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U.S. NUCLEAR REGULATORY COMMISSION

BRIEFING ON THE RESULTS OF THE AGENCY ACTION REVIEW MEETING (AARM)

MAY 29, 2013

9:00 A.M.

TRANSCRIPT OF PROCEEDINGS

Public Meeting

Before the U.S. Nuclear Regulatory Commission:

Allison M. Macfarlane, Chairman

Kristine L. Svinicki, Commissioner

William D. Magwood, IV, Commissioner

William C. Ostendorff, Commissioner

APPEARANCES

NRC Staff:

Bill Borchardt
Executive Director for Operations

Brian McDermott
Director, Division of Materials Safety and State Agreements, Office of Federal and State Materials and Environmental Management Programs

Ho Nieh
Director, Division of Inspection and Regional Support, Office of Nuclear Reactor Regulation

Victor McCree
Regional Administrator, Region II

Eugene Guthrie
Chief, Browns Ferry Special Projects Branch, Region II

Art Howell
Regional Administrator, Region IV

Anton Vegel
Director, Division of Nuclear Materials Safety, Region IV

Tennessee Valley Authority:

Preston D. Swafford
Chief Nuclear Officer and Executive Vice President, Nuclear Power Group

Charles “Chip” Pardee
Executive Vice President and Chief Generation Officer

James Morris
Senior Vice President, Nuclear Operations

Keith Polson
Site Vice President, Browns Ferry Nuclear Plant

Daniel L. “Lang” Hughes
Senior Manager Nuclear Plant Field Operations, Browns Ferry Nuclear Plant

Omaha Public Power District

W. Gary Gates
Chief Executive Officer and President

Lou Cortopassi
Fort Calhoun Station Vice President & CNO

P R O C E E D I N G S

CHAIRMAN MACFARLANE: Good morning.

MULTIPLE SPEAKERS: Good morning.

CHAIRMAN MACFARLANE: The Commission meets today to discuss the results of the Agency Action Review Meeting. The senior leadership of the NRC holds the Agency Action Review Meeting annually to review the appropriateness of agency actions taken for nuclear power plants, nuclear materials licensees, and nuclear fuel cycle facilities with significant performance issues. We also ensure that the coordinated courses of action are developed and implemented for licensees of concern. We assess the effectiveness of NRC's inspection and assessment programs and ensure that trends in industry performance are recognized and appropriately addressed. The Agency Action Review Meeting is an integral part of the evaluative process used by the NRC to ensure the operational safety performance of our nuclear licensees.

So today what we're going to do is first hear from the NRC staff and they will summarize the performance trends from the reactor industry and the materials and waste areas and they will update the Commission on the progress of two of today's invited licensees: The Tennessee Valley Authority and the Omaha Public Power District. And then following the staff's presentation, we'll take a short break and then we'll hear from both of those licensees about their plans to address their performance issues.

So just a few reminders before we begin: you're going to pay attention to the little colorful lights there; when it goes red, your time is up, and I'm also going to ask you to avoid using acronyms -- my usual plea -- so that we understand what we're talking about and the folks watching on the web can also

understand better what we're talking about. So before I turn it over to the staff; let me see if my fellow Commissioners have any opening comments, no? Okay. And then I will turn it over to Bill Borchardt, our Executive Director of Operations.

BILL BORCHARDT: Good morning. Yes, slide two please. Chairman, you reviewed the four major objectives of the Agency Action Review Meeting. I'd just like to say a few words about the third of those objectives, which is to assess the Reactor Oversight Program's effectiveness as well as the effectiveness of the Construction Reactor Oversight Program. The reactor oversight process is a dynamic and continuously improving process, and the meeting that we most recently had and the associated papers prepared by the program offices is just one of several mechanisms that we use to make sure that the reactor oversight program remains effective, that it adjusts to the realities of the operating environment for our facilities, and for now, the construction environment. We are planning a future briefing to discuss the construction program; including construction status and activities, for later this year.

Go to slide three, please. There were no significant adverse transfer materials licensees and no gaps or failures of the Materials and Waste Programs. In addition, there were no long-term significant adverse trends for reactor licensees, no program adjustments required for the Reactor Oversight Program, and both the Reactor Oversight Program and the Construction Reactor Oversight Program met the program goals and achieved their intended outcomes. Agency actions taken for licensees that warranted discussion in the Agency Action Review Meeting were appropriate and the current regulatory tools were deemed to be efficient.

As you mentioned, there are two licensees that will be being

discussed today; but in fact, there were three licensees that warranted discussion under the criteria in our management directives. Browns Ferry Unit I was discussed because it's in the multiple repetitive degraded cornerstone column of the Reactor Oversight Program Action Matrix because of red findings that were issued in 2010. Earlier this month, the NRC staff commenced the final portion of the supplemental inspection at Browns Ferry. And TVA last briefed the Commission on performance at Browns Ferry during the 2012 Agency Action Review Results briefing that was held in June of last year.

Fort Calhoun was also discussed at the Agency Action Review Meeting because it has been under manual chapter 0350 since December of 2011, due to significant performance concerns. Since early this year, the NRC staff has conducted several inspections at Fort Calhoun. OPPD last briefed the Commission in January of 2013 on the status of actions towards recovery.

In addition to those facilities, we discussed a materials licensee in a closed Agency Action Review Meeting session based upon security related performance issues. We did not recommend inviting the licensee to this meeting because the licensee has taken adequate corrective actions and no adjustments to NRC-planned actions were deemed necessary.

Go to the agenda slide, please. This slide just shows the agenda for the staff's presentation this morning, and with that, I'll turn it over to Brian McDermott.

BRIAN MCDERMOTT: Thank you Bill, and good morning, everyone. My objective today is to provide a summary of the Materials and Waste Program performance and trending analysis for fiscal year 2012. I'd like to begin by providing some context regarding the Materials and Waste Programs.

First, we're dealing with a very large number of specific licensees; over 23,000 at last count, with about 87 percent of those licensees in Agreement State jurisdictions. More importantly, however, the programs encompass a very wide variety of applications and activities, from industrial and medical to academic and fuel cycle activities. Some of these activities, such as diagnostic and therapeutic medical applications, include the intentional exposure of individuals to radiation; and for this reason, they are very unique uses of radioactive materials. When we discuss the number of reportable events and trends, especially in the medical area, it's important to keep in mind a very large number of activities conducted each year. The estimated number of nuclear medicine and radiation therapy procedures is in the millions. And this large number has implications for our review. The statistical significance of the small number of events is somewhat limited. And secondly, licensees are only required to report the number of events that occur vice the total number of activities they've performed -- so, coming up with a denominator to normalize the data is somewhat of a challenge. Next slide, please.

Annually, the staff performs a systematic review to identify any significant operational performance trends, licensee performance issues, or NRC program gaps. I'd like to emphasize that the criteria we use provides for a graded approach; it allows us to identify higher consequence issues such as ones that drive our strategic outcomes reported to Congress, all the way to lower level issues that are viewed more as precursors. We believe the graded approach provides us the ability to focus management attention on the most important issues and at the same time provide the staff early indication of any programmatic issues so that we may take early actions while these issues are

still at a lower level of significance. Next slide, please.

This slide reflects the goals and criteria that we use in the evaluation process. Industry event data is collected, monitored, and evaluated on a quarterly basis by the staff and is summarized in an annual report to the Commission. In fiscal year 2012, there were 436 events reported by NRC and Agreement State licensees. These were reviewed as part of the trending analysis. The evaluation of the individual events is done initially as part of the routine oversight of licensee activities. And it's the annual performance evaluation that does the aggregate assessment and seeks to identify any significant licensee performance trends or NRC program issues warranting the highest level of attention and awareness through the Agency Action Review Meeting process. The criteria used to identify these issues and licensees for discussion at the meeting was originally developed by the staff and endorsed by the Commission in 2003, and adjustments have been made in 2008 and 2011 to incorporate lessons learned through implementation. The Agency Action Review Meeting criteria target the most critical issues such as very serious operational events, including those that would trigger agency-level performance measures. The issued annual report to the Commission notes that we believe the current criteria is effective and valid, and no recommendations have been made this year to adjust the criteria. Next slide, please.

Moving quickly to the results with respect to our highest level goals and objectives for fiscal year 2012, no events met the strategic outcome criteria. The regulatory framework was effective in preventing events such as releases of radioactive material that could result in significant radiation exposures. In addition, the safety and security performance measures for materials were met

as well. For example, there were no exposures to the public or radiation workers resulting in unintentional functional damage to an organ or a system. Security measures for risk-significant materials were also met. In fiscal year 2012, there were no losses or thefts of Category I sources. There were three Category II sources that were lost or stolen, but subsequently recovered. And as a point of information going beyond this level of metrics, there were seven Category III sources that were lost and subsequently recovered or appropriately accounted for. So we are tracking the full spectrum; not just those highest tier. Next slide, please.

Let's move to abnormal occurrences for fiscal year 2012. The staff identified 22 abnormal occurrence events for the annual report to Congress based on our current review criteria. One of those events involved an electrical equipment fire at a commercial nuclear power plant; and that facility will be discussed later in the presentation. One of the events involved an excess of radiation exposure to an embryo fetus. Another involved an exposure to the extremities of a radiographer. The remaining 19 abnormal occurrences fall into the category we know as Medical Events. As I alluded to earlier, the number of medical event-related abnormal occurrences is very small in contrast to the millions of medical procedures performed annually. Based on our review, the staff does not believe that these events represent a generic concern. Also, no significant performance trends were identified when looking at this year's abnormal occurrence data in comparison to the previous years' worth of data. The staff did note that the current abnormal occurrence screening criteria captured some events where there were no adverse medical effects reported. We are currently working with the Office of Research and the Advisory

Committee on Medical Uses of Isotopes to identify potential enhancements to the abnormal occurrence criteria; and my understanding is a paper is due to the Commission later this summer on that very topic. Next slide, please.

As I mentioned before, the annual review process drives us to identify significant licensee performance issues or NRC program issues that warrant that highest level of review and attention at the Annual Agency Review Meeting. For fiscal year 2012, Bill noted, we did have one nuclear material licensee that was discussed because of significant performance issues involving security, and it was not recommended that the licensee be invited to this meeting because the licensee actions were deemed appropriate and effective, and the agency actions were deemed sufficient. My understanding is that all Commission offices were separately notified regarding this licensee. Regarding the NRC's program performance, we did not identify any significant gaps or issues with the materials and waste programs.

