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UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

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ADVISORY COMMITTEE ON REACTOR SAFEGUARDS (ACRS)

503rd MEETING

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FRIDAY, JUNE 13, 2003

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ROCKVILLE, MARYLAND

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The ACRS met at the Nuclear Regulatory Commission, Two White Flint North, Room T2B3, 11545 Rockville Pike, at 8:30 a.m., Mario V. Bonaca, Chairman, presiding.

COMMITTEE MEMBERS:

MARIO V. BONACA, Chairman

GRAHAM B. WALLIS, Vice Chairman

GEORGE E. APOSTOLAKIS, Member

F. PETER FORD, Member

THOMAS S. KRESS, Member

GRAHAM M. LEITCH, Member

DANA A. POWERS, Member

VICTOR H. RANSOM, Member

WILLIAM J. SHACK, Member

JOHN D. SIEBER, Member

STEPHEN L. ROSEN, Member-At-Large

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1 ACRS STAFF PRESENT:

2 SHER BAHADUR, Associate Director - ACRS/ACNW

3 RALPH CARUSO, ACRS Staff

4 MEDHAT EL-ZEFTAWY, ACRS Staff

5 MAGGALEAN W. WESTON, Staff Engineer

6 PANEL MEMBERS:

7 DAVID COLLINS, Engineering Analyst

8 CHARLES DUGGER, Nuclear Energy Institute

9 GEORGE FELGATE, Nuclear Energy Institute/
10 Nuclear Power Operations

11 CLARE GOODMAN, NRC/NRR

12 JACK GROBE, NRC/0350 Panel

13 SONJA HABER, Human Performance Analysis Corp.

14 WILLIAM N. KEISLER, Nuclear Maintenance Int.

15 LEW MEYERS, FENOC

16 THOMAS MURLEY, Safety Consultant

17 WILLIAM O'CONNOR, Fermi 2

18 ALAN PRICE, Millstone/Dominion

19 ASHOK THADANI, NRC/RES

20 D. TRIMBLE, NRC/NRR

21 HOWARD WHITCOMB, III, ESQ.

22 GEOFF WRIGHT

23 AGENCY EMPLOYEES ALSO PRESENT:

24 ZENA ABDULLAHI, NRR/SPXB

25 J. BONGARRA, NRR/DIPM/IEHB

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1 AGENCY EMPLOYEES ALSO PRESENT: (cont.)
2 J. CAI, NRC/NRR/DIPM
3 C. CARPENTER, NRR/DIPM
4 J.F. COSTELLO, NRC/RES/DET
5 R. ECKERODE, NRR/DIPM
6 FAROUK ELTAWILA, NRC/RES/DSARE
7 S. TINA GHOSH, ACNW
8 JON HOPKINS, NRR/DLPM
9 LISAMARIE L. JARRIEL, NRR/OD
10 J. KARA, NRC/RES/REHHFB
11 MINDY LANDAN, NRC/OEDO
12 DANEIRA MELENDEZ, NRC RIII/DRP
13 TANYA MENSCH, NRC/PMAS
14 JOCELYN MITCHELLE, NRC/RES/DSARE
15 B. MUSICO, NRR/EPHP
16 HO NIEH, NRC/ OEDO
17 JAKE PERSENSKY, RES
18 T. QUAY, NRR/DIPM
19 ISABELLE SCHOENFELD, NRC/DEDO
20 D. SKOEN, NRR/DRIP
21 DEIRDRE SPAULDING, NRR/DLPM
22 MARVIN SYKES, NRR/SPSB
23 HANRY A. WAGAGE, NRR/SPLB
24 GEOFFREY C. WRIGHT, NRC RIII/DRP
25

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ALSO PRESENT:

ROBERT C. EVANS, NEI

GEORGE FELGATE, INPO

BRIAN HAAGENSEN, PSHA, Inc.

RICK JANATI, PADEP/BRP

CHARLIE JONES, TECHNIDIGM.ORG

STEPHEN KOFF, Cleveland Plain Dealer

DONA MEINDERTZMAN, Winston & Strawn

THOMAS MURLEY, Safety Consultant

NORM PETERSON, Detroit Edison Co.

BROOKE POOLE, Winston & Strawn

SUSAN G. STERRETT, Duke University

ALI TABATABAI, Link Technologies

SPYROS TRAIFOROS, Link Technologies

GREGORY TWACHTMAN, McGraw-Hill

ANDY VOMASTELI, Dominion

MIKE WOODS, Pittsburgh Post Gazette

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C-O-N-T-E-N-T-S

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

(8:33 a.m.)

3) OPENING REMARKS BY THE ACRS CHAIRMAN

CHAIRMAN BONACA: Good morning. The meeting will now come to order. This is the second day of the 503rd meeting of the Advisory Committee on Reactor Safeguards. During today's meeting, the committee will consider the following: update to generic license renewal guidance documents, subcommittee report on the Fort Calhoun license renewal, proposed strategy for preparing the 2004 ACRS report on the NRC safety research program, future ACRS activities and report of the Planning and Procedures Subcommittee, reconciliation of ACRS comments and recommendations, and proposed ACRS reports.

A portion of this meeting will be closed to discussed the proposed ACRS report on safeguards and security. This meeting is being conducted in accordance with the provisions of the Federal Advisory Committee Act.

Sam Duraiswami is the designated federal official for the initial portion of the meeting.

We have received notice of comments and requests for time to make oral statements from members of the public regarding today's session. A transcript

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1 of portions of the meeting is being kept. It is
2 requested that speakers use one of the microphones,
3 identify themselves, and speak with sufficient clarity
4 and volume so that they can be readily heard.

5 Before we proceed, I would like to make a
6 couple of announcements. First of all, a very happy
7 one, I think. And that is Ms. Tanya Winfrey of our
8 staff yesterday received the NRC meritorious service
9 award. I would like to read for you the motivation
10 for that, "In recognition of her outstanding
11 performance and contributions as an administrative
12 assistant in the areas of financial management and the
13 world of finance control. Ms. Winfrey consistently
14 demonstrates a value to the agency and its Advisory
15 Committees Reactor Safeguards and Nuclear Waste by
16 seeking innovative approaches to increase the
17 efficiency and effectiveness of the office's financial
18 management practices.

19 "Among her notable achievements, Ms.
20 Winfrey implemented an automated real-time
21 budget-tracking and accounting system for expenditures
22 related to travel and bank purchasing. This system
23 provides the office with a dependable vehicle for
24 sound fiscal management. In addition, Ms. Winfrey's
25 positive and professional attitude makes her a

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1 valuable asset to the office and the agency as a
2 whole."

3 I hope you will join me in --

4 (Applause.)

5 CHAIRMAN BONACA: The next announcement is
6 to let you know that Ms. Tina Gosch joined the ACRS
7 this year in the office as a summer intern on June 9,
8 2003.

9 (Applause.)

10 MEMBER POWERS: I thought she was going to
11 work for ACNW.

12 CHAIRMAN BONACA: She will be working for
13 ACRS.

14 MEMBER POWERS: That's an insult.

15 CHAIRMAN BONACA: Well, well, on the Yucca
16 Mountain repository KTI resolution agreements between
17 the DOE and NRC. Tina is a Ph.D. candidate in the
18 Nuclear Engineering Department somewhere. This place
19 is called M.I.T., Professor Apostolakis. Have you
20 heard?

21 MEMBER POWERS: He seems to be absent
22 without leave.

23 CHAIRMAN BONACA: He's hiding. We
24 welcome. Welcome aboard.

25 MEMBER POWERS: I think we need to start

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1 some remedial efforts with her right away to overcome
2 the effect of her professor and the group she will be
3 working with.

