



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS  
WASHINGTON, DC 20555 - 0001

September 29, 2011

MEMORANDUM TO: ACRS Members

FROM: Ilka Berrios, Staff Engineer */RA/*  
Technical Support Branch, ACRS

SUBJECT: CERTIFICATION OF THE MINUTES OF THE ACRS SUBCOMMITTEE  
ON THE PLANT OPERATIONS AND FIRE PROTECTION, JULY 28,  
2011

The minutes for the subject meeting were certified on September 9, 2011. Along with the transcripts and presentation materials, this is the official record of the proceedings of that meeting. A copy of the certified minutes is attached.

Attachment: As stated

cc w/o Attachment: E. Hackett  
C. Santos  
Y. Diaz

cc w/ Attachment: ACRS Members



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS  
WASHINGTON, DC 20555 - 0001

September 9, 2011

MEMORANDUM TO: Ilka Berrios, Staff Engineer  
Technical Safety Branch, ACRS

FROM: John Sieber, Chairman  
Plant Operations and Fire Protection Reactor Subcommittee

SUBJECT: MINUTES OF THE MEETING OF THE ACRS SUBCOMMITTEE ON THE  
PLANT OPERATIONS AND FIRE PROTECTION ON JULY 28, 2011, IN  
ROCKVILLE, MD

I hereby certify, to the best of my knowledge and belief, that the minutes of the subject meeting are an accurate record of the proceedings for that meeting.

*/RA/*

September 9, 2011  
J. Sieber, Chairman Date  
Plant Operations and Fire Protection  
Subcommittee

Certified on: September 9, 2011  
Certified by: J. Sieber

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS  
MINUTES OF THE ACRS PLANT OPERATIONS AND  
FIRE PROTECTION SUBCOMMITTEE MEETING  
JULY 28, 2011

The ACRS Plant Operations and Fire Protection Subcommittee held a meeting on July 28, 2011 in the Atlanta Marriot Marquis, Imperial Ballroom Salon B, 265 Peachtree Center, Atlanta, Georgia. The meeting convened at 8:30 a.m. and adjourned at 12:15 p.m.

The entire meeting was open to the public.

No written comments or requests for time to make oral statements were received from members of the public related to this meeting.

#### ATTENDEES

##### ACRS Members/ Staff

John Sieber, Member  
Said Abdel-Khalik, Member  
Dennis Bley, Member  
Michael Corradini, Member  
Harold Ray, Member  
Michael Ryan, Member  
William Shack, Member  
John Stetkar, Member  
Joy Rempe, Member  
Girija Shukla, Staff  
Kent Howard, Staff  
Ilka T. Berrios, Staff  
Karla F. Garcia, Staff  
Jonah Fitz, Staff  
Colin Beck, Staff  
Tiffany Smith, Staff  
Yaira Diaz, Staff  
John Flack, Staff  
John Lai, Staff  
Weidong Wang, Staff

##### NRC Staff

Denise Edwards, Region II  
Fred Brown, Region II  
Jim Moorman, Region II  
Mark Lesser, Region II

David Tiktinsky, NMSS  
Rebecca Necese, Region II  
A.J. Borcavage, Region II  
Matt Endress, Region II  
Leonard Wert, Region II  
Victor McCree, Region II  
D.J. Berkshine, Region II  
Deb Seymour, Region II  
W.B. Gloersen, Region II  
Mark Bates, Region II  
Jonathan De Jesus, NMSS  
Roger Hannah, Region II  
Nicholas McMurray, Region II  
Micheal Willis, Region II  
Benjamin Cohen, Region II  
Ethan Conley, Region II  
Sarah Elizabeth Alexander, Region II  
Fransha V. Wagner, Region II  
Blake Jackson, Region II  
Dennis Damon, NMSS  
Kathleen O'Donohue, Region II  
Charles Ogle, Region II  
Rodney Fanner, Region II  
John Bartleman, Region II  
Dave Gamberoni, Region II  
Darren Piccirillo, Region II  
Michael S. Magee, Region II  
Bradley Davis, Region II  
Joseph Ledford, Region II  
Mark Franke, Region II  
Alan Blamey, Region II  
Christopher Fontana, Region II  
Norman Merriweather, Region II

#### Other Attendees

Amy Aughtman, SNC  
Sarah Styslinger, SNC  
Steven Huling, GPC  
Steve Roetger, GPSC  
Bill Jacobs, GPSC  
Zachary Patterson, TVA (Bellfonte)  
Bill Webster, INPO  
Larry Shorey, INPO

## SUMMARY

The purpose of the meeting is to meet with Region II to discuss the construction inspection program, the reactor oversight program, and other items of mutual interest. The meeting transcripts are attached and contain an accurate description of each matter discussed during the meeting. The presentation slides and handouts used during the meeting are attached to these transcripts.

SIGNIFICANT ISSUES	
Issue	Reference Pages in Transcript
Victor McCree, Regional Administrator of Region II, provided an introduction and a briefing of the Region II responsibilities.	5-9
William Jones, Deputy Director for the Division of Reactor Projects in Region II, provided an overview of the Region II plant performance.	9-58
Member Abdel-Khalik asked the Region what they are doing to enhance the effectiveness of the tri-annual fire inspections in light of the non-compliances that were found in post-Fukushima inspections. Region II didn't have the response during the meeting, but in an email they stated that they are not aware of any specific activities at this point. Before they make changes to any IPs as a result of the Fukushima follow-up they will need to consider the agency's actions with regard to the task force recommendations.	28-29
Mr Jones explained the development of SAPHIRE 8, which is a program that will be utilized at the sites by the resident inspectors to help the, identify and address findings that they might have. Member Stetkar asked how the resident inspectors are being trained in this area.	33-40
Member Stetkar asked for the involvement of Region II on the reviews of Oconee and Harris transition to the new risk-informed fire protection licensing basis.	40-43
Member Ryan asked for additional information regarding the ground water issues, particularly with regard to what the region has seen as the extent of condition for ground water contamination and a discussion of on-site versus off-site issues.	53-57
Tony Gody, Division Director of Fuel Facility Inspection Program, provided an overview of the fuel facility inspection program.	58-73
Member Abdel-Khalik asked if there is any fundamental reason why an oversight process for fuel cycle facilities could not mirror what is done on the reactor side.	61-63
Alan Blamey, Chief of the Construction Projects Branch 2, Division of Construction Project provided an overview of the construction inspection program.	76-89
Member Bley asked for more information regarding inspection package for design acceptance criteria (DAC) for new plants. This package was going	78, 94

to be piloted with South Texas but there were delays. Are there plans for this pilot to occur?	
Member Abdel-Khalik expressed a concern regarding the inspection, test, analysis and acceptance criteria (ITAAC) that were developed based on Revision 17 of the AP-1000 design control document (DCD). What's involved in making sure that these ITAACs are still applicable for Revision 19 of the DCD?	83-88
Mark Lesser, Acting Deputy Director for the Division of Construction Projects, provided an overview of Watts Bar Unit 2.	92-102
Bill Gloersen, Senior Project Inspector for the Mixed Oxide Fuel (MOX) Construction Project, provided an overview of the MOX Fuel fabrication facility.	102-116
Member Bley raised a concern regarding the Integrated Safety Analysis Summary. How do the region go from the information contained in this document in an organized way to selecting the items relied on for safety (IROFs) the region wants to look at in an inspection program.	106-114
Member Abdel-Khalik raised a question regarding the field changes. Based on discussions with the MOX facility staff, there have been several thousand field changes implemented during the construction process. How do you assure yourself that these field changes do not impact the design basis?	114-116
Leonard Wert, Deputy Regional Administrator for Operations, provided an overview of the regional safety culture and the plant safety culture assessment process.	116-124
Bill Webster, from Institute of Nuclear Power Operations (INPO), provided an overview of the nuclear industry as seen from INPO	124-147
Victor McCree, Regional Administrator of Region II, discussed the Region II focus areas and opportunities.	148-152

Official Transcript of Proceedings  
NUCLEAR REGULATORY COMMISSION

Title: Advisory Committee on Reactor Safeguards  
Plant Operations and Fire Protection

Docket Number: (n/a)

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Date: Thursday, July 28, 2011

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Pages 1-153

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ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

The contents of this transcript of the proceeding of the United States Nuclear Regulatory Commission Advisory Committee on Reactor Safeguards, as reported herein, is a record of the discussions recorded at the meeting.

This transcript has not been reviewed, corrected, and edited, and it may contain inaccuracies.

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UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

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ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

SUBCOMMITTEE ON PLANT OPERATIONS

AND FIRE PROTECTION MEETING

+ + + + +

Thursday, July 28, 2011

+ + + + +

Imperial Ballroom Salon B

Atlanta Marriott Marquis

265 Peachtree Center

Atlanta, Georgia

+ + + + +

8:30 a.m.

SUBCOMMITTEE MEMBERS:

JOHN D. SIEBER, Chair

SAID ABDEL-KHALIK

DR. DENNIS C. BLEY

MIKE CORRADINI

HAROLD B. RAY

JOY REMPE

MIKE RYAN

DR. WILLIAM J. SHACK

JOHN STETKAR

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NRC STAFF:

ALAN BLAMEY

WILLIAM GLOERSEN

ANTHONY GODY

WILLIAM JONES

MARK LESSER

VICTOR McCREE

DAVE TIKTINSKY

WILLIAM WEBSTER

LEONARD WERT

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P R O C E E D I N G S

1  
2 CHAIRMAN SIEBER: The meeting will now  
3 come to order. And good morning. This is a meeting  
4 of the Advisory Committee on Reactor Safeguards  
5 Subcommittee on Plant Operations and Fire Protection.

6 My name is John Sieber and I'm chairman of  
7 that subcommittee. Other members in attendance are  
8 Harold Ray, Said Abdel-Khalik, who is chairman of the  
9 full committee, Michael Ryan, Michael Corradini,  
10 Dennis Bley, John Stetkar, Joy Rempe and William  
11 Shack.

12 The purpose of the meeting today is to  
13 discuss the Construction Inspection Program, the  
14 Reactor Oversight Program and other items of mutual  
15 interest. The subcommittee will hold discussions with  
16 representatives of the NRC staff regarding these  
17 matters. The subcommittee will gather information,  
18 analyze relevant issues and facts and formulate  
19 proposed positions and actions as appropriate for  
20 deliberation by the full committee. Ilka Berrios is  
21 the designated federal official for this meeting.

22 The rules for participation in today's  
23 meeting have been announced as part of the notice of  
24 this meeting previously published in the Federal  
25 Register on -- in 2010. A transcript of the meeting

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1 is being kept and will be made available as stated in  
2 the Federal Register notice. It is requested that  
3 speakers identify themselves, speak with sufficient  
4 clarity and volume so that they may be readily heard.

5 Speakers should go to the microphones that are placed  
6 throughout the room for that purpose.

7 Now, earlier this week we've had  
8 interesting, enlightening visits to the Mixed Oxide  
9 Fuel Fabrication plant and the tritium recovery  
10 facility at the Savannah River plant. We also visited  
11 the Vogtle Nuclear Power Plant near Augusta, Georgia  
12 to review Vogtle units 1 and 2 operations and to  
13 review the construction progress on -- at the site of  
14 Vogtle units 3 and 4.

15 I would like to take this opportunity to  
16 thank the staff of Region II and the Region II  
17 management for all of the assistance that they have  
18 given to us for this visit and for their ongoing  
19 excellent work in the pursuit of nuclear safety in  
20 Region II.

21 With that, I would like to introduce the  
22 Region II Administrator, Mr. Victor McKee -- McCree.  
23 Excuse me.

24 Victor?



25 MR. McCREE: Well, good morning, Dr. Shack

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1 and Dr. Abdel-Khalik, members of the committee.  
2 Welcome to Region II. And welcome to Hotlanta for  
3 those of you who don't live outside the south. I'm  
4 glad you were able to make it through your visits at  
5 the Mixed Oxide Fuel Fabrication facility and Vogtle  
6 without undergoing any heat stress or heat exhaustion.

7 It's been very warm the last few days. But welcome  
8 to this very comfortable room. It's a good-sized  
9 room. While it doesn't belong to us we use it quite  
10 often because we don't yet have a main conference  
11 facility in our new Region II office space. But  
12 hopefully, on your next visit -- I'm keeping my  
13 fingers crossed here -- we'll be successful and we'll  
14 be in the Region II office proper.

15 Today -- this morning -- we appreciate  
16 this opportunity to share information with you on  
17 Region II and the great opportunity we have to lead  
18 several areas of the agency's mission, regulatory  
19 responsibilities. Region II is unique in a number of  
20 areas, one of which is we have responsibilities in  
21 three major program areas. We have responsibility for  
22 33 operating reactors in the southeast. We have the  
23 responsibility for the oversight of all the nation's  
24 fuel cycle facilities. We are a center of excellence  
25 for fuel cycle facility oversight.

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1           In April of 2006 the Commission gave us  
2 responsibility for overseeing all new nuclear  
3 construction in the U.S. so we have that  
4 responsibility, as well. So this morning we  
5 appreciate the opportunity to share a bit on what  
6 we're doing in each of those areas.

7           We also for those reasons happen to be the  
8 largest of the four regional offices and also, the  
9 third largest office in the NRC with over 300 staff.  
10 And we'll grow a bit, at least based on our staffing  
11 plan, over the next couple of fiscal years.

12           And again, I mentioned we moved into our  
13 new office space here adjacent to this hotel in April  
14 of last year. So we have a very modern office. And  
15 for those of you who frequent Atlanta, I'd love the  
16 opportunity to give you a tour of our space at some  
17 point in the future based on your convenience.

18           And lastly, I would mention one of the  
19 unique areas. Region II has the lowest -- if you look  
20 at cost-effectiveness, ours is the lowest labor cost  
21 per hour in the non-nuclear waste fund of -- the  
22 second lowest actually of all the offices in the  
23 agency due in part to our location and the way we  
24 staff the organization. So we're very cost-effective.

25       You get bang for your buck when you -- if you would,

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1 when you invest people and time and resources into  
2 Region II.

3 I noticed that some of you have the Region  
4 II guidebook. And I'm glad you have that. It  
5 certainly introduces a number of things to you, not  
6 only what we do but how we do it and the people, as  
7 well, a number of whom are in the audience with me  
8 this morning and will be speaking are to my left.  
9 Bill Jones.

10 Bill, if you'd raise your hand.

11 Bill is the deputy director for the  
12 Division of Reactor Projects. He will provide you an  
13 overview of our oversight of operating reactors and be  
14 ready to answer any questions you have. Tony Gody.

15 Tony?

16 Tony is the director for the Fuel  
17 Facility -- Division of Fuel Facility Inspection.  
18 Tony will provide an overview of the current and the  
19 proposed, if you would, fuel cycle facility oversight  
20 process. We also have Alan Blamey.

21 Alan?

22 Alan is the chief for the construction  
23 infrastructure development branch in our Center For  
24 Construction Inspection. He'll provide an overview  
25 for you on construction, the Construction Inspection

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1 Program.

2 Mark Lesser? Mark?

3 Mark is the acting deputy director for the  
4 Division of Construction Projects. He'll give you an  
5 update on our oversight activities at Watts Bar 2,  
6 which as you know, is actively under construction  
7 under 10(c) of our Part 50.

8 And finally, Bill Gloersen to my immediate  
9 left. Bill is a senior inspector in our Fuel Facility  
10 Construction Fuel Facility Inspection Branch and the  
11 Division of Construction Projects. And he'll talk  
12 about our Fuel Facility Inspection Program,  
13 specifically at the Mixed Oxide Fuel Fabrication  
14 Facility and the integrated safety assessment  
15 associated with that that we're leveraging to target  
16 what we do and when we do it.

17 So let me stop there. I think I had five  
18 minutes to give an introduction. But I'd ask if you  
19 have any questions for me right now I'd be prepared to  
20 respond to them. Otherwise, I'll turn it over to  
21 Bill.

22 Thank you, sir.

23 Bill?

24  MR. JONES: Okay. Good morning. My name  
25 again is Bill Jones. I'm the deputy director for the

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1 Division of Reactor Projects in Region II. I've been  
2 with Region II approximately seven months. Prior to  
3 that I was in Region 4, where I held numerous  
4 positions, chief of our Allegations Coordination  
5 Branch, Engineering Branch, and Operations Branch. I  
6 was the senior reactor analyst and then a senior  
7 resident inspector, as well as resident inspector.

8 So I've had a lot of experience with the  
9 Reactor Oversight Program, including the transition  
10 from the previous program, which was the SALP program,  
11 to the Reactor Oversight Program. Was involved  
12 extensively with Dr. Mallett in developing the new  
13 program.

14 The program I want to talk about today has  
15 been in effect for many years and it continues to  
16 develop and I would say actually refine itself. What  
17 I'm going to talk about today initially are the  
18 licensees and where each of the specific plants lie  
19 with regard to the action matrix.

20 And just to remind others and members of  
21 the audience, there's numerous columns associated with  
22 the action matrix which are fed by inspection  
23 findings, as well as performance indicators. And  
24 depending upon the licensee's performance they can  
25 fall into one of several columns. The first being the

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1 licensee response columns. And that is where all of  
2 our inspection findings are green and the performance  
3 indicators also reflect the performance in the green  
4 band.

5 The regulatory response column, where you  
6 have one white input or two inputs in different areas.

7 And that's where we initiate supplemental  
8 inspections. Degraded cornerstone. Again, further to  
9 the right on the action matrix where you have white  
10 findings or potential yellow findings in different  
11 strategic areas and cornerstones. And again, the  
12 NRC's interactions with those licensees continues to  
13 escalate, as well as the level of management  
14 involvement with those areas.

15 Then takes us to the multiple repetitive  
16 degraded cornerstone. And here we're looking at  
17 multiple yellow findings, combinations of white  
18 findings or red findings. And here again, it's an  
19 additional inspection activities almost essentially to  
20 the level of diagnostic-type inspections. And again,  
21 the level of NRC management continues to escalate.

22 Then it takes us to the licensee  
23 performance. I won't go through each of these. But I  
24 do wish to call out a couple of examples. Starting  
25 with Brunswick. Brunswick Units 1 and 2. They

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1 previously were in the obligatory response column that  
2 we initiated a supplemental inspection. This involved  
3 an emergency preparedness issue. Upon satisfactory  
4 completion of that inspection activity this licensee  
5 moved to the licensee response column.

6 Another one I wish to point out is Crystal  
7 River. Following steam generator replacement  
8 activities at Crystal River, well, they had cut into  
9 the containment building itself, there was subsequent  
10 delamination of the containment structure. And the  
11 licensee initiated repairs. Subsequent to that they  
12 had additional problems when they were tensioning and  
13 they experienced additional delamination. Well, this  
14 licensee has essentially been in a shut-down condition  
15 since September of 2009.

16 DR. BLEY: Let me ask --

17 MR. JONES: Yes, sir.

18 DR. BLEY: -- with regard to Crystal River  
19 3. Has the licensee determined what caused the  
20 additional delamination and are they on a track to  
21 identify any possible additional delamination and to  
22 repair the damage that's already incurred?

23 MR. JONES: The delamination that occurred  
24 following the subsequent tensioning activities -- they  
25 have evaluations ongoing. They did identify that

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1 there was a possibility that this could happen as they  
2 were initiating the tensioning. They are currently  
3 doing evaluations. They're taking measures to  
4 mitigate any further delamination and the licensee is  
5 working with outside contractors, other engineering  
6 firms to determinate what the actual repairs would be.

7 So to answer your question they are taking actions  
8 now to mitigate any further degradation and they are  
9 looking to identify what repairs they will be  
10 initiating.

11 DR. BLEY: Thank you.

12 MR. JONES: Thank you.

13 Right now the NRC will be conducting mid-  
14 cycle reviews to review each of these facilities  
15 coming up in the August time frame. And based upon  
16 those evaluations some of these licensees may actually  
17 move from different columns based on review of the  
18 inspection results, as well as the performance  
19 indicators.

20 Talk about those plants in the regulatory  
21 response column. Robinson Unit 2. This licensee  
22 experienced a fire in a component last year. As a  
23 result of that there were numerous or several issues  
24 identified with regard to command and control by the  
25 operators, issues with procedures -- operator

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1 procedures, as well as training -- the conduct of  
2 training.

3 The NRC conducted a inspection, what we  
4 refer to as a supplemental 9502, which is more  
5 intrusive than just being in the regulatory response  
6 column. And as a result of that this inspection was  
7 completed in June. We found out it was  
8 satisfactorily -- the licensee's actions addressed the  
9 issues and that they were making satisfactory  
10 advancement in their corrective actions.

11 As a result of that we identified that the  
12 licensee would not be in column 3 any longer and as a  
13 result of a continuing inspection finding they're  
14 currently in the regulatory response column. There's  
15 no additional inspection planned for this licensee in  
16 the supplemental area. And that is based on the  
17 issues that had them currently in this -- in the  
18 regulatory response column we addressed as part of the  
19 overall review that we performed. And they will  
20 remain in that column based on the four quarters for  
21 inspection finding which will come to conclusion at  
22 the end of September. We do continue to perform the  
23 baseline inspections at this facility.

24 With regard to Turkey Point 4, the  
25 licensee was in the regulatory response column because

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1 of unplanned scrams. And we completed an inspection  
2 of this -- of the reasons and the licensee's  
3 corrective actions, four in-plant scrams in July.  
4 This performance indicator that resulted in them going  
5 to this column actually went back to the green band  
6 at -- earlier this year. So following satisfactory  
7 conclusion of the supplemental inspection we expect  
8 that licensee also to transition back. Right now the  
9 branch chief there is working with the inspection team  
10 to verify that the licensee's corrective actions and  
11 understanding of the reasons they had the number of  
12 scrams they did are satisfactorily addressed.

13 Next is the Browns Ferry Unit 1. This  
14 licensee is currently in the multiple repetitive  
15 degraded cornerstone column. This is based on a red  
16 finding involving a low-pressure coolant injection  
17 valve associated with the B train. This issue was  
18 identified last year as a result of a component  
19 failure.

20 We conducted numerous inspections. As a  
21 result of that we identified that this particular  
22 component failure combined with the licensee's fire  
23 mitigation strategy resulted in it having very high  
24 safety significance. We issued a inspection report.  
25 We issued a letter to the licensee identifying that

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1 they were in column 4, that is the multiple repetitive  
2 degraded cornerstone, and we identified a performance  
3 deficiency associated with that and associated with  
4 in-service testing, as well as a technical  
5 specification violation.

6 The licensee subsequently challenged the  
7 NRC with regard to our specific performance  
8 deficiency, looking at what they considered to be  
9 clarity of the specific in-service testing  
10 requirements. We took a look at that, and actually,  
11 that review is currently ongoing as far as the  
12 specifics of that performance deficiency.

13 We are looking at the -- based on the  
14 licensee's request we determined that we would take  
15 a -- an independent review through an independent  
16 review board headed by Mr. Cobey of Region II and the  
17 DFFI organization, who was completely independent and  
18 not involved with the original assessment.

19 As I indicated, that review is currently  
20 ongoing, and we expect to have those results  
21 identified in about the next two weeks. But again,  
22 we're continuing to look at the performance deficiency  
23 and the testing aspects associated with that. We are  
24 also looking at a -- at this time the licensee does  
25 remain in the column 4 for the multiple repetitive

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1 cornerstone as we proceed with this review.

2 Also wanted to talk about the areas of  
3 significant cross-cutting issues. This is a process  
4 that we look at specifically with regard to each of  
5 the inspection findings to determine if there are  
6 underlying causes or contributing causes for these --  
7 for the findings which can be either violations or  
8 findings against the industry standards and practices.

9 Out of this we did identify that at Browns  
10 Ferry Units 1, 2 and 3 two substantive cross-cutting  
11 areas. These are in problem identification and deal  
12 with appropriate and timely corrective actions. And  
13 the second deals with thorough evaluation. We -- this  
14 process is well defined. It speaks to specific  
15 criteria, as far as the number of cross-cutting  
16 aspects in a certain area. And then we look at those  
17 to see if they're -- to see if those -- as far as the  
18 commonalities which the process and the program  
19 provides for.

20 Then we also look to make sure that  
21 we're -- whether or not we have confidence in the  
22 licensee's actions. If we see that they may have a  
23 number in an area, however, we have confidence in the  
24 actions they have taken that they've identified and  
25 they're moving forward we would not identify a

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1 substantive cross-cutting area. So -- and these areas  
2 that I identify, whether we're talking about  
3 substantive cross-cutting areas, we did not have that  
4 confidence moving forward.

5 Another facility was the Oconee Unit 1, 2  
6 and 3, where we had a human performance substantive  
7 cross-cutting area that involved work control in --  
8 and at Robinson we had a substantive cross-cutting  
9 finding in the area of human performance. These  
10 again, will be evaluated and reviewed during our  
11 upcoming mid-cycle reviews which are scheduled for  
12 August. I will be issuing letters to each of the  
13 licensees. And these are all publicly available, as  
14 are the inputs to the action matrix, as well as all  
15 the performance indicators.