In closing, after reviewing the performance data for the Materials and Waste Programs, the strategic goals were met in fiscal year 2012. The Safety and Security performance measures were met as well. No adverse performance trends were identified. No significant NRC program issues were identified. And this concludes my prepared remarks; I look forward to any questions you might have. At this point I'll turn it over to Ho Nieh to discuss the reactor assessments.

HO NIEH: Thank you Brian. Good morning Madame Chairman; Commissioners. I will be briefing you on the results of the NRC's Industry Trends program and reactor oversight process self-assessment for 2012, both of which were discussed at the Agency Action Review Meeting. Next slide, please. I'm

on slide 13. The NRC uses its Industry Trends program to monitor for adverse trends in industry safety performance. The Industry Trends program complements the reactor oversight process by taking a step back and looking at industry-wide performance. The program uses industry level performance indicators such as scrams and safety system failures, as well as objective thresholds for identifying short-term and long-term trends. Outputs from this program are also used in our reports to Congress in our annual Performance and Accountability Report. The Industry Trends program is carried out in accordance with Inspection Manual Chapter 0313, and the results of the 2012 review were provided to the Commission in SECY-13-0038. Next slide, please.

The overall results for 2012 were that no statistically significant adverse long-term trends were identified and no short-term prediction limits were exceeded. In the 2012 report, the staff also updated the results from 2011 based on finalized accident sequence precursor evaluations. Specifically, seven additional events met the criteria as specified in the manual chapter for significant events. As such, the short term prediction limit was exceeded in 2011 for significant events. These seven additional events were related to natural phenomena and extreme weather. The staff's assessment concluded that these seven additional events did not represent a degradation in overall industry safety performance. And the staff had also noted good operator response during these events. Next slide, please.

The Industry Trends program also incorporates -- I'm sorry, I think we should be on slide 15. I think you need to go backwards. I'll keep talking. We're on a baseline risk index for initiating events, which is part of the Industry Trends program, and this program looks at initiating events in the reactor -- in the

initiating events cornerstone in the reactor oversight process. And these are things such as transients and losses of off-site power. None of the limits in the 10 initiating events categories were exceeded in 2012.

In summary, the 2012 Industry Trends Program did not result in the need for any adjustments to the NRC's oversight programs. And the Agency Action Review Meeting participants agreed with this conclusion.

Next slide, please. Slide 16. Thank you. Now, I'll discuss the results of the Reactor Oversight Process Self-Assessment for 2012. Each year, the staff conducts the self-assessment to determine if the ROP is effective in being objective, risk-informed, understandable, and predictable. This self-assessment is one of several mechanisms that the staff uses to identify recommendations for changes to the ROP, the Reactor Oversight Process. The self-assessment is conducted in accordance with Inspection Manual Chapter 0307. And the results were provided to the Commission in SECY-13-0037.

Next slide. The overall results for 2012 were that the Reactor Oversight Process met its performance goals and desired outcomes. And the staff did not identify any specific commitments for improvements. Again, the Agency Action Meeting participants agreed with this conclusion. Nevertheless, the staff will continue to look for areas for improvements based on internal and external feedback and lessons learned. As noted in this SECY Self-Assessment paper, some performance metrics in the ROP were not met. Several of the metrics that were not met pertained to internal perceptions about ROP effectiveness and communications. The staff will continue to take action to address these areas. And the staff will also be assessing the relevance of the current Reactor Oversight Process performance metrics and survey tools used in

the self-assessment.

Next slide, please. A specific requirement of the Agency Action Review Meeting is to discuss Action Matrix deviations. In 2012, there were two deviations, one at Seabrook for alkali-silica reactions in concrete, and one at Palisades for leakage issues and safety culture issues. As required by our process, the staff evaluates each action matrix deviation to determine if changes to the Reactor Oversight Process are warranted. These two deviations were used to apply additional inspection resources to specific areas where licensees were having activities. These deviations did not involve circumstances in which a deviation is sought to take actions different than what is specified in the action matrix for a given set of Reactor Oversight Process inputs. In evaluating these two deviations, the staff found that the current inspection program guidance provides flexibility for regions to use additional resources to focus in specific areas. The staff plans to clarify the inspection program guidance so that the regions can publicly document its decisions to use additional resources in specific technical areas within the baseline inspection program. We feel that this improvement will further enhance the transparency of the inspection program.

Next slide, please. I would now like to highlight some of the significant accomplishments to improve the reactor oversight process in 2012. We integrated security into the Reactor Oversight Process action matrix. This was a planned and significant step toward increased openness in the security cornerstone. We collaborated effectively with the Institute for Nuclear Power Operations, the Nuclear Energy Institute, and other external stakeholders to finalize common language in the area of safety culture. This common language will be incorporated into Reactor Oversight Process program documents to

educate and train our inspectors. We also made improvements to our significant determination process in the area of cyber security and force-on-force exercises.

Next slide, please. The Reactor Oversight is a mature and robust program and it has served the agency well. At the same time, we can always look for ways to do things better. I'll highlight some areas of focus. At the end of last summer, the staff initiated a Reactor Oversight Process enhancement project to take a fresh look at the program. We'll be working with internal and external stakeholders to consider making changes in areas such as the baseline inspection program, substantive cross-cutting issues, timeliness of supplemental inspections, and how the ROP communicates with the public. As part of this effort, the staff will incorporate insights from the Commission-directed independent review of the Reactor Oversight Process. Lastly, the staff will continue its work to enhance the Public Radiation Safety cornerstone. We will be augmenting our inspection program guidance to document licensee implementation of the industry's initiative in groundwater and underground piping.

This concludes my presentation and I'd like to turn it over to Mr. Gene Guthrie, who will review on performance of Browns Ferry. Thank you.

EUGENE GUTHRIE: Good morning, Commissioners, Chairman. My name is Gene Guthrie. I'm the team leader for the 95003 inspection currently in progress at the Browns Ferry Nuclear Station. Prior to this opportunity, I served as the Reactor Projects branch chief for the Browns Ferry site as well as the other Tennessee Valley Authority sites. I'll provide an overview of the Browns Ferry plant for the 2012 performance assessment period. I will then discuss the path forward regarding NRC's assessment of plant performance and other regulatory actions.

Browns Ferry Unit 1, entered Column 4 of the agency action matrix, when the NRC issued a red finding in August of 2011, due to the high safety significance determination associated with the failure of a residual heat removal system flow control valve. We have briefed the Commission since that date on two occasions regarding Browns Ferry's performance, in October 2011 and April 2012. We have also held seven public meetings, during which we discussed Tennessee Valley Authority's response to the finding and preparations for the ongoing 95003 inspection, among other topics. Since issuing the red finding, the Tennessee Valley Authority has developed and begun to implement a performance improvement plan. In February 2013, Tennessee Valley Authority informed us it had reached a point in implementation of the plan to support readiness to receive the 95003 inspection.

Regarding Browns Ferry's performance in 2012, equipment reliability remained a key factor affecting plant performance and operations. In 2012, there were four reactor scrams and four unplanned down powers. The impact of these plant transients were reflected in several degraded performance indicators. The Unit 3 performance indicator for unplanned scrams per 7,000 critical hours changed from green to white in the second quarter, primarily as a result of three reactor scrams. Scrams were caused by two secondary system equipment issues and one human error.

The Unit 1 mitigating system performance index for high pressure injection systems changed from green to white in the second quarter due to equipment reliability issues. In addition, a white finding was issued involving the procedures that are implemented to shut down the plant and put it in a safe condition during various fire scenarios in locations throughout the plant.

This finding affected all three units. The procedures, called safe shutdown instructions, were revised as part of a licensee's initiative to reduce fire risk during the transition to National Fire Protection Association 805 Licensing Basis. The NRC determined that the operators are not adequately trained to successfully implement the revised procedures. Since that time, training has been conducted to address this issue. The two white performance indicators and the white finding were inspected using supplemental inspection procedure 95001. They were inspected separately in September, October, and November of 2012. Each of the inspections determined the licensee's actions to be satisfactory.

Finally, the Unit 1 and Unit 2 mitigating system performance index for emergency AC power systems changed from green to white in the fourth quarter due to equipment reliability issues. We plan to conduct a supplemental inspection in this area later this year. As a result of these performance issues, Unit 2 is in Column 3, the degraded cornerstone of the Reactor Oversight Process action matrix. And Unit 3 is in Column 2, the regulatory response column. As previously stated, Unit 1 remains in Column 4 pending the outcome of the 95003 inspection.

Regarding safety culture at Browns Ferry, we are assessing this area by following up on previously identified substantive cross-cutting issues, reviewing the licensee's third-party safety culture assessments and by conducting interviews of site personnel. Two substantive cross-cutting issues remained open throughout this assessment period. One, thorough evaluations of identified problems, has been open since 2009. And the other, appropriate and timely corrective actions, has been open since 2010. A third substantive cross-

cutting issue in human performance was open in February 2013, in the aspect complete, accurate, and up-to-date, design documentation, procedures, work packages, and correct labeling of components.

The Tennessee Valley Authority's actions to address these cross-cutting issues are being evaluated as part of a 95003 inspection. During this assessment period, the licensee received an independent third-party safety culture assessment report. The surveys for this assessment were conducted in the fall of 2011. And the relatively low participation rate in this survey adversely affected the reliability of the results.

As a result, we expanded the scope of our independent assessment of safety culture. This was accomplished, in part, by adding additional safety culture assessors to the 95003 team to interview a wider sample of site personnel and consequently enable more thorough evaluation of the results of the independent third-party assessment.

During the first quarter of this year, TVA initiated another independent third-party safety culture assessment. The final report is being reviewed by the 95003 inspection team to assess the nature and degree of improvement in the culture at the station.

Next slide, please. The third part of the 95003 inspection is currently in progress. As we previously reported, Part 1 and Part 2 of this inspection were completed in 2011 to identify whether there were any immediate safety concerns with programs or equipment and focused on valve and maintenance programs at the station. While the inspections identified several program-related issues, no safety concerns were identified. The Part 3 inspection is designed to evaluate TVA's current performance at all three sites,

and the reasonable sustainability of its performance improvement initiatives. Our ongoing inspection includes an assessment of TVA's Performance Improvement Plan and its implementation to determine whether it is sufficient to correct the underlying performance deficiencies and prevent recurrence.