4 CHAIRMAN BONACA: We can try to bootleg
5 her services.

6 MEMBER ROSEN: On those comments, you can
7 ask her for help, but she won't give you any.

8 CHAIRMAN BONACA: And finally, in front of
9 you, you have a number of items of interest, three
10 from Chairman Diaz and then some interesting operating
11 plant issues.

12 With that, all of the introductory
13 statements are completed. Let's move to the first
14 item on the agenda, which is ACRS briefing on the
15 interim staff guidance process and status. Mr. Leitch
16 will take us through this presentation.

17 4) UPDATE TO GENERIC LICENSE RENEWAL GUIDANCE

18 DOCUMENTS

19 4.1) REMARKS BY THE SUBCOMMITTEE CHAIRMAN

20 MEMBER LEITCH: Okay. Just to refresh
21 everyone's memory, on July 17th of last year, we
22 received an SRM stating that the ACRS should consider
23 providing recommendations as license renewal guidance
24 documentation should be updated to reflect supporting
25 information. Particularly with regard to

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1 time-limiting agency analysis, that should, as a
2 minimum, be included in license renewal applications
3 to maximize the efficiency of the review process and
4 minimize the requests for additional information.

5 We are due to respond to that SRM shortly.
6 And in an effort to collect our thoughts and to
7 determine how we should respond to that SRM, we have
8 done a couple of things. One thing is the
9 Subcommittee on License Renewal heard on Wednesday
10 from both the staff and NEI a short presentation
11 regarding some changes in the format of the license
12 renewal applications, which we think should
13 standardize that and simplify the process, not only
14 for the licensees but for the reviewers on the staff
15 and for us as we review these documents.

16 The other thing that is interesting is
17 that as we have reviewed a number of license renewal
18 applications, we have seen a number of areas where
19 there seem to be repetitive questions coming up,
20 indicating evidently that there is some confusion on
21 the part of the staff, some ambiguity perhaps in the
22 requirements. We have discussed these over the past
23 year as they came up from time to time.

24 The staff has collected these comments,
25 our comments, as well as a number of their own

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1 comments, and has collected a series of documents
2 called interim staff guidance, which is basically
3 amplification of the expectations.

4 There are 16 of these documents. Interim
5 staff guidance number 16 is one that specifically
6 deals with the issue raised in the SRM because it
7 addresses the information required in TLAAs.

8 So today we are going to hear from the
9 staff a little more about these 16 TLAAs. I believe
10 NEI is also going to make a short presentation later
11 today, in a short while here, as to their position on
12 these ISGs. The intention is that these ISGs, the
13 interim, means that eventually they would be
14 incorporated in the formal guidance documents.

15 So with that brief introduction, I will
16 turn it over to P. T. Kuo, who will lead us through
17 these presentations.

18 MR. KUO: Thank you, Mr. Leitch. And good
19 morning, members of the Committee.

20 4.2) BRIEFING BY AND DISCUSSIONS WITH
21 REPRESENTATIVES OF THE NRC STAFF REGARDING POTENTIAL
22 IMPROVEMENTS TO LICENSE RENEWAL GUIDANCE DOCUMENTS

23 MR. KUO: I am P. T. Kuo, for the record,
24 the program director for the license renewal
25 involvement impacts program. And to my right is Dr.

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1 Samson Lee. He is the section chief for the license
2 renewal section in this program.

3 Today the staff will brief the Committee
4 on the interim guidance on the ISG process, as Mr.
5 Leitch pointed out. And Mr. Peter Kang, who is the
6 staff coordinator for this effort, will lead the staff
7 presentation today.

8 He will summarize the process that we have
9 used to develop ISGs. Specifically he will highlight
10 a couple of ISGs, as Mr. Leitch pointed out, that are
11 intended to further enhance the content of the license
12 renewal application. One of these ISGs is proposed by
13 NEI that established, standardized the format and
14 content of the license renewal application. And the
15 other is an ISG developed by the staff to address the
16 TLAA, time-limiting agency analysis, technical
17 information that should be included in the license
18 renewal application.

19 By way of examples, the staff will
20 describe three TLAA issues to illustrate the kind of
21 information that is being sought in an application so
22 that the staff can perform a rigorous review of the
23 issue and to also help the public to understand what
24 is the issue and what is the justification for the
25 staff to accept the issue in the renewal application.

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1 During the presentation, Peter will also
2 point out those ISGs that are being developed in
3 response to some of the previous Committee's comments.

4 With that, Mr. Leitch, if you don't have
5 any more questions, I would like to turn the briefing
6 over to Peter Kang.

7 MR. KANG: Good morning. My name is Peter
8 Kang, K-a-n-g. I am from the License Renewal and
9 Environmental Impact Branch.

10 This morning I am going to brief on
11 interim staff guidance, ISG, process and the status,
12 all of that with regard to improving the license
13 renewal guidance document, and also include
14 time-limited agency analysis supporting information.
15 That should be included in the license renewal
16 applications.

17 When we talk about the license renewal
18 guidance document, it consists of a goal and a
19 standard review plan and Reg Guide 1.188, which
20 endorses NUREG 9510. NUREG 9510 happens to be --

21 MEMBER FORD: That is NEI.

22 MR. KANG: I'm sorry. NEI 9510, which
23 this is industry guidance for implementing the
24 requirements of 10 CFR Part 54 license renewal rules.

25 License renewal staff has previously

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1 briefed ACRS subcommittee on the ISG process and the
2 status during the presentation in April. So this is
3 just a brief presentation on that ISG process. And we
4 are going to have some updates on ISG status.

5 The improved license renewal guidance
6 document was completed in July 2001. And staff plans
7 to update the guidance document again in 2004. So for
8 those interim times, staff has to develop new
9 provisions for those lessons learned while processing
10 the license renewal applications. And also staff has
11 to develop this process, ISG process, to provide the
12 guidance to the applicants to addressing these lessons
13 learned in their applications.

14 So, with that, the purpose of the ISG
15 process is to provide timely guidance to applicants to
16 new staff positions. And the ISG process includes
17 identification, implementation of the ISG for the
18 current and the future applicants.

19 MEMBER LEITCH: Peter, would you say these
20 are new staff positions or really clarification of
21 ambiguities in the process?

22 MR. KANG: The majority of them are
23 clarifications. And also there are some compliance
24 issues, like SBO. That's a compliance issue. So
25 basically most of them are clarifications.

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1 As to the implementation of those ISGs,
2 applicant should address all approved ISGs before a
3 license is renewed. But the approved ISG can be found
4 on the NRC Web site under "License Renewal." And, in
5 addition, staff has been encouraging the current and
6 the future applicants to address those proposed ISGs
7 because it can have a potential impact on their
8 schedules.

9 MEMBER LEITCH: Are there any license
10 renewals that have already been approved that are
11 contrary to these ISGs or did you really implement the
12 intent of the ISGs with all the previous applicants
13 but it was just done on a case-by-case basis?

14 MR. KANG: We tried to be as general as to
15 be able to generalize it to be applicable to all
16 applicants. The plant-specific stuff is taken
17 separately by itself.

18 So with the goal as being that's not the
19 only way, this could be applicant can come up with
20 their own way to be able to come up. For the ISG
21 process as far as the process and issues concerned, we
22 tried to be general so everybody can be applicable.

23 MEMBER LEITCH: My question really is to
24 take, for example, the SBO issue. There is an ISG
25 that clarifies and makes real clear what our

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1 expectations are with regard to SBO.