16 CHAIRMAN SIEBER: Bill, you mentioned  
17 cross-cutting issues. Something striking on this  
18 presentation is Browns Ferry's in the red column --

19 MR. JONES: Yes, sir.

20 CHAIRMAN SIEBER: -- Unit 1. Unit 2 is  
21 perfectly fine. They have -- they share operators.  
22 They share management. Are the failed valves  
23 identical on the two units from the same  
24 manufacturer --

25 MR. JONES: There are --

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1 CHAIRMAN SIEBER: -- and do they undergo  
2 the same testing? Curiosity that -- why isn't Unit 2  
3 highlighted?

4 MR. JONES: The way we are currently set  
5 up is the specific unit where the failure occurred is  
6 where we find it actually gets counted against.  
7 However, when you're looking at it now the inspection  
8 activities that we are currently planning for this  
9 95003 supplemental inspection it is essentially a  
10 diagnostic.

11 CHAIRMAN SIEBER: Okay.

12 MR. JONES: A diagnostic will look at  
13 exactly what you are talking about, operations,  
14 maintenance, engineering. And I'll talk a little bit  
15 further about that. But you're exactly right.

16 CHAIRMAN SIEBER: I'm glad to hear that.  
17 That's good.

18 MR. JONES: Yes. It does not -- it will  
19 not just isolate itself to Unit 1 and silo just that  
20 unit as far as the reviews are concerned.

21 With that, I would like to proceed to the  
22 Browns Ferry Unit 1. And I briefly mentioned that  
23 this involved a failure of a low pressure safety-  
24 injection valve. And actually, the fire mitigation  
25 strategy that the licensee had initiated contributed

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1 to the overall risk significance in that this valve as  
2 a result of the fire mitigation strategy took on  
3 additional risk importance of the risk achievement  
4 worth on this would be increased. As a result of that  
5 it did contribute to -- and rise to the level of a red  
6 finding.

7 And as I mentioned, the licensee  
8 challenged the performance deficiency. We do have  
9 that independent review panel ongoing. And we are  
10 utilizing the reactor oversight process. We are  
11 staying within process as far as the reviews, the  
12 agency review or the independent review panels. And  
13 then the final outcomes as we're going to express  
14 those to the licensee in about two weeks. And as I  
15 indicated, the licensee is in column 4 and we are  
16 continuing with our planning for the supplemental  
17 inspection.

18 So what is the Browns Ferry supplemental  
19 inspection activities? And this gets to some of your  
20 questions. This is -- the inspection activities,  
21 although Browns Ferry Unit 1 is in the licensee  
22 response column, it was -- there was an observation  
23 made that the -- there were cross-cutting areas in  
24 performance in PINR, Performance -- excuse me --  
25 Problem Identification Resolution. They were talking

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1 about resolution and so forth. Clearly, those are  
2 kind of things that we are going to look at under the  
3 95003.

4 CHAIRMAN SIEBER: Do they all have the  
5 same fire mitigation strategy that you had a problem  
6 with?

7 MR. JONES: Each unit does. Although  
8 it's -- because of some differences in the  
9 configuration of each of the units -- unit 3 in  
10 particular is a little bit different -- those  
11 mitigation strategies would differ. However, there  
12 have been changes to their fire mitigation strategy  
13 since this issue was identified. So the -- all of the  
14 factors that played into our risk assessment  
15 previously would not necessarily be valid today. And  
16 they are continuing to work to address those fire  
17 mitigation strategies. So if you were to do the risk  
18 assessment today I would expect a different outcome to  
19 them.

20 We are going to be involved in multiple  
21 inspection activities. And this will -- the first  
22 part will involve looking at essentially the scope of  
23 the condition. In other words, do we understand that  
24 the licensee has identified the failures, are there  
25 other components involved, what does the scope of our

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1 real in-depth review need to involve.

2 And that part is looking to be initiated  
3 if the independent review board and our process  
4 upholds the performance deficiency or a similar  
5 performance deficiency we're looking at the August,  
6 September time frame to get thoroughly involved in  
7 that.

8 The 95003 inspection -- supplemental  
9 inspection is unlike the ones we talked about for  
10 Robinson and for Turkey Point. This truly is a  
11 diagnostic inspection. There are several elements to  
12 it and it really gets to addressing the key  
13 attributes, particularly in the area of reactor  
14 safety. And it involves the licensee performing  
15 safety culture reviews, the NRC performing grading  
16 safety culture reviews, also. So this is a very  
17 thorough review that will get into the licensee's  
18 programs. It looks at operations, maintenance,  
19 engineering, across the board. And so although we're  
20 looking at Unit 1 for being in the -- in column 4  
21 Units 2 and 3 clearly will be included, as far as the  
22 overall assessment, particularly with regard to the  
23 Management Corrective Action Programs, those programs  
24 that are similar, which are essentially all the ones I  
25 just described.

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1           We're looking to get the initial reviews,  
2           like I mentioned, done, completed in the August,  
3           September time frame and then we'll proceed with the  
4           more extensive diagnostic preparations. And these are  
5           all very intrusive, very time consuming, very in-  
6           depth. And for individuals who are interested in  
7           actually looking what is involved, it's involved in  
8           our inspection Manual Chapter 95003. And it speaks  
9           to -- it's a very voluminous document with a lot of  
10          requirements, as well as descriptions of how we go  
11          about implementing them.

12                 Next area I'd like to talk about is the  
13          perspectives on the reactor oversight evolution. And  
14          as I indicated, my background took me from the  
15          systematic assessment of licensee performance back up  
16          through my senior reactor analyst days where I was  
17          working along with Dr. Mallad and many others on the  
18          new Reactor Oversight Program. And to watch it move  
19          to where it has today, it has evolved.

20                 I would say that the current status of the  
21          Reactor Oversight Program today is not that it is  
22          evolving, but that we are continuing to refine the  
23          process. And I think what I do see is the  
24          accountability that comes out of this process, both  
25          from the NRC perspective -- in other words, how did we

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1 get to the decisions we are, what actions are we going  
2 to take. And the licensees are accountable, too, in  
3 that if there are certain issues or findings that come  
4 up they know what our reaction and what our inspection  
5 activities are going to be above what we would  
6 normally do as far as the baseline inspection  
7 activities.

8 As part of this there are a lot of  
9 initiatives ongoing. Just to mention a few, each of  
10 the regions over the past year has been involved in  
11 reviewing aspects of the Reactor Oversight Program.  
12 And there are -- they have a report due out the end of  
13 July. And the areas that were specifically addressed  
14 by this review panel were application of the ROP in  
15 Manual Chapter 0305. That's the document that  
16 implements ROP. The reactor oversight process best  
17 practices. And from that there were numerous  
18 recommendations as far as inspection planning, reviews  
19 and so forth. And those are all being shared.

20 Self-assessments of inspection reports.  
21 Again, we're looking for consistency of an application  
22 of the inspection process, as well as how we're going  
23 about documenting. And then inspection resource  
24 sharing. This is an important area, particularly as  
25 we look at knowledge management transfer and new

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1 individuals are coming in and individuals that have  
2 been around for awhile and seen the program in place  
3 as to how to reassure we get consistencies. And part  
4 of that is resource sharing where we get together and  
5 we put some of our newer individuals with maybe  
6 experiences that are a little bit different and focus  
7 on that.

8 We also have biweekly calls between the  
9 four regions at the division director level. We talk  
10 about issues that we've seen with ROP, Reactor  
11 Oversight Program implementation. And that takes us  
12 to areas that we may want to focus on in the region or  
13 within the regions themselves. It's also an excellent  
14 forum for identifying a need for resources.

15 For example, if we proceed forward with  
16 the Browns Ferry supplemental inspection, 95003,  
17 provided we do uphold that, that there will be a need  
18 for a lot of experienced inspectors from the other  
19 regions to support that activity. And that's a good  
20 forum. And not only that, but it -- again, that's  
21 part of the ROP sharing and resources.

22 We also perform reviews following  
23 inspection activities. The Robinson supplemental  
24 inspection that we performed -- there were several  
25 lessons learned that came out of that. The branch

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1 chief put those together and has presented that to the  
2 other branch chiefs who were taking the lessons  
3 learned from that, as far as how do we go about  
4 planning and executing those inspections in the  
5 future, as well as looking at the program itself from  
6 the standpoint of the licensing of operators and what  
7 we specifically look at.

8 So these are things that we can feed back  
9 into our ROP, specifically inspection procedures  
10 through feedback process of -- a formal feedback  
11 process that we have where we can -- headquarters  
12 would evaluate our feedback and then provide either  
13 changes to the inspection procedure or maybe look at  
14 it more holistically.

15 In addition, there are public meetings  
16 conducted in -- through headquarters on the ROP, the  
17 Reactor Oversight process. And as I indicated, these  
18 all involve numerous stakeholders at our public  
19 meetings which gives individuals an opportunity on a  
20 monthly basis to provide input to the NRC.

21 Yes, sir?

22 CHAIRMAN SIEBER: I've heard but I don't  
23 want --

24 VOICE: That is a result of the Robinson  
25 event of what, a year-and-a-half ago or something, two

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1 years ago?

2 VOICE: There were activities -- follow-up  
3 activities at other plants. Can you say anything  
4 about that or is -- even if that's true?

5 MR. JONES: I can't speak that there  
6 were -- I mean, we took lessons learned, as far as the  
7 licensee's emergency implemented procedures, command  
8 and control, things like that. So those are lessons  
9 learned that we share, not only amongst Region II but  
10 also with the other regions. And one of the things  
11 that we're looking at is the operator training aspect.  
12 And that's being looked at in bigger picture.

13 So to answer your question is there are --  
14 there were very some short-term reviews and sharing of  
15 information, as well as longer term activities that we  
16 look at from the use of feedback forms or looking at  
17 specific training. And actually, the Division of  
18 Reactor Safety that has the operator licensing aspects  
19 has been extensively involved in that. And we -- and  
20 there were a couple of individuals from the Division  
21 of Reactor Safety operator licensing involved in the  
22 supplemental inspection that truly have firsthand  
23 knowledge of that. So --

24 VOICE: Thank you.

25 MR. JONES: I'd also like to address that

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1 we continue to learn. And that's one of the -- I  
2 think one of the benefits of the reactor oversight  
3 process is that it is not a stagnant process. And I  
4 think the recent Fukushima tragedy, although it -- you  
5 know, it was -- there are definitely lessons learned  
6 that come out of that -- and part of that is going  
7 back and looking at what had we learned previously.  
8 And following September 11 we came out with specific  
9 requirements, the B-5-B that focused licensees on  
10 really mitigation strategies for extreme events. And  
11 from that --

12 MR. ABDEL-KHALIK: Let me just follow up  
13 on this.

14 MR. JONES: Yes, sir.

15  MR. ABDEL-KHALIK: You know, since 2008  
16 inspection of B-5-B equipment has been a part of the  
17 tri-annual fire inspections. And clearly, since that  
18 time each plant has had at least one tri-annual fire  
19 inspection. So in light of the non-compliances that  
20 were found in post-Fukushima inspections what are you  
21 doing to enhance the effectiveness of these tri-annual  
22 fire inspections?

23 MR. JONES: I would -- well, I'll speak to  
24 that two ways. First is we've taken the issues that  
25 we've identified from the -- or excuse me -- from the

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1 temporary instruction 183 and 184, which the  
2 Commission just was briefed on last week and a report  
3 has been issued as far as the -- I believe it was 12  
4 area recommendations. We are taking those and looking  
5 at those from all inspection activities as to what we  
6 need to be following up on.

7 With regard to specific challenges -- or  
8 changes to the tri-annual, I would have to provide  
9 some feedback to you on that -- at a later time on  
10 that one unless there's anyone in the audience that  
11 can speak to any of that. But I don't have any  
12 specific knowledge of changes that we've made to the  
13 tri-annual inspection activities as a result of the B-  
14 5-B findings. So I'd have to -- I'll have to get back  
15 to you on that.

16 MR. ABDEL-KHALIK: All right.

17 MR. JONES: Okay.

18 I do want to -- in saying that, what we  
19 have done is by going back and looking at the  
20 licensee's actions, their procedures, their severe  
21 accident management guidelines, I think that we do  
22 have a good understanding again, of where each of  
23 these licensees are. And they're taking actions  
24 either from their internal processes to address where  
25 equipment may be located to ensure that it is truly

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1 available, to the NRC looking at, for example, hard  
2 events to make sure that they are accessible, that the  
3 power supplies and those types of things are there.  
4 So where there were deficiencies found those are being  
5 corrected.

6 But there's still a lot of activities  
7 ongoing and I expect -- the Commission is taking 90  
8 days to review the recommendations from the  
9 independent review panel. And from that I would  
10 expect to see additional inspection activities, as  
11 well as different focus areas coming out of them.

12 Just another example, of course, would be  
13 the groundwater initiative. I think that was  
14 temporary instruction 173 that we were following up  
15 on. You know, these are areas that, you know,  
16 involve, you know, radiological protection, public --  
17 you know, on-site versus off-site mitigation and  
18 ensuring that the licensees understand sources of, for  
19 example, groundwater contamination, i.e., tritium, and  
20 the proper monitoring of those.

21 Under perspectives on oversight again, I'd  
22 talk about the inspection procedure review. This is a  
23 bi-annual activity where we look at the effectiveness  
24 of the inspection procedures we have out there, our  
25 allocation of resources and what are the results from

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1 those inspection activities. And based on this we do  
2 look to see whether or not we need to revamp  
3 procedures, maybe focus in different areas and/or  
4 maybe eventually to completely remove a procedure and  
5 implement a different area.

6 I think the component design basis  
7 inspection is a good example of that, as well as the  
8 5059 reviews, where we have increased our reviews in  
9 those areas. The component design basis inspections.

10 We used to do the vertical slices and the horizontal  
11 slices through different inspections. And this  
12 component design basis got us down to the component  
13 level. And from that we've identified several  
14 findings, some of them having significance that I  
15 think have enhanced licensee safety and overall helped  
16 us to -- ensured us -- ensured that we have met our  
17 mission to the public.

18 MR. STETKAR: Excuse me.

19 MR. JONES: Yes, sir?

20 MR. STETKAR: Since you mentioned that, I  
21 was thinking of it earlier. This planned -- assuming  
22 you get confirmation of the deficiency -- I think you  
23 called it diagnostic inspection at Browns Ferry.

24 MR. JONES: Yes, sir.

25 MR. STETKAR: Will that still be kind of

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1 horizontal and vertical slices or is that going to be  
2 more general? Or have you planned --

3 MR. JONES: That will essentially be both  
4 areas. When you look at that it looks at specific  
5 components. It will look at design aspects, and it  
6 will look across the board as far as corrective  
7 actions are concerned, for example. And it will look  
8 at the communications between organizations, as well  
9 as the specific outcomes from a specific organization.

10 For example, engineering design reviews.  
11 How is that communicated between operations and  
12 engineering? Or what is the results of the  
13 engineering reviews themselves? And then we can get  
14 down into specific components the same way where we  
15 can look at, for example, the high pressure cooling  
16 injection system, as well as looking within a specific  
17 component itself. So it can -- it will go both ways.

18 It is a -- it is truly the -- it's the old  
19 diagnostic inspection. When you really look at it,  
20 that we performed at Palo Verde and South Texas from  
21 many, many years ago under the old diagnostic program.

22 But when you look at those two they are -- you see a  
23 lot of similarities between those programs.

24 I want to talk a little bit about the  
25 safety significance evaluations. As an agency we are

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1 continuing to improve our abilities to review external  
2 events. And I think as time goes on we are -- we're  
3 understanding better the -- how to evaluate  
4 performance deficiencies and to assess the true  
5 significance of events and conditions out there.

6 And I would take the Robinson cool-down  
7 and safety injection, the one that led to the '95 002  
8 as a good example of that, where we looked at the --  
9 we defined the performance deficiency and out of that  
10 we performed a overall risk assessment that looked in  
11 several specific areas. Command and control,  
12 procedural adequacy and the training.

13 And as a result of that I think we really  
14 got to the heart of the issues and we were able to  
15 focus our efforts, as well as the licensee and their  
16 root cause and contributing cause evaluations. I  
17 think had a good understanding of the type of problems  
18 that we saw and were able to build on that. But I  
19 would use that as a very good example of one of the  
20 integration issues within a performance deficiency to  
21 get the outcome that definitely improved safety.

22  The last is development of SAPHIRE 8. I  
23 remember back when I first became an SRA, was in a --  
24 in the original class. We'd run a computer program  
25 and it would be -- come back the next day and

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1 hopefully, it was done. And you would look and you  
2 may not have your ultimate heat sink model and things  
3 of that nature.

4 This program has made leaps and bounds  
5 since then. And as to that, we are looking at  
6 implementing the SAPHIRE 8 which will actually be able  
7 to be utilized at the sites by the resident inspectors  
8 and others. And so if we have a program in place with  
9 pilots identified to implement the SAPHIRE 8 and to  
10 continue to move forward -- this does not replace the  
11 evaluations the senior reactor analyst but it does  
12 help to inform the resident inspectors and to keep  
13 them focused in the right areas. And this also helps  
14 them to identify and to address findings that they  
15 might have.

16 And like I say, anytime we can put  
17 information that deals with risk, risk sequences and  
18 specific components in front of the inspectors I think  
19 that benefits us greatly. The -- it just continues to  
20 reinforce their training and their background, as far  
21 as what is important and why are we looking at this.  
22 And I think that that's -- you know, these models  
23 become more and more developed I think that really  
24 helps us in the long run.

25 MR. STETKAR: Bill, a couple of questions

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1 before you move on from that. I mean, it's nice to  
2 have a whiz-bang new tool that --

3 MR. JONES: Uh-huh.

4 MR. STETKAR: -- quantifies things a lot  
5 faster and has bells and whistles on it. But the  
6 important thing is the underlying risk model. And I  
7 think what we've seen and many times it's more  
8 important for people to understand in some detail what  
9 is not in the risk model versus pushing a button and  
10 seeing something that is in the risk model either pop  
11 up to the top or stay at the bottom.

12 MR. JONES: Uh-huh.

13 MR. STETKAR: How are you training your  
14 resident inspectors in that area? I mean, just having  
15 the capability to push a button and see something pop  
16 to the top --

17 MR. JONES: Uh-huh.

18 MR. STETKAR: -- or stay at the bottom  
19 doesn't necessarily give them much of a perspective if  
20 they don't understand what may or may not be  
21 modeled --

22 MR. JONES: I'll --

23 MR. STETKAR: -- for that particular  
24 plant.

25 MR. JONES: I'll answer that in two areas.

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1 One is the training -- the basic training and  
2 knowledge that goes into these vector qualifications.

3 That is the training that we run our inspectors  
4 through in Chattanooga with regard to systems, system  
5 responses, simulator responses, so that they truly  
6 have an understanding of the reactors that they're  
7 overseeing.

8 There are individual experience levels  
9 where you look at the demographics for our senior  
10 resident inspectors is very good. We've got very,  
11 very experienced individuals who have seen a lot of  
12 conditions and events and have been able to build on  
13 that.

14 And then from a -- from the building up to  
15 analyze information. They still have to understand in  
16 putting input into this program what are the systems,  
17 what are the interactions. They have to be able to  
18 consider operator performance. And although it may be  
19 very general, we still have to go back to -- in many  
20 cases to the senior reactor analyst to understand the  
21 human error probabilities, you know, to really get  
22 into the analysis.

23 But what it does is I think it's not an  
24 answer in itself. But it's a tool to help inspectors  
25 to understand what areas they may need to continue to

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1 focus on. And I think it's --

2 MR. STETKAR: Not quite. And I'll press  
3 you a little more. For example, Browns Ferry. You  
4 said you ran a safety significance evaluation on the  
5 Browns Ferry, the valve failure.

6 MR. JONES: Uh-huh.

7 MR. STETKAR: I suspect that the Browns  
8 Ferry models don't have any shutdown risk modeled.  
9 And that was an RHR valve, also.

10 MR. JONES: Right.

11 MR. STETKAR: So you don't really have a  
12 sense of how important that event might have been to  
13 shut down risk because it's simply not a parameter  
14 that you can challenge.

15 MR. JONES: Right.

16 MR. STETKAR: You can only look at power  
17 from its low-pressure injection function at power from  
18 that particular valve. So my question is how are you  
19 training your people to have that perspective, that  
20 there may be another element of risk of that power  
21 plant that simply is not -- you cannot push the button  
22 on that risk model --

23 MR. JONES: Right.

24 MR. STETKAR: -- and have any sense of it.  
25 And your inspectors, when they're making these

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1 determinations, ought to have some of that sense.  
2 That's the genesis --

3 MR. JONES: Yes.

4 MR. STETKAR: -- of kind of my question.

5 MR. JONES: And I would take it back to  
6 the appendices we provide as part of our significance  
7 evaluation process, which takes us to, for example,  
8 the shut down risk models. What type of things are  
9 considered. But yet those type of issues, because you  
10 can't talk about -- you're absolutely right -- we  
11 don't have detailed models for all of the sites  
12 dealing with the shut down risk, mid-loop operations,  
13 all of those type of things that are very important.

14 We want to make sure that we focus on the  
15 right areas. But there's a realization -- and I think  
16 we continue to reinforce the use of the significance  
17 appendices that help us with the risk evaluations.  
18 And I think that that's an area that keeps the  
19 inspectors focused in that area. The branch chiefs  
20 are experienced and continue to focus in those areas.

21 So there's -- we don't have inspectors out there that  
22 I believe are -- that feel that they're isolated.  
23 There's open communications with the branch chiefs, in  
24 many cases daily, with the division directors and  
25 others. And the SRAs are extensively involved.

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1           And also, we have a 915 safety meeting.  
2 We conduct that four days a week. Our senior reactor  
3 analysts attend that meeting. And in that meeting we  
4 talk about events and conditions for the power plants.

5           And that is an opportunity where there's an open  
6 discussion between division reactor safety, division  
7 reactor projects about, Hey, I remember something  
8 about this, you need to look at this. And, you know,  
9 sometimes people say, I've looked, I've looked.

10           But, you know, in many cases there are  
11 times when people are, Ah, good opportunity to go take  
12 a look and either verify that it is okay or will  
13 result in additional reviews. So there's a -- there's  
14 the resident inspector, the training we give but  
15 there's also the open communications, the  
16 collaborative environment that we have between the --  
17 within the division reactor projects, as well as  
18 division of reactor safety to keep these issues out  
19 and to utilize all that information.

20           MR. STETKAR: Okay.

21           MR. JONES: And I think that really  
22 does -- to observe that meeting -- there are at times  
23 some very good, in-depth discussions that really  
24 speak to why we do that meeting. It's not just a  
25 formality.

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1 MR. STETKAR: Good. One other. And  
2 you're fine on time. So we can slow you down.

3 MR. JONES: Okay.

4  MR. STETKAR: Region II happens to be  
5 fortunate that you have -- both share in Harris and  
6 Ocone in the region and they just recently  
7 successfully got their SUIs for transition to the NFP  
8 805 fire -- Risk-Informed Fire Protection Program.

9 Couple of questions. What involvement did  
10 the region have in terms of the reviews of those  
11 submittals. Did you folks have people involved in  
12 those reviews, or was that all strictly headquarters  
13 staff?

14 MR. JONES: I would -- from Division of  
15 Reactor Projects we were aware of the reviews that  
16 were ongoing.

17 MR. STETKAR: Uh-huh.

18 MR. JONES: And I would actually have to  
19 look at the Division of Reactor Safety as far as what  
20 specifically, you know --

21 MR. McCREE: Yes. As regional  
22 administrator it's sort of hard to sit and not  
23 comment. We were very involved. NRR, the Office of  
24 Nuclear Reactor Regulation obviously had the lead on  
25 those reviews, but our involvement extended to having

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1 our -- several senior reactor analysts very involved.

2 They're very knowledgeable of the site. We  
3 participated in meetings, both in NRC headquarters, as  
4 well as at the site on inspections.

5 We had again, our senior reactor analysts  
6 as well as our senior inspectors very involved. We  
7 participated very closely in the update to the  
8 creation actually, of the post-transition tri-annual  
9 fire inspection procedure, which I believe is close to  
10 being done.

11 We're very fortunate today to have Fred  
12 Brown with us. Fred is the director of the Division  
13 of Inspection -- DIRS -- whatever RS stands for --  
14 Regional Support. There we go. And we're getting  
15 very close regional support while he's here, but we've  
16 been working very closely with them to develop this  
17 procedure which we will implement at both Oconee and  
18 Harris to confirm the adequacy of their transition to  
19 the new risk-informed fire protection licensing basis  
20 at both sites.