The inspection team includes a diverse groups of 23 experienced inspectors from Regions I, II, and III, the Office of Nuclear Reactor Regulation, as well as safety culture assessors from NRR, Office of Research, the Office of Enforcement. Team has spent two weeks of preparation and inspection in Region II, two weeks inspecting on-site. Throughout this time, they have been highly dedicated and have vigorously taken on the responsibility of accomplishing the inspection objectives. I have very high confidence that -- in the team's ability to provide a high-quality inspection and through assessment.

At this point in the inspection we have not reached a conclusion regarding the adequacy of Tennessee Valley Authority's actions. However, even with a satisfactory assessment in the 95003 inspection, we anticipate the need for additional inspection focusing on key licensee improvement initiatives. We will continue to use the Reactor Oversight Process assessment -- the Reactor Oversight Assessment Process to guide our regulatory actions regarding Unit 1 status in the Reactor Oversight Process action -- agency action matrix.

Of course, a key input to the assessment process will be the results of the 95003 inspection, the Part 3 inspection, and any follow-up areas that we conclude warrant additional attention. This assessment of plant performance will enable us to determine whether and when it is appropriate to move Unit 1 from Column 4 or take other regulatory actions. We expect to complete our assessment sometime this summer.

In April 2012, NRC issued a confirmatory order which required TVA -- or Tennessee Valley Authority -- to submit a license amendment request by March 29th, 2013, to transition to National Fire Protection Association standard 805 for the Fire Protection Program at Browns Ferry.

Tennessee Valley Authority submitted the license amendment request on March 27th and is currently undergoing NRC's acceptance review. TVA is currently implementing a number of plant modifications to further reduce fire risk at Browns Ferry. And of course, we are continuing to conduct inspections under the Reactor Oversight Process to assess and confirm the adequacy of commitments made to implement plant modifications in these areas.

In closing, participants in the Agency Action Review Meeting in late April concluded that the performance of the three units at Browns Ferry continued to be adequate for safe operations. In addition, the participants acknowledged that the completed and planned NRC actions at Browns Ferry were appropriate and that no additional actions were recommended. And that concludes my remarks on Browns Ferry's performance and agency actions going forward. Thank you. And I'll turn it over to Tony Vegel.

ANTON VEGEL: Good morning, Chairman, Commissioners. Name is Tony Vegel and I'm the 0350 panel chair for the oversight of Fort Calhoun Station. Also here with me today is Louise Lund, the deputy director in the operator reactor licensing; and Mike Hay, the branch chief from Region IV. Louise and Mike have been instrumental in coordinating headquarters and regional resources in ensuring that the technical issues at Fort Calhoun are being reviewed in a timely and thorough manner.

Today I plan to provide a brief overview background of how Fort

Calhoun entered an 0350 process, the NRC actions taken, and the planned actions going forward to assess the station's readiness for restart. The majority of my discussion will focus on what has changed since January of this year when we last briefed the Commission on Fort Calhoun oversight status.

Next slide. On December 13, 2011, Fort Calhoun Station transitioned out of the normal Reactor Oversight Assessment Program to Manual Chapter 0350, which is Oversight of Reactor Facilities in a Shutdown Condition due to Significant Performance and Operational Concerns. As you may recall, the station shut down for a normal refueling outage in April of 2011. On June 6th, the licensee declared an unusual event based on high river levels. On June 7th, it declared an alert based on a fire that started in the safety-related 480 volt electrical breaker that resulted in a loss of multiple electrical buses and spent fuel pool cooling for a short period of time. The circumstance causing the fire was subsequently assessed by the NRC as a red finding. The significant performance deficiencies that resulted in transitioning Fort Calhoun Station to the 0350 process included a yellow finding involving inadequate flood mitigation strategies, a white finding involving reactor protection systems, and multiple greater-than-green findings in the area of security.

Several confirmatory action letters, otherwise known as CALs, have been issued since 2011, describing actions that OPPD has committed to take prior to restart of the station. These actions entail ensuring systems, structures, and components potentially affected by the flooded conditions are adequately assessed and corrected, and to ensure that issues resulting in the prolonged performance decline at Fort Calhoun Station are resolved.

Revision 3 of the confirmatory action letter was recently issued on

February 26th, 2013, to include containment internal structures issues, penetrations issues, and multiple safety system functional failures.

Enclosed in the confirmatory action letter is a restart checklist that specifies the actions to be taken by both the licensee and NRC prior to restart. Major areas the licensee is responsible to address include assessing and correcting the causes of the significant performance deficiencies, including performing an overall assessment of organizational effectiveness, completing flood restoration activities, evaluating the adequacy of significant programs and processes, and the development of a station integrated performance improvement plan. In addition, the confirmatory action letter specified that the NRC will review the key attributes that are contained in supplemental inspection procedure 95003 that Gene had previously described. To provide details and clarifications for the scope and breadth of the restart checklist items, the actions that the NRC plans to take to verify that Fort Calhoun Station has adequately addressed the specific items, a restart checklist basis document was issued. Revision 2 of this document was recently issued in March and consists of approximately 480 items. Next slide, please.

Since the last time we briefed the Commission on January 8th, significant inspection activities have been performed by approximately 40 NRC inspectors. These inspectors have been -- these inspections have been done by individuals and teams consisting of staff from all four regions and headquarters; truly an agency effort.

I would now like to discuss some of the overall results and insights from these inspection activities. In December 2011, the NRC worked with the licensee to develop the scope of a 15-person inspection team that entailed the

reviewed of approximately 170 items. In February, when the team was preparing for the inspection, over 30 percent of these items were not completed by the licensee and therefore were not ready for NRC inspection. Additionally, a significant amount of the inspected items were not adequately addressed by the licensee and will require follow-up inspection.

Although the results of this inspection have not been placed on a docket yet, we held a public meeting on May 17th in Omaha to discuss the results publicly. Overall, the team concluded that much work was needed by the licensee, not just to address what is needed to restart the plant but what is needed long term to ensure sustained improvement is achieved. Areas for improvement include improving the quality of design and licensing basis information; improving the ability of facility staff to use the design basis information; understanding regulatory requirements as they pertain to making changes to the plant and reporting the information to the NRC; and fourth and probably the most important, improving the effectiveness of the corrective action process in the areas of evaluation of problems and extended condition, and development and implementation of corrective actions.

Significant NRC inspection resources have been utilized, reviewing Fort Calhoun actions to address the more significant or greater-than-green performance deficiencies. In most cases, it was determined that the licensee had implemented adequate actions to correct the specific technical problems. However, their extended condition reviews, and development and implementation of corrective actions, in many cases, were not adequate and will require follow-up inspections to ensure that these areas are adequately addressed.

For example, a security team inspection identified significant deficiencies in the licensee's evaluation of the greater-than-green findings. The team determined that the licensee did not collectively review all of the root and contributing causes of the findings for indications of more fundamental problems within the area of security or other departments. The team identified nine findings in other areas of security that shared the same root and contributing causes at the greater-than-green violations. In response, the licensee has been performing additional work in this area, and the NRC is planning to do a follow-up inspection. Currently, that inspection is scheduled for next month.

Though the NRC has identified some issues with the depth and the breadth of Fort Calhoun Station efforts to address the confirmatory action letter items, we have seen substantial progress in a number of areas. These include improvements in the overall safety culture at the site, nuclear oversight effectiveness, replacement of containment electrical penetrations, and replacement of aged components, to name a few.

Next slide, please. I'd like to note that the Agency Action Review participants acknowledged that completed and planned NRC actions at Fort Calhoun station were appropriate and no additional actions were recommended. As you can see, the inspection activity to date has resulted in mixed results. There are many items left to inspect for the first time, a number of items that the NRC needs to reinspect to ensure that adequate actions are being taken to address the specific deficiencies identified.

As the inspections are being performed, the assessment to providing inputs into areas that need to be resolved prior to restart and those that will be incorporated in post-restart oversight plan to ensure performance

improvement is sustained. One of the items in the restart checklist is for the NRC to verify that the licensee develops and implements an integrated performance improvement plan that adequately addresses these long-term actions. The NRC will ensure that at a minimum the integrated performance improvement plan contains those items identified by the NRC as needing additional attention, assuming restart of the facility.

The 0350 panel recognizes there's still a substantial amount of inspection activity that needs to be performed. The NRC has no timeline for when the plant will restart. Currently the overriding priority for the 0350 panel is to ensure that we thoroughly and independently verify that the plant is safe to restart. The 0350 panel will not recommend restart of Fort Calhoun Station until we have assured ourselves that the people, the processes, and equipment at the station are ready to support safe plant operations.

In accordance with the Manual Chapter 0350 process, should the panel conclude the plant is safe for restart, this recommendation will be presented in a memorandum to the regional administrator, describing the panel's basis for their decision. The regional administrator will discuss and obtain approval from the director of NRR for restart, then obtain concurrence from the deputy executive director for reactor preparedness programs. Following this process, the Region IV regional administrator would then authorize restart of the facility.

In summary, the reactor oversight process is working. Based on extensive inspections, Fort Calhoun Station is making progress. The key issues that need to be resolved prior to restart have been identified, and what remains is, first, the short-term corrective actions need to be completed to support a safe

return to operations; and second, the long-term corrective actions to sustain performance improvement has to be developed and tracked through an integrative performance improvement plan.

For the NRC, our challenge is to continue our independent and thorough assessment to validate that plant operational safety is ensured. Thank you.

BILL BORCHARDT: So Chairman, I'd like to just take a moment to commend all four regional offices, as well as all the headquarter program offices for their support, their coordination, and cooperation through what was a very challenging year. As you know, we had all of the emergent work having to do with Fukushima follow-up. We had some significant natural events. We were able to maintain our focus on the safe operation and oversight of all licensed facilities, materials, as well as reactors throughout that time period, while still giving the appropriate attention to the facilities that were discussed today. It doesn't happen by accident, and it takes a lot of cooperation, interdependence, and cooperation amongst all those parties to make it happen what appears to be seamlessly, but not without the dedicated efforts of a significant number of inspection staff in the regions and in headquarters.

We have endured a great deal of challenge having to do with the budget sequestration and other things. The oversight of the operating facilities has been and will remain the number one priority for the agency and for the staff throughout that period. We are doing all we can to preserve our robust inspection program and oversight activities, and we're making difficult decisions, but we are continuing with that line of decision moving forward.

So I'd like to thank the presenters for their presentations today.

And that completes the staff's presentation.