2 MR. KANG: Yes.

3 MEMBER LEITCH: But the plants where
4 license renewal applications have been approved prior
5 to the issuance of this ISG, are they in compliance
6 with our expectations?

7 MR. KANG: No. We are --

8 MR. KUO: If I may, Kang, can I? Yes.
9 Like Peter said, some of the issues, some of the ISG
10 issues, are clarification, but those clarification
11 issues, we do not intend to go back to look at those
12 plants with renewal licenses.

13 However, if there are compliance issues,
14 like SBO, we are going back to reassess those plants,
15 whether they should be required to be compliance with
16 the ISG. And we are in the process of establishing
17 this guidance, how to go back to these plants.

18 We actually have a tracking list of all of
19 the previous applicants with renewal licenses already.
20 So that we know which plant has addressed certain ISGs
21 and haven't addressed certain ISGs.

22 MR. KANG: Now, does that get us into a
23 backfit discussion?

24 MR. KUO: This is the one thing that is
25 being discussed in-house right now, whether this is

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1 actually backfit or we could use a process like 5437.
2 That's the annual update of the license renewal FSAR
3 supplement because in that section, it says that the
4 licensees with renewal licenses are required to do the
5 annual update if they identify new system structures,
6 components as a result of whatever.

7 MR. KANG: Okay. Thank you.

8 MR. KUO: You're welcome.

9 MR. KANG: So, in a way, we feel the ISG
10 process is a transparent process. And every ISG issue
11 has been reviewed, not only by the staff, also NEI as
12 well as other stakeholders, such as UCS and other
13 environmental groups as well. Okay?

14 So at the end, all approved ISGs
15 incorporate input from our staff as well as NEI and
16 the stakeholders. So as to the implementation for the
17 license already, they renewed their license Dr. Kuo
18 already spoke to. The staff keeps track of all of
19 these ISG lists. And also staff is in the process of
20 considering implementation of approved ISGs for those
21 licensees holding a renewed license already.

22 In summary, the ISG process is designed to
23 capture the lessons learned and also ACRS comments.
24 And the ISG process provides timely guidance to the
25 applicants, which, in turn, applicants should address

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1 ISG in their license renewal applications. So it is
2 a continuous process.

3 So when finalized, the ISG will be
4 incorporated into the license renewal guidance
5 document.

6 Any questions? This is the ISG process.
7 This is the end of the ISG process presentation. Any
8 questions before I go to updates of ISG?

9 MEMBER LEITCH: So I guess, as I envision
10 the process, then, there will be a series of ISGs.
11 Right now there's 16 or so that will be incorporated
12 in the next revision. But, then, if there are other
13 issues that develop with time, there may be a new set
14 of ISGs accumulated and incorporated in a future
15 revision.

16 MR. KANG: That's right.

17 MEMBER LEITCH: So this is like a holding
18 --

19 MR. KANG: That's right.

20 MEMBER LEITCH: -- on for ISGs, then?

21 MR. KANG: Okay. As for the status
22 update, since the staff presented the ISG status in
23 April, we have grown four more. Dr. Leitch talked
24 about the 15 and 16, but now since then we have 17 and
25 18.

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1 MEMBER LEITCH: Okay.

2 MR. KANG: So it's still growing. If you
3 look at it, if we go to the table itself, there are 18
4 of them. The first five are approved. The first five
5 issues have been approved.

6 If I can go back two more, those are 15,
7 16, 17, and 18. Those probably you haven't seen it.
8 Seventeen and 18 are the latest ones on the electrical
9 bar. And the number 18 is revision to accessible
10 water collection in the manhole, the one we discussed
11 in April in San Jose.

12 MEMBER LEITCH: San Jose, yes. We talked
13 a little bit about 17 in Fort Calhoun on Wednesday, I
14 think. We didn't know it was an ISG, but we did
15 discuss that issue.

16 MR. KANG: Okay. Also in the table, we
17 have sort of distinguished now a step under
18 development and a step under review. So the one step
19 under review is the one step that is actually accepted
20 in preparing either packages.

21 The step under development is still in the
22 development stage. We haven't done too much work on
23 it yet, but still it hasn't fully agreed whether it
24 should be an ISG item or not. But still I have to
25 maintain the inter-status trial.

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1 MR. KUO: Peter, at this point, if I may,
2 just to add a little clarification here, this ISG
3 process we have, anybody, including staff, the
4 applicants, and the public, can propose an ISG. If
5 that is an issue we think that is worth dealing with,
6 then we will establish the ISG and into the process.

7 Once this ISG is accepted for the ISG,
8 developed as an ISG, then we will prepare the draft
9 paper and have a communication with the stakeholders,
10 such as NEI and the public in general. And some of
11 these ISGs, we have had several iterations with them.
12 And once we reach to a consensus, then we will
13 finally, formally issue the ISG. That's the process
14 that we have been using for some time, and that's what
15 Peter was talking about.

16 Some are still ongoing. We have issued a
17 draft paper already to NEI and to other stakeholders,
18 soliciting for comments. And the recent 17 and 18 are
19 still at the development stage. We haven't had a
20 piece of paper, a working paper, yet.

21 MEMBER LEITCH: I would think even in
22 advance of the issuance of the ISG, many utilities
23 would be aware that these were issues from reviewing
24 previous applications and the proactive utility might
25 address these issues, even prior to the issuance.

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1 MR. KUO: That is correct. That is
2 correct.

3 MEMBER SHACK: How widely available is the
4 draft ISG? I mean, is that posted on the Web site,
5 too, as a draft?

6 MR. KANG: Yes, sir. We call it proposed
7 since it's always a public forum. And then either we
8 have meetings, public meetings, to discuss this,
9 receive their comments --

10 MR. KUO: Once we have the draft ISG, the
11 draft ISG is forwarded to all stakeholders, including
12 NEI and the public, and posted on the public Web site.

13 MR. KANG: Okay.

14 MEMBER SHACK: Is there a formal comment
15 period or --

16 MR. KANG: No.

17 MEMBER SHACK: No?

18 MR. KANG: There is no federal notice,
19 say, for instance, to solicit formal comments.

20 MR. KUO: When we do incorporate these
21 ISGs into improve the guidance document, the next
22 iteration, we will actually issue for public comments.

23 MR. KANG: Okay. In response to ACRS'
24 comments on the efficiency of processing license
25 renewal applications, the staff and the industry have

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1 developed two ISGs. If you can go to ISG number 10,
2 this is the one. This is the one Dr. Kuo was talking
3 about, the standard.

4 The NEI developed this in the class 03
5 standard license renewal application format. It
6 explains the ISG issues, what the issue is, and the
7 table, its purpose is, to standardize the license
8 renewal format for 2003 applicants to make the license
9 renewal process more efficient. But this is actually
10 not just for 2003. It's actually beyond. This ISG is
11 completed in April.

12 Also, if you go --

13 MEMBER LEITCH: I might just add for the
14 benefit of our members who were not here at
15 Wednesday's subcommittee meeting, it is that issue
16 that the NEI made a presentation about at Wednesday's
17 subcommittee. There seemed to be no disagreement
18 between the staff and NEI. And, as you say, this one
19 has completed.

20 MR. KANG: Yes. We had several, I think
21 two or three, meetings regarding the issues. And the
22 staff was involved and engaged in formulating this
23 format.

24 MR. KUO: And also it stemmed from
25 industries that the applications starting from this

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1 fall, they will be using this new standardized formula
2 for the application.

3 MR. KANG: Okay. The next ISG is a TLAA.
4 This is number 16. That is the subject of the next
5 presentations. Dr. Leitch said Bill Watts of Dominion
6 briefed on it last Wednesday. I have summarized his
7 presentations in slide number 10.