21 MR. STETKAR: That's a -- and that was  
22 going to be my follow-up. You said that that  
23 inspection procedure is currently being developed. Is  
24 it --

25 MR. MCCREE: It is near final, if it's not

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1 final.

2 Do you know, Fred?

3 MR. BROWN: [inaudible from audience]

4 CHAIRMAN SIEBER: You have to -- actually,  
5 because of our protocol, you have to come to the  
6 microphone and identify yourself.

7 MR. McCREE: Very good. Thank you.

8 CHAIRMAN SIEBER: Sorry.

9 (Pause.)

10 CHAIRMAN SIEBER: Or sometimes the  
11 microphone apparently will come to you.

12 MR. BROWN: Yes. I'm sorry. I took all  
13 the time to run up here to tell you that I've been  
14 down here for two months now and I have not been  
15 following that. But the state of the procedure was  
16 that it was ready for use. Whether it was formally  
17 issued or whether we were going to pilot it, I don't  
18 remember, but it was done.

19 CHAIRMAN SIEBER: Okay. But it's close.

20 MR. BROWN: Yes. That's correct.

21 CHAIRMAN SIEBER: Thank you.

22 MR. JONES: We also have the branch chief  
23 for the Division of Reactor Safety here, Rebecca  
24 Nease.

25 MS. NEASE: Yes. I'm Rebecca Nease. I'm

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1 the Engineering Branch 2 branch chief. And that  
2 inspection -- the inspection procedure was issued. It  
3 will be effective on August 1, and we will be using it  
4 at the Harris inspection.

5 CHAIRMAN SIEBER: Great.

6 MR. JONES: Thank you.

7 To speak to past performance, to start off  
8 with, we are seeing and have seen safe operation of  
9 each of our licensees across Region II. That's part  
10 of the reactor oversight process: the openness that's  
11 provided through the action matrix, our performance  
12 indicators that are published, as well as the  
13 inspection report results.

14 They all feed into how we go about making  
15 that determination. And areas, places where we do see  
16 degradation in the safety performance, we do engage  
17 them. Two examples are Robinson and Browns Ferry.

18 We are addressing performance  
19 deficiencies. We have open communications within the  
20 region and with headquarters to ensure we vet out  
21 the -- each of the issues. And you're seeing that in  
22 inspection results. We continue to identify areas for  
23 continuing inspection, inspection findings that have  
24 in some cases the white, yellow or red significance,  
25 and those we deal with aggressively.

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1 Fire protection aspects: We continue to  
2 look and learn with regard to understanding the risk  
3 from fire protection. And I think Browns Ferry is a  
4 example of that, where the significance of a failed  
5 component was increased because of the fire protection  
6 aspects of it.

7 If you were to just look at the component  
8 failure under reactor operations without the  
9 conclusion of the fire aspect, the significance is  
10 significantly lower. But with the fire mitigation  
11 strategy, that component becomes significantly -- or  
12 that component failure became significantly more  
13 important.

14 With regard to reactor inspections, which  
15 all -- which kind of plays into the trending, the  
16 number of reactor inspections that we have conducted  
17 this year is less than what we saw last year. I  
18 wouldn't make any statistical conclusions from that.

19 We have in place a process of management  
20 directive 8.3, where we look at events and conditions  
21 to take a look to determine if there are deterministic  
22 or risk insights into the event that would cause us to  
23 go out and take a very quick look to determine if  
24 there are -- to determine or get an idea of the  
25 significance, as well as if there are other actions or

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1 if the problem could be bigger than we originally  
2 thought.

3 And those are identified in -- through  
4 inspection reports, the ones that we actually do  
5 conduct. And you probably heard referred to as our  
6 special inspections and augmented inspections, and  
7 then the very rarely performed incident investigation  
8 teams.

9 So from an overall perspective I would  
10 not -- or I would say that we are continuing to see  
11 safe performance from each of our licensees. We have  
12 not seen a increase specifically in events or  
13 conditions that have resulted in elevated  
14 significance. We've had yellow findings previously.  
15 There's been white findings for many of the licensees  
16 over the past several years. But clearly, it's an  
17 area -- licensee performance -- that we do focus on.

18 And I think some of the -- the combination  
19 of our review and the performance indicators, which  
20 is -- looks at material conditions, looks at the  
21 diesels, looks at the number of scrams, which are  
22 unplanned shutdowns and many other items, you know,  
23 combined with our inspection results gives us a good  
24 picture of the licensee's performance and the actions  
25 we need to be taking.

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1           So with that, if there's any questions in  
2 other areas you'd like me to address, I'll be glad to.

3           MR. BLEY:     You've indicated that for  
4 Browns Ferry 1 the licensee has challenged performance  
5 deficiencies. What is the basis for the challenge?

6           MR. JONES:   The challenge involves our  
7 assessment of the in-service testing requirements for  
8 that specific valve. In other words, when we took a  
9 look at their in-service testing, we had concluded  
10 that the program they implemented was not adequate,  
11 and we determined it was not adequate or appropriate,  
12 in that part of the verification of the valve movement  
13 was their looking locally at the valve stem, which did  
14 not necessarily indicate movement. Part of that was  
15 whether or not there needed to be verification of  
16 flow, pressure changes, things of that nature  
17 included, also.

18           The licensee challenged and said that the  
19 way they were implementing the code requirement was  
20 appropriate and that there was maybe some ambiguity or  
21 misunderstanding among the industry as to what the  
22 code requirement truly spoke to.

23           The licensee provided feedback from  
24 several individuals that supported their position. We  
25 had our own experts who provided feedback to us that

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1 the way they were implementing their in-service  
2 testing program was not appropriate; that they really  
3 needed to look at flow or pressure, some other, to  
4 verify that you were actually seeing the response you  
5 expect from it.

6 So based on -- that -- I would say the  
7 professional opinions that differed we took another  
8 look at that performance deficiency to verify that we  
9 were appropriately reading the code and that was the  
10 appropriate performance deficiency to apply to this  
11 case.

12 And that's where we currently are now with  
13 the independent review that Mr. Cobey has led, and  
14 we'll be looking at the results of that and  
15 determining what is the performance deficiency as we  
16 initiated appropriate; should we be looking at  
17 separate performance deficiency, possibly something  
18 involving testing but not quite so specific as the in-  
19 service testing or should we just, you know, look at  
20 it -- or not to consider that performance deficiency  
21 at all.

22 So like I say, I would expect in the next  
23 couple of weeks that we will actually come to a  
24 decision on that and issue that letter back to the  
25 licensee. But as I indicated, we are in -- moving

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1 forward with the 9503 as it currently stands. We did  
2 not hold that in abeyance because there's a lot of  
3 planning and activities that have to occur. And like  
4 I said, we do have a public meeting scheduled, I  
5 believe, for August 23. So pending that out, we are  
6 proceeding forward with that inspection activity.

7 CHAIRMAN SIEBER: You folks have any other  
8 questions?

9 DR. BLEY: Yes. I would like to follow  
10 that one up --

11 MR. JONES: Yes.

12 DR. BLEY: -- just a little bit.

13 Given your previous discussion -- I  
14 haven't -- I wasn't aware of this one till we got here  
15 today -- it sounded like the real key basis for your  
16 position was the fire mitigation strategies which  
17 would seem to me, you know, how do you risk going at  
18 any kind of position. And I'm curious as to relying  
19 on codes to address that kind of issue. Is that --  
20 are you forced to do that? Is that appropriate? I  
21 assume by this you're not talking about the fire code;  
22 you're talking about something else.

23 MR. JONES: Yes. I'm referring to the in-  
24 service testing code --

25 DR. BLEY: Yes.

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1 MR. JONES: -- that we're speaking to.  
2 And that is, does -- what in-service testing -- what  
3 is the licensee required to perform for this valve to  
4 verify that it was operable. And that's what we --  
5 that's where their contention is. It doesn't have  
6 anything to do with the risk. Now, there was no  
7 challenge to our risk analysis. There was no  
8 challenge to the violation that was initiated. It was  
9 really the performance deficiency as to whether or not  
10 did we identify the appropriate performance deficiency  
11 to support the continued --

12 DR. BLEY: I just want to go a little  
13 further because --

14 MR. JONES: Yes.

15 DR. BLEY: Just suppose in your review  
16 it's decided the code doesn't require the kind of  
17 checks you were asking for, but, you know, what you're  
18 raising is indeed a failure mode that occurs.

19 MR. JONES: Yes.

20 DR. BLEY: And where do we go from there?  
21 I mean, if the code doesn't cover the things that are  
22 important to the failure modes that matter to  
23 operation, what are our options to make sure that the  
24 plants really are operable when we look at these?

25 MR. McCREE: Hey, Bill?

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1 MR. JONES: I will take it --

2 MR. McCREE: Bill, can I -- let me try it.

3 MR. JONES: Okay.

4 MR. McCREE: Victor McCree, regional  
5 administrator. Fundamentally, what's at issue or the  
6 question is whether the licensee was responsible for  
7 identifying -- preventing, but certainly identifying  
8 and then correcting the stem disk failure in this low-  
9 pressure coolant injection valve. It turns out, as a  
10 matter of fact, that the exposure period was  
11 significant. I believe it's March 2009 up through  
12 November -- November 23, 2010, but a significant  
13 period of time within which the valve was in a  
14 degraded position, and that function via that one  
15 train was unavailable.

16 Our process requires us to -- for  
17 producing a finding requires us to first identify a  
18 performance deficiency, something the licensee did or  
19 did not do that contributed to or caused that  
20 condition. Based on our assessment, it was a failure  
21 to implement an adequate in-service testing program,  
22 which we believe could have -- should have enabled  
23 them to identify the failure -- the -- some stem disk  
24 separation earlier.

25 There is language in the in-service -- the

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1 ASME code requirement operating and maintenance code  
2 that is perhaps not as clear as it ought to be.  
3 That's what the licensee spoke to. There's language  
4 that indicates that they should assure obturator  
5 movement, a new word in my lexicon. But essentially  
6 that's the fact that the disk should have moved along  
7 with the stem, which did not occur here.

8 Our process, Manual Chapter 0305,  
9 attachment 2, gives a licensee the opportunity, once  
10 the staff -- I sign out a final significant  
11 determination, to appeal it on certain grounds. There  
12 are some specific criteria in that attachment of the  
13 Manual Chapter that a licensee has to meet. Although  
14 TVA did not meet the explicit criteria, we felt that  
15 the issues they were raising, one of which has to do  
16 with the clarity of the code requirements, was  
17 sufficient that an independent review was warranted.

18 The process indicates that I should form  
19 an independent panel, we use that as guidance.  
20 They've essentially completed their work and we have  
21 some internal discussions to complete before I sign  
22 the results out. It would appear that there is a  
23 sufficient basis to move forward with a deficiency.  
24 We're still confirming what that -- how it should be  
25 characterized.

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1           But the significance determination, which  
2 I think is what you're -- the significance of this  
3 deficiency and/or perhaps another deficiency at Browns  
4 Ferry at that time is significantly influenced by  
5 their fire mitigation strategy. They have a very high  
6 CDF contribution due to fire.

7           We've had several -- in fact, we had a  
8 yellow and a white finding in calendar and assessment  
9 year 2010 associated with fire protection issues. So  
10 the risk significance -- risk contribution due to fire  
11 again, at Browns Ferry remains a significant factor in  
12 what makes it of high risk significance.

13           And again, the licensee is not contesting  
14 the significance of fire and the significance of  
15 the -- the significance determination. But they're  
16 contesting what is -- what were they deficient at,  
17 what could they have done differently.

18           DR. BLEY: That's a very thorough and, I  
19 think, careful statement. And I understand it.  
20 But -- and I guess I don't need a response to this.  
21 But I -- you know, we get concerned when -- if the  
22 language in a requirement doesn't look for the things  
23 that are important what do we do to make sure that we  
24 look for it the next time, was really what I was going  
25 toward. Sounds like you're going to be okay on this

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1 one. But I can envision other cases where somebody  
2 says, Gee, you know, following exactly what the rules  
3 are --

4 MR. McCREE: Right.

5 DR. BLEY: -- I'm okay. But I'd sure want  
6 the next guy to find this problem.

7 MR. McCREE: Right. And that's -- it's  
8 certainly a very good question. And that will  
9 certainly lend importance -- does lend importance to  
10 the licensee's root cause analysis which is in  
11 process. And we will thoroughly investigate as part  
12 of our 95003 inspections should again, we decide to do  
13 that. And again, there will be insights for TVA.  
14 There will also be insights for us. And should  
15 anything of generic import come out, we'll make sure  
16 that that's communicated, as well and factored into  
17 our oversight process.

18 CHAIRMAN SIEBER: Any further questions?

19 Dr. Ryan?

20 MR. JONES: Yes, sir?

21  DR. RYAN: Bill, thank you for your -- I'm  
22 just trying to decide if I'm on. There we go. On  
23 your slide. Since you talked a little bit about the  
24 ground water issues -- and I'd appreciate some  
25 additional information, particularly with regard to,

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1 you know, what in the region have you seen as the  
2 extent of condition for ground water contamination and  
3 then kind of a discussion of what are on-site versus  
4 off-site issues.

5 And the on-site versus off-site, from my  
6 interest, is really one of how do you hand off from  
7 one regulation to the next, because they have  
8 different bases by which you can make that handoff.  
9 That's a mouthful, but --

10 MR. JONES: Yeah. From the on-site  
11 standpoint we clearly have the requirements in place  
12 that include our oversight inspection activity as far  
13 as where tritium contamination has been identified.  
14 We look at the areas where the monitoring's occurring,  
15 and we see whether or not there's a progression to  
16 those monitoring wells, for example.

17 We're also looking at just the potential  
18 sources of where the tritium may be coming from,  
19 whether or not there is leakage within a pipe or  
20 system that runs along the licensee's property that  
21 may be leaking that could be contributing to those  
22 type of things.

23 So those are clearly areas that fall  
24 within the Reactor Oversight Program and take us to  
25 the site boundaries and looking at that.

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1 Other than that, there's the reports that  
2 are issued as far as the outcomes from the monitoring  
3 at the wells. And, you know, we really focus on the  
4 aspects up to the wells, to leakage and things of that  
5 nature. And for the scope of tritium issues in the  
6 Region II plants, we're seeing that for those plants  
7 that do see it, that we do have a good understanding  
8 of where it is, how we're monitoring it and continue  
9 to push towards eliminating any kind of leakage or  
10 determining where the sources may be coming from.

11 As far as hand-off is concerned, I'd have  
12 to look at the discussions we have with headquarters  
13 personnel and the overall integration of that. And  
14 that's really occurring at the headquarters level  
15 through some individuals. I'd have to get more  
16 information for you on that.

17 MR. McCREE: If I could just follow up,  
18 Dr. Ryan. Victor McCree, regional administrator.

19 We have several sites in Region II that  
20 have identified on-site tritium contamination:  
21 Oconee, Vogtle, Hatch, Brunswick, Harris. There may  
22 be one or two others, but those certainly come to  
23 mind.

24 The levels have in some cases triggered  
25 the voluntary NEI guidance for reporting, but in all

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1 cases they are below limits for, again, any off-site  
2 contamination licensees have -- and Watts Bar is  
3 another -- have in another -- many cases -- all cases  
4 established a plan for identification of plume  
5 progression and identified mediation methods that we  
6 have inspected in cases -- in many cases. In fact, in  
7 all cases where the licensee has needed to make  
8 notification of state representatives, they've -- our  
9 oversight organizations, they have done so.

10 What is most noteworthy, though, at least  
11 in Region II by comparison to our colleagues up in  
12 Region 1 and perhaps even in Region 3, there has been  
13 markedly less public interest, public outcry, if you  
14 would, when these notifications are made. I think one  
15 of those reasons is the manner in which the licensees  
16 or several licensees have engaged the public  
17 proactively, bringing them into the site, talking to  
18 them about what -- first, what tritium is, what the  
19 hazards are associated with it and what they're doing  
20 to mitigate the -- again, the spread of the plume and  
21 so forth.

22 So while there has been -- have been  
23 examples again, they have not gotten the notoriety, if  
24 you would, from some other sites outside Region II.

25 DR. RYAN: Thank you. That's very

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1 helpful. Just to be clear and to make sure everybody  
2 understands tritium right, as I understand it, it is  
3 the only radionuclide you've identified. You haven't  
4 seen any contamination with any extent beyond the  
5 tritium. Is that correct?

6 MR. McCREE: Again, Victor McCree. To my  
7 knowledge, that is correct. And if my answer is  
8 anything different than that, I'll get you an answer  
9 before you leave today. But I'm --

10 DR. RYAN: Other than in-plant  
11 contamination --

12 MR. McCREE: Right.

13 DR. RYAN: -- which is another -- other  
14 radionuclides. But I think my understanding is --

15 MR. McCREE: Right.

16 DR. RYAN: -- that what you said is true.

17 MR. McCREE: And I would mention, again,  
18 we have responsibility for fuel cycle facilities. So  
19 I know that there's another -- other areas where there  
20 are -- is contamination that perhaps Tony could speak  
21 to when he comes up.

22 DR. RYAN: Okay. Great. Thanks.

23 MR. McCREE: All right.

24 DR. RYAN: Thank you both.

25 MR. JONES: There is temporary instruction

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1 173 that's going to provide additional inspection  
2 guidance for inspectors.

3 CHAIRMAN SIEBER: Do members have any  
4 additional questions?

5 (No response.)

6 CHAIRMAN SIEBER: If not, thank you very  
7 much, Bill --

8 MR. JONES: Thank you.

9 CHAIRMAN SIEBER: -- for your excellent  
10 presentation.

11 I would like to now move to Tony Gody, who  
12 is director, Division of Fuel Cycle Inspection, for  
13 his presentation on fuel cycle inspection program  
14 overview.

15 Tony?

16  MR. GODY: Good morning, ladies and  
17 gentlemen. As you indicated, my name is Tony Gody.  
18 I'm the director of the Fuel Facility Inspection  
19 Program for the NRC. This morning I'm going to be  
20 discussing the Fuel Facility Inspection Program. And  
21 in that discussion one of my goals is to -- sorry, got  
22 ahead of myself.

23 One of my goals today is to outline the  
24 Fuel Facility Inspection Program to you all and  
25 identify areas where we think efficiency and

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1 effectiveness improvements can be made. We are --  
2 overall, we believe the program is effective as it is  
3 now. But there are things that we can do to improve  
4 it.

5 I know you have some interest in some  
6 current activities that the NRC is engaging the  
7 industry on with respect to things like implementing a  
8 Corrective Action Program and perhaps even adopting a  
9 revised and improved Fuel Cycle Oversight Process  
10 which may include things like cornerstone and  
11 significance determination processes and the  
12 definition of performance deficiency. So through my  
13 presentation today I'll attempt to address those areas  
14 and we'll have an opportunity to have a dialogue.

15 An overview of the inspection program.  
16 The current Fuel Facility Inspection Program  
17 essentially has all the elements, with the exception  
18 of some small aspects of the current reactor oversight  
19 process. We have core inspections. We have plant-  
20 specific reactive inspections, initiative inspections,  
21 generic safety issue inspections and licensee  
22 performance reviews. The devil, of course, is in the  
23 details of each one of those things.

24 For example, our Core Inspection Program,  
25 like the Reactor Program, is a definition of what a

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1 minimum inspection program in each facility looks  
2 like. And that program is tailored to the facility  
3 and fuel cycle. As you know, these facilities are --  
4 have a wide degree of variability and a wide degree of  
5 regulatory commitments. It's a very mature industry  
6 and some of these facilities have been around a really  
7 long time. And in those cases those regulations and  
8 those requirements are very different than some of the  
9 new ones.

10 One of the areas in our core inspection  
11 program that can be improved through a revised  
12 oversight process is that we believe that some  
13 efficiency and effectiveness could be gained by  
14 modifying that core inspection program and aligning it  
15 to cornerstones, going through a very rigorous review  
16 to identify where we have some redundant inspection  
17 requirements and perhaps assessing the frequency at  
18 which we do those inspections based on the  
19 significance and importance and maybe even licensee  
20 performance in those areas.

21 And the area of your reactive inspections,  
22 you know, we currently have a process that allows us  
23 to implement special inspections, augmented  
24 inspections and even incident investigation teams.  
25 And that process is an agency process. And we

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1 implement that process. We do that very consistently.

2 We believe we currently have the right threshold.

3 But one of the aspect of having a revised  
4 oversight process would allow us to develop and give  
5 us an opportunity to have a more structured decision-  
6 making process. And that would improve our  
7 predictability and consistency in implementing those  
8 programs.

9 Our Supplemental Inspection Program  
10 currently is really driven by licensee performance  
11 assessments. We believe that if we were able to  
12 develop an agency action matrix for fuel facilities,  
13 establish a significance determination process for  
14 fuel facilities and develop a clearly -- a clear and  
15 supplemental inspection program which may or may not  
16 look like the Reactor Program we would also improve  
17 our predictability and consistency.

18  MR. ABDEL-KHALIK: Do you see any  
19 fundamental reason why an oversight process for fuel  
20 cycle facilities could not mirror what we do on the  
21 reactor side?

22 MR. GODY: Yes, sir. That's a very good  
23 question. I'm not sure your mike is on.

24 But the question was, Is there any reason  
25 why the -- a fuel -- a revised fuel cycle oversight

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1 process or program could not actually mirror the  
2 reactor program. It's a very complicated answer to  
3 that question. And I suspect we could spend hours  
4 discussing that.

5 But I think -- at a high level I think  
6 it's important to recognize that the current fuel  
7 cycle industry -- there's 11 facilities. The profit  
8 margins of those facilities are -- range from zero to  
9 a small amount. They're not significantly profitable  
10 organizations. So developing an infrastructure like a  
11 reactor infrastructure would require a significant  
12 dialogue between the NRC and the industry and all the  
13 stakeholders involved in this to develop something  
14 that's going to be beneficial to everybody and cost-  
15 effective to everybody.

16 So I think the primary -- the key aspect  
17 of whether or not we can move forward with a mirror of  
18 a reactor process is this aspect. So it's very  
19 important to understand and communicate to the  
20 industry and other stakeholders for every option we  
21 consider what the cost is and what the benefit is.  
22 And I'll address some more of that in my presentation.

23 MR. ABDEL-KHALIK: That's fine.

24 MR. McCREE: If I might. Victor McCree,  
25 regional administrator. The most important reason is

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1 that the Commission has told us to go more slowly, a  
2 bit more methodically. We are not new into the  
3 thinking -- the importance of revising the oversight  
4 process for fuel cycle facilities. And made a  
5 proposal, if you would, to the Commission in the fall  
6 of 2009 which the Commission considered. And as Tony  
7 will talk about in a minute, gave us specific  
8 direction in a couple of areas as part of a -- perhaps  
9 a more methodical approach to developing an oversight  
10 process.

11 The industry, while very involved with us  
12 in developing the framework for a process in mostly  
13 the calendar 2009 I think was a bit concerned about  
14 the potential cost, as Tony alluded to. And there's a  
15 multi-layered cost in there, as people process  
16 procedures, et cetera, et cetera.

17 But where we'll get to and I believe Tony  
18 will speak to in just a minute, I believe will be a  
19 process that they would find more acceptable. And  
20 it's one that we've been very involved with our  
21 colleagues at NMSS in developing. And I'm cautiously  
22 optimistic that the Commission will find more  
23 acceptable as we brief them this fall -- I believe  
24 it's in November that we'll have an opportunity to  
25 brief the Commission on where we are in the process.

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1 CHAIRMAN SIEBER: Thank you, Victor.

2 MR. GODY: Some of the enhancements that  
3 we're actually considering to the program -- and I  
4 think it's very important to say before I even start  
5 talking about that -- we currently believe that the  
6 existing inspection program and processes we have in  
7 place are effective to assure safety and security at  
8 the fuel cycle facilities.

9 We do believe that we can improve the risk  
10 information in our process and develop a risk-informed  
11 methodology for implementing consistent programs. We  
12 do believe that we can improve our processes to ensure  
13 that we can implement predictable and consistent  
14 performance-based regulation. And we believe that we  
15 can do this whole process in a very predictable and  
16 transparent manner.

17 What Victor indicated earlier that the  
18 staff has received a number of staff requirements  
19 memorandums from the Commission -- and I'll talk a  
20 little bit about each one of those.

21 The first one that I'm going to talk about  
22 involves a direction to provide encouragement to the  
23 industry to implement effective corrective action  
24 programs and then allow -- modify the enforcement  
25 policy to allow licensees credit for identifying and

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1 placing issues in their corrective action program at  
2 the Severity Level 4 or perhaps green level in the  
3 future. And that would be a non-cited violation.

4 The other aspect has to -- or staff  
5 requirements memorandum has to do with the  
6 Commission's direction to consider the development of  
7 cornerstones, so I'll talk about those as we go  
8 through here.