CHAIRMAN MACFARLANE: Great. Thank you very much. I do appreciate your presentations. It's very helpful this morning. And I do appreciate all the hard work at all the regions, and I acknowledge Vic McCree and Art Howell, the two regional administrators who are here with us this morning. So thanks for coming, and thanks for your hard work and oversight.

So I'm going to start off with questions. So let me start with Ho. So I have a question about the trends analysis. So I've looked at some of the trends program analysis for a number of years in the past, and there don't seem to be very many significant insights into this. So the overarching question is, is there real value to this trends analysis program? And so I want to probe a little deeper by asking, it seems that you only look at the last 10 years. Why? Why not look at 20 years? Why not look at all the data and see if you can see trends -- sometimes trends happen over a short period of time. Why cut it off at 10, when it seems sort of arbitrary?

And then if I, you know, when I looked at the data on the 2012 significant events, it seems that there is a trend -- at least for the last three years -- it's much higher. If that's not a trend, then what is it? What, you know, what defines a trend? And maybe we should be rethinking this part of the program.

HO NIEH: Thank you for the question, Chairman. I heard three questions in that, and I'll try to address them all. But with respect to the value-added of the industry trends program, I do think that the trends program is complementary to the reactor oversight process. And I feel that it's part of the broader network of our oversight program, and it's -- look at operating experience.

I think there is value-added in stepping back and taking an industry-wide look. The reactor oversight process looks at it on a plant-specific basis. The trends program enables us to take a look across the industry at performance in various areas. Because we haven't identified any significant adverse trends in those areas, I don't believe there's a reason for us to step away from doing that. I think it's just another means for us to not become complacent with safety performance of the industry.

With respect to the 10-year question, I had noticed that as well in some of the long-term graphs. I think we have some questions internally with respect to the period of time and the baselines that we use for the 10-year period. I think it's a very thoughtful question. It's historically been what we've used to look at it from a long-term perspective and it's an area that I'm looking at with my staff within the Division of Inspection and Regional Support with respect to the 10-year window that we're reviewing.

Regarding the graphs, it looks like there's a trend -- I'm not a statistician, but I understand how the program is constructed, and we do -- it is in the way we define what constitutes a statistically significant adverse trend. We do use the coefficient of determination, which is how well the data correlates for that 10-year cycle. It's the R squared value. And basically, if we see a strong correlation with that trend, then we will consider it statistically significant. But if we don't see that value, even if it looks like there's a positive slope, we use the statistical significance test to determine whether or not there's an adverse trend.

CHAIRMAN MACFARLANE: Have you ever seen any trends about anything? If not, then I would say that maybe we need to go back and look at what we define as a "trend." Maybe -- Vic seems like he wants to jump in.

[laughs]

VICTOR MCCREE: Chairman, the only thing I'd add -- and I would second Ho's comments. In your question about whether looking back further than 10 years may be insightful -- because I would submit if we looked back over 20 years or 30 years, you know, when you ask whether we've ever seen trends. In the context of the reactor oversight process, I don't think that we have identified an adverse trend. But under our former regimes, if you would, when we had an Office of Analysis and Evaluation of Operational Data in Industry Performance, certainly warranted or merited such an identification of trends. Trends were identified decades ago and it may be insightful, certainly to answer to your question, to look at some of that information.

CHAIRMAN MACFARLANE: I guess I'm just sort of approaching this like an academic and, you know, there's a whole lot of data here that you got -- you have. And it seems that you could learn something from it instead of just continually saying we don't learn anything from it. I mean, you should maybe take the data, throw it up, and see if you -- it lands differently, and you actually learn something from it. I think -- just to encourage a broader look.

Okay. So with respect to that performance metrics that were missed this past year -- again, Ho, for you -- on the reactor oversight process, understandability, responsiveness to feedback, and the program being implemented as defined, I'm concerned that there's maybe a little bit more behind these misses than just low participation. Maybe there's a lack of understanding of this part of the reactor oversight process. And I think maybe we need a little more exploration of this. Do you have any insights there?

HO NIEH: Yes, I share with you my thoughts with respect to the

performance metrics that were missed. When I was reviewing the results of the surveys -- and we do use a survey tool to get the feedback. And one year we do it with an internal survey, and then the following year, we'll do it with an external survey. And we go back and forth. And there were several things that struck me with respect to some of the ones that were missed in the areas you described. I think, quite frankly, it surprised me. So in looking deeper into what the survey questions we were asking and how many people responded, it did strike me that there was a very low response rate, and the questions did probe at a very general level: Is the ROP effective? Are the ROP -- is it understandable, and things of that nature.

Given that there was low participation rate and some questions I had with respect to the types of questions we were asking, I wanted to take a deeper look. I'd asked our team in the Office of Nuclear Reactor Regulation to take a deeper look at the survey to see if we're asking ourselves the right questions. Having said that, I do think it does tell us something. I think if there are staff that feel that the process is not understandable, that's something where we can do better, and particularly with our inspection reports, for example.

There was a question in there with respect to are our assessment reports and letters understandable? And, you know, there was a low favorable response on that. And I feel that we can do better in that area. And we have taken steps to incorporate more plain language initiatives into our manual chapters that govern the inspection letters that we use in the process. But so I do think there are insights there. Even though there were low response rates, that didn't mean that we were going to ignore the survey results in those areas.

BILL BORCHARDT: Yeah, I'd just say I think there's a broader

issue here. It's not specific to reactor oversight program. It has to do with the whole knowledge management area. You know, we're seeing -- we've hired a lot of entry-level people. They're assuming positions that have -- are very important within the Reactor Oversight Program. They didn't receive the training, the indoctrination when we first developed the ROP 10 years ago or so. And, you know, we're seeing the same thing, I think, in the materials area and the new reactor area that there's -- we need to guard against this assumed assumption that everybody knows all the background.

And I think it's kind of a refresher training -- sometimes initial training for new employees -- that this may be a sign that we need to pay a little more attention to that area.

CHAIRMAN MACFARLANE: Okay.

VICTOR MCCREE: Chairman, we also discussed at the Agency Action Review Meeting the relatively low participation rate. And of course the Regional Administrators took that personally, because we have a number of people responsible for implementing that program. And quite frankly we'll do better next time.

Some of us weren't as focused on that as closely as we needed to. And the fact is, I think sometimes staff can suffer survey fatigue. But we need to, in this area, emphasize the importance of eliciting and providing good feedback, because this is fundamental to what we do. So we, again, took that for action.

CHAIRMAN MACFARLANE: Okay, good. Quick question about Browns Ferry, for Gene. Four reactor scrams in the last year? Is that unusual for a particular plant?

EUGENE GUTHRIE: There's -- you know, it's a three-unit site.

CHAIRMAN MACFARLANE: Yeah.

EUGENE GUTHRIE: It is -- it would be considered marginally more than you would expect. It's not -- for instance, we have seen more in the past at -- while all three units were operating since 2011. It is -- the trend is lower than it has been in the past. And also to say how many is too many or those kind of perspectives is -- it's a three-unit boiling water reactor site. There aren't too many like that. So you have to consider that that's a consideration. So we'd like to see less, and we'd like to see -- we're concerned about equipment and reliability at the station. So as equipment reliability reflects on the scrams themselves, we'd like to see, you know, improvement in that area. So that's how I would answer that.

VICTOR MCCREE: And just to add onto what Gene indicated, I think the insight is on -- in the area of equipment reliability. That's the area that arguably -- or one of the primary reasons that Browns Ferry remains in column 4. And while there -- there is evidence of improvement in that area due to -- investments, which I'm sure Mr. Swafford will speak to the number of trips really over the last 18 months -- and down powers, mid cycle outages, if you would, are evidence that that area still challenges TVA, and it's an area that they need to remain focused on.

CHAIRMAN MACFARLANE: Okay. Great. Thanks. I will pass it over to Commissioner Svinicki.

COMMISSIONER SVINICKI: Thank you, Madame Chairman. Good morning, and welcome to everybody. I'll add my thanks to those of Chairman Macfarlane to highlighting, I think, the work of all four of NRC's regions. This annual meeting always puts the hard work and inspection activity

of our region staff front and center at this meeting every year. And again, I'm very appreciative to our Regional Administrators and all of the staff in the regions for the hard work that they do.

Brian, I wanted to start out by making a comment. I won't have any questions in the materials area, but I thought that that might be interpreted as some lack of emphasis on the materials area. This is -- the activities you reported on are a really important part of the AARM process, and I think as you did a very good job of putting in context, it is in the materials area that many Americans will have their real interaction with nuclear technology. And when we look at the tremendous number of medical procedures and other things, I think it is important to put that in context as you did appropriately in your presentation. I also want to thank you for the important work that will be going on in looking at any potential modifications or enhancements to the abnormal occurrence screening criteria for the medical -- what we would term a "medical event" but in an area where there was absolutely no adverse medical effect on the patient. So I think that's an important area for us to be looking at. Again, it gives some context to the way the criteria are set up and what we're reporting. So I just -- I don't have any questions for you, but I want to thank you for the really important data that you presented this morning.

Tony, I wanted to turn to Fort Calhoun just because I'm trying to be very clear on something related to the status of activities, and you touched on the same point in kind of slightly different words three times; so I want to be sure that I understand this. Now, we do have -- you mentioned the revision to the Restart Checklist Basis Document. There's 460 items. And what I'm trying to understand is, is NRC at the point or will we soon be at the point where a well

scoped and defined list of items can be communicated to the licensees, saying "These are the items that, if addressed to our satisfaction, would lead to a positive recommendation on restart"? Because you do talk also in some of your statements about the Integrated Performance Improvement Plan. Well, I'll just -- I'll paraphrase what you said to try to point out maybe some of my confusion. You said, "One of the items in the restart checklist is for NRC to verify that the licensee develops and implements an Integrated Performance Improvement Plan that adequately addresses long term actions." So it seems like you're saying that restart is dependent on all of the longer term items having -- is it a satisfactory plan for being addressed? Can you help me understand the linkage there?

ANTON VEGEL: Thank you for the question. Yes, we do have a basis document that provided the detailed items, and there are 400 items. But that list was developed with Fort Calhoun Station to make sure that they understood it; that these are the issues that we will specifically look at to assess the bigger areas that are in the confirmatory action letter and the restart checklist.

And my discussion regarding the Integrated Performance Improvement Plan is for them to develop a plan. And as the specific area that we put in the Confirmatory Action Letter and Fort Calhoun agreed to do, is that they will develop an Integrated Performance Improvement Plan and will review it as part of the Confirmatory Action Letter prior to restart.