8 If you look at the slide number 10, NEI
9 developed standard license renewal application format
10 for future applicants. Staff has reviewed and
11 concurred.

12 Starting in September, the license renewal
13 application applicants are encouraged to use this
14 format. And also it will be incorporated into NEI
15 9510.

16 Any questions on this ISG?

17 (No response.)

18 MR. KANG: My next presentation is on
19 time-limited agency analysis supporting information.
20 Last July the Commission met with the ACRS for
21 potential improvement of license guidance document.
22 The purpose was to maximize the efficiency of the
23 license renewal process and to minimize RAIs. Dr.
24 Leitch talked about it a little bit on these issues.

25 ACRS provided comments that license

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1 renewal applications should contain sufficient
2 information for the staff to perform its review and
3 also mentioned TLAA as an example. A TLAA review
4 guide is in SRP. The guide may not be sufficiently
5 clear for this concern.

6 On April 22, 2003, staff met with the
7 industry representative to discuss supporting
8 information for TLAA. During the meeting, staff
9 discussed their review experience, particularly number
10 of RAI questions that were repeated in each
11 application.

12 If the applicants can address all of those
13 RAI questions in their applications, staff indicated
14 that number of RAI could be reduced, which, in turn,
15 efficiency could be improved a great deal.

16 So during the meeting, staff provided some
17 RAI questions that were repeated. To document that
18 those review experience, the participants agreed to
19 treat this issue as an ISG.

20 So on May 12, 2003, the staff issued the
21 proposed ISG. And in the ISG, the staff compiled all
22 of the RAI questions that were repeated in previous
23 license renewal applications.

24 So in the list, in the attachments of
25 these proposed ISGs, we have almost addressed seven

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1 areas, where they repeated RAI questions. The first
2 one is identification of TLAA and reactor vessel in
3 neutron embrittlement analysis area and the metal
4 fatigue and so on.

5 MEMBER LEITCH: I think, just to refresh
6 the Committee, I think there was one applicant where
7 the neutron embrittlement analysis, all the
8 documentation we received just said that it meets the
9 limits, "Don't worry about it." But we were curious
10 as to how much margin there was. And that information
11 was not initially provided and required some round of
12 additional question of RAIs to get that information.

13 And, as it turned out, I think in that
14 particular case, there was margin but not a whole
15 bunch. And so it's some of those kind of questions
16 that have prompted this issue here.

17 MR. KANG: So for ACRS' benefit, to
18 provide some flavors, what kind of questions, what
19 type of information staff was looking for, I have
20 selected three reviewers to come up here, provide some
21 insights of their RAI questions.

22 Mr. Eliot from EMCB will tell us about
23 neutron embrittlement issues. The next person will be
24 Mr. Fair, EMEB, on metal fatigue. And Mr. Ascher from
25 EMEB will have concrete containment. The first one is

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1 Mr. Eliot.

2 MR. ELIOT: Barry Eliot. I'm going to
3 talk just briefly about reactor vessel neutron
4 embrittlement analysis.

5 There are no new positions here. All
6 we're looking for in our internal staff guidance is
7 that the applicant provide sufficient information so
8 that we could confirm that they need the upper shelf
9 energy requirements of Appendix G and the adjusted
10 reference temperature and PTS values, RTPTS values of
11 1050.61 at the end of the license renewal period.

12 Now, this issue has been going on for
13 years: neutron embrittlement. We resolved this issue
14 through Generic Letter 9201 and 9201, Supplement 1.
15 It was resolved in the early '90s.

16 What has happened since then is that in
17 license renewal, we have new neutron fluence values.
18 And also in the last ten years, we have put out
19 guidance as to how to calculate the neutron fluence.
20 So in that area of neutron fluence, we would be
21 looking for the methodology and how it complies with
22 the guidance that we have put out.

23 The second area that we look at is
24 materials data. What has changed over the last ten
25 years is plants have been really judicious here

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1 looking for more and more surveillance data and
2 materials data.

3 They are submitting more data as time goes
4 on. We would like them to submit it as part of the
5 application so that we can review it and determine
6 whether it was adequately reviewed.

7 We have guidance in this area also. The
8 guidance is fairly general. Plants have a whole bunch
9 of different ways of meeting that particular guidance.
10 And so we need to review it.

11 The purpose of this interim guidance is
12 that we get all of that information, how to analyze it
13 so we can review it, and confirm that their
14 conclusions that they meet Appendix G and they meet 10
15 CFR 5061 and they meet all of the reg guides are true.

16 MR. KANG: Mr. Fair?

17 MR. FAIR: I'm John Fair with the
18 Mechanical Engineering Branch.

19 I usually review the fatigue TLAA. One of
20 the questions I normally ask, most license renewal
21 applicants, even though they do a formal TLAA
22 evaluation for fatigue also as part of it have what
23 they call a fatigue-monitoring program where they
24 monitor the number of design cycles to make sure that
25 they don't exceed the limits used in design.

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1 Usually they will tell me in the
2 application that they do monitor the number of design
3 cycles, but they are not very specific. So a standard
4 RAI we have been issuing is to ask them to
5 specifically go through all of the transients listed
6 in the FSAR and tell me which ones you're monitoring
7 and if you're not monitoring one of the transients,
8 why you don't have to monitor it and given the current
9 cycle counts in these projections.

10 And so this is one of the issues that
11 would eliminate an RAI if they would provide this with
12 the application.

13 MEMBER SHACK: Have they been required to
14 monitor the transients since day one? Do they really
15 know the number of cycles they have been through?

16 MR. FAIR: Some of them have, and some of
17 them haven't. Some of them have been estimating the
18 number of cycles. What usually happens is they do
19 have logs in the control rooms of the major types of
20 cycles: start-up, shut-downs, and things like that.
21 And what they do is they go back, and they reconstruct
22 the numbers from those logs.

23 Some of the applicants actually have
24 initiated monitoring programs since the start-up of
25 the plants. And so they do have pretty good counts on

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1 these.

2 MEMBER LEITCH: I think, for example, in
3 our Fort Calhoun review the other day, some of the
4 transients they had monitored, but there was one
5 particular type -- I don't remember which one it was
6 -- where they hadn't monitored it from time zero. So
7 they kind of estimated what it was, and then they're
8 monitoring it now.

9 But it's way, way lower than the allowable
10 in that particular category. I think we're up to
11 about 100, and 4,000 is the limit or something like
12 that. So it's unlikely they would ever challenge the
13 allowable number.

14 MEMBER SHACK: Well, they had one where
15 the calculated usage was .937 for 3 significant
16 figures.

17 MR. FAIR: Actually, at a lot of the
18 facilities, they do have usage factors at that level.
19 And usually what you found out is they --

20 MEMBER SHACK: It's so conservative.

21 MR. FAIR: -- they do conservative
22 calculations as quickly as they can. And as long as
23 they're below one, they quit. And when they find they
24 have a problem where they exceed the number of cycles
25 and they go back and re-find the calculation, they

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1 usually can show they still have an acceptable usage.

2 MR. KANG: Who is next? Mr. Ascher?

3 MR. ASCHER: In this area, I think I will
4 try to throw out some kind of a background as to why
5 we are looking for this particular TLAA. Then I will
6 talk about what experience we have with the applicants
7 as to the aforementioned why we have to have the right
8 number on this particular TLAA.

9 Now, we are suggesting improvised
10 pre-compression in concrete in the pre-stressed
11 concrete containments. We have close to about 38
12 pre-stressed concrete containments in the three
13 compartments. With concrete extension, you get
14 internal pressure. That is the whole idea behind
15 providing pre-stressed in the concrete containments.