9 The Corrective Action Program. As  
10 indicated, the Commission did provide us direction to  
11 go ahead and try to come up with a way to encourage  
12 the implementation of a corrective action program in  
13 the industry. What's important to note here is that  
14 every fuel facility in this country currently has a  
15 regulatory requirement and a commitment in their  
16 license to implement some form of corrective action  
17 program.

18 Some of these facilities were licensed in  
19 the '50s and some are licensed recently, so the  
20 commitment is in the form of a very varying program.  
21 It ranges from, It broke therefore we shall fix it to,  
22 We have a full-blown program that models a 10 CFR Part  
23 50 Appendix B program or an NQA-1 program. So there's  
24 considerable variability in the industry on those  
25 types of programs that they're committed to.

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1           And with that said, we do inspections of those  
2 programs. And we've concluded that those programs as  
3 they've been committed to and as they're required to  
4 implement are effective at each one of those  
5 facilities in accordance with those commitments and  
6 those requirements.

7           The question is should they adopt a common  
8 standard. So it's important to understand what are  
9 the incentives. Our current enforcement policy for  
10 fuel cycle differs from the reactor enforcement policy  
11 in that if inspectors -- if the NRC identifies a  
12 Severity Level 4 violation for a fuel cycle facility  
13 it has to be a cited violation.

14           So our inspection reports, if the  
15 inspector identifies the issue, will document at least  
16 a Severity Level 4 NLB if it's more than minor. And  
17 if it's greater than Severity Level 4 we go through  
18 the enforcement process to determine what the actual  
19 Severity Level is.

20           The Commission's direction was to try to  
21 encourage the industry to develop and implement an  
22 effective Corrective Action Program. So the staff --  
23 and implementation of this is all about the strategy  
24 of how to get the industry to do this, how to get the  
25 industry to recognize the need to do a corrective

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1 action program and implement this revised corrective  
2 action program. And it's all about what the benefits  
3 they could reap from this program.

4 Because I can tell you that some of these  
5 facilities get one or two Severity Level 4 violations  
6 a year. And us telling the industry that we'll give  
7 them an un-cited violation as a benefit means very  
8 little to them. Other facilities will get -- have  
9 multiple violations every year and it means a little  
10 bit more to them. So the facilities that might have  
11 very small but effective corrective action programs  
12 and only get a couple of violations a year, there's  
13 got to be some more to motivate them to buy into a  
14 broader, more effective, more consistent corrective  
15 action program. So this is really all about what  
16 strategy the NRC and the industry can employ to make  
17 the adoption of a corrective action program palatable  
18 for both the regulator and the industry.

19 So the staff has gone through and  
20 developed what we think is an effective corrective  
21 action program for fuel cycles. And we are in the  
22 process of discussing that with NEI. We believe that  
23 we can convince the industry that it is beneficial to  
24 them to adopt the program. And we're in the process  
25 of doing that.

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1           How it's actually going to be implemented  
2 is to be determined. This slide here talks about what  
3 the benefits of a strong corrective action program  
4 are. I don't think I need to go into a lot of detail  
5 here. I think it's -- everybody understands. You  
6 know, it's a benefit to both the industry and to the  
7 NRC.

8           We would like to say that the nuclear  
9 industry, both fuel cycle and reactors, are very good  
10 at identifying their own problems, that they classify  
11 those problems with the right importance, that they  
12 correct those problems on their own, that the  
13 corrective actions they implement are effective both  
14 from the perspective of fixing the immediate problem  
15 and -- wow -- fixing the immediate problem and fixing  
16 the root causes and the contributors to that problem  
17 so that it doesn't occur again.

18           So I think the benefits are obvious from a  
19 regulatory perspective. I think if you look at from  
20 the perspective of the industry they believe what they  
21 currently have is fine. So we've got to be able to  
22 work from a common process and move forward.

23           Boy, that's a really kind of disturbing  
24 vibration. Anyway, so once we get agreement on what  
25 an effective corrective action program is with the

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1 industry we've got to figure out the best way to  
2 implement that. Is the best way to have the industry  
3 bring forward what they think is an effective  
4 corrective action program and then we review it and  
5 endorse it? Is it something that we actually just put  
6 in a standard and ask the industry to adopt? Is it  
7 one -- is it going to be a voluntary program? All  
8 that still has to be worked out with the industry and  
9 all our stakeholders. And believe me, everybody has a  
10 different opinion. So we're still working through  
11 that.

12 It is important to recognize that a mature  
13 industry has all the attributes of a strong and  
14 effective corrective action program and that that is  
15 the foundation for the reactor oversight process. If  
16 you recall, the foundation for the reactor oversight  
17 process was that we have -- were confident that the  
18 industry would mature, that they could identify their  
19 own problems and fix their own problems and that they  
20 had demonstrated improved performance and decreased  
21 events.

22 We are not in exactly the same place for  
23 fuel cycle. So our path forward for implementing the  
24 Commission direction on providing incentives for  
25 corrective action program is to one, develop the

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1 corrective action program, what we think is the right  
2 thing. Get industry buy in. Establish a process that  
3 would allow us to assess the implementation of that  
4 corrective action program. And then once the NRC has  
5 decided -- or determined that it's an effective  
6 corrective action program we would be able to apply  
7 the future enforcement policy to it.

8 This slide has to do with talking about  
9 the Core Inspection Program. As I indicated earlier  
10 I -- we believe the current inspection program for  
11 fuel cycle is effective and efficient and it does  
12 result in the -- in a good outcome. We do believe we  
13 can improve the efficiency and we do believe we can  
14 reduce redundancy. And it is important to recognize  
15 that the current program is working.

16 In order to improve effectiveness and  
17 efficiency there's a number of pieces to the Core  
18 Inspection Program that are currently being  
19 implemented, will have to be improved and others will  
20 have to be developed and implemented.

21 A healthy inspection program has a strong  
22 feedback system and has a continuous improvement  
23 process that has us go through each procedure and  
24 provide feedback opportunities for our inspectors.  
25 That is currently being done. It can be improved. It

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1 can become more efficient.

2 A good core inspection program that is  
3 aligned with a revised oversight process would align  
4 the program to certain adopted cornerstones and would  
5 provide us an opportunity to align our inspection  
6 procedures and program to those cornerstones. And it  
7 would give us the opportunity to go through a rigorous  
8 review of our inspection procedures and develop a  
9 program from the ground up like the reactors did.

10 In addition to that, a significance  
11 determination process, if implemented, would give us  
12 feedback on areas of inspection that might need more  
13 focus or more frequency or even less focus and less  
14 frequency. So I think the implementation and going  
15 through the process of developing a significance  
16 determination process could inform our inspection  
17 program.

18 And finally, with respect to the Core  
19 Inspection Program the development of a clear action  
20 matrix and a clear licensee performance assessment  
21 process would provide us the opportunity to make  
22 adjustments to that inspection program for licensees  
23 that are either doing very well or not so well.

24 The other piece of the program that I  
25 didn't talk about is revised fuel cycle oversight

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1 process. And I attempted to cover most of those in  
2 discussing the Core Inspection Program. The one piece  
3 that I actually did not talk about was the performance  
4 deficiency. And the industry does have considerable  
5 angst with the adoption of a reactor definition for  
6 performance deficiency.

7 We talked with NEI yesterday to indicate  
8 that -- in our public meeting on August 18, I believe  
9 it is, we'll want to have a dialogue about that. We  
10 clearly would want to adopt a definition similar to  
11 the one that the reactor program has. And I think  
12 what's important in that dialogue is having a clear  
13 understanding of what the minor threshold is and what  
14 benefits the industry could get and what benefits the  
15 NRC could get by having a clearer definition of  
16 performance deficiency and the proper threshold for  
17 minor issues.

18 So I think I've covered most aspects of  
19 what we would consider a good fuel cycle oversight  
20 program based on what we currently do. So any  
21 questions?

22 MR. STETKAR: Yes, I have one. Tony, are  
23 there any coordination or collaboration issues with  
24 the agreement states? I know many of the fuel cycle  
25 facilities are in a agreement states. And does this

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1 program in any way interact with the agreement state  
2 program folks?

3 MR. GODY: I don't think it will have a  
4 significant interact -- need for interaction, nor will  
5 it have a significant impact on them. With that said,  
6 you know, the agreement states have been going to our  
7 public meetings, some of them. And there's some  
8 involvement. But I don't think it's that significant.

9 MR. STETKAR: I'm sure from their  
10 perspective it's the same kind of handoff issue. At  
11 some point they pick it up in their state program  
12 regulations.

13 MR. GODY: Well, for material licensees  
14 that's the case.

15 MR. STETKAR: Yes.

16 MR. GODY: For fuel cycle --

17 MR. STETKAR: Not so much. Yes.

18 MR. GODY: -- it's not so much.

19 MR. STETKAR: Okay. All right. Thanks.

20 CHAIRMAN SIEBER: Do members have any  
21 additional questions?

22 (No response.)

23 CHAIRMAN SIEBER: If there are no  
24 additional questions I'd like to thank you, Tony, for  
25 your presentation.

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1 MR. GODY: Thank you.

2 CHAIRMAN SIEBER: And we are now scheduled  
3 to take a break. And so we'll do that next. Then we  
4 will resume at 10:25 a.m. according to our schedule.

5 (Whereupon, a short recess was taken.)

6 DR. SHACK: The meeting will now resume.  
7 And I may announce as part of our opening statement  
8 that we can appreciate statements from members of the  
9 public. We have received no written requests for  
10 members of the public to speak at the meeting.  
11 However, at the conclusion of the presentations we  
12 will permit public statements from members of the  
13 public. And in that case we need to know for the  
14 transcript the person's name, their affiliation and  
15 request that they use one of the microphones located  
16 throughout the room.

17 At this point I would like to reintroduce  
18 the regional administrator.

19 MR. BLAMEY: Thank you, Dr. Shack.

20 And in my opening I failed to introduce  
21 Len Wert. Leonard Wert is the deputy regional  
22 administrator for operations in Region II. Another  
23 area where, by the way, Region II is unique in  
24 comparison to the other three regions is that the  
25 Commission has allowed us to have two deputy regional

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1 administrators, one for operations -- that's Len  
2 Wert -- and one for construction. And acting in that  
3 role is Fred Brown, as I mentioned earlier.

4 Dr. Ryan asked a question about are there  
5 other isotopes. There are none, other than tritium  
6 that have been identified. However, I've been  
7 reminded that our licensees routinely sample any  
8 tritium effluence or any other discharges for other  
9 isotopes, strontium, nickel, cesium and so forth, and  
10 have not identified any. So tritium is the only  
11 effluent.

12 DR. RYAN: Thank you.

13 MR. BLAMEY: You'll also note joining us  
14 at the table and on the agenda is Mr. Bill Webster.  
15 Bill is the senior vice-president for industry  
16 evaluations at the Institute of Nuclear Power  
17 Operations. NPO, as we know, is right up the street  
18 about 15 minutes up Interstate 75. So we wanted to  
19 take the opportunity to have him join us, as well.

20 Dr. Bley asked a question regarding  
21 Robinson, I believe, in terms of what we've done  
22 there. Bill alluded to several of the lessons learned  
23 or insights that actually were articulated very well  
24 in the performance deficiencies that we wrote after  
25 the augmented inspection at Robinson. And one of

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1 them -- well, at any rate, we are following up on  
2 those.

3 One of the areas it points out is -- for  
4 us is the adequacy of our requal, operator licensing  
5 requalification inspections, which we're looking at  
6 currently to see if we need to do more there. But  
7 Bill is going to talk pretty extensively about what  
8 the industry is doing in that area. Thank you.

9 CHAIRMAN SIEBER: Thank you very much.

10 The next item on the agenda relates to the  
11 Center for Construction Inspection. We have several  
12 speakers, starting with Alan Blamey, chief of the  
13 Construction Projects Branch 2, Division of  
14 Construction Projects.

15 Alan?

16  MR. BLAMEY: Good morning. And thank you.

17 My name is Alan Blamey and I'm the chief of  
18 Construction Projects Branch 2, which deals with the  
19 infrastructure development for new reactors. And  
20 today I'd like to provide a brief overview of the  
21 Center for Construction Inspection. And as we go  
22 forward I'll refer to it as CCI. And CCI is an NRC  
23 Center for Excellence. It was a created to inspect  
24 the construction of new fuel facilities, as well as  
25 new reactors.

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1           The mission for the CCI is to provide  
2 assurance in the safety of future operations at new  
3 nuclear facilities by ensuring that licensees and  
4 applicants construct the facility in accordance with  
5 the approved design criteria using appropriate  
6 practices and quality materials.

7           To accomplish this task we have two  
8 divisions.     The first division is Division of  
9 Construction Projects.   And there's four branches in  
10 this division.   And this division manages the resident  
11 inspectors, as well as the inspection program for the  
12 facilities.   You can see that there's a branch for the  
13 fuel facility construction, the Watts Bar Unit 2  
14 construction and the oversight of Vogtle and VC  
15 Summer, which is Part 52, as well as the  
16 infrastructure development branch.

17           And then a Division of Construction  
18 Inspection.   They provide the technical expertise to  
19 the center.   And there's three branches there.  
20 Electrical and I&C, civil and then mechanical.

21           To begin with, I'd like to talk about new  
22 reactor construction inspection program, and this  
23 would be for facilities constructed in accordance with  
24 10 CFR Part 52.

25           DR. BLEY:   Can I interrupt you just as

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1 you're beginning?

2 MR. BLAMEY: Yes.

3  DR. BLEY: In hopes that you'll get to  
4 this somewhere along the line, there's a new -- I  
5 think it's almost complete or is complete --  
6 inspection package for DAC, for new plants. It was  
7 going to be piloted with South Texas and that died  
8 along with the delays there. I'm wondering if there's  
9 plans for the pilot to occur somewhere that you can  
10 talk about. And anything else you can say about that  
11 along the way here I'd appreciate.

12 MR. BLAMEY: And what I'd like to do with  
13 that, if I could -- I know Mark Lesser has been  
14 involved with the DAC pilot. So as we move through  
15 the program he may be able to provide some additional  
16 insight specifically in that area.

17 That works with you, Mark? Okay. Thank  
18 you.

19 To begin with, with the New Reactor  
20 Construction Inspection Program there's really two  
21 components of it. The first main component that the  
22 Center will be inspecting will be the inspection of  
23 ITAAC, which are Inspection Test Analysis and  
24 Acceptance Criteria. And this will be done under  
25 Manual Chapter 2503.

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1           The second major component of the  
2 inspections that we'll be carrying out will be the  
3 inspection of construction and operational programs.  
4 The construction programs, CCI will be doing the bulk  
5 of those inspections. And those inspections will  
6 include such things as quality assurance, reporting of  
7 construction deficiencies, ITAAC maintenance,  
8 commercial grade dedication, as well as some others.

9           The operational programs will be inspected  
10 typically using the host region. These are  
11 inspections such as fire protection, maintenance rule.

12          And these will occur later on in the construction  
13 life cycle. To do the inspections these inspections,  
14 specifically the ITAAC inspections are a little bit  
15 more complex than what we would normal do under the  
16 reactor -- under the operating reactors.

17          To do the inspection of the ITAAC the  
18 individual has to understand the structures, systems  
19 and components, as well as the construction processes  
20 that are used in constructing the ITAAC. Once the  
21 individual has an understanding of these particular  
22 items he can then use these to develop inspection  
23 plans that would inspect the particular ITAAC, the  
24 structures, systems and components and the processes  
25 that are involved with constructing that ITAAC.

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1           The inspection plans that we develop we  
2 then use to go through and develop an inspection  
3 schedule which has activities that are supported by  
4 the construction plans, the inspection plans that we  
5 put together. These -- the construction inspection  
6 program that the NRC has -- the NRC inspection  
7 schedule is then loaded in to primavera and we then  
8 use the construction primavera schedules that we get  
9 from the licensee periodically and we make ties from  
10 our inspection schedule to the licensee's construction  
11 schedule. And in doing this, this will take in  
12 sequence the NRC inspection schedules over the life  
13 cycle of the construction facility.

14           In addition to the ITAAC inspections that  
15 we do, we also do the inspections of the construction  
16 programs, as I talked about. And typically, these  
17 inspections are based mainly on the procedures that we  
18 have that I spoke of before, the quality assurance  
19 procedures, as well as some of the other procedures,  
20 the ITAAC maintenance procedures. And these do not  
21 necessarily depend as heavily on the construction  
22 schedule.

23           So the -- developing the inspection  
24 schedules for these and laying this program out is  
25 much more in tune with similarities in the reactor

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1 oversight process where they can be laid out on a  
2 periodicity and then executed with team inspections.  
3 And these are all laid out in the construction  
4 inspection schedule.

5           Developing the schedules for the ITAAC  
6 inspections can be time consuming. And because of  
7 this the Center for Construction Inspection started  
8 several years ago to go back through and develop the  
9 process and the schedule for the ITAAC inspections.  
10 And at this point in time we used the design  
11 certification document for the AP-1000. And at that  
12 time it was Revision 17. So we've completed  
13 approximately 80 percent of the inspection plans using  
14 the DCD Revision 17. We've just recently started to  
15 go back and look at Rev 19 and do the reconciliation  
16 between the two documents to ensure that our  
17 inspection plans and our inspection schedules will be  
18 updated to the most recent revision.

19           In addition to that, looking once again at  
20 the program schedules, they are typically much easier  
21 to develop, not as detailed. And we've developed  
22 those inspection program schedules out approximately  
23 two years now. We have one in draft that we're  
24 reviewing. And that will essentially be the backbone  
25 of the program inspection schedule that we have

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1 throughout the construction life cycle.

2 CCI continues to work with the Office of  
3 New Reactors on a development of CIPIMS 2.0. CIPIMS  
4 is the acronym we use, which is the Construction  
5 Inspection Program Information Management System.  
6 This particular program that we have is used in the  
7 planning process. It facilitates bringing together --  
8 as I talked before with ITAAC -- the structure,  
9 systems and components, as well as the processes that  
10 are used to go through and construct those particular  
11 SSCs that are associated with an ITAAC.

12 In addition to that, once the inspection  
13 plan -- the high-level inspection plan is developed in  
14 that program that is then used to facilitate the  
15 particular scheduling of those ITAAC inspections and  
16 also, it will facilitate the documentation of the  
17 inspection results.

18 CIPIMS 2.0 is a new revision that is  
19 targeted to come out in early calendar year 2012. And  
20 that should be available for the inspectors to use.  
21 It is a significant upgrade over the current program  
22 that we have.

23 And as we move forward one of the  
24 opportunities that we have is to transition to the CIP  
25 implementation. Up to this point in time a CCI,

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1 specifically the Part 52 groups, have been involved in  
2 going through and heavily developing the program.  
3 We're in the process right now of transitioning over  
4 to executing the program. Currently we're receiving  
5 regular upgrades -- updates to the applicant's  
6 construction schedule which we're now using to then  
7 move our inspection schedule based upon the  
8 availability of the activities to inspect at the  
9 construction sites.

10 At Plant Vogtle we have two resident  
11 inspectors that are on site right now. And VC Summer  
12 within the next several weeks will have the first  
13 resident inspector at that site.

14 The resident, as well as the regional  
15 staff have been conducting inspections at Vogtle.  
16 We've -- in the process of conducting ITAAC  
17 inspections, as well as the program inspections, the  
18 quality assurance program and security fitness for  
19 duty program. And we've completed the first semi-  
20 annual performance review of Vogtle Unit 3 and 4 in  
21 February of this year. And the performance review at  
22 that point in time concluded that Vogtle was in the  
23 baseline column on the construction action matrix.

24 Are there any questions?



25 MR. ABDEL-KHALIK: The ITAAC inspections

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1 are obviously ITAAC specific. And, in fact, they are  
2 DCD revision specific. You indicated that, you know,  
3 these ITAAC inspections were developed based on Rev 17  
4 of the DCD. What's involved in making sure that they  
5 are still applicable for Rev 19.

6 MR. BLAMEY: Uh-huh. What we're currently  
7 doing, we have a reconciliation process that we void  
8 out. And we've started executing that this week. The  
9 reviews that we're conducting right now are taking a  
10 look at the specific ITAAC and going through and doing  
11 a line-by-line comparison of the ITAAC between the DCD  
12 revisions, including going through and looking at the  
13 structures, systems and components table, looking to  
14 make sure that the data base that we have is correct,  
15 that the inspection plans that we've developed are  
16 correct, as well.

17 We've gone through the first 87 -- of the  
18 targeted ITAAC that we're going to look at,  
19 approximately 235 ITAAC that we're going to look at,  
20 we've gone through the first 87 this past week. And  
21 in going through and looking at those first 87, which  
22 we believe are going to be the first ITAAC that will  
23 be available to inspect, we found several small  
24 changes through that process.

25 So we'll then take those changes,

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1 essentially go back through the planning process with  
2 those changes, make any changes that are necessary  
3 with the experts that are involved with the DCI  
4 people. And then once we do that that will constitute  
5 the new inspection plan for those ITAACs. And that  
6 will then be translated into the construction  
7 inspection schedule that the NRC has.

8 MR. STETKAR: Alan, you mentioned -- I  
9 think you said 237. I don't care about the specific  
10 number. But I'm assuming there was some criteria that  
11 you used to select those specific ITAAC for inclusion  
12 in your inspection program. Are you looking at any  
13 changes from Rev 17 to Rev 19 of the DCD that might  
14 alter the decision criteria that you made about which  
15 specific ITAAC you might focus on? You know, you did  
16 sort of the accounting process for the ones you had  
17 selected before. But have you thought about any  
18 changes that you might make, in terms of that  
19 inventory?

20 MR. BLAMEY: Based upon the reviews that  
21 we've done so far the inventory, I believe, is going  
22 to stay similar. The process that I talked about  
23 earlier, the time-consuming process, it's really a  
24 two-step process. Once the ITAAC are developed  
25 typically in the Office of New Reactors there's an

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1 expert panel that's developed.

2 And that expert panel will go through and  
3 look at the ITAAC and then they will characterize the  
4 ITAAC into families, which would be ITAAC that have  
5 similar characteristics and similar processes. And  
6 then once they're in families they will also go  
7 through and rank the ITAAC using some criteria that  
8 really comes down to inspectability.

9 Some of the criteria they use is risk  
10 significance, is it the first-of-a-kind process that's  
11 going to be used to construct this ITAAC, how  
12 inspectable is it. For example, rebar you may only be  
13 able to see fire to pouring of the concrete. So once  
14 they go through and look at that process there's a  
15 ranking that comes out of that.

16 And then once that ranking is done they go  
17 through -- the expert panel goes through and they try  
18 to take that ranking and determine 30 to 40 percent of  
19 the ITAAC. With the sampling process we use that's  
20 the sample we're trying to achieve. So the ones that  
21 are scored highest through that ranking process, the  
22 top 30 to 40 percent, are the ones that we  
23 characterize as being targeted. And then those are  
24 the ones that the region takes. And in this case it's  
25 approximately 235.

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1           And then we will take those and then we  
2 will go through the inspection planning process. And  
3 once they're planned we'll go through and work on  
4 scheduling those particular inspections.

5           So where we stand today with that  
6 particular issue -- the discussions we've had with the  
7 Office of New Reactors -- I do not believe that they  
8 plan at this point to go back and do a wholesale  
9 expert panel re-ranking of all of the ITAAC. And if  
10 you go back and look at the way this was originally  
11 put together I believe it was Rev 15 of the DCD that  
12 was actually initially ranked through that process.  
13 Rev 17 was chosen because the licensee at the time was  
14 using Rev 17 for long lead time components and some of  
15 the pre-construction activities and developing a  
16 construction schedule.

17           Rev 19 is what may finally be licensed.  
18 And that's why we're going through. You can see the  
19 involved process to understand the ITAAC and to  
20 develop the plans. And if we waited until Rev 19 came  
21 out at that point in time there may not be sufficient  
22 time to go through and do an adequate, complete plan  
23 of the overall inspection plan through the  
24 construction life cycle.

25           So we've taken what's been done in Rev 15

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1 with the ranking process and we've moved that through.

2 And Rev 17, looking at which ones were ranked -- and  
3 a lot of them were similar in those from Rev 15 to Rev  
4 17. And where we are today, if we go through and look  
5 at the particular ITAAC and we believe that it should  
6 still be ranked at that level we will then include  
7 that in the inspection program.

8 We haven't removed any of the ones that  
9 have been targeted. They are still targeted. The  
10 only thing that we will do is we may add -- if we  
11 believe it's significant enough we may add that into  
12 the population.

13 MR. STETKAR: Okay. I guess I understand.

14 But you said that the folks up at NRO have not  
15 formally gone back through their ranking process. Is  
16 that --

17 MR. BLAMEY: That's correct.

18 MR. STETKAR: That's correct? And  
19 you're -- okay. Thanks.

20 CHAIRMAN SIEBER: Okay. Do members have  
21 any additional questions?

22 MS. REMPE: Thank you.

23 How much growth has your staff had in the  
24 last say, three years?

25 MR. BLAMEY: I believe we are now around

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1 60 people, if I'm not mistaken. And if I'm not  
2 mistaken, CCI started in late 2006 with, I believe,  
3 six people. So --

4 MS. REMPE: So are they coming in with  
5 what type of level of expertise and what are you doing  
6 to ensure they have the necessary expertise for the --  
7 what you're doing?