So we're not saying that it is Integrated Performance Improvement Plan has to be completely done --

COMMISSIONER SVINICKI: [affirmative]

ANTON VEGEL: -- and finished. No, they have to develop it. It has to capture the right areas. We'll review it, and that'll be the -- you know, we'll

look at that and see if it's adequate, while understanding that if the plant restarts, then they -- you know, that the Integrated Performance Improvement Plan is a good plan. It'll probably change too to some -- as they get more and more operational experience, per se. But the bottom line is that we'll review the plan. It doesn't have to be all done. Does that kind of clarify it?

COMMISSIONER SVINICKI: It does, but it also, to me, helps me understand why in the community and for officials near the plant -- I think the Commission is -- I'm sure you've heard very directly is -- some frustration over why NRC can't just come forward with a list right now and why does the list change. And so I think folks in the community see it as a -- you know, it's complex to explain why we also need to have satisfaction on longer term items that don't need to be completed, but we need to have a plan for their completion.

And so I think your response is fair, but it helps me understand why maybe some who aren't so close to these issues might have some confusion or frustration with why this appears to be a bit of a -- you know, to use one person's term, a "moving target" or still changeable over time.

ANTON VEGEL: And we've done outreach specifically to some of the local, I guess, lawmakers, to sit down with them and go through, like this recent change, like the containment penetrations and the containment internal structures, why it was added and how we went through the process. So they understood that we weren't just piling on throwing in new things, but these -- in fact, some of these issues, Fort Calhoun specifically identified, and they're correcting.

COMMISSIONER SVINICKI: Well, and, again, there's, I think, two sources of having frustration with this process. It may be, as you said, there's the

camp that thinks it's piling on, but there's probably also a group of people that say, "Well, you're the authorities on safety. Why can't you define right now what it takes to operate a plant safely?" So I appreciate the outreach that you've done, that members of the restart panel, you know, have looked at. And I think we've made good efforts there. I'm certainly not criticizing that from any standpoint, but I'm sure that you -- but, you know, as I'm getting an enhanced sensitivity through your answers of why this is a very -- it's a challenging thing to communicate to people and, of course, they just want to know that the plant in their community is going to be safe.

Bill, did you want to --

BILL BORCHARDT: Yeah. Only that just as we would expect the licensees, that you'll hear from later this morning, to express a commitment to continued safe operations -- I mean, it's -- start up is not the goal for Fort Calhoun. It's the startup and then have continued safe operation. We have a very parallel function of having appropriate oversight that will continue with operation, and if nothing else, these plants and our oversight program are dynamic, and it reacts to equipment problems that will occur the day after the plant starts up. I mean, something will happen. These are big facilities. And so we'll provide the -- and adjust our oversight program to that new reality so -- and I think that's part of what we see. We can define the list today of 400 items, but there's nothing to say that it won't increase or decrease next week, based upon what happens at the plant, and we'll adjust to it.

COMMISSIONER SVINICKI: And based on our inspection, those activities are not concluded. Well, thank you for that. I think that that's helpful. It just -- it points up again where there's no one size fits all way to communicate.

These are all unique situations, and we need to always be making our best efforts to explain what's happening, and I think we're doing that.

Ho, I just want to say that the topic that you presented on, the assessments and analysis, I always appreciate receiving those reports annually. And you know, I look at the insights or, you know, where we don't find significant trends, and I sometimes step back and reflect that in a federal government career now that's well over -- I hate to admit this -- two decades for me, and I've worked in the executive, the legislative branch for oversight, government oversight committees and now at an independent government agency, I would very candidly tell you that I'm not aware of a program that is more, you know, rigidly and rigorously assessed and evaluated than NRC's reactor oversight process. I think it stands, frankly, in my over 20 years of government service, as a model of continuous evaluation and learning. And again, I've worked everything from the Nuclear Weapons Program, as has my colleague Commissioner Ostendorff, to various Pentagon acquisitions and procurements and things like that. And I think that the rigor with which we look at the effectiveness of the Reactor Oversight Process, again, to me, stands as a model across the government of something that is assessed. We not only look at whether or not we're seeing trends but whether or not we're looking at the right things, whether or not we're taking the right meaning from what we're looking at. And again, this is a process that whether or not the public can observe this meeting and understand the lot as we get down into a lot of technical detail, but this, to me, is the real backbone of why people should be confident in the adequacy of our reactor oversight process, is this continuous learning and reevaluation process that we go through. So, Ho, you know, there's individual

elements of the two papers that you presented on that were very interesting. I appreciate that work that's done here, and I think you're carrying forward the rigor of that, and I'm appreciative of it.

The other thing that was not presented at today's meeting that I think was a significant input for the AARM, the meeting conducted by the senior leadership of the agency but also provided as background to the Commission in preparation for today, was a very disciplined analysis that was done of the Construction Reactor Oversight Process. We conducted -- the agency conducted a pilot over the last few years. The conclusion of the staff's paper to the Commission and input to the AARM was that that pilot indicates that our system for construction oversight is effective.

I want to compliment the staff, though. They did indicate that there is a host of guidance revisions that will be undertaken for the Construction Reactor Oversight Process. I think these are all really important as significant lesson learned, which, again, are going to be incorporated. The framework was found effective, but we can always making these further enhancements and improvement. I want to conclude by complimenting that work. I'll be carefully monitoring the revision to that guidance just to say that these are important updates and lessons learned to -- again, it was a learning process for us. There's not been this type of ground-up construction of nuclear power plants in the U.S. for almost 30 years. So I appreciate it. I want to acknowledge the work of the Office of New Reactors and Region II in terms of the construction oversight process. So I don't -- Bill, did you want to chime in on it?

BILL BORCHARDT: Yeah, Commissioner, just -- we didn't think we would have enough time in this meeting to adequately cover this very important

topic. And for that reason, we proposed a meeting that talks about construction, both reactors and material side, because there's activities on the material side as well -- for later this summer. And so you'll hear a lot more about the lessons learned and how we're accommodating those into a revised program.

COMMISSIONER SVINICKI: Okay, thank you. I look forward to that.

CHAIRMAN MACFARLANE: Commissioner Magwood.

COMMISSIONER MAGWOOD: Thank you, Chairman. Thank all of you for your presentations and for coming to visit us. Some of you we see you all too infrequently; some of you too frequently.

[laughter]

We, particularly, would like to welcome Vic and Art, the Regional Administrators, and when you come you always represent the people of the regions, you and your colleagues in Regions I and III. Also appreciate all the work that they and their staffs do. Spent a lot of time with some of you in the last year. Tony and I visited Fort Calhoun together, and it wasn't that long ago that Art and I were in California at your other favorite plant. And we -- I always appreciate the support that you provide and the expertise that you exhibit.

I wanted to also, you know, highlight, I think, something that was mentioned earlier -- perhaps Bill mentioned it -- the effort on Fort Calhoun, the fact that so many inspectors were drawn from so many different areas of the agency and integrate in such an effective way. I thought it was a very impressive effort. It's one thing to use people who are working in a particular area and then focus them on a problem, but to collect people on a temporary basis and target them in that fashion I thought that was a real accomplishment. It was a real good

example of what can be done when the needs exist. And the fact that those people were able to then be folded back into their regular work so quickly, I thought that was also very good. So it's a compliment to the management.

Let me start off with Brian. Brian, you -- you know, you didn't bring anybody for us to talk to today. But, you know, as I was listening to your presentation and you highlighted the importance of the Agreement States. And I guess it would not be appropriate to drag a state before the AARM to have a conversation with the Commission. But I do wonder whether there would be a value in creating a forum when there are states that are having problems, to have them come to the Commission and talk with us about the challenges that they're dealing with and how they're approaching it, because I think that part of what NRC can do in our relationship with the Agreement States, recognizing they are not licensees; they are partners. But one of the things we can help to -- help them do is to highlight the importance of the programs that they conduct and the kinds of special challenges that they deal with on -- as part of the state bureaucracies. I think that's something that a lot of people don't quite understand that our state partners often are pretty low level in their state governments and don't get the kind of attention and visibility the NRC gets in our government, for example. And I wonder if sometimes whether we ought to create a forum for -- to discuss problems. I don't know if you have an opinion on that.

BRIAN MCDERMOTT: Thank you for the question. We have had discussions with regard to perhaps bringing Agreement States into the process if there were a licensee that had significant programmatic problems; performance issues that were flagged by the same criteria that we use across all material licensees, and that as a co-regulator, we felt that there might be insights that they

would have after considering their own oversight of that licensee, or perhaps relevant to NRC regulations that drive at the states to do certain things in terms of oversight that would be valuable for the agency's review. So in that context, we certainly have discussed them and have even started to broach that topic with some of the states through the Organization of Agreement States. That's something that we're looking to develop into the process. Thus far, we have not had a licensee of a state program reach that level of performance concern to move that to the front burner, if you will. But we are looking at that.

In terms of a state's performance as a program, that's a -- certainly a different issue in the context of the fact that we look at NRC's program performance for issues and gaps. I could see the connection there. I think that there are forums that we could create or expand to have that dialogue before the Commission when we have annual meetings with the Agreement State program folks -- might be an opportunity there.

To put that dialogue as part of a discussion of licensee performance, I think -- my sense is we would have a significant reaction from the states in terms of "we're not licensees." I think that's something that comes through in many of our communications with the state programs. So we are very careful of that, but I'm certain that if the Commission wanted to have that kind of dialogue about state program performance, that we could find a way to make it happen.

COMMISSIONER MAGWOOD: Think it's worth a conversation. I appreciate your -- and I think the idea of having a responsible Agreement State join the Commission in talking about licensee performance, I think that's an interesting idea and appreciate hearing the staff's views on that as you develop

that.

Let me turn to the opposite end of the table. I'm -- I think I'm going to aim this sort of at the combination of Ho and Tony. One thing about the discussion about Fort Calhoun that I think, as I became more familiar with it, it was a bit of a surprise to me -- how many of the issues that are being dealt with today are actually issues that have been in existence for quite some time? Some of them were original construction. Some of them we thought were solved years ago but weren't solved years ago. And the ROP isn't really designed to pick up on licensing basis issues or construction issues or things of that nature, because the ROP, assumes these things are in good shape as you go forth with the evaluation. However, in the case of Fort Calhoun, there were clearly issues, and there were other plants where we've seen either licensing-based issues or construction issues or something of that nature, and actually we have materials licensees who's going through similar type of issues. Is there something we should maybe perhaps not as part of the ROP but maybe on another mechanism. Is there something we should be doing to go back periodically, look at licensing basis to make sure that, you know, that we haven't missed something or something that we think is in place, repair we thought was made was not actually made the way we thought? I mean, is there something more we could do in that venue?