16 Steel tendons provide required
17 pres-stressing. That means the tendons are tension in
18 the particular level, particular stress level. And
19 then they are left there for the life of the plant,
20 just to make sure they provide continuous compression
21 during the life of the plant.

22 Time-dependent losses affect tendon
23 forces. Time-dependent losses I'm talking about are
24 a creep of concrete that occurs; the shrinkage of
25 concrete occurs; the relaxation of pres-stressing

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1 steel, which is in sustained tension all the time that
2 occurs. So those are things that are losing the
3 pre-stressing force.

4 It's not really measurable, but sometimes
5 it can be quite substantial. And in order to monitor
6 this type of a behavior, time-dependent losses affect
7 tendon forces. There are inspection requirements in
8 the rule 50.55(a), which actually incorporate by
9 reference Subsection ILL of the ASME code, where the
10 requirement for the inspections are provided.

11 Now, is 10 CFR 54.21(c)(1) applicable for
12 this particular license renewal applications? Now, in
13 4.5, we are delineating what we really look for from
14 the applicant as far as the data.

15 Now, the basic data we look for in this
16 area is something similar. This is the worst-case
17 scenario. Now, this is one year. This is a log
18 scale. These are log scale here. This is
19 time-dependent. And these are the pre-stressing force
20 on the --

21 MEMBER ROSEN: Could you give us that over
22 so we can see the scale units, the scale on the left?
23 It says 1,300 something. What are they?

24 MR. ASCHER: Okay. They are pre-stressing
25 forces. These are the tendon forces that are there

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1 existing at that particular time. I will explain to
2 you each of the causes here so we have a better
3 understanding of this.

4 Now, this is PLL LCOR. PLL LCOR is that
5 after your initial pre-stressing is known. It has
6 been recorded in the documentation. And there comes
7 the benchmark. At the zero year, they have something.
8 A realistic shortening of the concrete takes place as
9 soon as they try to compress the concrete. And it is
10 considered in this area.

11 And they are all estimated. They estimate
12 the shrinkage, loss of the cool Doppler in 40 years
13 time. They have done the definition for 40 years
14 earlier. Okay? That can occur. It especially can
15 occur in 40 years by regression analysis of the
16 testing and everything else.

17 So they come up with certain estimates in
18 the TLAA, the predicted lower limit, which means that
19 the lowest limit that can occur in a pre-stressing
20 force based on the estimated values of pre-shrinkage,
21 relaxation, et cetera.

22 Now, this is the value at one year. Okay?
23 And these are the true measured values. They are much
24 higher than what we would expect and lower at that
25 time.

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1 Now, you can see the strength. This is a
2 plane line. What this project is doing, for example,
3 the figure you see here, it's trying to turn the trend
4 downward, much more downward than the slope of the
5 TLAA will accept.

6 So at about 18 years, it's almost
7 intersected PLL, but still it is above the minimum
8 required pre-stress to all internal pressure, to
9 provide enough compression for the internal pressure.

10 MEMBER FORD: Excuse me. Are those data
11 points, those crosses?

12 MR. ASCHER: Those are data points.

13 MEMBER FORD: And those are the data
14 points upon which those curves are based?

15 MR. ASCHER: These are the data points.
16 What they do is after three inspections, they are
17 going to -- because the sample size is not very large
18 when they measure the pre-stressing forces, so what
19 they do is they do the regression analysis, list their
20 matter. Then they figure out what is the trend based
21 on all of the linear data.

22 So right now what we are getting, after 20
23 years, we get data that is about 5 times each unit
24 would have gone through some kind of inspection,
25 measurement of stressing force. Then they can grow

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1 the regression analysis. Based on that, they can grow
2 this plane line.

3 That plane line has to -- I mean, the
4 whole idea is the particular time. So in this
5 particular case, as I told you before, it is the
6 worst-case scenario.

7 So what we have, it intersects at about
8 12-13 years. And based on this last year, in this
9 particular case, the re-tension the tendons --

10 MEMBER FORD: I'm sorry. Why are you
11 saying that is the worst-case scenario? Based on
12 data?

13 MR. ASCHER: The reason I am saying it,
14 most of the applicants I have seen -- I am not naming
15 the plant here.

16 MEMBER FORD: No.

17 MR. ASCHER: Okay? I am just giving you
18 general information. Most of the applicants I have
19 seen, this plane line is almost like this, either
20 parallel to PLL or a little flatter than PLL. So what
21 will happen, it will take you through 60 years very
22 easily. Okay?

23 In this case, it is not. So in this case,
24 what they have to do is re-tension the tendons. There
25 is a requirement in the rule which requires them to

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1 re-tension the tendons if the next inspection is going
2 to see anything less than what is required at 40
3 years. So that program will apply in 60 years.
4 That's the reason we ask for this data.

5 MEMBER LEITCH: The data points are not
6 different plants but different tendons, different
7 tendons in the same plant?

8 MR. ASCHER: Yes, it's from different
9 tendons.

10 MEMBER FORD: I guess the thing that
11 worries me is I see a lot of data points below your
12 worst-case line. And then the next question I ask
13 myself is, well, what's the consequence? So what?

14 MR. ASCHER: Yes. Okay.

15 MEMBER FORD: So what is the so what?

16 MR. ASCHER: Let me explain to you that
17 here. What you see here, what this suggests here,
18 minimum required pre-stress here. Okay?

19 MEMBER FORD: Yes.

20 MR. ASCHER: That minimum requirement has
21 been estimated to give enough compression in concrete
22 to contract the tension produced by general pressure,
23 designed internal pressure, designed internal pressure
24 at 60 years out, 45 years, whatever it is.

25 So that is the way it is calculated. So

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1 once it was below, what happens is that in case an
2 accident occurs, your pre-stressing is trying to be
3 straight much more than what it is supposed to. And
4 it might even go up to the strength of the material if
5 the pressure is higher than that.

6 So in that case, it loses its stress
7 tendons.

8 MEMBER FORD: Isn't there a requirement to
9 the number of tendons below a certain minimum? You
10 said that these are the individual tendons.

11 MR. ASCHER: In the code, in Subsection
12 ILL of it, there are multiple requirements for
13 individual tendons as well as for the group of tendons
14 together.

15 So you have checks and balances in the
16 current rate that tendons are inspected, but for
17 time-limited analysis, they are to perform regression
18 analysis based on the past experience, 3 years if you
19 would like to consider, 15 to 20 years, whatever they
20 have. And they provide me with this. That's what I
21 request them to do. That's my RAI.

22 In all of your RAIs, like Calvert Cliffs
23 or Oconee, we didn't have enough data. They provided
24 more information later on. Then in the later one, the
25 responses started improving, but still they did not

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1 provide adequate data. It was some RAIs.

2 In the last Fort Calhoun that year, I
3 think the response was much, much better. And it
4 improved. Still, I had one RAI on this particular
5 aspect. And it is improving. I mean, they understand
6 what we are looking for, and they provide us with it.

7 MEMBER FORD: I guess this goes to the
8 root of a problem I have had for quite some time that
9 when we hear, for instance, on one-time inspections
10 for this and numerous other incidences, when we get a
11 report which is essentially a word report with no
12 data, we have no way of assessing the depth to which
13 the analysis has gone.

14 MR. ASCHER: Right.

15 MEMBER FORD: And you have kind of given
16 us that data. Then that leads to more questions.

17 MR. ASCHER: I know. I understand that.

18 MEMBER FORD: And so we're in a devilish
19 situation, if you like. Having seen the data now and
20 had about one minute to think about it, I feel a bit
21 uncomfortable.