8 MR. BLAMEY: Thank you. And you can see  
9 the growth in the numbers that we have. And DCI,  
10 specifically the experts, have done a tremendous  
11 amount of work preparing the inspectors. And I see  
12 Chuck Ogle back there who I think would like to make a  
13 comment. Chuck is a director of Division of  
14 Construction Projects.

15 MR. OGLE: Thank you, Alan.

16 I am the director for the Division of  
17 Construction Inspection. And I've been with CCI since  
18 2007. And Alan did give good numbers on the growth.  
19 We have brought folks in from a wide variety of  
20 sources. We've brought folks in from the operating  
21 side, folks that were already qualified as  
22 construction -- or as inspectors in the operating  
23 arena. We've brought in folks that were technical  
24 experts. For example, we've got a very experienced  
25 welding individual.

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1           We've brought a couple of senior  
2 inspectors in from -- for -- all of our inspectors go  
3 through a qualification process, a construction  
4 inspector qualification program which parallels the  
5 qualification process we use on the operating side.  
6 And we've also been doing construction inspection for  
7 the last three years at the facilities that have  
8 construction ongoing right now.

9           CHAIRMAN SIEBER: Any additional questions  
10 from members?

11           (No response.)

12           CHAIRMAN SIEBER: If not, thank you very  
13 much.

14           And to introduce the next topic, I think  
15 I'll give a little bit of an explanation. I'm sure  
16 the members know all about this, but new reactors that  
17 are being built today, starting from initial design  
18 from the ground up, are being licensed under Part 52  
19 of Title 10. And it has certain requirements that  
20 basically say that the design of each type of reactor  
21 will undergo a design certification.

22           And for the elements of the design that  
23 are covered by the design certification, each facility  
24 that utilizes that design will be identical but with  
25 the exception of certain areas or components which may

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1 be unique and which must also be licensed separately  
2 for each facility.

3           However, there are -- most of the -- all  
4 of the existing licensees -- there's 104 operating  
5 reactors in the United States -- they were all  
6 licensed under 10 CFR 50 and not 10 CFR 52. Very few  
7 of those reactors were partially constructed and then  
8 construction -- continued construction, for one reason  
9 or another -- it might be a lesser need for power or  
10 financial reasons or what have you -- construction was  
11 stopped, and the facility was not completed but the  
12 desire has now occurred that these -- some of these  
13 facilities should be completed, but they are not  
14 amenable to licensing under Part 52. We have to go  
15 back to the old licensing method of Part 50 to finish  
16 the construction and license these plants to operate.

17           One of those plants is Watts Bar Unit 2.  
18 It, with the exception of advancements in technology  
19 since Watts Bar Unit 1 was constructed, is basically  
20 identical to -- Watts Bar Unit 2 is basically  
21 identical to Watts Bar Unit 1 except for these  
22 enhancements.

23           And now that this plant is under continued  
24 construction anew, it requires a special effort by the  
25 NRC, and particularly Region II, in order to properly

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1 inspect, complete the licensing of Watts Bar number 2  
2 and bring it to status of commercial operation.

3 And so for our next speaker we will  
4 address the activities that are going on with regard  
5 to the continued instruction of Watts Bar Unit 2 in an  
6 overview fashion. And Mark Lesser, deputy director of  
7 the Division of Construction Projects, will present  
8 this portion of our meeting.

9  MR. LESSER: And thank you very much, Mr.  
10 Sieber, for laying the groundwork for my slides.

11 I am Mark Lesser, the acting deputy  
12 director for the Division of Construction Projects.  
13 And it's my pleasure to talk about Watts Bar 2  
14 oversight. But first let me go back to new reactors  
15 and address the question we did have on DAC, or Design  
16 Acceptance Criteria, and the pilot that had started  
17 with the South Texas project and give you what I can  
18 tell you about that.

19 The Office of New Reactors has the lead on  
20 that pilot. And basically what the goals of that  
21 pilot were to resolve Design Acceptance Criteria for  
22 new reactors was really in response to a request from  
23 South Texas to get their digital INC software DAC  
24 resolved early.

25 And we had actually -- so there was a

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1 pilot set up to look at that and come up with a  
2 resolutions process, which is an inspection-like  
3 process to look at the main three areas, digital INC,  
4 piping and human factors DAC. And we actually had  
5 done -- have some draft inspection procedures to do  
6 that and actually had implemented one inspection on  
7 South Texas on their digital INC. And --

8           However, the Fukushima accident --  
9 basically the response -- South Texas has -- is  
10 putting that on standby right now. So that -- the  
11 timeline for the pilot has really changed. And NRO  
12 still has the lead, so there's not too much going on  
13 in that area right now. There -- we'll have to finish  
14 it up. But we can -- we do know that for -- you know,  
15 that South Texas was using the ABWR technology. For  
16 the AP 1000 and DAC, as it pertains to AP 1000 we do  
17 know that a lot of the DAC will be resolved in the  
18 latest revision. Okay? Particularly in digital INC.

19       There may be some DAC left over. Piping is expected  
20 to be resolved and there will be some --

21           CHAIRMAN SIEBER: In Rev 19.

22           MR. LESSER: Yes, in the -- yes, sir.

23           So that will leave probably some DAC  
24 resolution to be done but not as much as we initially  
25 thought. And obviously, we're going to have to redo

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1 the timeline for how to complete the pilot.

2  DR. BLEY: I just want to mention that I  
3 know South Texas drove this pilot. But we had also  
4 been talking with staff and with the Commission. And  
5 part of the pilot was to let ACRS see how these new  
6 inspection procedures would clear the areas of DAC  
7 that we were concerned about that included design  
8 features that we had thought needed a deep look.

9 And I think we do have a meeting  
10 scheduled, I think, for November or December to hear  
11 about the procedures. But are the DAC inspections  
12 that remain, whatever they are -- I haven't seen the  
13 details yet -- for AP 1000 marching ahead? Or what's  
14 happening? Because I think we have some concern about  
15 seeing how that's going to happen before the first  
16 time it really gets worked out.

17 MR. LESSER: Yes. I -- they're not  
18 marching ahead. There's really no plans right now to  
19 do any DAC inspections or work on that pilot until we  
20 get a better handle on what exactly needs to be done.

21 Like I said, my impression for the AP 1000 is the  
22 number of DAC is going to be reduced with the final  
23 revision to the design certification. It will  
24 probably leave a lot left over, the human factors  
25 which we need to address.

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1 DR. BLEY: Okay. I'm pleased to hear it's  
2 much --

3 MR. LESSER: Yes.

4 DR. BLEY: -- reduced. But looking  
5 forward to hearing more.

6 MR. LESSER: Okay.

7 So back to Watts Bar 2. And what I'd like  
8 to do is talk about the inspection program that we're  
9 currently involved in, what we see for the next year  
10 to year-and-a-half or so and a status report on where  
11 we are.

12 You know, basically given the history of  
13 Watts Bar 2, which was partially completed and  
14 suspended in the '80s, when the Tennessee Valley  
15 Authority notified us they wanted to complete  
16 construction we had to make a decision as to how we  
17 were going to complete our inspection -- our  
18 construction inspection program on Watts Bar Unit 2.  
19 So we really had to define that.

20 And that was defined in Manual Chapter  
21 2517, which was issued in February of 2008. And we  
22 had to consider several considerations as to  
23 completing the old construction inspection program  
24 defined in Manual Chapter 2512 and its subsequent  
25 manual chapters that took the plant from construction

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1 to pre-operational testing to start up, along with any  
2 insights that we had been developing for new reactors  
3 and define really what is it we're going to do to  
4 declare that we have completed -- you know, to verify  
5 the plant has been constructed properly and what type  
6 of regulatory tools we need to use regarding  
7 enforcement, assessment, inspection documentation.

8 So that was defined in Manual Chapter  
9 2517, which is a customized construction inspection  
10 program that tried to, you know, deal with the  
11 uniqueness of Watts Bar 2. So the strategy for  
12 defining that was really done in three phases.

13 Several -- when we first got started in  
14 2006 or 2007 the staff did a reconstitution effort  
15 which was basically to go back to the record and look  
16 at all of our inspection reports that had been  
17 documented on inspecting Unit 2 and basically compare  
18 what we did with what the inspection procedures  
19 require and try to identify what the difference is or  
20 what the delta is and compile that information and  
21 capture that.

22 The second phase was to take that  
23 information and scope it into a -- and build an  
24 inspection program which took the results of phase one  
25 and identified other areas that needed to be

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1 inspected.

2 For example, TVA's corrective action  
3 programs, generic issues which had not been resolved  
4 on Unit 2, special programs like environmental  
5 qualification, construction deficiency reports and, of  
6 course, any components, systems, SSCs that needed to  
7 be reworked or completely rebuilt. And also take any  
8 licensing issues -- any issues that come out of the  
9 licensing process that NRR would like us to inspect  
10 and build an inspection program from that. And we've  
11 done that. And I'll talk a little bit about that.

12 And then phase three is actually to  
13 perform the inspections and complete closure -- or  
14 complete all of the inspection procedures and document  
15 them in inspection reports.

16 The results of that really are compiled in  
17 what we're calling 500 line items of inspection  
18 activities that varied from completion of an  
19 inspection procedure which, you know, may be something  
20 like inspecting cable installation or inspecting  
21 piping support installation to closure of one  
22 unresolved item or one generic letter. So the 500  
23 line items are tabulated. They don't all equal each  
24 other. But that's what we've defined as the  
25 inspection program. And I'll talk a little bit about

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1 our status in that program.

2 But first, let me tell you -- so we're in  
3 the middle of the 2512 construction program now. And  
4 we are preparing for shifting into the pre-operational  
5 testing and operational preparedness phase which is  
6 defined in Manual Chapter 2513. Now, 2513 really  
7 becomes -- is anticipated to become effective  
8 approximately 24 months prior to licensing. So we're  
9 in that phase right now.

10 And what we'll see is a completion of the  
11 construction inspection program and a shifting into  
12 pre-operational testing inspections, which basically  
13 involves reviewing the applicant's testing program,  
14 their testing procedures and observing -- witnessing  
15 tests for acceptance criteria.

16 And also, we are currently assessing the  
17 scope and schedule for inspection of other operational  
18 programs. So this is going to involve the Center for  
19 Construction Inspection bringing in the inspection  
20 expertise of Division of Reactor Projects and the  
21 Division of Reactor Safety to start reviewing the  
22 applicant's processes and programs for radiation  
23 protection, emergency planning, security. And those  
24 are some of them --

25 Which obviously, they are -- there's an

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1 operating unit that has -- these programs have already  
2 been established. So certainly, we would expect  
3 them -- be able -- expect ourselves to take credit for  
4 the performance of those programs and then look at the  
5 new parts of it and the differences as Unit 2 is  
6 brought in.

7 The other part would be the tests  
8 generally that we're going to observe are defined in  
9 the Manual Chapter. They consist of observing several  
10 representative pre-operational tests of system  
11 readiness and also some integrated tests such as a  
12 reactor protection system integrated test, a  
13 containment integrated leak rate test, a loss of off-  
14 site power test, which are all defined for us to look  
15 at.

16 Other programs were not defined by Manual  
17 Chapter 2513; for example, cyber security, which is a  
18 new program, and the fire protection program as  
19 defined in 2513 is obviously not as detailed as what  
20 we have now. So those will also have to be done, and  
21 the Division of Reactor Safety is already working  
22 closely with headquarters to plan those. Those will  
23 primarily be driven by the Office of Nuclear  
24 Reactor -- or nuclear regulation safety evaluation  
25 reports which are evaluating the applicant's -- the

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1 application for those programs. And we'll write  
2 safety evaluations, and then the Division of Reactor  
3 Safety will inspect those compliance and adequacy.

4 And that leads really to fuel load now and  
5 the start-up testing phase, which is defined in Manual  
6 Chapter 2514, which typically in the past has been set  
7 to start six months prior to fuel load. You start the  
8 2514 process, which is going to be initial criticality  
9 inspections, power ascension inspections, reactor  
10 physics-type inspections and then other operational-  
11 type testing as they go up to commercial operation.

12 And then obviously there will be the  
13 transition to the reactor oversight process which is  
14 a -- again, another that we are currently planning on  
15 how we are going to do that.

16 Okay. So the -- again, a little bit more  
17 where we're at. We're currently in -- finishing --  
18 we're currently in the middle, I would say, of 2512,  
19 involved in the construction inspection program. We  
20 completed the end-of-cycle review for 2010 in  
21 February. And the results of that review -- there  
22 were 14 violations identified by our inspectors in  
23 2010, all at the Severity Level 4 category.

24 There's -- one cross-cutting theme was  
25 identified in human performance with four more

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1 examples where violations involved -- this particular  
2 one involved communication of inspection procedure  
3 adherence expectations. And currently, through this  
4 year, through May of 2011, the staff -- the inspectors  
5 have identified non-cited violations.

6 Region II expended close to 15,000 staff  
7 hours in inspection and project management of Watts  
8 Bar 2 which is slightly over our budget at FTE  
9 allowance. And -- but it has been ramping up every  
10 year since the project started a few years ago. And  
11 we expect it to continue to ramp up and are projecting  
12 it even 50 percent higher in 2011 as we get closer to  
13 completion of construction and bring in Division of  
14 Reactor Safety and projects into the operational  
15 readiness reviews.

16 Of the 500 inspection items that I did  
17 mention we claim credit for completing about 94 of  
18 them right now. But I think that number's misleading  
19 because we believe we're significantly over 20 percent  
20 complete. Many of those line items have had  
21 significant inspection activity devoted to it to  
22 understand the applicant's program process. And we're  
23 waiting to get more samples of components actually  
24 being installed in the field in many cases to get  
25 finished with those. And in most of those cases we're

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1 really waiting on Watts Bar's completion of work to  
2 finish up our inspection in there.

3 We do have the -- our mid-cycle assessment  
4 is scheduled for August 11. And one of the -- we're  
5 meeting with TVA periodically at -- trying to get  
6 updated and accurate information on their construction  
7 completion and testing schedule, which is obviously  
8 important for us to be able to schedule our resources.

9 And that's about all I have for Watts Bar.

10 Could I entertain any questions?

11 (No response.)

12 CHAIRMAN SIEBER: Since there are no  
13 questions, thank you very much, Mark, for your  
14 presentation.

15 I'd like next to introduce Bill Gloersen,  
16 who is going to discuss the Mixed Oxide Fuel  
17 Fabrication Facility which the subcommittee visited  
18 earlier this week.

19  MR. GLOERSEN: Okay. Thank you for the  
20 introduction. And like I say, I'm glad to hear the  
21 committee members and staff had an informative tour at  
22 the Mixed Oxide Fuel plant and also, some of the  
23 facilities at the Savannah River site.

24 My name is Bill Gloersen. I am the senior  
25 project inspection for the MOX construction project

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1 here in the Center for Construction Inspection in the  
2 Division of Construction Projects.

3 The staff was asked two questions by the  
4 committee. The first one was pertaining -- well, both  
5 of them actually pertained to the Integrated Safety  
6 Analysis Summary. But the first question dealt with  
7 to what extent has the information in the Integrated  
8 Safety Analysis Summary been used in preparing for  
9 construction inspections at the Mixed Oxide Fuel  
10 Fabrication Facility.

11 And I'd like to address a little  
12 background first. In 10 CFR 70 23(a)(8) it requires  
13 that the NRC verify that the construction of the  
14 principal system structures and components has been  
15 completed in accordance with the application. And  
16 this particular regulation is specific just for  
17 fuel -- or for plutonium processing facilities, which,  
18 of course, the Mixed Oxide facility is one of those.

19 These principal systems, structures and  
20 components -- and I'll just call those PSSCs -- are  
21 defined in the construction authorization request  
22 submitted by MOX services -- there were 53 PSSCs that  
23 were identified in that document. The verification  
24 process is and -- or it will be and is a joint NRC  
25 inspection activity and NMSS technical review activity

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1 and administrative review activity.

2           There was a joint NMSS Region II expert  
3 panel that was formed to not only implement the  
4 verification activities for the PSSCs, but also to  
5 develop the -- you know, the program for verification.

6           For the Mixed Oxide Fuel Fabrication  
7 Facility a construction-related concern would be that  
8 the facility is constructed with an undetected  
9 construction error in one of the principal systems,  
10 structures or components that would adversely affect  
11 the public health and safety or environment.

12           To minimize the concern the NRC  
13 performs -- or -- and will perform inspections to  
14 verify that this facility is constructed in accordance  
15 with the design commitments, the construction  
16 authorization and the quality assurance plan. And  
17 we'd like to point out the inspections do add value by  
18 reducing the likelihood of undetected PSSC  
19 construction errors.

20           Getting back to the first question, how we  
21 use the Integrated Safety Analysis Summary to prepare  
22 for our inspections. And I'd like to point out that  
23 the Integrated Safety Analysis Summary that was  
24 submitted by the applicant had identified  
25 approximately 250 items relied on for safety. And

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1 that equated to approximately -- and it depends how  
2 they're counted -- 12,000 individual IROF components.

3 To put that in perspective, you can have  
4 an ISA level IROF described as a fire damper. That  
5 could equate to several hundred fire dampers or  
6 components, so that's how that number gets to be so  
7 large. The applicant, as I mentioned before, had  
8 identified the 53 PSSCs, and they also associated  
9 these PSSCs back to the IROFs that were identified in  
10 the Integrated Safety Analysis Summary.

11 The technical staff and NMSS -- and it was  
12 an expert panel -- went through and prioritized the  
13 250 IROFs that were described in the ISA summary, as  
14 well as the components. And, of course, when you go  
15 through that prioritization process it was --  
16 information was relied heavily on what was contained  
17 in the Integrated Safety Analysis Summary. So the  
18 staff looked at accident analyses, radiological  
19 hazards, facility hazards, chemical hazards, and  
20 external events and used that information to provide a  
21 prioritization.

22 The staff, technical reviewers, also went  
23 through and prioritized the component types based on  
24 information as mentioned in both the license  
25 application and the Integrated Safety Analysis

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1 Summary. From that step we're taking that information  
2 and developing independent verification plans which  
3 will document which IROFs should be examined through  
4 either an inspection process or a technical review  
5 process that will be performed in NMSS.

6 The verification of --

7 DR. BLEY: May I interrupt you?

8 MR. GLOERSEN: Yes.

9  DR. BLEY: Yes. You just raised something  
10 that leaves me a bit baffled. I tried to read the  
11 Integrated Safety Analysis Summary myself. I have  
12 real trouble seeing how you go from the information  
13 contained in that document in an organized way to  
14 selecting the IROFs you want to look at in an  
15 inspection program. Can you tell us anything about  
16 that?

17 MR. GLOERSEN: The -- I may want to divert  
18 to Dave Tiktinsky, who's the project manager for that  
19 project. But the expert panel -- you know, they look  
20 at -- it's more of a ranking. And they, with their  
21 knowledge of the processes that are associated with  
22 that facility and the information in the safety  
23 analysis -- and they had safety reviewers, they had  
24 fire protection reviewers, they had chemical safety  
25 reviewers, they had plant system reviewers were able

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1 to go through and basically rank which ISA summary  
2 IROFs that we were going to focus on, if you would,  
3 prioritize IROFs or targeted IROFs. And they went  
4 through and documented their ranking process. But  
5 I --

6 DR. BLEY: Okay. So I -- just to  
7 paraphrase that memo here -- the other thing --

8 MR. GLOERSEN: Okay.

9 DR. BLEY: -- we've got the large document  
10 that lays all of these IROFs out and evaluates them.  
11 But the real way to -- that you sort through them is  
12 really some -- your reviewers sitting around and  
13 applying their best judgment to which things are most  
14 important to look at?

15 MR. GLOERSEN: Well, a lot of it was best  
16 judgment. I don't know.

17 Dave, did you want to go ahead and --

18 MR. TIKTINSKY: Yes. I'm sorry. Dave  
19 Tiktinsky for the NRC NMSS. Really, the ISA summary,  
20 the 250 IROFs come from the events. The ISA summary  
21 lays out, you know, numerous types of events that can  
22 happen, things like explosion events, loss of  
23 confinement events.

24 When a technical reviewer goes through and  
25 say, Okay, they're responsible for like, you know,

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1 something like chemical safety, they go through all  
2 the different events that the applicant outlined that  
3 relate to different events that could relate to a  
4 chemical release.

5 And what they've done is they pick certain  
6 ones. When you go through the review it becomes --  
7 with any review we take vertical and horizontal slices  
8 of review and look for the particular events that  
9 would cause the greatest degree of concern. So you  
10 would have some explosion events that would have off-  
11 site effects, would say -- would have something that  
12 would be more important than something that would  
13 maybe just have, you know, a local worker effect.

14 So the reviewers go through and figure out  
15 basically which events are most important, in terms of  
16 review when they do a detailed review on that. The  
17 IROFs that are associated with those events are the  
18 ones that we cut the first screen down from -- based  
19 on the events.

20 So we'll take those -- the IROFs that are  
21 identified for those particular events that we think  
22 are most important and we'll look at those particular  
23 IROFs, say, Okay, which ones of those IROFs are more  
24 important to preventing it. There could be things  
25 like administrative controls, you know. Is the

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1 administration control the most important part? Is a  
2 valve, a sensor or some type of piece of equipment, a  
3 tank -- and looking at those general things and then  
4 trying to make a decision of, Okay, which particular  
5 things are most important, and then from an inspection  
6 standpoint, starting looking at, Well, okay, if we  
7 have particular things -- the items that Bill had  
8 mentioned, chances of construction errors: Is it  
9 something that's more complicated? Is it something  
10 that required, you know, more testing; it's more  
11 unusual? Does it require more instrumentation  
12 control, software control? And we pick those  
13 particular IROFs as a priority and say, Okay, we're  
14 going to focus on those, the same ones that we did for  
15 the technical review.

16 So our inspection process really is  
17 paralleling the inspector's -- or the reviewer's  
18 thought process for how they would take a very complex  
19 facility, very large amounts of information, figure  
20 out which is important and we take the next step of  
21 saying, Okay, now we have some idea of what we think  
22 is most important, we're going to look at the  
23 important aspects for construction inspection.

24 DR. BLEY: Having been through this  
25 process, this complex facility and this very complex

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1 ISA, could you put together -- not on the fly here --  
2 some lessons learned that might guide authors of  
3 future IRAs to give you a way to help sort out these  
4 priorities from their in-depth analysis as they're  
5 going through all this the first time that might have  
6 helped you rather than trying to put this overlay on  
7 at the end of the process?

8 MR. TIKTINSKY: Well, one of the things  
9 we're doing -- as Bill mentioned, we're writing  
10 independent verification plans for each PSSC. We're  
11 also putting together a guidance document that kind of  
12 explains how we did all the stuff, how we prioritized  
13 things, how we got from basically the ISA summary and  
14 all the details to what we're planning on inspecting.  
15 So that is something we're preparing as part of our  
16 backup for our IVP process.

17 DR. RYAN: In your answer it sounds like  
18 you talk a lot about the consequences and the ranking  
19 thereof --

20 CHAIRMAN SIEBER: Would you speak into the  
21 mike?

22 DR. RYAN: You've talked a lot about the  
23 consequences part and the ranking that you've done.  
24 What about the likelihood that you could have a high  
25 consequence of variable likelihood, let's say, versus

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1 an intermediate consequence of a much higher  
2 likelihood? And seeing you could end up with spending  
3 a lot of time on low-probability events that might  
4 have high-incidence potential and not so much on  
5 intermediate consequences that have much higher  
6 probability.

7 MR. TIKTINSKY: The ISA summary, that  
8 particular applicant assumed when they did all their  
9 events that their events could happen. I mean, that's  
10 how they -- their first assumption. We would -- in  
11 part of our ranking, in terms of how we prioritize  
12 things, we also looked at things that actually  
13 happened in the history of fuel cycle industry.

14 So, you know, there's -- we went back and  
15 looked at the events that happened here and  
16 internationally, the experience that were developed  
17 from the French or the reference facilities and were  
18 the kinds of things how they developed the thing. So  
19 we tried to look for all of those kinds of experiences  
20 around the world of what's happened to help guide us  
21 in which events we selected as being more important.

22 DR. RYAN: Okay. So you took into account  
23 the probability of events, as well as the  
24 consequences.

25 MR. TIKTINSKY: Yes. I mean, not

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1 formally, in terms of, you know, looking at numbers.  
2 But, you know, looking at, you know, historical things  
3 of what actually occurred.

