 and BWR/6 Plants, respectively,
- NUREG-0800, Standard Review Plan, Section 16.0, “Technical Specifications,”
- DC/COL-ISG-08 - Plant-specific technical specifications issued with a COL must be complete, and
- Regulatory Guide 1.206, “Combined License Applications for Nuclear Power Plants.”

ACRS Subcommittee Presentation

SER/OI Chapter 16

Combined License Information Status

- Based on DC/COL-ISG-08 (issued in December 2008), the staff requested Dominion to resolve all COL information in the plant-specific TS prior to COL issuance by providing for each item:
 - a site-specific value or site-specific information (Option 1);
 - a useable value or useable information that is bounding to the site-specific value or information (Option 2); or
 - a staff-approved administrative control TS that requires use of an NRC-approved methodology to determine the site-specific value or information and establishment of a document for recording the site-specific value or information (Option 3).

ACRS Subcommittee Presentation

SER/OI Chapter 16

Combined License Information Status (cont'd)

- Option 1 – Provide a site-specific value or site-specific information
- Dominion proposed resolving most COL items with Option 1
- COL information not yet resolved is site-specific information related to:
 - RCS pressure and temperature limits
 - Hazardous chemicals
 - Use of modified performance discharge battery test
 - Battery parameters and operability criteria

ACRS Subcommittee Presentation

SER/OI Chapter 16

Combined License Information Status (cont'd)

- Option 2 – Provide a useable value or useable information that is bounding to the site-specific value or information
- COL information not yet resolved is site-specific information related to:
 - Minimum pressure in control rod drive scram accumulators
 - Battery charger test duration
 - Control room emergency ventilation filter maximum differential pressure surveillance acceptance criterion

ACRS Subcommittee Presentation

SER/OI Chapter 16

Combined License Information Status (cont'd)

- Option 3 – Provide a staff-approved administrative control TS requiring the use of an NRC-approved methodology to determine the site-specific value or information
- COL information not yet resolved is site-specific information related to completion of staff review of ESBWR setpoint methodology, NEDE-33304P, Revision 1

ACRS Subcommittee Presentation

SER/OI Chapter 16

Potential Departures from DCD Chapter 16B

- Omit a value for the nominal pressure of the control rod scram accumulators from the bases for plant-specific TS 3.1.5
- Add discussion to bases for Surveillance Requirement 3.7.2.3 to justify the bounding value for the acceptance criterion for the control room emergency ventilation filter differential pressure in plant-specific TS 5.5.13.d
- ▶ Dominion identified the departures as requests for exemption from the ESBWR design certification rule per § 52.7

ACRS Subcommittee Presentation

SER/OI Chapter 16

Conclusions

- The North Anna Unit 3 plant-specific TS and bases, which consist of the ESBWR generic TS and bases, site-specific COL information, and approved departures, are not yet complete because of unresolved COL information (Open Item 16-1).
- Therefore, the staff cannot yet conclude that the plant-specific TS and bases satisfy §§ 50.36 and 50.36a.
- ▶ Additional changes are expected to the North Anna Unit 3 plant-specific TS and bases to conform to the certified generic TS and bases (Open Item 1-1).

ACRS Subcommittee Presentation

SER/OI Chapter 16

Expected Impact of DCD Revision 6

- The North Anna Unit 3 plant-specific TS and bases will have changes to reflect the resolution of technical issues that required changes to the generic TS and bases.
 - Electrical power distribution design changes
 - DC sources changed to vented lead acid storage batteries
 - Changes in instrumentation functions
 - Changes in Setpoint Control Program specification for TS control of instrumentation settings to satisfy 10 CFR 50.36(c)(1)(ii)(A)
 - Changes to action and surveillance requirements
- COL information will also change

**ACRS Subcommittee Presentation
SER/OI Chapter 16**

Discussion/Committee Questions