22 MR. ASCHER: It is uncomfoting. This one
23 is uncomfoting. I agree with you.

24 MEMBER FORD: Yes.

25 MR. ASCHER: That's why I said the

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1 worst-case scenario. This is not the way, standard,
2 other plants are behaving. I told you that before,
3 when I started.

4 MEMBER FORD: I guess it's more of a
5 generic question to the group as to how deeply do we
6 dig and at what point do we back off?

7 MEMBER LEITCH: But is this as-found data?
8 In other words, did the plant walk away from it like
9 that or did they --

10 MR. ASCHER: No, no, no. We would not
11 allow them to walk away.

12 MEMBER LEITCH: Right. So what I am
13 saying is --

14 MR. ASCHER: They have a current license.
15 Actually, these are the current licenses.

16 MEMBER LEITCH: So they're re-tensioned?

17 MR. ASCHER: They re-tensioned their
18 tendons to make sure that they are according to the
19 PLL or better. Generally they re-tension them at 70
20 percent of each tendon.

21 MEMBER LEITCH: So after the
22 re-tensioning, none would be below that?

23 MR. ASCHER: After re-tensioning, this is
24 where they would become something like this.

25 CHAIRMAN BONACA: So what you're doing,

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1 you're requesting now sufficient information,
2 sufficient data that you can do, in fact, this
3 verification?

4 MR. ASCHER: Correct, correct.

5 CHAIRMAN BONACA: So I think all we can --

6 MR. ASCHER: For 60 years because they are
7 going for 40 or 60 years. The time-dependent losses
8 will not increase from 40 to 60 years. There are some
9 other reasons why we had incidences when the
10 relaxation loss become much larger.

11 CHAIRMAN BONACA: So all I was going to
12 say is all we can expect is the staff will require
13 sufficient data to perform as an independent
14 verification that, in fact, the observed forces are
15 going to exceed the minimum for the life of the plant.
16 I mean, I don't think that ACRS wants to involve
17 itself in actual verification of the results of the
18 calculation. We can, but I'm saying that would be a
19 --

20 MEMBER FORD: But I think I agree with you
21 entirely. It would be an impossible situation for us
22 to go over every calculation. The reason why I am
23 asking a question is that so that when I put my hand
24 up to vote, I at least have a very reasonable
25 certainty that an adequate amount of analysis has been

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1 done. That is the reason.

2 CHAIRMAN BONACA: This way we raised the
3 issue with the Commission a year ago, I mean, that
4 there should be from the licensees sufficient
5 information provided to the staff and documented in
6 the application that they will provide it so that the
7 staff can perform the independent role that they are
8 supposed to perform. So I feel comfortable if they
9 get the information and perform the verification.

10 MEMBER FORD: I just suddenly realized,
11 when I asked the question, those lines, those trend
12 lines, they're not based on that data.

13 MR. ASCHER: Trend lines are based on a
14 measure of tendon forces.

15 MEMBER FORD: Yes, I know, but my question
16 was, -- I asked you the question earlier on.

17 MR. ASCHER: Okay.

18 MEMBER FORD: Those trend lines, that
19 hatched line I see going down there, that was not
20 based on a correlation of the data that is shown
21 there, is it? It came up from some --

22 MR. ASCHER: Yes, they are. They are.
23 They are based on the data for 40 years.

24 MEMBER FORD: Oh, I thought it was some
25 design curve from other --

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1 MEMBER SHACK: The observed trend line is
2 a lot different than they had initially assumed for
3 their design.

4 MEMBER FORD: Okay.

5 MEMBER SIEBER: When you re-tension, that
6 line moves vertically.

7 MEMBER SHACK: I guess my question is, if
8 he wasn't coming in for a license renewal, does he
9 report this data to you or that's really his --

10 MR. ASCHER: No, no. Actually, it is a
11 rule, 50.55(d)(2)(a)(b) or something, where if you
12 have a current license, it requires that they have to
13 make sure that during the next inspection, they are
14 not going to go below this line. If they are going
15 to, then they will do --

16 MEMBER SHACK: So that's in the current --

17 MR. ASCHER: Like in St. Lucy, you see it.

18 MEMBER SIEBER: So why would you have to
19 look at it for license renewal when --

20 MR. ASCHER: The reason is they are
21 extending from 40 to 60 years.

22 MEMBER SIEBER: Yes, but you already have
23 a program that periodically measures this and takes
24 corrective action. Why wouldn't that program be good
25 enough?

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1 MR. ASCHER: Because it is in the rule.
2 We do not know where each and every plant focuses. We
3 want to see how they develop the data. During the
4 plant life, we ask them to implement the rule. They
5 do. We want to see how they inject the rule and what
6 kind of data comes out of their past experience so we
7 can know what can happen in 60 years. There is a
8 reason we ask it.

9 MR. KUO: Well, if I may add two other
10 points, these pre-stressed tendon forces are designed
11 to such a fashion that this trend line is supposed to
12 go, come down to the minimal level at 40 years. Okay?
13 That's why we call this TLAA.

14 And now we are going to extend to 60
15 years. We want to lift that curve so that when it
16 comes to 60 years, it is at the minimal level. That's
17 the whole idea.

18 The other point is that these tendons are
19 in the tech spec also.

20 MEMBER SIEBER: They are?

21 MR. KUO: Yes. As soon as they are below
22 the line, then they will have to jack it up.

23 MR. ASCHER: Okay. So --

24 MEMBER RANSOM: Excuse me. What is meant
25 by "lift-off"? Do you hydraulically --

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1 MR. ASCHER: Yes. They start jacking it,
2 tendon anchorages, pull that sufficiently to get the
3 pre-stressing in the tendons.

4 MEMBER RANSOM: Out of curiosity, why
5 don't they just re-tension them when they do that?

6 MR. ASCHER: Well, re-tensioning requires
7 much more equipment. Okay? They are elongation
8 measurements, as I mentioned, very correctly done.
9 Re-tensioning is a slightly involved process.

10 MEMBER RANSOM: Do they have screw-type
11 fittings or are these some kind of wedge?

12 MR. ASCHER: Well, most of the plants --
13 and there are three types of re-stressing tendons in
14 the anchorages. One is the most popular one in the
15 United States, the BTR, or the buttonette system. In
16 the buttonette system, what happens is there are
17 anchorages. There is a buttonette form, a form,
18 buttonette on the top of it. And it holds the wires
19 into the tension states. That is proven a very good
20 experience, in the U.S. experience.

21 There are other ways, like wedging. There
22 are wedges that form around the strands. There are
23 some plants with the wedges. There is only one plant
24 which has bars, re-stressing bars.

25 MEMBER FORD: At what point in your

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1 examination process do you take into account the next
2 level of questions associated with that? For
3 instance, why are some of those points so low?
4 Relaxation kinetics are a little bit dependent; for
5 instance, where there are cracks. And cracks we know
6 can form, increase stressing. Now, do you go through
7 that thought process?

8 MR. ASCHER: Yes, we do. In a way, we do
9 but indirectly. What we show here is that there is
10 enough compression in concrete to concrete the tension
11 that could be there by internal pressure.

12 Now, if the pre-stressing is not enough,
13 if it is a little low, it's a normal condition.
14 You're not going to see any cracking because of that,
15 only when the internal pressure comes on. At that
16 time you will see the cracking. If I thought that --

17 MEMBER FORD: I am talking about cracking
18 in the pre-tensioning wires.

19 MR. ASCHER: Oh, yes. I mean, that's the
20 reason there are so many requirements in the rule
21 which require them to pull out one wire to see its
22 methodological factors, to see as to what their
23 mechanical properties are. I mean, it's a whole
24 involved special requirement, which is ILL, Subsection
25 ILL.