4 DR. RYAN: Fair enough. Thank you.

5 MR. GLOERSEN: If I can address your  
6 question. We looked at the 53 PSSCs, where the staff  
7 is mandated by the regulation that we had to look at  
8 all three of those. We realized that we couldn't put  
9 the same level of either review effort or inspection  
10 effort for each one of those 53 PSSCs. So we did  
11 employ methods that are used like you mentioned,  
12 likelihood. We looked at each PSSC. Then the expert  
13 panel went through and looked -- and we didn't make it  
14 too terribly complicated.

15 But we looked at unlikely, likely and  
16 highly likely and gave them numerical values. And it  
17 would -- and plus with the consequence data we were  
18 able to address on how much effort we should focus on  
19 these particular PSSCs, which, you know, translate,  
20 like the slide shows, into the IROFs. So it did give  
21 the staff, you know, some guidance.

22 DR. BLEY: That's helpful. You know, I'm  
23 not looking for a numerical value so much as you did  
24 have some consideration of likelihood. And it's a  
25 three-step breaking system or five or whatever you

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1 want to do. That's -- you did consider that.

2 MR. GLOERSEN: Right. And we defined the  
3 likelihood as, you know, that you have the -- and, of  
4 course, we looked at things like aerial propensity;  
5 we looked at fabricator performance. We looked at  
6 licensee performance and quality assurance program.  
7 And, of course, the likelihood numbers, as we get  
8 through our inspections, could change, depending on  
9 their performance.

10 And in answer to your other question, you  
11 know, this information -- we're in the process of  
12 revising our Manual Chapter 2630, which a lot of this  
13 will be contained in there in one of the appendixes.

14 The second question which I think we sort  
15 of already addressed, can this ISA process be improved  
16 for the construction inspection planning and  
17 preparation? Like I say, we -- the staff --  
18 inspection staff, we always look for ways to improve  
19 our process. And if we be -- like I say, if we can  
20 become more efficient and effective with the limited  
21 resources we're provided to perform the inspections  
22 then that's what we look for.

23 But given that, the -- you know, this --  
24 the MOX Integrated Safety Analysis Summary, as we  
25 pointed out, was a very comprehensive safety analysis.

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1 And it did allow our NRC technical reviewers -- it  
2 gave them enough information to prioritize the ISA  
3 summary-level IROFs, as well as the component-level  
4 IROFs for key -- for the key summary IROFs or the  
5 targeted IROFs, if you will. And these prioritized  
6 IROFs are providing the inspection staff the means to  
7 focus appropriate level of inspection effort on the 53  
8 PSSCs.

9 And are there some questions?

10  MR. ABDEL-KHALIK: My question pertains to  
11 field changes. Based on discussions with the MOX  
12 facility staff, my understanding is that there have  
13 been several thousand field changes implemented during  
14 the construction process. And I assume that the  
15 licensee goes through an evaluation to assure that  
16 these field changes do not impact the design basis.  
17 But how do you assure yourself that these -- the field  
18 changes do not impact the design basis?

19 MR. GLOERSEN: Well, that's a good  
20 question. Well, first of all, we do rely on the  
21 licensee to do their, you know, adequate analysis and  
22 provide justifications for field changes. But we also  
23 take a sampling of those field changes, either through  
24 specialist inspections out of the region and most of  
25 our field trainers have been -- dealt with the

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1 structure. And so our civil engineering staff will go  
2 out there and sample and look at field changes and  
3 determine adequacy of their evaluations. And then our  
4 resident inspectors also are out there reviewing field  
5 changes. But again, it's a sampling process.

6 MR. ABDEL-KHALIK: Well, how do you go  
7 about selecting that sample?

8 MR. GLOERSEN: We rely heavily -- we have  
9 very knowledgeable resident inspectors. And when they  
10 look at a particular issue, say, with structure, that  
11 they want to have further review on, we have  
12 discussions, either -- we deal, with residents on  
13 almost a daily basis, but we also have opportunities  
14 to discuss these at the management level and then make  
15 determinations as to, you know, which -- you know,  
16 which particular changes we need to focus on.

17 But the ones that are particular technical  
18 challenges we relied on either resources from the  
19 Center for -- CNWRA for technical staff and  
20 headquarters. But the actual selection process for  
21 the sampling, you know, that's -- a lot -- I mean, a  
22 lot of it's based on engineering judgment.

23 MR. ABDEL-KHALIK: Thank you.

24 CHAIRMAN SIEBER: Any additional questions  
25 from members?

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1 MR. GLOERSEN: Dave, you want to add  
2 something on that?

3 MR. TIKTINSKY: Yes, I just want to --  
4 this is Dave Tiktinsky, MSS NRC. I just wanted to add  
5 one more point that, yes, there are thousands of  
6 engineering change requests mostly related to the  
7 structure. And one of the things we talked to the  
8 applicant about is we wanted to make sure at the  
9 end -- because they were -- each one of these things  
10 they analyze individually and make sure it's okay. So  
11 we've had discussions with them at the end when  
12 they're basically looking at an as-built configuration  
13 to make sure that overall all the changes are made  
14 that affect the overall design basis for the facility.

15 MR. GLOERSEN: And we look at inspection  
16 plan before looking at the final inspection of that  
17 facility.

18 MR. STETKAR: Okay. Thank you very much.

19 We are running about a half-an-hour behind  
20 schedule. And -- but we will cover the agenda for the  
21 meeting. And what we -- our next presentation relates  
22 to safety culture, both the regional safety culture  
23 and the Plant Safety Culture Assessment Process by the  
24 Leonard Wert.

25  MR. WERT: Okay. Thanks for the

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1 introduction.

2           And good morning. I am Leonard Wert. I'm  
3 the deputy regional administrator for Operators. As  
4 Vic talked about earlier, that's a unique position  
5 among the regional offices. And just as an important  
6 side note, I might add that the briefing, with the  
7 exception of the Watts Unit, some of the Watts Bar  
8 Unit 2 activities that CCI just presented to you, was,  
9 in fact, very informative to me, because detailed  
10 discussions of DACs and ITAACs and some of that  
11 stuff -- I am not conversant in those terms. And  
12 hopefully, you'll find that to be a good thing.

13           I spend -- as you heard earlier, we have a  
14 lot of things going on on the operating side. Between  
15 the fuel facilities and the operating reactors there's  
16 a lot of stuff to look at. And I spend my time  
17 dedicated to the operating side. So I just wanted to  
18 point that out. Just like we don't want the licensees  
19 that have an operating facility to be distracted by  
20 construction activities, we're concerned about that,  
21 also in the Region II office.

22           We're here today to talk to you about  
23 safety culture. And first -- I just have two slides,  
24 one on Region II internal safety culture, which we  
25 refer to commonly as our Open Collaborative Work

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1 Environment and then another slide on external safety  
2 culture.

3 First of all, on internal safety culture  
4 my foremost comment would be we know we can never  
5 declare victory in this area. And Region II  
6 management team has been dedicated to ensuring that  
7 we're continuing to enhance these efforts. And  
8 basically we have two major areas of activities.

9 First one is assessing or monitoring our  
10 safety culture. And then the other one is the  
11 activities that we undertake virtually on a continuous  
12 basis to enhance and support that safety culture.  
13 Under the area of assessing safety culture -- you can  
14 see the bullets up there -- the safety culture  
15 viewpoint surveys.

16 I might add we don't just take the results  
17 of those. We take the results of those but we perform  
18 pretty detailed analysis and we not only look at the  
19 areas in which we did not do well or as good as we  
20 would like to, but we also look at even the areas that  
21 we did do well to make sure we're picking out what  
22 thing, what insights we can get from those areas that  
23 we need to keep on doing. Which is something that is  
24 not as easy from our cultural background sometimes to  
25 do. In other words, we're trying to learn from our

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1 successes as much as we're learning from our failures  
2 or areas that we could do better in.

3 Also, the third bullet up there refers to  
4 a system called the Ask Region II Management System.  
5 That's a computer-driven system that's web accessed  
6 that any employee at any time can raise any question  
7 anonymously through that process. And we do get  
8 questions on that process, anywhere from -- they range  
9 from, When you going to fix the light switch in my  
10 office, to, What are you doing to retain employees in  
11 the current environment with the federal government.  
12 So we do think that's a successful system. And we  
13 actively utilize that.

14 Another important facet under  
15 communications of safety culture and internal safety  
16 culture is we do have in Region II, like all the  
17 regional offices, a champion for Open Collaborative  
18 Work Environment, and our OCWE or OCWE champion here  
19 in Region II is Buffy Allen.

20 Buffy, could you raise your hand?

21 And we do utilize Buffy -- we're actually  
22 leveraging the role of that champion. And we utilize  
23 her frequently as a conduit to communications to the  
24 staff and things like that.

25 Under the area of cross-organizational

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1 learning that's mainly referring to -- we do a lot of  
2 things across divisions and across branches. In fact,  
3 even between the construction side and the operator  
4 side at the inspector level there's a lot of  
5 activities that are done back and forth. A great  
6 example is at the Oconee facility there's some  
7 significant modifications going on and we utilize  
8 civil engineering expertise out of the construction  
9 side to help us inspect those activities. And I think  
10 both organizations gain a lot of value out of that.

11 Under employee engagement, just to touch  
12 in upon some of those areas. We do senior leadership  
13 management meetings with all new employees. We do  
14 those right after we have our monthly what we call  
15 Current Events Meetings. Those range -- we'll address  
16 topics from what are the NRC values and what do they  
17 mean to you as an employee to what are your concerns.

18 A great example, I think, of employee  
19 engagement is we have recently established an  
20 administrative assistants working group. And this was  
21 largely a result of an OMB review that we had done on  
22 administrative assistants' work loads and processes  
23 here in Region II. And this working group is  
24 completely run by the administrative assistants  
25 themselves. They run the meetings. They pick the

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1 topics. They pick the agendas. They make decisions.  
2 And they bring recommendations to management. It's  
3 just an example of employee engagement that we're  
4 utilizing to enhance our performance.

5 Under the area of external safety culture  
6 you had asked some questions about the new policy, the  
7 new safety culture policy statement. We do regard  
8 that policy statement as the traits are clearly  
9 defined. We think the next step now, of course, will  
10 be to incorporate those traits into the ROP and the  
11 other inspection processes.

12 The policy statement we found particular  
13 useful -- we think it's going to be particularly  
14 useful to explain the competing goals issue. In other  
15 words, the policy statement as written recognizes  
16 that, in fact, in addition to safety and security  
17 there are other goals that facilities have and they're  
18 competing with safety and security. And we think that  
19 will be useful in some of our response to intervenor  
20 groups and also, concerned individuals.

21 You also asked a question about safety  
22 culture policy statement and how you think it will  
23 influence non-reactor licensees. I can tell you that  
24 safety culture is a very active topic in our  
25 discussions with fuel facilities. And NFS, of course,

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1 would be a great example. We issued confirmatory  
2 order that dealt largely with safety culture issues.  
3 And just earlier this week I had a very good  
4 conversation with the vice president of Global Nuclear  
5 Fuels, and he was talking in terms of safety culture.

6 I found that to be refreshing. I'm not really sure  
7 how safety culture will manifest itself in the fuel  
8 cycle oversight project when it gets done, but it  
9 certainly is being considered.

10 And just to comment on the external  
11 groups, I think one of your questions was, Is there  
12 external group interest in this area. I'm on the NRC  
13 Safety Culture Steering Committee. And the phone  
14 calls that we've had have been very active  
15 participation by external groups, including some  
16 international folks.

17 Under the Plant Safety Culture Assessment  
18 Process the Region II pilot plant was North Anna, and  
19 Region II did actively monitor the implementation. I,  
20 myself went to several of the meetings. The residents  
21 were fully involved -- the resident inspectors in  
22 observing those activities. And we basically  
23 concluded that as an agency that the pilot program  
24 showed that the process is viable.

25 One of the things that we like about that

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1 program is safety culture is clearly the  
2 responsibility of the licensee. And that's definitely  
3 reinforced in the policy statement. And we think this  
4 program reinforces that perspective. Also, the  
5 potential data base for inputs into the program is  
6 significantly larger than the data base through the  
7 reactor oversight process.

8 And basically that captures the points I  
9 had on safety culture. If you have any questions?

10 CHAIRMAN SIEBER: Any questions from  
11 members?

12 (No response.)

13 CHAIRMAN SIEBER: If not, I think I would  
14 like to add something to your remarks. I worked a lot  
15 of places over -- fortunately, over 50 years. A lot  
16 of organizations. And there's always interesting  
17 technical questions and accomplishments. But the most  
18 important thing that each and every one of us does is  
19 to foster good safety culture. And it comes from the  
20 head of the organization, perhaps the chairman of the  
21 board or the president, all the way down to the  
22 laborer. And it has to be a part of every person  
23 involved in the organization. So anything and  
24 everything that we can do to foster within our --  
25 among ourselves and within the industry an excellence

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1 in safety culture I think is an important  
2 achievement.

3 So thank you very much, Leonard.

4 MR. WERT: Thank you.

5 CHAIRMAN SIEBER: And I'd like to  
6 introduce our next speaker who will discuss Excellence  
7 in Operations and Emergency Response. And it will be  
8 presented by Bill Webster of the Institute of Nuclear  
9 Power Operations.

10 Bill?

11  MR. WEBSTER: Yes. Mr. Sieber, thank you  
12 very much. And very much appreciate the invitation to  
13 be here today and to give you an overview of the  
14 nuclear industry as we see it from INPO.

15 I had the opportunity just a couple of  
16 weeks ago with several of us to meet with the  
17 committee and assess Fukushima. I'm going to touch a  
18 little bit on that. But really, the purpose here  
19 today is to give a more broad view of the industry  
20 today.

21 I'd like to really focus on two things.  
22 Is if we were going to have this discussion a year ago  
23 it would have been all about excellence in operations.  
24 That's really where our focus was. You know, four  
25 months ago with the events in Japan it has caused us

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1 to maybe rethink excellence in emergency response and  
2 emergency response capability and to kind of go back  
3 and revisit some of the things that we talked about  
4 years ago.

5           You know, when we look at excellence in  
6 operations, it was at the end of last year in 2010 we  
7 finished a five-year increment of industry goals. And  
8 every five years we set goals for the industry or  
9 really, the industry sets goals. We administer that  
10 program. And we did well, not perfectly but well at  
11 the end of 2010. We met the goals for things such as  
12 unit capability factor for automatic scrams for PWR  
13 collective radiation and for industrial safety. We  
14 did fall short in goals for BWR collective radiation  
15 exposure. And we fell slightly short for the goal on  
16 forced loss rate.

17           And so kind of the sense was the industry  
18 is moving forward. But we really -- the numbers don't  
19 tell all. And we began to do some deep looks last  
20 year. The first look we did I'll talk a little bit  
21 about is reactor scrams. I mean, at the end of the  
22 day -- but we met the goal for automatic scrams. And  
23 that's a median value, because we looked at what the  
24 real total scram rate manual plus automatic, is -- it  
25 wasn't really telling a compellingly positive story.

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1           The second was emergency AC. We set  
2 performance goals for the various safety systems. And  
3 emergency AC had been incrementally -- the  
4 unavailability for that system creeping up. And so we  
5 began to dig into that a little bit more and  
6 discovered a few things.

7           And then the last is operational events.  
8 And really, in late 2009 and in 2010 we saw a number  
9 of operational events and I know if -- you've talked a  
10 little bit about HB Robinson. That certainly was one  
11 of them. But we were seeing kind of a series of  
12 events that we found troubling.

13           When we look at automatic scrams -- and as  
14 you can see here, the ten-year trend -- you know,  
15 2003 -- I think we can all attribute that to the 11  
16 scrams we had associated with the Northeast blackout.

17           So if you kind of look at that you -- what you really  
18 see here is -- I will just describe it as not an  
19 improvement. And really, since 2005 a steadily,  
20 incrementally increasing total scram rate. And this  
21 is both again, automatic and manual. And they flip  
22 back and forth as to which one is the more prominent  
23 of the two.

24           So we did a deep dive into why are we  
25 seeing the scrams. And so the quick answer is well,

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1 the plants must be getting older, that's probably what  
2 the answer is. And as we delved into it that really  
3 was not the case, because when we delved into it about  
4 25 percent of those scrams are direct human  
5 performance. So the operators, the INC folks,  
6 somebody does something and the reactor trips.

7 But probably more telling is -- so 80  
8 percent must be equipment problems. Well, that turned  
9 out not to really be the case. It's because though it  
10 was equipment initiator when we dug into it what we  
11 really were seeing was maintenance-induced problems.  
12 So that piece of equipment had been calibrated, had  
13 been worked, PM had been deferred, something had  
14 happened associated with that piece of equipment,  
15 either in the last outage or in the last operating  
16 cycle.

17 So when it really came down to it about  
18 20 -- or excuse me -- about 80 percent of the total  
19 scrams were in -- somehow either direct human  
20 performance, management decisions or maintenance-  
21 induced failures. So we really can't attribute what  
22 we're seeing here directly to the plants getting  
23 older. And what it really told us is there's more  
24 that can be done here to continue to see the  
25 performance that we had seen in the 1990s in reducing

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1 the total scram rate.

2 The next was diesels. And as I mention to  
3 you, is the diesel -- we saw the unavailability slowly  
4 creeping up. To some degree that unavailability was  
5 planned unavailability associated with people doing  
6 online maintenance to improve reliability.

7 But again, as we dug into that what we're  
8 really seeing here is again, if you can kind of see  
9 the trend graph there, is a slowly increasing number  
10 of MSPI, the Mitigating System Performance Indicator  
11 failures that we really hadn't moved the needle there  
12 in improving the reliability or the failure rate  
13 associated with emergency diesel generators.

14 Again, digging into that we saw many of  
15 the similar trends that we saw in the scram rate. The  
16 quality of maintenance that was being done, the  
17 effectiveness and the rigor of the implementation of  
18 the preventive maintenance program, particularly in  
19 some of the sub-components, the solenoid operator  
20 valves, air operator valves, things of that nature  
21 that are required to operate in order for the diesel  
22 to perform its function.

23 MR. STETKAR: Do you keep track of diesel  
24 failures where there is a common cause, where both  
25 units have -- both diesels of a given unit would be

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1 from the same cause?

2 MR. WEBSTER: Yes, we look at that very  
3 closely, you know, in terms of a common cause,  
4 particularly at the same site or a common cause  
5 associated with the same vendor or type of diesel.

6 MR. STETKAR: And could you tell us how  
7 much of the total diesel failures is related to common  
8 cause failures?

9 MR. WEBSTER: I really can't do that right  
10 off the top of my head. I could get back to you on  
11 that specific number. But we've looked at that. And  
12 I will tell you that that was a concern that we had.  
13 And it didn't kind of pop its head up as a driving  
14 concern. But I'll get back --

15 MR. STETKAR: Yes. Well --

16 MR. WEBSTER: -- to the committee  
17 specifically. Yes, that's a very good question.

18 MR. STETKAR: Yes. My concern is the loss  
19 of all AC, station blackout issues which I consider to  
20 be very serious. So I'm interested in that statistic.

21 MR. WEBSTER: Yes. My guess is my diesel  
22 engineer knows that answer. We talked about it last  
23 year. And I don't have an up-to-date answer for you  
24 on that.

25 MR. STETKAR: Okay. Thank you.

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1 MR. WEBSTER: Yes. The next is the  
2 operational events that we referred to. And we have  
3 in parentheses the SOER, Significant Operating  
4 Experience Report, 10-2. And this is the engaged  
5 thinking organization SOER. And we saw a series of  
6 events last year. Robinson again being one. But  
7 also, dual-unit scram up at Calvert Cliffs, a couple  
8 of outage events, a couple of reactivity management  
9 events, one that resulted in a reactor trip on both  
10 over pressure and over power that really caused us to  
11 step back and say, Boy, I thought we kind of had this  
12 nailed down years ago.

13 We put together a team of plant managers,  
14 site vice-presidents, ops managers and six chief  
15 nuclear officers to really do a comprehensive kind of  
16 common-cause review of all these operational events  
17 and what were we learning. And they came down with  
18 these six kind of common causes.

19 And I think to some degree they'll  
20 probably sound pretty obvious to different people.  
21 But they became quite meaningful to us because there  
22 were some areas here, at least at INPO that maybe we  
23 weren't seeing as sharply as we needed to.

24 You know, the first is long-standing  
25 issues tolerated, you know. And this could be

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1 anything from a leaky roof to a light bulb that people  
2 somehow early on disposition as an acceptable  
3 condition. But low level equipment problems over time  
4 being tolerated. And it just had kind of a tendency  
5 to lower the standards for what might be acceptable in  
6 equipment.

7 The second is a subtle decline in  
8 standards. And this is more related to human  
9 performance. At the one event that we talked about  
10 where they had a reactivity event it's people over the  
11 years that would go into that control had kind of  
12 noted that, Boy, the standards aren't quite as sharp,  
13 the communication, the use of procedures, the teamwork  
14 on that crew. But that wasn't very visible to the  
15 people on site as over time it had become somewhat  
16 normal and a little bit invisible to the people on  
17 site.

18 The third was use of operating experience.

19 And that just -- so -- many of us have been in this  
20 business thirty-plus years and so there's nothing new.

21 Well, that's not really the case here. What this is  
22 really about is key operating experience of the  
23 industry. Things that were highlighted in an SOER  
24 were not well implemented. So infrequently performed  
25 test and evolution. Several of these things. Those

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1 requirements were invoked by they weren't really  
2 invoked, in terms of how they were implemented.

3 Supervisory oversight appeared to be a  
4 weakness. And this really is in many cases the  
5 supervisors almost became more the performer than the  
6 overseer in the reinforcement of standards.

7 Worker understanding. And this is really  
8 to make sure that people really don't -- people really  
9 understand not just what they're doing but the  
10 implications of what they're doing, that this  
11 component I'm working on, you know, though it may be a  
12 level transmitter on a heater drain pump, if not done  
13 correctly could result in a reactor scram.

14 And the last is really rethinking the  
15 concepts of operational risk. We've embedded what  
16 I'll call safety risk, the PRA risk, very well in our  
17 activities. But there are other end states that are  
18 of a concern to us that maybe aren't always  
19 considered. So it's not always the worst thing that  
20 can happen to you, but sometimes it's what the more  
21 likely thing that can happen to you that really would  
22 disrupt the plant. So these were the six common  
23 causes that were identified that then resulted in the  
24 SOER 10-2.

25 I could talk about many things with --

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1 related to that. I'm going to get to two in a minute.

2 But I wanted to kind of jump ahead a minute to the  
3 emergency response and just to maybe kind of point out  
4 as -- kind of describe what we were seeing  
5 operationally. This event in Japan has completely  
6 caused us to rethink what we're doing at INPO and the  
7 industry with respect to emergency response.

8 So our response -- and, you know, going  
9 forward -- is multi-fold. And could really spend the  
10 rest of the afternoon telling you many of the  
11 different things that we're doing. I want to focus on  
12 two. One is operational fundamentals. And then the  
13 second is a re-look at what operational risk  
14 management is all about.

15 We've put together a program as part of  
16 our regular planned evaluations is that we look at two  
17 operating crews in the simulator under various  
18 casualty and emergency conditions. And we've really  
19 done that since the mid-80s. And they run various  
20 scenarios and we evaluate both their performance and  
21 the quality of the training. And so we've kind of re-  
22 looked at what that process is going to be. And then  
23 the second is that we're putting together a guideline  
24 on operational risk management. And I'll get to that  
25 in a moment.

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1           As part of the Initiative on Operational  
2 Fundamentals is we want to do a couple of things. Is  
3 number one, as an industry we want to look at more  
4 crews as part of the evaluation program. We want to  
5 look at more complex scenarios. One of the things  
6 that both Robinson and the Calvert Cliffs event told  
7 us is that there's some very complex transients that  
8 can occur on the plant. And so to run some of the  
9 general EOP, AOP scenarios that we were seeing may not  
10 be testing the operators under conditions that they're  
11 likely to experience.

12           And then we wanted to take the events  
13 longer. And so as opposed to getting the plant to  
14 some point of stabilization what we wanted to do is be  
15 able to take the plant maybe to what recovery might  
16 look at. And at the end of the day that's really what  
17 complicated the event over at Robinson, was once they  
18 kind of moved back to restoring, moving out of the  
19 EOPs into the GOPs is how you make that transition  
20 under a plant that may not have the initial conditions  
21 that you think it does.

22           So we began the process by number one, is  
23 writing an INPO event report, a Level 1, which is a --  
24 we've changed the program so you can substitute SOER  
25 in terms of our old vernacular. But IER 11-3 is

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1 the -- really set what the standard is. You know,  
2 very often we talked about operations fundamental.

3 So what is that? It's monitoring the  
4 plant. It's precise control. It's teamwork. It's  
5 conservative bias. It's understanding the basis and  
6 the fundamentals to integrated plant operation. So we  
7 kind of talked about that. But we hadn't really  
8 embedded what behaviors and what that looks like.