HO NIEH: You can fill in the gap here. Thank you, Commissioner Magwood. The reactor oversight process, obviously, is a sampling-based process. We don't look at every single activity at a particular facility. There are mechanisms within the Reactor Oversight Process and the baseline inspection program that would give an opportunity for an inspector to find a licensing basis

issue or perhaps an engineering issue that was just kind of lying dormant, that wasn't picked up. This is -- I think the one that jumps into my mind is perhaps the component design basis inspection that we do once every three years, where we go out and do kind of a very comprehensive review of a particular system or particular safety function, which would have the inspector go and look at design documents, engineering calculations, and things of that nature.

So there are a number of other more routine baseline inspections. For example, when a licensee implements a modification in accordance with 10 CFR 50.59, which would have us get into that kind of design look, you know, in that particular area, I'll say from the headquarters perspective, there are licensing basis issues that do come up out of the regions, and we have this process called the task interface agreement process, where an inspector out in the region will come upon an issue throughout their inspection activities, and they'll trace it back to a licensing question that they don't know the answer for, so they engage with headquarters. And we go back and look at the licensing basis and any amendments we issued to the licensee to determine, you know, and give the regions an answer to what their current licensing basis is.

Those issues do come up. I do appreciate the question in the context of Fort Calhoun, because it does appear that there were a number of issues that were -- didn't exist just today. That existed for a while, but we hadn't seen until now. So, Tony, any perspectives?

ANTON VEGEL: One of the things we did for this situation of Fort Calhoun is we had the inspection that identified a lot of the design-based issues. Just three weeks ago, we sent an email to all the inspectors that were involved -- 15 inspectors to ask for some feedback that we can maybe implement and make

a recommendation to the program office now that the current inspection procedures -- or maybe we could do adjustments that, at the inspector level, get a recommendation from them on how we can do it better to kind of address that issue.

We may also, once we're complete with the 0350 process, we are going to take a look back and say, "Okay, now we've gotten through this. What can we learn to do a formal lesson learned on that issue as well?"

COMMISSIONER MAGWOOD: So you are -- so there is a recommendation you're formulating that might go back to the program, is that --

ANTON VEGEL: Yes.

HO NIEH: If I can just make one more comment, please. Yes, in addition to the recommendation that will come out of the 0350 panel, I did mention in my remarks that we have a reactor oversight process enhancement project underway. And some of the questions that you're asking are things we've sort of asked ourselves with respect to the depth of what we're looking at out in the field. Are we looking at the right things or there's things that we're missing out there that we should be catching?

So I do feel confident that the team here at headquarters in concert with the folks out in the regions are going to give a thorough scrub of the baseline inspection procedures in the program to see if there are, indeed, improvements we could make to get at some of these issues. Again, to look at -- really, you know, the ROP works. It works well, but we can maybe do better in some other areas. I feel that there is a mechanism for us to do that going forward. Thanks.

COMMISSIONER MAGWOOD: Appreciate that. Thank you, very much. Thank you, Chairman.

CHAIRMAN MACFARLANE: Commissioner Ostendorff.

COMMISSIONER OSTENDORFF: Thank you, Chairman. Thank you all for your presentations. I echo the thanks of my colleagues to all of you and the people behind you and the people in the regions that are supporting these efforts.

I've got some comments to make and some questions that I -- I'm also going to replow some ground that's already been addressed by my colleagues, but maybe just to emphasize some points that others have made, because I think when you hear from more than one Commissioner several recurring themes, it's helpful to at least give you some feedback from where the Commission stands.

I'll start with Brian, and I'm going to echo Commissioner Svinicki's comments on the medical event issue. I gave a talk at the end of January this year out in Phoenix to the Health Physics Society meeting they had. And the topic of my discussion was communications. And when I look at your slide, backup here for medical event reporting, and I look at the diagnostic radio pharmaceutical imaging modality, with four medical events occurring out of 15 million procedures, that gives you a 2.6 times 10^{-5} percent of there being a medical event. And I think Commissioner Svinicki's point about trying to put this in some perspective is so important. And although that we do that internally and we understand the context, it's so important to communicate these percentages and the medical benefits of these procedures externally to provide that context. So I thank Commissioner Svinicki for bringing the point up, but I wanted to add onto her comments.

I also want to stay with Commissioner Svinicki because I think Bill,

the comment she made about the ROP process bears a couple of observations. Like Commissioner Svinicki, I had experience with the nuclear weapons complex, both as congressional oversight staff as well as a senior executive at NNSA. And I appreciate that every year, you look -- you and your team looks at the ROP. And I think it's important. And I acknowledge the Chairman's comments on the trend issues. I think that's some very thoughtful questions the Chairman's asked there.

My comments are just anecdotal. I tell you from the DOE experience from an outside group that provides some advice to NNSA from time to time. And I've had three engagements with either NNSA, or the Defense Board, in the last three calendar months. And I'll tell you that across the board, Jim Wiggins has been part of this in the security area, trying to help NNSA looking at the baseline inspection program for ROP for both nuclear safety and security. And I'm not aware, as Commissioner Svinicki said, of any other organization that does what we do in as objective, measured, thoughtful approach -- and not to say it can't be improved, but I think we don't really talk about this enough. And going back to communications and one of the key things that Chairman Macfarlane -- is how to communicate externally. I think this is an area where it'll always be difficult to communicate externally what we're doing as a regulator in the Reactor Oversight Process, we need to continue to do that, because it's so important because we do have, I think, the gold standard for how this is done in the United States regulatory agency arena. So I wanted to echo those comments of my colleagues.

Two subset comments on the ROP. Ho, I think one of your comments on your slide 18 is looking at deviations for Seabrook and Palisades.

And I think that was -- as I recall, the Palisades was having additional inspection resources. And I'm mindful of the comment that Eric made to me sometime in 2012. I think it may had been in the context of the SECY paper on filtered vents and, you know, the need to have room for judgment by the NRC staff. And the comment stuck with me. I think it's so important that we have the ability to be flexible. I note that your flexibility, that word was in your presentation. I know that Chuck Casto, when I visited Palisades in October of last year, had talked about the importance of having some leeway to tailor resources to specific circumstances. And I think that is absolutely vital. We ought to be very leery of any formulaic or plug-and-chug equation says these results indicate this number of inspectors.

So I encourage you as -- it seems like you are -- that you see the inspection program provides flexibility to continue that approach because it's so important. Even though we have power plants that have a lot of similarities, there are different circumstances, especially when it comes to human performance issues or safety culture issues.

The second piece is one -- and this maybe goes back to Chairman's comment about the trends piece. I think you can also pick up actionable items maybe from just highlighting something that’s a little different. Doesn't mean it's a long-term trend, but something that’s a problem. And the one that stuck out to me was the ROP website. And I know that Commissioner Magwood and I, maybe three or four weeks ago, went downtown and had a session with a bunch of NGOs, and heard a pretty loud resounding criticism of our agency's search engine for ADAMS. And I know we pass it on independently. We discussed it in periodics. I talked to Darren Ash about it. But

to me, I'm seeing the searchability of our products as being something that we can do right now as an effort to improve how we communicate, how we provide insights externally for others to be able to look at what we have in our inspection program. So that was one comment that I saw from the background materials under the usability and the communications externally of the ROP website.

Let me shift to the reactor licensees here today, and I've had a chance -- I've benefitted greatly from my visits with Vic McCree to Browns Ferry last August I believe we were down there. And this last week -- Wednesday -- I was with Art Howell for nine hours at Fort Calhoun. So I want to thank both of the Regional Administrators and their resident inspectors who were doing layman's work along with inspection teams, and Louise and Mike, Gene, your team and so forth, and Tony, of course. So, very helpful visits.

I'm going to start off with Browns Ferry, a question that -- I'll probably ask this question maybe to Preston when he comes up here for the next panel. Just to give you a heads up, Preston. But to his credit, Preston Swafford has told all the Commissioners in drop in's last year that TVA underinvested significantly in equipment issues for a long period of time at Browns Ferry. And some of the equipment reliability issues, quite frankly, can be attributed -- not wholly, but largely to that underinvestment. And there'd been different times when the Commission's talked about the predictive ability of the ROP process. It's -- well, you say, well here's a plant that's in a problem now. Can you say that somebody's trending towards that is a problem in the future? And I guess that's really a question for Gene and Vic, however you all want to sort it out. But -- have we looked at any extrapolation or lessons learned from the underinvestment by TVA and Browns Ferry as it might apply to equipment

reliability or trends at other plants outside of Browns Ferry?

VICTOR MCCREE: Commissioner, that's a great question. It's one you and I had dialogue on last August, and the short answer is no, not yet. And it's quite frankly a very challenging area that's not necessarily what we do. We don't have performance indicators, if you would, that are tied to licensee investments and equipment. Ours is an inductive and deductive process, if you would. It's based on the performance of -- the safety performance of the facility. And licensee causal analyses -- our independent causal analysis may get to that as a root cause or -- of the performance problem. But to answer your question directly, we don't have an effort underway to look at that area.

COMMISSIONER OSTENDORFF: I think it'd be worthwhile -- and your answer does not surprise me, and I know that's a little bit outside of our regulatory box, so to speak. But I think, Bill, this is something that perhaps EDO's office could, when they talk to Bob Willard at INPO. I know NPO does corporate evaluations -- looks kind in these areas a little bit more than we do. I'd be curious if there's anything we might be taking away from other looks at an investment.

My time's going to run out. Tony, I'm going to ask you a question, and Art, you know, we talked about this last week. At Fort Calhoun, this kind of goes back also to Commissioner Svinicki's comments on, you know, the restart approach and so forth. I believe -- if I have this wrong, Art, please correct me. But I believe that we heard from Gary Gates and Susan Landahl , and Lou, and Mike out there. Last Wednesday's tour, they've written 26,000 condition reports over the last about two years, something like that. That seems like a lot of reports to me, and having been a nuclear propulsion plant operator on

submarines, much less complex activity. I worry about, when I hear that large a number, do we lose sight of the forest for the trees? And, you know, are we able to keep the proper big picture look at the site when you have over 20,000 reports written in a two-year-period?