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1 MEMBER FORD: Okay. I thank you.

2 MR. KANG: Any more questions?

3 (No response.)

4 MR. KANG: This concludes the staff
5 portions of the presentations. I understand that
6 industry has a portion.

7 MEMBER LEITCH: Thank you.

8 MEMBER ROSEN: First of all, my
9 congratulations, Fred, that we only get one piece of
10 paper. It's printed on both sides, but it's only one
11 piece of paper.

12 MR. EMERSON: It shows our environmental
13 orientation at NEI.

14 MEMBER ROSEN: Congratulations.

15 MR. EMERSON: It's my pleasure to join you
16 to discuss license renewal. You have heard from Doug
17 Walters and Alan Nelson previously. Due to an
18 internal reorganization, the issues were reassigned.
19 And I have license renewal as well as fire protection
20 now, which is the subject I am more used to discussing
21 with you.

22 The talk that I am going to give that is
23 confined to one piece of paper is four slides, which
24 present just a very high-level view of the ISG
25 process. Since it's intended to provide increased

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1 efficiencies in the over license renewal application
2 and review process, that is generally what I am going
3 to address at a high level.

4 At the end, I will provide just a quick
5 summary of where we are with respect to the four ISGs
6 that Peter indicated were waiting for NEI comment.

7 In general, it's good to have a process
8 like this. I found this to be true in just about any
9 regulatory issue where you have a way to deal with
10 generic issues on a generic basis, rather than having
11 to go through the more laborious for the applicant and
12 the staff process of dealing with it on a
13 plant-by-plant basis. So far this process is I think
14 a good idea.

15 We have seen examples, both from the
16 discussion on Wednesday and today, that it's used to
17 address both process and technical issues. I think a
18 good example of the success of the process has been
19 its use for the standard format that you heard about
20 last Wednesday.

21 The benefit, in addition to hopefully
22 reducing the amount of time the licensees have to
23 spend developing responses, to RAIs and the staff has
24 to create them and go through the RAI response process
25 is that it provides another forum for industry and NRC

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1 to communicate on issues of generic interest. Again,
2 these are always best resolved before they impact the
3 licensee, and hopefully this process will end up doing
4 that.

5 As we heard last Wednesday, the process
6 for updating the main guidance documents, the Gall,
7 the standard review plan, the regulatory guide, it
8 doesn't occur very often. And it's a good idea for
9 both the reviewers and the industry applicants, who
10 are beginning to come in thick and fast, to have a
11 good idea of what the staff expects. Not only does it
12 cut down the amount of RAIs, but it helps the licensee
13 make decisions up front as to how he is going to
14 approach an issue without having to worry at the back
15 end whether he did it properly or not.

16 There are a number of things that the
17 licensees need. There are several factors that are
18 very important to a licensee. One is the schedule.
19 He wants to know that he has a stable schedule. He
20 wants to know that the time he has to develop his
21 application and then respond to RAIs is not going to
22 result in a slippage of the schedule because he has a
23 lot of resources invested in that process. He wants
24 to be sure that there is a timely resolution of these
25 generic issues. He would like to see a reduction in

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1 RAIs. He wants to, again, be sure his schedule isn't
2 impacted by either the process of generic development
3 of the ISGs or if the process has failed to capture
4 one the timely completion of the RAI responses that he
5 has to do. Sometimes this is time-consuming. And we
6 hope to improve the amount of time through the ISG
7 process that the licensees take.

8 There needs to be a recognition of the
9 actual plant configurations and the bases on which
10 they are submitting information in particular areas.
11 I am not going to get into specific areas, but there
12 potentially are a number of areas that are potential
13 ISGs. And want to be sure we focus on the right ones.

14 As with any process like this, you want to
15 have it be a living process and be able to respond
16 effectively to both licensee and staff needs for
17 process improvements. So that's probably the last
18 area that we need to maintain.

19 So far we have had a pretty good record in
20 working with the staff. There has been open
21 communication on these issues. Not all of them went
22 the way the industry would like, but we have had good
23 opportunities for providing input into the process.

24 In the area of the four ISGs that Peter
25 indicated staff was expecting industry comment on,

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1 probably the first one that we're going to get to them
2 is next week.

3 The ISG 7 on fire protection scoping,
4 that's been hanging around longer than either the
5 license renewal NRC staff would have liked or us. And
6 we were going to get that resolved by next week. The
7 other three should follow fairly soon. And we hope to
8 complete all of those open areas by the end of July to
9 get the responses back to NRC.

10 MEMBER SHACK: Fred, what was the problem
11 on ISG for 7?

12 MR. EMERSON: What's the problem?

13 MEMBER SHACK: Yes.

14 MR. EMERSON: I will characterize it as an
15 interface issue. It wasn't clear for a while whether
16 it was a fire protection issue or a license renewal
17 issue. Now there's a nice synergy, and I have both
18 issues now. Hopefully we can get that. I think that
19 was part of the issue.

20 There is an issue of how it impacts the
21 current licensing basis as well as how it impacts the
22 scoping for license renewal applications. So there
23 has been some discussion by two different working
24 groups at NEI on how to deal with that.

25 MEMBER POWERS: When a plant comes in for

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1 license renewal, does it have to be constituted to
2 fire protection design basis?

3 MR. EMERSON: I don't know that I've been
4 doing this long enough to answer that question.
5 Without getting into details, there was a concern that
6 the way the scoping was posed for fire protection had
7 an effect on the current licensing basis. And we're
8 working through that issue now and will be providing
9 comments to staff next week.

10 MEMBER ROSEN: So have you put together
11 the two working groups within NEI for a fire
12 protection and license renewal?

13 MR. EMERSON: We have coordinated.

14 MEMBER ROSEN: The two groups have stayed
15 as separate entities, but they are coordinating and
16 giving you input for these ISGs?

17 MR. EMERSON: Right, right. The fire
18 protection working group is obviously interested in
19 the impact on the current licensing basis. And the
20 license renewal working group is interested in the
21 impact on the scope of the equipment that has to be
22 included for the license renewal application. And
23 we're making sure that both of those areas are
24 addressed when we submit comments to the staff.

25 MEMBER ROSEN: In particular, in the

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1 license renewal working group, do you have a
2 membership that includes both individuals who
3 represent companies that have completed license
4 renewal as well as those who are about to undergo
5 license renewal review?

6 MR. EMERSON: We have both, yes.

7 MEMBER ROSEN: What I am concerned about
8 is the ones who have been through will drop their
9 membership once they get approval. And that would
10 result in a loss of input for you and the others.

11 MR. EMERSON: Well, in many cases, plants
12 are doing license renewal. They have more than one
13 site. And when one plant is finished, they frequently
14 have another plant in the pipeline. So there is
15 continuity maintained.

16 MEMBER ROSEN: That's good.

17 MR. EMERSON: Okay.

18 MEMBER LEITCH: Thank you, Fred.

19 Any other questions for Fred or for the
20 staff?

21 (No response.)

22 MR. EMERSON: Thank you.

23 MEMBER LEITCH: P. T., any closing
24 remarks?

25 MR. KUO: I hope that we have given

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1 sufficient information about our ISG process. Just
2 one final point. During Peter's presentation, I don't
3 know if he had pointed out the ISGs that actually are
4 in direct response to the Committee's comment or not,
5 but ISG 10, 12, 16, and 18.