9 So IER 11-3 really helps us get from kind  
10 of concept to behavior. And we've asked each utility  
11 to go do a self-assessment against those behaviors and  
12 the behaviors for your system operators, your non-  
13 licensed operators, your reactor operators, your  
14 control room supervisors, your shift managers and your  
15 shift technical advisors. And to do it against all  
16 five of those, you know, basic dimensions of operator  
17 fundamentals. We've also asked them to go self-assess  
18 their training programs. It's how well do your  
19 training programs touch these programs.

20 What we're going to do now -- and we  
21 issued that back in June. People have three months to  
22 implement it. Starting in September we're going to  
23 look at more crews. We'll be looking at three crews  
24 instead of two. Starting at the first of the year  
25 because it takes some time to develop the scenarios,

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1 we're going to develop additional, more complex  
2 scenarios. So we're developing the criteria by which  
3 the scenarios the -- which we're going to evaluate the  
4 crews will be tested. Is -- we'll develop those  
5 scenarios.

6 The second is the scenarios are going to  
7 both be more complex and we're going to take them  
8 further into the transient. And then we're going  
9 to -- a thing that we haven't done historically is  
10 spend some time interviewing the operators.

11 So now that we've seen the crew  
12 performance, as understanding their understanding of  
13 the whys, the bases, the decision-making process, that  
14 very often what we discovered is a lot of our reviews  
15 and a lot of reviews that the utilities were doing  
16 were more, you know, Did we do the self check  
17 correctly, Did we do the circle slash on the procedure  
18 correctly, Did we do a transient brief at the right  
19 time in this scenario.

20 And maybe it didn't get into, you know,  
21 What was the basis for where you initiated this  
22 particular system or took this particular action. And  
23 a little bit of -- actually, it's kind of out of --  
24 not too far akin, as some people may recall, you know,  
25 as to the way the Navy would do it in terms of

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1 interviews with people and understand kind of their  
2 thinking and their basis and their integrated plan  
3 operation.

4 In order to implement this program one of  
5 the things that we are doing is that we're augmenting  
6 our teams with what I call -- we've asked each utility  
7 to kind of identify who's your best operator and to  
8 really build a cadre of 65 best operators.

9 And that would really be kind of the peer  
10 group that will participate on these teams with the  
11 INPO staff, you know, so that we really kind of come  
12 in and we're asking, in my view, in a very credible  
13 fashion, in terms of what the basis is and the  
14 understanding. And so it won't be just anybody out  
15 doing this. It will be as qualified a group of people  
16 as we can produce in the industry.

17 The next is operational risk. And I'm  
18 going to touch on this quite lightly. But, you know,  
19 fundamentally is many of the events we saw could have  
20 been prevented had people had a better appreciation  
21 for risk in the plant.

22 And risk -- not just -- I think to some  
23 degree that when we looked at the PRA or the sentinel  
24 or the ROS or the various risk models is it gave us a  
25 degree of comfort that we really weren't going to do

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1 any serious damage, that allowed us maybe to not  
2 implement things as rigorously as we could and then  
3 maybe induce the transient or ended up with a safety  
4 system out of service or things that necessarily  
5 impact the PRA risk as much as impacted the operation  
6 of the plant.

7 And so we've really worked at trying to --  
8 identifying risk. What does that look like. And  
9 doing it at every level. And doing it against end  
10 states other than just what does it do to nuclear  
11 safety. So what's the operational risk? What's the  
12 personal safety risk? What's the radiation safety  
13 risk that could be viewed by that.

14 A rigorous assessment of that risk. And  
15 then the mitigation. And I think this is an area  
16 where, as in industry, we can grow quite a bit. As to  
17 what's the mitigation strategy, as we've now assessed  
18 the risk. So, you know, there are a lot of mitigation  
19 strategies. One is don't do the activity. I mean,  
20 that's the biggest mitigation. You know, don't go to  
21 a mid-loop condition. I mean, so you mitigate a lot  
22 of risk by not doing that. You're -- there's a cost  
23 to not doing that, too. But -- so -- but what things  
24 do we put in place to mitigate the risk.

25 And then I think the last is how we manage

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1 risk, because we are not going to eliminate risk from  
2 this industry. And so what it really is, is  
3 recognizing that many of the things that we've put in  
4 place over the years are management strategies. You  
5 know, we do circle/slash and procedural compliance,  
6 not just to make everybody's life hard. But that's  
7 really a risk management strategy to make sure that we  
8 go implement the guidance and the procedures that  
9 we've set out to go use.

10 We also look at risk on multi-planes. And  
11 I would say that, you know, we look at the life of the  
12 plant. The risk that's being assessed there really is  
13 at the executive level. You know, are we going to,  
14 you know, address this material condition issue in a  
15 certain fashion, are we going to replace steam  
16 generators, are we going to manage the steam  
17 generators that we have.

18 You know, the senior managers are kind of  
19 laying out what the operating cycle of risk is going  
20 to look like. What goes in the outage, what doesn't  
21 go in the outage. The managers and supervisors are  
22 now kind of at the implementation level. They're  
23 really developing now the mitigation strategies. And  
24 then the individuals are really now on the manage end  
25 of that risk as implementing those mitigation

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1 strategies that the managers --

2 So we're doing a lot of training and a lot  
3 of guidance to maybe shift our thinking in terms of  
4 how overall plant risk is managed.

5 What I'd like to do now is shift. And we  
6 talked about this briefly in Washington a few weeks  
7 ago. And I think it may have a little bit more -- and  
8 why I brought this up is now that the NRC 90-day Task  
9 Force Report is out -- it was not out when we met in  
10 Washington. So we kind of talked about these issues  
11 conceptually. I think they're beginning to have a  
12 little bit more granularity today than maybe they did  
13 just a few short weeks ago.

14 But what these really are are the  
15 strategic goals that the industry developed back in  
16 April/May time frame as to -- you know, based -- as  
17 the world looks back at us five years from now what do  
18 we want to be able to say that's been done.

19 And I think the first is that we want to  
20 stay focused on safety and operational excellence.  
21 You know, at the end of the day we can't let Fukushima  
22 derail what we see as an industry that's healthy  
23 today. It certainly has some -- you know, some issues  
24 that we've talked about. But we've got to make sure  
25 that we keep the focus on the high levels of

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1 operational excellence that we've achieved.

2 The second really, is developing response  
3 times, particularly the extended loss of AC so that  
4 it -- the response time or the mitigation strategy for  
5 the extended loss of AC that you can go long enough so  
6 that you've synchronized that with off-site or other  
7 external response that you may need.

8 I think, you know, at the end of the day  
9 this is very similar to an issue that was identified  
10 in the 90-day report. But we've got to be able to  
11 cope long enough to get the external help. And that's  
12 really the problem that needs to be solved. And so  
13 that's the industry's second goal that we have in  
14 place.

15 And we're getting ready to issue another  
16 IER 11-4 that really talks to the industry about  
17 defining what your strategy to operate with a loss of  
18 all AC, what does that look like, how far can you go.

19 Proceduralize that activity and then figure out what  
20 it is that stops you there. Is it a licensing  
21 requirement? Is it a material equipment issue? And  
22 then try to collect that and understand as an industry  
23 as to where we would want to go next.

24 We need to improve our industry capability  
25 to respond to event. One of the things we looked at

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1 and as we talked before in helping Japan, it was very  
2 hard to scale that internationally.

3 We've created a number of activities,  
4 whether it be the SAMGs, the Bravo.5.Bravo, external  
5 event plans. Is that we really need to integrate them  
6 and we really need to consider as how they would apply  
7 to a single event that affects multiple units at the  
8 same site. Is it -- at the end of the day we just  
9 can't assume it's at one plant and we can't -- and we  
10 need to find a way that we can either integrate or  
11 decide not to integrate the various things that we've  
12 put in place over the years.

13 We need to go back and we needed to look  
14 at the margins that we've had for flood, for seismic  
15 just to make sure that, in fact, you know, we have  
16 some degree of confidence that we're well bounded by  
17 what we've done before. But we do need a process that  
18 goes back and looks at that and verifies that the  
19 design features we have in place is reflective of the  
20 latest hazard analysis and the historical performance.

21 We've all, I think, been watching the  
22 flood out at OPPD at Fort Calhoun, you know, with  
23 great care. You know, that certainly -- I think we  
24 can take a little bit of confidence in that is that  
25 the design basis flood unit's been significantly

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1 higher than the flood that they've experienced, even  
2 though they -- when you go out there you look at  
3 what's going on out there it gives you some pause.  
4 But in terms of safety is it's been very, very well  
5 maintained.

6 The last is a tension -- or the last two,  
7 a tension unspent fuel pool cooling and then primary  
8 containment is really looking at our strategies in  
9 both those areas.

10 You know, the current accident response  
11 that we talk about and again, very similar to what  
12 Chairman Jaczko has shown, is we stay in the  
13 protection and prevention mode. And that's where we  
14 want to live. If we get out of there due to something  
15 beyond our design then we're in mitigation strategy.  
16 If that isn't successful it's really where core damage  
17 can occur. And then we're in emergency response.

18 On the right the stabilization  
19 restoration. Again, we kind of have that there.  
20 That's what we're doing every day in Fukushima over in  
21 Japan right now.

22 Our goal here is to expand mitigation as  
23 we want to stay away from core damage. So the focus  
24 you'll see -- the -- many of the things the industry  
25 is doing right now is to expand that mitigation

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1 column. That is the repurposing and integrating the  
2 strategies that we talked about, enhancing the loss of  
3 AC response, developing an off-site response  
4 capability that's synchronized with that enhanced  
5 response capability and developing a spent fuel pool  
6 strategy to both maintain inventory and cooling and to  
7 recover it if, in fact, it is lost

8 I've overlaid on that just what we're  
9 doing as an industry right now. I think probably the  
10 same overlay could be done for the NRC's 90-day  
11 report. I do want to point out that we're still  
12 working in the prevention protection area. You know,  
13 we need to go back and look at the design against the  
14 latest hazard analysis.

15 It was very encouraging, the discussion  
16 Mr. Wert talked about on safety culture, because we've  
17 got an active initiative right there to -- you know,  
18 as to bring both the industry and the NRC's language  
19 and approach to safety culture together and to keep  
20 after the operational fundamentals that we talked  
21 about. But many of the goals are related now to  
22 building a more robust mitigating area and to continue  
23 to build a more robust emergency response.

24 I think I've kind of spoken quickly as I  
25 sometimes get accused of doing. But what questions do

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1 you have?

2 DR. BLEY: Yes, I have a couple. One has  
3 to do with have we really had a decline in standards  
4 or could there be some of that apparent decline in  
5 standards that's due to, albeit a good inspection  
6 program on all sides, one that's anticipated and  
7 plants are responding to how they're going to be  
8 graded rather than thinking more broadly. That's the  
9 first one.

10 And the second one was just a detailed one  
11 on the drills you were talking about. Now, when you  
12 talked about getting this cadre of best operators it  
13 acknowledges that we do have best operators. And that  
14 means we have some who aren't best. They're all  
15 qualified. They all meet the basic goals. But they  
16 may respond differently.

17 When you go in for drills do you or might  
18 you in the future, rather than taking a crew that's  
19 ready to be drilled, actually break up crews and see  
20 what happens when the thing that happens day-by-day,  
21 people from different crews get mixed together because  
22 of things occurring, actually happens?

23 MR. WEBSTER: Yes. I think -- let me  
24 answer your first one -- or your second one first. Is  
25 part of the new simulator review process to do just

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1 what you described. So who's your Christmas Eve crew?

2 You know, it's unlikely it's, you know, your most  
3 senior crew on site. And so -- but to try to get, you  
4 know, the -- a realism associated with what we look at  
5 what we don't want is to see the quote INPO crew. We  
6 want to see a representative crew of who might be on  
7 shift Christmas Eve. So we're working with the plants  
8 to get a realistic set of crews.

9 I wouldn't want to infer that because  
10 we're asking for the best operators that we're in some  
11 fashion saying that there's not best operators. You  
12 know, I have the advantage of working for a former  
13 TOPGUN pilot. And so this idea actually comes out of  
14 the TOPGUN school out at -- it used to be at Miramar.

15 I think it's up at Fallon right now.

16 And that is the Navy takes, you know, kind  
17 of their -- who they feel is the best of the best.  
18 They bring them through the TOPGUN school then they  
19 send them back out to the fleet squadrons and from  
20 there they train the others.

21 And so we really kind of hope they'll be  
22 able to kind of model that as kind of poll who the  
23 quote the top guns are, bring them together through  
24 training and make them part of this initiative with  
25 the idea they go back to their plant and not only

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1 would they help us with these reviews, but they also  
2 would be very representative of what we're seeing back  
3 at their plants. And so that's actually -- you know,  
4 if I had to kind of point to what's the seed material  
5 from that I would attribute it to that line of  
6 thinking.

7           You know, in terms of -- so the standards  
8 changed. Are they slipping or are we getting -- you  
9 know, are we raising the standard. I don't know the  
10 answer to that, to be very direct with you. I will  
11 tell you, though that some of the things that we saw  
12 would be a slippage of standards any time. And so I  
13 don't think it's just that we continue to raise the  
14 bar or that we have a false or an inappropriate set of  
15 standards. I think that some of the communication  
16 standards, some of the casualness by which equipment  
17 was operated would have been bothersome to us 20 years  
18 ago.

19           CHAIRMAN SIEBER: Okay. Do members have  
20 any additional questions?

21           (No response.)

22           MR. WEBSTER: Thank you very much.

23           CHAIRMAN SIEBER: If not, Bill, thank you  
24 very much for your presentation.

25           And for our last presentation we would --

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1 I would like to return to Victor McCree, the regional  
2 administrator, who will discuss the Region II focus  
3 areas and opportunities.

4  MR. McCREE: Thank you, Dr. Sieber.

5 When I pulled these slides together I did  
6 it based on what we know corporately within Region II  
7 are our focus areas and challenges. And not  
8 surprisingly, as each division shared with you the  
9 areas that are of interest to them and that they're  
10 focused on, by and large they touched upon practically  
11 all of the items I was going to mention.

12 So in the interest of time and certainly,  
13 I'd be happy to go into any further detail on any of  
14 the points that I have highlighted, at least on my  
15 first three slides, I'd just like to leave you and  
16 summarize with a couple of thoughts.

17 One is Region II remains focused,  
18 dedicated and committed to fulfilling what I'd  
19 characterize as our trifold safety mission reactor --  
20 on operating reactors, focus on operating fuel cycle  
21 facility, as well as on new construction, both for  
22 reactors and fuel cycle facilities.

23 We are -- have built and are building and  
24 nurturing an organization that is built on processes  
25 and procedures. We have a very clear mission. And

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1 again, that is supported by our vision, which is being  
2 a leader in all we do. We apply the NRC values very  
3 purposefully, both in our internal interactions, as  
4 well as in our interactions with external  
5 stakeholders.

6 And we also apply the NRC principles of  
7 good regulation, clarity, reliability, independence,  
8 openness and so forth to our interactions, as well.

9 We also recognize -- and this is my second  
10 point -- that people are the heart and soul of what we  
11 do. The extraordinary people we have here in Region  
12 II, both the leadership team but more importantly, the  
13 staff, are the reason that we've been effective. And  
14 as Len talked about when he talked about safety  
15 culture and having an open and collaborative working  
16 environment, those are the key ingredients, I believe,  
17 to the success that we've had and will be keys going  
18 forward, as well.

19 The last point I'd want you to walk away  
20 with has to do with the importance of leading change.

21 It's inherent in all that we do, whether we initiate  
22 it or it comes externally.

23 There's been a significant leadership  
24 change in Region II over the last six months to a  
25 year. And it's important that we're sensitive to that

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1 and recognize the impact that it has on our people and  
2 that we remain focused on our safety mission. I know  
3 the leadership team recognizes that.

4 We've also spoken several times about  
5 Fukushima and the implications of that event. And we  
6 have played a very key role, I would say, in advancing  
7 the agency's success in both understanding what's  
8 going on, as well as assisting the Japanese and, of  
9 course, the U.S. Ambassador there.

10 I mentioned several times that Fred Brown  
11 is the acting deputy regional administrator for  
12 construction. And he's in that role because the  
13 normal person in that role, Chuck Casto, has been in  
14 Japan for the most part since the 14th of March  
15 leading the NRC and in some cases the U.S.  
16 government's activities and roles within Japan. So  
17 there are a number of opportunities that we look  
18 forward to and seize to lead change.

19 The second I'd mention is developing  
20 future leaders and staff. That's a very important  
21 part of our success as leaders within Region II. And  
22 we have a very systematic process for identifying and  
23 developing leaders and staff. That's a significant  
24 area and an opportunity for us.

25 We haven't spoken about this. Of course,

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1 it's a corporate management issue. But within the  
2 agency, the agency's budget starting in Fiscal '12 and  
3 in the out years calls for a flat budget. And there  
4 are constraints on our ability to hire new staff in  
5 the agency that impacts our ability in Region II to  
6 staff up, even though our budget shows that we're  
7 growing incrementally at least over the next two  
8 fiscal years.

9 So we're working as a leadership team with  
10 the Office of Human Resources to first, try and  
11 identify staff colleagues from other offices, to some  
12 degree other regions, to facilitate the staff up that  
13 we'll be targeting next fiscal year and in Fiscal '13.

14 I mentioned at the beginning the fact that  
15 we're in this room is because we don't have a main  
16 conference facility. I'm cautiously optimistic that  
17 within the next couple of months I'll get a -- we'll  
18 get an affirmative reply from OMB and begin to work  
19 with GSA so that the next time you're here we're here  
20 in an indigenous space next door.

21 And with that, let me pause and continue  
22 to open up myself and others here for questions. We  
23 appreciate the opportunity to be here.

24 CHAIRMAN SIEBER: Okay. Thank you very  
25 much.

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1 I announced at the beginning of this  
2 meeting that if there were any members of the public  
3 who would like to make a statement before the  
4 committee, that they're invited to do so now.

5 And if you choose to do that please go to  
6 a microphone, state your name and your affiliation so  
7 that maybe -- your remarks may be duly recorded by the  
8 court transcriber.

9 (No response.)

10 CHAIRMAN SIEBER: I see no indication that  
11 the public remarks are being offered at this time.  
12 The committee typically conducts a round table  
13 discussion at this point of the meeting.

14 Is there people to --

15 I understand there are perhaps people on  
16 telephone conference that may want to make a statement  
17 at this time. If that is the case the telephone  
18 conferees may speak up and state their name and  
19 their -- provide their statement to us.

20 (No response.)

21 CHAIRMAN SIEBER: Well, hearing none, we  
22 typically will have some kind of round table  
23 discussion. I suspect that the member questioning  
24 throughout this conference has pretty much satisfied  
25 the members' desire to conduct a further round table

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1 discussion. But in the event that my perception is  
2 incorrect, I again invite members to make any  
3 statements or ask any questions that they so desire at  
4 this time.

5 DR. RYAN: I'd just add my thanks to --

6 CHAIRMAN SIEBER: Sir, I can't hear you.  
7 Pardon? Oh, okay.

8 DR. RYAN: Sorry. I just want to add my  
9 thanks for a very informative set of briefings today  
10 and appreciate all the preparation you made, both for  
11 the NRC staff and for INPO to come and brief us today.  
12 Thank you very much.

13 CHAIRMAN SIEBER: I second those comments.

14 And we certainly do appreciate -- this is  
15 one of the highlights of our plant operations and ACRS  
16 meetings of the year, because it's here where we face  
17 the facts of reality as we travel to licensees and to  
18 the regional folks. And that really helps us gain  
19 perspective on what should be done from a policy  
20 standpoint and an implementation standpoint. So  
21 again, I thank all of you for your work and for  
22 helping us do our jobs correctly.

23 So if there are no other comments, again,  
24 with my thanks the meeting is adjourned.

25 (Whereupon, at 12:15 p.m., the meeting was

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adjourned.)

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# **Region II**

## **Focus Areas and Opportunities**

ACRS Meeting of the Subcommittee  
on Plant Operations and Fire Protection  
Information Briefing for Region II Activities and Items of Interest

July 28, 2011

Victor M. McCree  
Regional Administrator, Region II

### OPERATING REACTORS

- Implement high quality oversight program
- Execute 95003 Supplemental Inspection for Browns Ferry
- Engage issues at Oconee, and Crystal River
- Prepare for Watts Bar 2 Preop & Start-up inspections
- Oversee NFPA 805 transition for Oconee and Harris

# Region II

## Focus Areas and Opportunities

### OPERATING FUEL CYCLE FACILITIES

- ❑ Implement a high quality oversight program
- ❑ Engage performance issues at Nuclear Fuel Services
- ❑ Fuel cycle facility oversight program improvements
- ❑ Common industry areas needing improvement
  - Chemical and criticality safety
  - ISA methodology
  - Corrective action program
  - Information security

# Region II

## Focus Areas and Opportunities

### **NEW CONSTRUCTION**

- ❑ Implement a high quality construction oversight program
  
- ❑ Execute construction inspections
  - Watts Bar 2
  - MOX & LES
  - Vogtle LWA & V.C. Summer
  
- ❑ Building Scalable Infrastructure
  - Planning and Scheduling (Primavera)
  - Tracking of Inspection Completion (CIPIMS)
  - Process Development

# Region II

## Focus Areas and Opportunities

### OTHER

- ❑ Leading Change
- ❑ Develop future leaders and staff
- ❑ Adapt hiring strategy to current budget environment
- ❑ Coordinate with CFO and OMB to obtain conference space
- ❖ Support implementation of Fukushima lessons learned

# QUESTIONS



# **RII Plant Performance Overview**

ACRS Meeting of the Subcommittee  
on Plant Operations and Fire Protection  
Information Briefing for Region II Activities and Items of Interest

July 28, 2011

William B. Jones  
Deputy Director, Division Reactor Projects

# Plant Regulatory Performance

## Licensee Response Column

- Browns Ferry Units 2 and 3
- Brunswick Units 1 and 2
- Catawba Units 1 and 2
- Crystal River 3
- Farley Units 1 and 2
- Harris Unit 1
- Hatch Units 1 and 2
- McGuire Units 1 and 2
- North Anna Units 1 and 2
- Oconee Units 1, 2 and 3
- Saint Lucie Units 1 and 2
- Sequoyah Units 1 and 2
- Summer
- Surry Units 1 and 2
- Turkey Point Unit 3
- Vogtle Units 1 and 2
- Watts Bar Unit 1

# Plant Regulatory Performance

## Regulatory Response Column

- Robinson 2
- Turkey Point Unit 4

## Multiple /Repetitive Degraded Cornerstone Column

- Browns Ferry Unit 1

# Browns Ferry (BFN) Reactor Oversight Process Implementation

- BFN Unit 1 entered Action Matrix Column 4
  - Failure of a low pressure safety injection valve and fire mitigation strategy (Red Finding)
  - Licensee challenged performance deficiency
    - NRC independent review panel assessed the outcome
    - NRC utilizing ROP process (Significance Evaluation Review Panel) to assess panel results
  - Supplemental 95003 inspection planning

# **BFN Supplemental Inspection Activities**

- Multiple Inspection Activities
- Diagnose Scope of Site Issues
- Graded Assessment of Licensee Safety Culture

# **RII Perspectives on Reactor Oversight Evolution**

- **Regional ROP Improvement Initiative**
- **Continuing Learning from Industry Events and Conditions**
  - Fukushima Dai-Ichi near term task force
  - Ground water initiative

# RII Perspectives on Reactor Oversight Evolution

- Inspection Procedure Review
- Safety Significance Evaluations
  - External event screening
  - Integration of issues within a performance deficiency
  - Development of SAPHIRE 8

# Plant Performance Trending

- Safe Operation Across Region II Licensees
- Addressing Performance Deficiencies
- Fire Protection Aspects
- Reactive Inspections

# QUESTIONS



# **Fuel Cycle Inspection Program Overview**

ACRS Meeting of the Subcommittee  
on Plant Operations and Fire Protection  
Information Briefing for Region II Activities and Items of Interest

July 28, 2011

Tony Gody, Director  
Division of Fuel Facility Inspection

## Overview

- Inspection program applies to operating fuel cycle facilities
- Program elements include:
  - Core inspections
  - Plant specific reactive inspections
  - Plant specific initiative inspections
  - Generic safety issue inspections
  - Licensee performance reviews

## Enhancements

- Objective is to make the process more:
  - Risk-informed
  - Performance-based
  - Predictable
  - Transparent
- Respond to Commission direction
  - SRM M100429
  - SRM-SECY-10-0031

## **Commission Direction - CAP**

- Consider how to best reflect the fuel facility licensees' Corrective Action Programs (CAP) in the NRC Enforcement Policy
  - Provide incentives for licensees to maintain strong CAPs
  - Implement revisions to the baseline inspection program to credit licensees' effective problem identification and resolution programs

## **Staff Approach for CAP Incentive**

- **Revise Enforcement Policy to non-cite NRC identified Severity Level (SL) IV violations if,**
  - the licensee has established and implemented an effective CAP, and
  - the licensee enters the SL IV violation in its CAP for evaluation and correction
- **Draft policy revision will be issued for comment this summer with final revision issued in March 2012**

## **Benefits of a Strong CAP**

- More than NCV or baseline inspection program credit
- Identify and correct safety and security issues before they result in significant consequences
- Fuel facility safety is adequate with current corrective action efforts
- Opportunity to support continuous improvement of safety performance

## Effective CAP Determination

- Staff developed CAP criteria and elements that are indicative of an effective CAP
- Staff is developing a process to apply the revised NCV policy to those licensee's who have voluntarily agreed to implement the defined CAP
- Challenge is determining if effectiveness determination should be based on
  - Licensing basis documents
  - NRC inspection
  - Combination of both
  - Some other alternative

# Effective CAP Determination

- Path forward
  - Publish standard CAP criteria document
  - Establish process to conclude licensee CAP is effective and to apply revised NCV policy
  - Establish inspection program to continue to assess licensee CAP effectiveness

## **Core Inspection Program**

- The revision of the fuel facility core inspection program to credit licensees' effective problem identification and resolution programs (CAP) will be addressed as the inspection program is revised as part of the cornerstone approach to enhancing the fuel cycle oversight process.