ANTON VEGEL: I think this -- you know, I think -- appreciate your insights on that, because we worry about that, too. And from this last team inspection that we did, we -- they're doing a good job identifying issues. But that's why we also identified issues of the quality of the evaluation of the issue. And also, there was some indication that they didn't follow through on the corrective actions that they did. And that probably goes back to the sheer number of issues that are out there that are difficult to manage. And we identified some of those problems. And Fort Calhoun is taking steps to kind of shore that up to do a double-check to make sure that the actions are being done, because that is a very large number of issues.

COMMISSIONER OSTENDORFF: It got my attention. Art, do you want to add anything to that?

ART HOWELL: Well, just as we talked about last week, Commissioner, I think one of the problems at Fort Calhoun was that they weren't putting issues into the system, and so when they go through an improvement effort, as they are, we do expect the numbers to go up. And we've seen that at other sites as well, so on the one hand, that's a good thing. On the other hand, it is a large number of issues and they need to be worked off. And so it's their job and our job to check through the program to make sure that the focus for sure is on the more significant issues as a priority, and then make sure -- have an understanding of what those other lower level issues are.

ANTON VEGEL: And that's one of the challenges we have. Not all the 26,000 are restart issues. They're stuff that can be, you know, planned and completed at longer term as well.

COMMISSIONER OSTENDORFF: Thank you. Thank you, Chairman.

CHAIRMAN MACFARLANE: Okay. Additional question?

COMMISSIONER SVINICKI: No, it was one -- I want to react to Commissioner Magwood's statement about Agreement States.

CHAIRMAN MACFARLANE: Sure.

COMMISSIONER SVINICKI: Commissioner Magwood commented on the importance of hearing the challenges from our Agreement State partners in implementing their programs. I did want to note that that is a key objective of the Commission's annual meeting with the Organization of Agreement States. And I would just suggest to my colleagues on this side of the table that before we, you know, create a new process, we talk about suggestions of -- if we need to make that meeting more effective and communicate more in that, maybe we can think about ways to change the format or something of that meeting rather than creating something new.

And I just want to acknowledge that in talking to the Agreement States, they noted to me that this year was the first year that no member of this Commission was able to or agree to attend their annual meeting. And that was the first time that it happened I think in close to 10 years. So I acknowledge my part of that. I had to wave off their invitation. But to the extent we want to have a dialogue with them, we need to also ask how available we're making ourselves for that dialogue.

CHAIRMAN MACFARLANE: Okay.

COMMISSIONER MAGWOOD: Just wanted -- I wanted -- first I wanted to, you know, thank Commissioner Ostendorff for his comment about the corporate reviews that INPO is providing. I do think that there might be something there for NRC to consider, because I think if you look at the responses that both licensees present today have had to their issues, their responses have involved corporate structure changes. And I think that's something that there may be some lessons for us.

Just to sort of comment -- Commissioner Svinicki's comment on my comment. Obviously we could use the OAS discussion with the Commission for that, but I think if we are going to talk to a state about specific issues specific to that state, that may not be the right forum for that conversation. It's a conversation the Commission should have as to whether it's appropriate to do that or not, but if we were to do it, I'm not sure that would be the right forum for it. Thank you, Chairman.

CHAIRMAN MACFARLANE: Okay. All right. Okay. Let me thank the staff again for their presentations and for the discussion. And we will now take a quick five-minute break.

[break]

CHAIRMAN MACFARLANE: Okay. All right. So, if we'll get settled out there in the cheap seats, then we'll get going. All right. So, to get us started with our first licensee panel, I'm going to turn things over to Preston Swafford, who is the chief nuclear officer of the Tennessee Valley Authority.

PRESTON SWAFFORD: Thank you, Madame Chairman and Commissioners. Good morning and thank you for the opportunity to meet with

you and share the status of our ongoing performance improvement efforts at Browns Ferry, and frankly, across the TVA nuclear fleet. TVA's vision for the nuclear fleet is to lead the industry in safety, people, and performance, and specifically our goal is to achieve and sustain improved performance. We believe we are accomplishing this through the utilization of the integrated improvement plan or what we call the IIP. And this was developed nearly a year ago from our comprehensive diagnostic evaluation that we had performed. To date, we've completed approximately three-quarters of all the actions in the IIP, which number 1,300. And these actions are addressing the 21 fundamental issues that we determined in our comprehensive diagnostic evaluation. If you could turn to the next page, please.

Implementation of the IIP is beginning to show meaningful performance. Keith's portion here in a few minutes of the presentation will show you some of the highlights and results achieved thus far. Following Keith, Jim will present the actions around the governance oversight execution and support model, or what we call the GOES, that is providing a critical element to sustaining performance. And I think some of the questions that Commissioner Ostendorff talked about earlier in the previous discussion get at how do you assure and how do you detect early. And under our GOES model one of the attributes will be looking at funding and making sure the assets are preserved.

And then, before I turn it over to Keith, it's important I think to emphasize that we're reaffirming that TVA is committed to providing Browns Ferry and all the fleet the necessary resources, both time, people, and capital, to operate safely and to achieve sustained excellence. So, the whole understanding of our sense for KW investment and the assets that we looked at

prior years to where we're at now is a good measure, if you will, to assure that outcome. So, with that, Keith.

KEITH POLSON: Okay, I'd also like to thank everybody for letting me come here and talk about the progress we've had at Browns Ferry. So before I get into my presentation, obviously at Browns Ferry there's a lot of interest in the process and there's a lot of people that have been asking, you know, about the process and could they come. So I actually brought three employees from Browns Ferry: Mickey Hunter from Mechanical Maintenance Department; Ron Toner from the Instrument and Controls Department; and Eddie Puller from the Electrical Maintenance Department.

So my presentation is basically in two parts. I want to talk a little bit about the integrated improvement plan, that's kind of a review, been through it in several forms; but most importantly, the results that we are achieving. So the integrated improvement plan was developed to obviously address the red finding, the fundamental problem areas that Preston mentioned, and then also the independent nuclear safety culture assessment results that we received back in 2011. That was also developed to reduce fire risk at the plant and improve equipment reliability. And as far as the equipment reliability, our focus has been on our safety-related systems. But the conversation that occurred earlier about the scrams, most of those that occurred on the balance of plant side and that is our focus now, moving over to that side of the plant. But the most important thing is the last bullet there. We have to ensure that we sustain our improved performance.

Next slide. I'm not going to spend a lot of time here. This has been used also in other forms. It's just to show progress on our plan, and you can see

the cloud where it says this is where we are. We completed the at-the-site phase of the 95003 inspection. And, again, if you look all the way to the right, our goal is sustained excellence.

Next slide. This is a graphic that we've been using at the site. We had 21 fundamental problem areas, but we've mapped those into really five focus areas that were really designed to improve the safety culture at the plant.

The next slide, this is where I want to start talking about the results that we've achieved. We chose to -- we developed 54 metrics that we are going to monitor. And I want to make it clear that these metrics do not reflect excellence. These metrics were developed to get us a basis, a foundation, and then our plan is we're going to strive for excellence. And we've got all our plans in place for that. But as you can see by this, we do have steady improvement over this time period.

Next slide. It's a very busy slide. I'm not going to get into a lot of detail, but I just put it in there, I just wanted to show you. This is just one of the examples of the tools that we use to monitor our performance. And if you notice, we still have some areas that are red, and those are in the -- mainly in the area of work control. That is one our fundamental problem areas. But we've also made decisions like I talked about earlier, to go after our safety systems and improve their performance. So, we made conscious decisions to delay the return of these areas to green status.

Next slide. This is the best example of our progress to date. I talked earlier about the independent nuclear safety culture assessment survey that we performed in 2011. And if you look at the results here, this was performed by Synergy Company, both surveys were; so we were comparing

apples to apples. But if you look at overall nuclear safety culture, we improved from fourth quartile to second quartile, SCWE, safety conscious work environment, fourth quartile to second. And then employee concerns program from third quartile to second quartile.

Next slide. General culture at the plant improved to first quartile. And then one that I'm most proud of, leadership management supervisory skills, improved from third quartile to first quartile. The number of weaknesses, we went from 77 down to four. And our priority organizations, those are organizations that require -- that have issues and require help, went from 23 to four. So, obviously our focus is to get these to zero. We already have action plans in place right now to improve in these weakness areas and in the priority organizations.

Next page. So, the assessment team, the Synergy Company's team conclusion. They said Browns Ferry has made good progress in improving the nuclear safety culture at the plant. However, there is a workforce frame of reference issue that produces a positive bias in the assessment results. And what this really means is that we're still comparing ourselves to ourselves, we're improving within Browns Ferry, but our goal now has to be to strive for industry excellence. They also, and this is really important to me, they said there's a positive momentum in the rate of improvement of nuclear safety culture. And here's the most important statement, there's a strong desire on the part of the workforce for the improvements to continue. And that plays big into the sustainability of what we've done.

Next page, 13, to continue with the conclusions. The primary drivers, according to Synergy, the improvements have been senior

management's establishment, communication, demonstration, and reinforcement of higher standards and expectations for a good nuclear safety culture and performance. In my words, the three things that we really focused on was communicating with the people, doing what's right, and also doing what we said we were going to do. Synergy also told us that the current improvement in nuclear safety culture is fragile. And what that means is it was driven from the top down. It's not fully engrained in the fabric of all levels of the organization as of yet. But we recognize this as a senior team at the site and we continue to drive the good behaviors down in the organization.

So, in closing, we've made some improvements at Browns Ferry, but the big thing is to make sure that it's sustainable. And I'm going to turn over to Jim to talk about sustainability.

JAMES MORRIS: Thank you. Central to the sustainability is our nuclear operating model which defines our common processes and procedures and policies for how we do business. It's really our playbook for how we do business. And central in that nuclear oversight model is the roles and responsibilities that are defined in it for governance oversight, support, and execution. Nuclear safety culture improvements that Keith described at Browns Ferry are being applied across the whole fleet. We have a nuclear safety culture improvement initiative for the fleet that we're executing. It's been staffed with people that will help us drive these improvements. And oversight for nuclear safety culture really occurs through all of our nuclear senior leader involvement with the sites, our nuclear safety monitoring panels, as well as the independent reviews that are done by QA and NSRB. And I just say, because of time here, the key change in all of our oversights is the increased rigor and focus that we

have on identifying issues and then the follow-through to ensure that they're being done. That's being done by corporate functional area managers in corporate, as well as through our QA organization, as well as our NSRBs, nuclear safety review boards. We've added external members who are proven industry leaders who are very demanding and drive a lot of focus on being challenging for the site.