6 MEMBER LEITCH: I think they're asterisked
7 on our handout.

8 MR. KUO: Asterisked on the summary list.
9 And this concludes the staff's presentation.

10 MEMBER LEITCH: Okay. Thanks to all of
11 the presenters. That concludes this presentation.
12 Back to you, Mr. Chairman.

13 CHAIRMAN BONACA: Thank you.

14 I will go through now a brief overview of
15 the Fort Calhoun review that we had two days ago. It
16 will be brief for a number of reasons, most of all
17 because most of the members who were there are here
18 today. So there isn't much that I can tell more than
19 what they know already.

20 Before I proceed with that, I wanted to
21 let you know that we congratulated Bill Barton for the
22 good work he has done for us. We are not the only one
23 to recognize him. He was presented yesterday with the
24 NRC meritorious service award.

25 I don't know if he is present. Yes, he

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1 is. So we want to congratulate him and thank him for
2 the good work he has done for license renewal.

3 (Applause.)

4 MEMBER POWERS: Of course, now he's going
5 to get the big head, and we are not going to be able
6 to live with him anymore.

7 CHAIRMAN BONACA: He got the big bucks,
8 too.

9 MEMBER POWERS: Oh, he's taking us out for
10 drinks tonight?

11 5) SUBCOMMITTEE REPORT ON THE FORT CALHOUN LICENSE

12 RENEWAL APPLICATION

13 CHAIRMAN BONACA: All right. We were here
14 on Wednesday, June 11th to review the application for
15 Fort Calhoun. And we heard both from the applicant
16 and the staff.

17 And I will not go through a lot of details
18 except Fort Calhoun is a PWR of a combustion
19 engineering design. It's a 1,500-megawatt terminal,
20 I believe 475-megawatt electric.

21 Some questions were asked by members
22 regarding the economic viability of the plant. And
23 the answer was supportive of continued operation.
24 Also, both from the applicant and from the staff, we
25 heard about the good physical conditions of the plant,

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1 which seem to indicate that the plant is investing
2 money to keep running and running well.

3 We heard, for example, that although they
4 have inspected the head and they found no leakage and
5 they are planning also another volumetric inspection
6 of the head in a reasonably short time, I believe
7 2005, they are still planning for the placement of the
8 head by 2006. That is an indication that they are
9 aggressive in maintaining the plant for future
10 operations. They are not postponing certain
11 decisions.

12 This application was particularly
13 interesting because it relied on the guidance
14 documents, the standard review plan, and the Gall. It
15 was the first application that fully relied on those.
16 And so, therefore, it was actually lessons learned for
17 the Committee, too.

18 The only surprise for me and other members
19 was the fact that still the application required 214
20 RAIs, which seems to be a large number because I
21 actually went back and looked at St. Lucy. That was
22 156 RAIs.

23 So the answer we heard was that the RAI
24 was large because of a lack of familiarity of the
25 plant, of the staff with the kind of application. My

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1 expectation would be that as we become more and more
2 familiar with the Gall process and reliance on it,
3 then the number of RAIs should come down
4 substantially.

5 Also, I heard from the staff that they
6 are, in fact, looking at ways to significantly reduce
7 the number of questions by having early inspections,
8 which means going in very quickly and define what is
9 in Gall. So, therefore, that would reduce the number
10 of questions that you have to develop and paperwork.

11 The review of the staff I believe was
12 thorough. They had four weeks of inspections that
13 included, actually, a team that was as large as nine
14 people. The inspector team included a significant
15 number of regions on there, five people, and three
16 from headquarters. That is a significant investment
17 of resources. I think that if, in fact, inspections
18 are done even earlier in the process, I would have
19 expected most of the RAIs were ready for
20 qualification. And there was not much of a
21 contention.

22 The other thing that is important, it
23 seems to me, was the number of open items. I didn't
24 see any that depended on all the contentious issues
25 between the staff and the applicant. It was more that

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1 the remaining open items are due to the fact that the
2 staff needed some time to review the information
3 already received. So nothing really stands now except
4 the review, the verification that information is
5 adequate to the resolution of the SCR.

6 There were a number of instances where the
7 staff found discrepancies between the methodology for
8 the scoping and the actual implementation. And so
9 that brought in additional components into scope.

10 The question was raised of how do we get
11 comfort that, in fact, all of the components and scope
12 have been identified? We got reasonable assurance by
13 the statement that whenever discrepancies were found;
14 the audit was expanded; and, in fact, most of the
15 systems were covered, not all of them. I mean, that's
16 the answer we got. So that gives us comfort that the
17 evaluation was thorough.

18 Other components were put in because of
19 the resolution of the issue of seismic 2 over 1. And
20 I believe that that would be with this guidance here
21 resolved once and for all for all the future
22 applicants.

23 Again, this was an application of the law
24 relied on the standard supporting documents SRP and
25 Gall. Still, there were a number of items in the

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1 pipeline which were not resolved when Fort Calhoun
2 made its application. And so we have like, for
3 example, 2 over 1. That wasn't fully resolved.

4 We saw a presentation on the aging
5 management problems, significant number of existing
6 problems, -- a number of them have been modified to
7 deal with license renewal -- and a number of one-time
8 inspections.

9 Fort Calhoun I believe is the first
10 application we have seen where there is a program
11 called one-time inspection, which reflects the format
12 of Gall. And we also saw on this application the
13 Alloy 600 program that really is prompted by license
14 renewal in a field that is a good initiative for all
15 applicants. And we are looking forward to seeing them
16 implementing a program like this earlier, not
17 necessarily to wait for license renewal. Alloy 600 is
18 an issue today and I think that having a program that
19 focuses the attention of the plant on Alloy 600
20 components.

21 We saw some unique TLAA's; for example, the
22 weld repair and the pressurizer liquid space
23 temperature element, just like we saw at St. Lucy.
24 This is an element which is horizontally inserted in
25 the shell of the pressurizer. And I believe it's part

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1 of the TLAA.

2 We reviewed the TLAA's, I believe the plant
3 reactor vessels, embrittlement. I mean, the RTPTS
4 meets its clinical criteria. We found that the plant
5 is capable of being analyzed that meets, in fact, the
6 60 years required for license renewal.

7 Most of the comments from the membership
8 were, in fact, supported. And we all felt that the
9 application was thorough, the SCR was good, there was
10 a real understanding of the part of the staff of the
11 plant and on the reasons why there is significant or
12 adequate assurance that the plant can be run for 60
13 years. The conclusion was that we do not need an
14 interim letter at this time.

15 And that pretty much summarizes my
16 overview of the license renewal review of Fort
17 Calhoun. Any questions? Any questions?

18 MR. KUO: I just want to say I might be
19 able to answer your question of why St. Lucy has less
20 RAIs than Fort Calhoun had.

21 CHAIRMAN BONACA: Good. I would like to
22 hear it.

23 MR. KUO: Because St. Lucy is really a
24 duplicate of Turkey Point plant.

25 CHAIRMAN BONACA: That is a good answer.

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1 Okay.

2 MR. KUO: Thank you.

3 CHAIRMAN BONACA: All right.

4 MEMBER ROSEN: So without that, we would
5 have had 400 RAIs on St. Lucy and only 200 on Fort
6 Calhoun. And then our expectations would have been
7 more met.

8 CHAIRMAN BONACA: All right. That's a
9 good point. Very good. Very good.

10 MR. KUO: That helps.

11 CHAIRMAN BONACA: So, with that, we are
12 ahead of time, which is a wonderful thing. I think we
13 will go off the record now. We don't need to
14 transcribe anymore.

15 (Whereupon, at 9:54 a.m., the foregoing
16 matter was adjourned.)

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