# Questions



## **Center for Construction Inspection (CCI)**

ACRS Meeting of the Subcommittee  
on Plant Operations and Fire Protection  
Information Briefing for Region II Activities and Items of Interest

July 28, 2011

Alan Blamey, Chief, Construction Projects Branch 2  
Division of Construction Projects

## **The Center for Construction Inspection Mission**

*To provide assurance in the safety of future operations at new nuclear facilities by ensuring that licensees and applicants construct the facilities according to approved design criteria, using appropriate practices and quality materials.*

### **Division of Construction Projects Branches**

- Branch 1, Fuel Facility Construction (Part 70)
- Branch 2, Infrastructure Development (Part 52)
- Branch 3, Watts Bar Unit 2 (Part 50)
- Branch 4, Oversight of Vogtle and VC Summer (Part 52)

### **Division of Construction Inspection Branches**

- Branch 1, Electrical and I&C
- Branch 2, Civil
- Branch 3, Mechanical



# **New Reactor Construction Inspection Program Overview**

***ACRS Meeting of the Subcommittee on Plant Operations and  
Fire Protection Information Briefing for Region II Activities and  
Items of Interest***

**July 28, 2011**

# **New Reactor (Part 52) Inspection Overview**

## **Inspection Planning**

- ITAAC Inspection (IMC 2503)
- Inspection of Construction and Operational Programs (IMC 2504)

## **Inspection Scheduling**

- Link the planned inspection activities to the licensee's construction schedule.

## **Documenting Inspection Results (CIPIMS)**

- Inspection plans and results will be documented in CIPIMS.

## Transition to CIP implementation

- CCI receives regular updates to applicants' construction schedules and plans inspections accordingly
- Resident inspectors are stationed at Vogtle
- Formal Vogtle Construction Inspection Assessment Process began July 1, 2010
- Residents and regional staff have inspected ITAAC (waterproof membrane) and construction programs (QA, Fitness-For-Duty)
- Completed the first semi-annual performance review of Vogtle Unit 3 & 4 on February 8, 2011.
- The performance review concluded Vogtle was in the Baseline column on the construction action matrix.

# QUESTIONS



# **Watts Bar Unit 2 Overview**

ACRS Meeting of the Subcommittee  
on Plant Operations and Fire Protection  
Information Briefing for Region II Activities and Items of Interest

July 28, 2011

Mark Lesser, Deputy Director (Acting),  
Division of Construction Projects

# Inspection Program

- IMC 2517, “Watts Bar Unit 2 Construction Inspection Program,” issued February 15, 2008
- Strategy for completing IMC 2512 Inspection Procedures
  - Phase 1: Reconstitution - Staff reviewed old reports to compare completed inspections to requirements; delta identified
  - Phase 2: Inspection Scoping - Phase 1 results and additional considerations used for scoping future inspections. Corrective Action Programs, Special Programs, Generic Issues, Construction Deficiency Reports, open items, allegations, new/re-work, licensing issues, etc.
  - Phase 3: Perform inspections - Closure of the IPs and the bases for closure documented in inspections reports.

# Inspection Program (Cont'd)

- IMC 2513, “Preoperational Testing and Operational Preparedness Phase”
  - Review of testing program, test procedures, tests
  - Assessing the scope and schedule for our inspection of operational programs – RP, EP, Security, etc.
  - Other programs such as Fire Protection and Cyber Security
  - Training NRC staff for pre-operational testing inspection
- IMC 2514, “Startup Testing Phase”
- Transition to Reactor Oversight Process

# Inspection Progress

- Completed 2010 End-of-Cycle review in February 2010
  - 14 Violations identified in 2010
  - Cross-cutting theme in Human Performance
  - 6 NCVs identified through May 2011
- RII expended 14,700 staff hours in 2010; slightly over budgeted FTE; projecting 50% higher in 2011
- Completed 94 of approx. 500 inspection items
- Mid-Cycle assessment review scheduled for August 11
- Evaluating/Coordinating inspection activities with updated construction schedule from TVA

# QUESTIONS



# **Mixed Oxide Fuel Fabrication Facility (MFFF)**

ACRS Meeting of the Subcommittee  
on Plant Operations and Fire Protection  
Information Briefing for Region II Activities and Items of Interest

July 28, 2011

William B. Gloersen, Senior Construction Project Inspector,  
Division of Construction Projects

**To what extent has the information in the Integrated Safety Analysis Summary (ISAS) been used in preparing for construction inspections at the Mixed Oxide Fuel Fabrication Facility (MFFF)?**

# Background

- 10 CFR 70.23 (a)(8) – requires that NRC verify that the construction of principal structures systems and components (PSSC's) (design basis) has been completed in accordance with the application (for plutonium processing facilities)
  - PSSCs were defined in the Construction Authorization Request
  - Verification is a joint NRC inspection, technical review and administrative review activity
  - Joint NMSS/Region II expert panel was formed to implement PSSC verification activities

# MFFF Inspection Prioritization

- For MFFF, the construction related concerns are:
  - The MFFF is constructed with an undetected PSSC construction error that adversely affects the public’s health and safety
  - To minimize this concern, NRC will perform inspections to verify that the facility is constructed in accordance with the approved design commitments, construction authorization, and the quality assurance plan
  - Inspections add value by reducing the likelihood\* of an undetected PSSC construction error
    - \*The term “likelihood” is often used when qualitatively describing frequency

# Integrated Safety Analysis Summary

- Approximately 250 IROFS were identified in the ISA Summary (ISAS) (the 250 ISA IROFS equates to about 12,000 individual IROFS components)
  - Applicant associated the IROFS back to the 53 PSSCs
- IROFS were prioritized for inspection purposes using external events, hazards, and accident analysis information in the ISA Summary
  - Staff technical reviewers prioritized ISAS IROFS and IROFS component types based on the technical review of the LA and ISAS
  - Staff is developing Independent Verification Plans to document what IROFS should be examined through inspection and technical review
  - Verification of the construction of prioritized IROFS and associated safety functions will be performed through inspection and review of procedures



# Can the ISA process be improved for (construction) inspection planning and preparation?

- MOX FFF ISAS is a very comprehensive safety analysis
  - Allowed NRC technical reviewers to prioritize:
    - ISA Summary level IROFS
    - Component level IROFS for key ISA Summary IROFS
- Prioritized IROFS provided the inspection staff the means to focus the appropriate level of inspection effort on the 53 PSSCs



# QUESTIONS



# **Regional Safety Culture/Plant Safety Culture Assessment Process**

ACRS Meeting of the Subcommittee  
on Plant Operations and Fire Protection  
Information Briefing for Region II Activities and Items of Interest

Leonard Wert,  
Deputy Regional Administrator for Operations  
July 28, 2011

# Region II Internal Safety Culture

## Assessing Internal Safety Culture

- OIG /Federal Employees Viewpoint surveys
- 360 Management Assessments
- Ask Region II Management inquiries
- Leadership accessibility

## Activities Enhancing Positive Safety Culture

- Communications
- Cross organizational learning
- Leadership behaviors
- Employee engagement

# External Safety Culture

## New Policy Statement

- Clear and Concise traits
- Wording parallel with industry
- Security incorporated
- Non-reactor licensees

## Plant Safety Culture Assessment Process

- Pilot demonstrated process is viable
- Larger data base than NRC's ROP
- Still need for NRC independent assessment

# QUESTIONS

# INPO

*Institute of Nuclear Power Operations*

## **NRC Region 2**

## **ACRS Operations Committee**

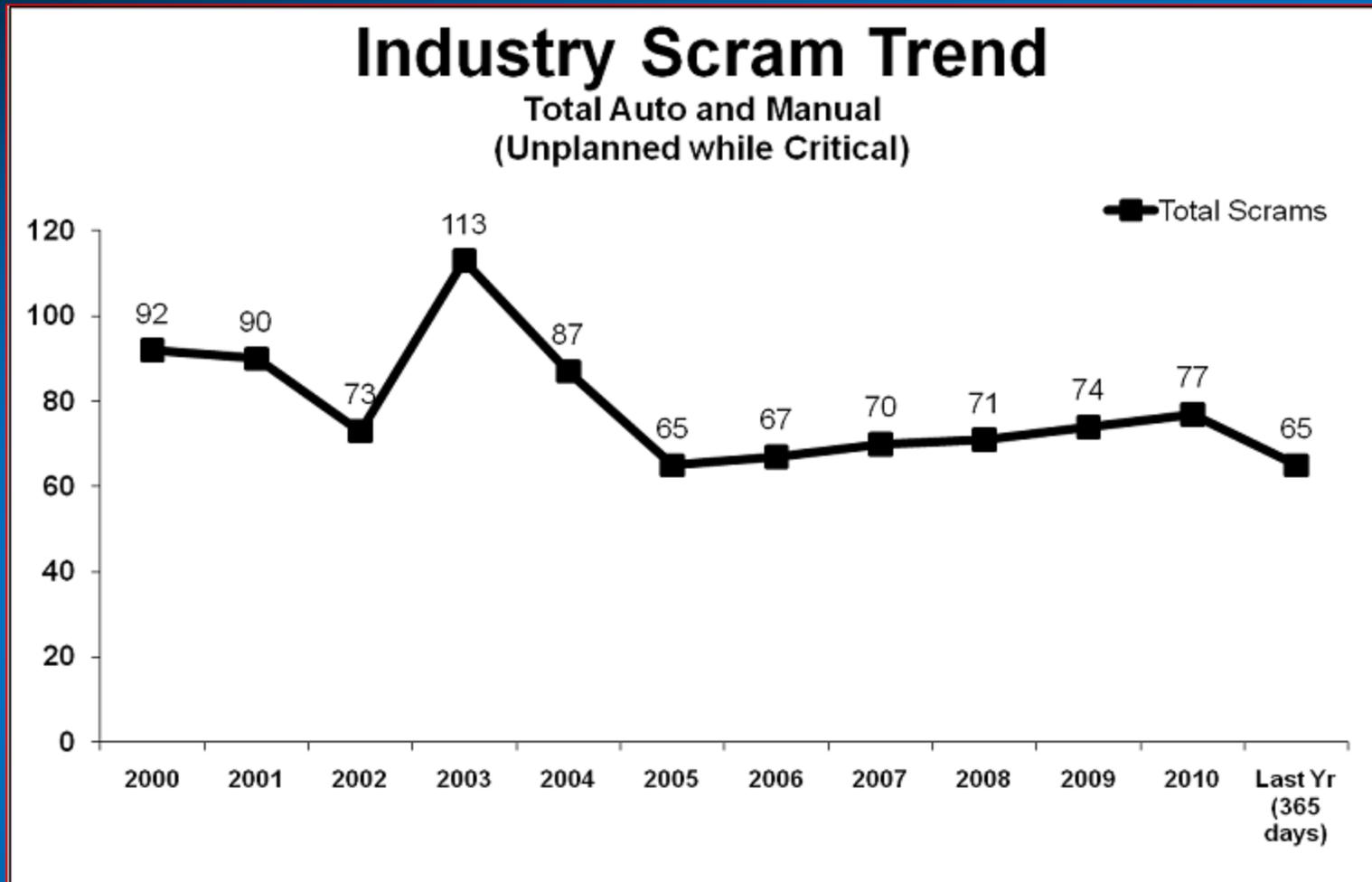
William Webster  
INPO Senior Vice President  
July 2011

- Excellence in Operations
- Excellence in Emergency Response

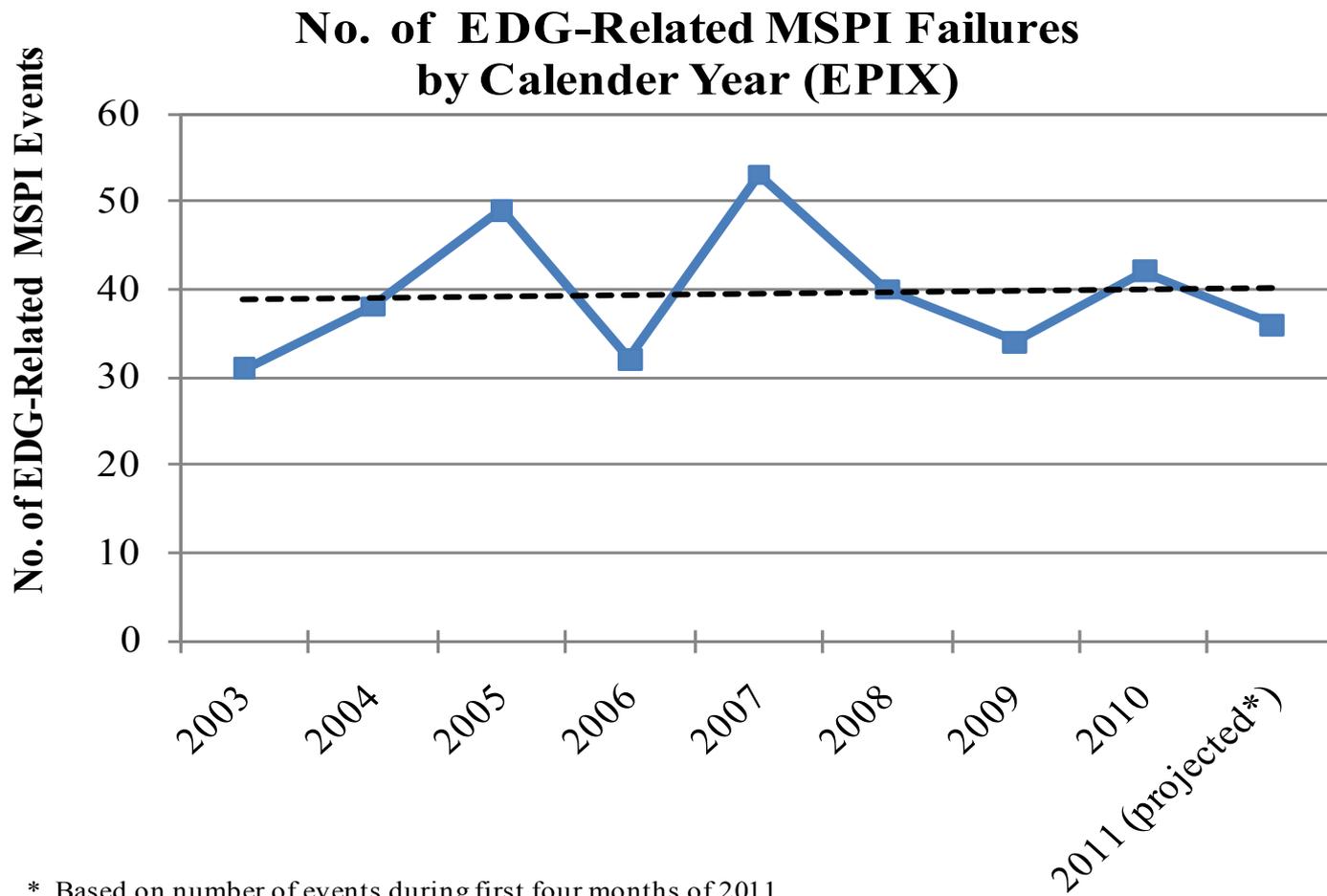
# Industry Performance

- Reactor Scrams
- Emergency AC Power
- Operational Events

# Reactor Scrams



# Diesel Generator Failures



# Operational Events (ref SOER 10-2)

- Long-standing issues tolerated
- Subtle decline in standards
- Use of operating experience
- Supervisor oversight role
- Worker understanding
- Operational risk

# Emergency Response Challenge



# Excellence in Operations

- Operator Fundamentals
- Operational Risk Management

# Operator Fundamentals

- INPO Level 1 IER 11-3
- “Weaknesses in Operator Fundamentals”
- Issued June 2011

# Operational Risk

- Identify
- Assess
- Mitigate
- Manage
- Learn

Life of Plant \_\_\_\_\_ Year \_\_\_\_\_ Month \_\_\_\_\_ Week \_\_\_\_\_ Day

Corporate Executives

Senior Managers

Managers and Supervisors

Individuals

---

### Operational Risk Management

Identify

Assess

Prevent/Mitigate

Implement Strategy

Learn and Adapt

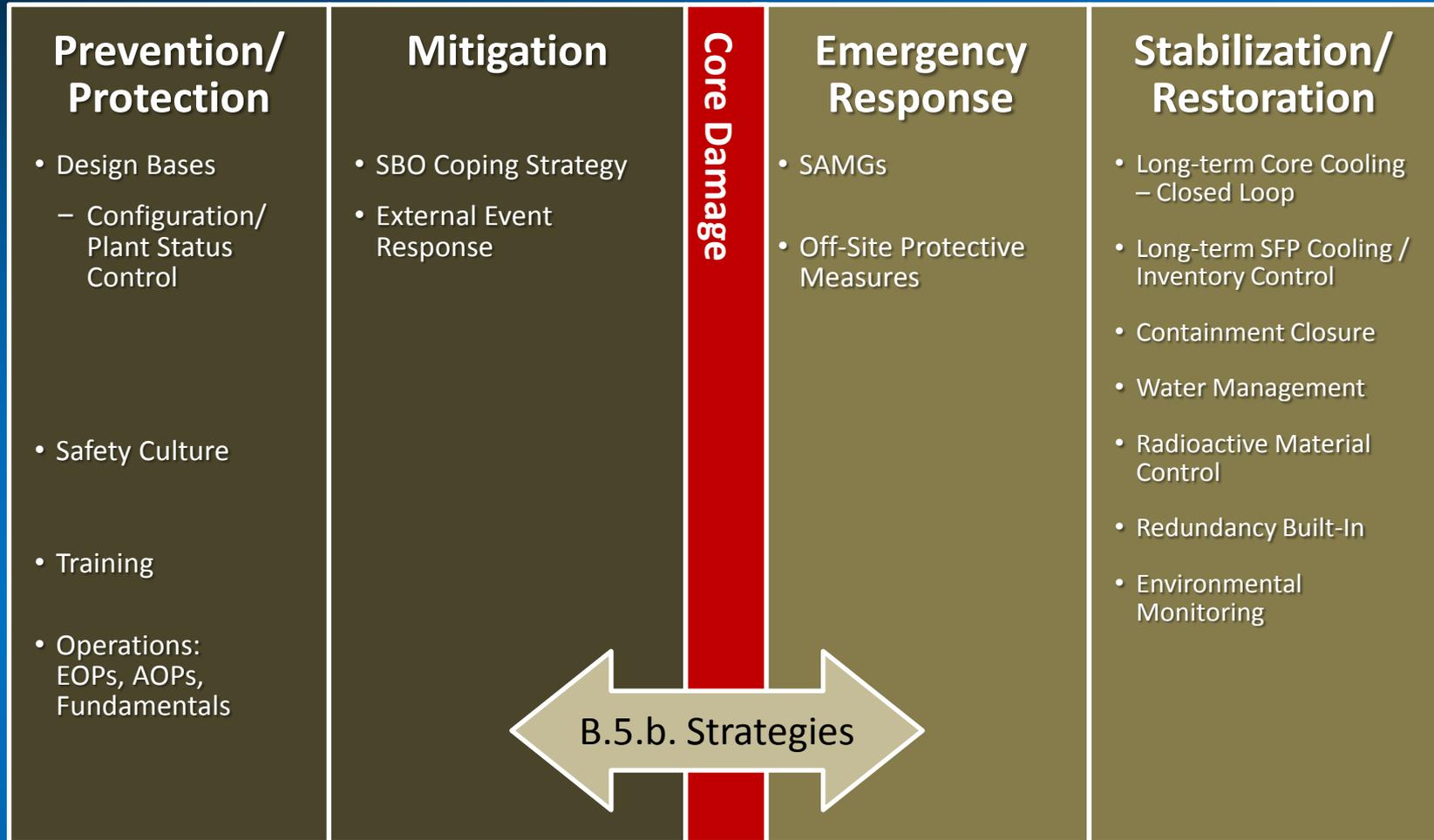


# Emergency Response Strategic Goals

ref. Industry document “The Way Forward”

1. Nuclear workforce focused on safety, operational excellence
2. Response times synchronized to preclude fuel damage after SBO
3. US industry capable to respond; scalable to international events
4. SAMGs, security strategies (B.5.b), and external event plans integrated for symptom-based event response at multiple reactors
5. Protection margins for external events sufficient, based on latest hazards analyses and historical data
6. Spent fuel pool cooling and makeup fully protective during periods of high heat load and extended station blackout
7. Primary containment strategies effective to manage and mitigate post-accident conditions, including elevated pressure and H<sub>2</sub>

# Current Nuclear Accident Response



# Future Nuclear Accident Response

Prevention/ Protection	Mitigation	Core Damage	Emergency Response	Stabilization/ Restoration
<ul style="list-style-type: none"> <li>• Design Bases                             <ul style="list-style-type: none"> <li>– Configuration/ Plant Status Control</li> </ul> </li> <li>• Safety Culture</li> <li>• Training</li> <li>• Operations: EOPs, AOPs, Fundamentals</li> </ul>	<ul style="list-style-type: none"> <li>• SBO Coping Strategy</li> <li>• B.5.b. External Event Strategies Repurposed and Integrated</li> <li>• Enhanced Loss of AC Response</li> <li>• Off-Site Resource Support</li> <li>• SFP Cooling Initiative</li> </ul>		<ul style="list-style-type: none"> <li>• SAMGs with SFP Cooling</li> <li>• B.5.b. Strategies Integration</li> <li>• Off-Site Protective Measures</li> <li>• Hydrogen Control and Venting</li> </ul>	<ul style="list-style-type: none"> <li>• Long-term Core Cooling – Closed Loop</li> <li>• Long-term SFP Cooling / Inventory Control</li> <li>• Containment Closure</li> <li>• Water Management</li> <li>• Radioactive Material Control</li> <li>• Redundancy Built-In</li> <li>• Environmental Monitoring</li> </ul>

# Future Nuclear Accident Response (Industry Response)

Prevention/ Protection	Mitigation	Core Damage	Emergency Response	Stabilization/ Restoration
<ul style="list-style-type: none"> <li>• Design Bases               <ul style="list-style-type: none"> <li>– Configuration/ Plant Status Control <b>(Strategic Goal 5)</b></li> </ul> </li> <li>• Safety Culture <b>(Strategic Goal 1)</b></li> <li>• Training <b>(Strategic Goal 1)</b></li> <li>• Operations: EOPs, AOPs, Fundamentals <b>(Strategic Goal 1)</b></li> </ul>	<ul style="list-style-type: none"> <li>• SBO Coping Strategy</li> <li>• B.5.b. External Event Strategies Repurposed and Integrated <b>(Strategic Goal 4)</b></li> <li>• Enhanced Loss of AC Response <b>(Strategic Goal 2)</b></li> <li>• Off-Site Resource Support <b>(Strategic Goal 3)</b></li> <li>• SFP Cooling Initiative <b>(Strategic Goal 6)</b></li> </ul>		<ul style="list-style-type: none"> <li>• SAMGs with SFP Cooling <b>(Strategic Goal 6)</b></li> <li>• B.5.b. Strategies Integration <b>(Strategic Goal 4)</b></li> <li>• Off-Site Protective Measures <b>(Strategic Goal 3)</b></li> <li>• Hydrogen Control and Venting <b>(Strategic Goal 7)</b></li> </ul>	<ul style="list-style-type: none"> <li>• Long-term Core Cooling – Closed Loop</li> <li>• Long-term SFP Cooling / Inventory Control</li> <li>• Containment Closure</li> <li>• Water Management</li> <li>• Radioactive Material Control</li> <li>• Redundancy Built-In</li> <li>• Environmental Monitoring</li> </ul>

# Questions?