PRESTON SWAFFORD: Thank you, Jim. In conclusion, I think we understand the issues challenging Browns Ferry and we have an appropriate improvement initiative in place. Meaningful performance improvement is being realized and will be maintained by the strong implementation of the GOES model and management model and things Jim just mentioned. And finally, TVA is fully committed to providing all of the necessary resources required to operate this fleet at a sustained excellence level. And so, thank you for your time and maybe head it over to Chip for just a second.

CHARLES PARDEE: Yeah, I realize we've exceeded our time. I did want to reiterate though, however, that the organizational learnings from Browns Ferry are being applied across the fleet. And very relevant to us, we fully realize now that Browns Ferry Unit 1 recovery was a principal reason why we got distracted with resources and management attention to the rest of the station and the other units. And with Watts Bar Unit 2 coming online in the next few years here, that's a relevant learning that we have clearly engrained in the organization.

Preston talked about resources from the board of directors, the chairman of the board, through the CEO and myself, we're committed to the long term investment in the power plants to operate correctly. And lastly, just, again,

reiterate our commitment to sustained excellence. We have a history of cyclical performance at Tennessee Valley Authority, and we're committed to breaking that. Thank you for your time.

CHAIRMAN MACFARLANE: Thank you. Thank you all for coming. I'm going to start off with questions again. So, now with Browns Ferry Unit 2 moving to column three, and you've got Unit 1 in column four and Unit 3 in column two, have we hit bottom yet? Or are we going to see continued degraded performance?

PRESTON SWAFFORD: Well, to start with, these issues that have been identified in there, I think Commissioner Ostendorff and I had a brief discussion on it, these we do believe are captured in our IIP, so the fundamental problems that we looked at, the 21, we do believe bounded that. I do believe Gene Guthrie's team, we looked at that, and we'll wait for the results of whether or not they also concur with our beliefs. But our root cause and corrective actions going forward are designed to address those. In a few of the cases, for example, the trips on the units, on Unit 3, although there was a human performance error part of it, but there was -- two of them were tied to putting in new transformers, new relays, new voltage regulators. And frankly, some of the design issues that are in our IIP showed up there were some of the weaknesses in our design programs ended up causing -- some of these were actually tied to improving material condition, part of the identification, but also exposed some of our weaknesses in process space, that we do believe the effectiveness of the IIP going forward should remedy that situation.

CHAIRMAN MACFARLANE: Okay. Question for Keith and then for some of the folks you've brought in who are in the well here, I'm interested to

understand what you think are the biggest challenges to moving forward and improving the situation at Browns Ferry.

KEITH POLSON: The biggest challenge is obviously driving the behaviors down low in the organization. Also, procedure quality is a huge issue that we discovered, I think, the last time we talked about -- there was talk that we weren't using procedures out in the field -- we're using the procedures in the field, but we're finding there's quality issues that are satisfactory, but we need to go after that. But the leadership and pushing the behaviors down the organization is top priority.

CHAIRMAN MACFARLANE: I'd like to hear from one or two -- if you could go up to the podium right there, that'd be great, just because this is webcast and people need to be able to hear what you're saying.

EDGAR PULLER: The procedures are in the process of picking out the procedures for each group that's the worst, and we're going to work on them. And also, as far as the manpower, we're hiring in all three of the groups now and we're hiring supervisors to help the oversight there for that.

CHAIRMAN MACFARLANE: So, you didn't have the manpower before and now you're --

EDGAR PULLER: We was low in what we needed for all three units.

CHAIRMAN MACFARLANE: Okay.

KEITH POLSON: What we did was we went back and we looked -- at once we finished with the 95003 inspection, what did we need to make it sustainable. And so, we got together with each of the managers of every department and we added additional headcount to every single department for

sustainability purposes, and we're in the process of doing that hiring right now.

CHAIRMAN MACFARLANE: Okay. Anybody else? One of the other -- that'd be great, thanks.

MICHAEL HUNTER: So, one of the other things that is helping improve the performance of Browns Ferry is we've invested in some of our ops people that's moved out of operations into other organizations. Me, myself, has went from operations into mechanical maintenance and I hope -- I know that that helps with maintaining an ops-focused operation. And that helps in the performance improvement as well. So, the investment that TVA's making putting our performers out from ops into the other organizations is also helping with what we're doing.

CHAIRMAN MACFARLANE: Well, what do you think some of the biggest challenges are in continuing to move forward?

MICHAEL HUNTER: So, as Keith mentioned, our procedures and work packages are some of the things that my group is having the most challenge with, and we're working towards improving those procedures and work packages, and we continue -- we need to make continued improvements in that area.

CHAIRMAN MACFARLANE: Okay. Great. I appreciate you guys jumping up. I'm going to, because I've sort of got a little extra time there, pass on to Commissioner Svinicki.

COMMISSIONER SVINICKI: Well thank you all for being here and the status update of the activities at Browns Ferry. I'll join the Chairman in acknowledging the station personnel that you've brought here, and I think one of the biggest messages about their observation here today of this process and

their commentary that they just gave about the things that the station has already done but maybe some of the work and challenges that lie ahead, is that their presence here today is a reminder that they and all the women and men they work with at the station are the key enabler of having Browns Ferry performance where it needs to be. And without their efforts, there is no cleverly designed plan on paper or anything that can get the station both to where NRC demands that it be and where you all want it to be. So, I do appreciate them here today and I hope that when they go back and talk about this strange process to the women and men that they work with, they will have kind things to say about what it's like to go through one of these Commission meetings, so thank you for that.

I think I want to -- when you talked about sustainability, I think distractions are also something that's a challenge to performance improvement plans, because the world does not stop while you attempt to address these things and focus on the performance improvement plan. Another item that the NRC staff gave a status update on was the NFP -- National Fire Protection Association's Standard 805 transition for Browns Ferry. And, you know, while that's an important activity, the staff also indicated that TVA is already implementing a number of plant modifications to further reduce fire risk at Browns Ferry. There are, of course, all the post-Fukushima actions that the station needs, as every other operating reactor in the U.S. is responding to those, so, so is Browns Ferry. I would like Preston to talk a little bit about how you manage that at the leadership level, maybe through segregation of activities or other things that you might do just to keep, again, the improvement process moving forward as you want it to. And then I would ask Mr. Pardee maybe to address whether or not at the senior corporate leadership level, how are distractions

minimized on things like oh, say, privatizing TVA or other proposals that are out there. How do you keep the station personnel immune from those things?

PRESTON SWAFFORD: Thank you for that question. That's been frankly paramount in my thought process for several years because of the number of issues that have been on our plate. When you're in a recovery, first of all, you find many issues and I think we heard that earlier this morning from both ours as well as OPPD. And then on top of that the regulatory issues that come specifically with the red finding and now with Fukushima. But we are blessed in that we do have a good, strong organization. Almost from day one we started with a central approach to how we were going to manage the fleet. Even though we had a corporate organization, they were not designed really to be a fleet approach in how they'd standardize them. That's part of the reason why some of the plants, frankly, run better than the others. But we've taken issues like the LAR submittal and the NFPA-805 and run in large part with support from Browns Ferry from a central approach on that. We've had so many other issues from JOG valve catch-up where most of the other utilities had done them years ago, we've just now done them. We've hardened the switchyards with outside corporate players supporting. So the whole intent for us is to take as many things that can be done effectively off the site's shoulders and run them centrally. And we've done that. We have a large list. We have program managers and project managers. All of the Fukushima activities, for example, is handled centrally. Now, obviously there is some support from the sites and when we get closer to implementing these, there'll be even more support to the site. But generally speaking, we've tried to make the site focus on the key things; specifically, their ownership of fixing safety culture materially in the plant, safety

systems, that sort of thing.

CHARLES PARDEE: So, consistent with Preston's commentary, the same philosophical approach has been applied at the corporate level. You know, my advent at TVA is in recognition of this that the past reporting relationship put Preston in a position where he was spending a lot of time on corporate activities as well as oversight of the activities at the stations, obviously, including Browns Ferry. So, we now have a dynamic where Preston and the rest of his team is focused entirely on the improvement activities at Browns Ferry relevant to the discussion today, as well as ensuring that the challenges that we have at Watts Bar and Sequoyah are not being starved for attention or resources. And this extends to Watts Bar Unit 2, which we are in full swing now with the completion of our construction activities. That organization is separated from the operating portion of our nuclear operating group for the reasons you're, you know, you're querying about, and will remain so until transition starts. And then we have additional oversight with regard to the transition of Watts Bar Unit 2 to an operating plant with the rest of the Watts Bar organization. So, just to point to examples of what you were questioning.

COMISSIONER SVINICK: Okay, great. Thank you, Chairman.

CHAIRMAN MACFARLANE: Okay. Commissioner Magwood.

COMMISSIONER MAGWOOD: Thank you, Chairman. First let me thank you for coming and bringing your extended team. It's always a pleasure to have personnel from the sites come to see the process and to recognize that we're not out to get you, we're here to all assure safety. And I think that Preston has been in to see the Commission on multiple occasions since this process got started and appreciate the effort that he and others have put into giving us

information and to telling us what your plans are.

I think that, for me, one thing that I'd like to explore a bit is something that Chip, you were just talking about, and that's sort of the fleet perspective that -- which is something that you bring from your previous positions; and also, Jim, you have that perspective as well. When you think about the operation of nuclear plants these days, it seems that more often than not you see an effort to try to gain -- if you're not in the fleet, try to get the benefits of being in the fleet. And actually Eric and I were just having this conversation, oh, a few minutes ago. And I'm going to ask for your advice and then maybe this will get you in trouble with some of your peers if you answer this honestly, but I will give you a chance. Do you think that there is -- there are some issues that NRC should be looking at when it comes to fleet operations? We look very closely at plants as individual operating plants, but they're not really individual operating plants. They're really parts of a fleet. Do you think that we're missing something by not looking at fleets? I'll give you a chance to start with that.

CHARLES PARDEE: Well, I was intrigued by Commission Ostendorff's reference earlier to maybe we should look at some of the, you know, financing and how that is reflected through corporate evaluations and such, so I got perhaps just a little preview from a thought point of view to your question. I think my opinion is that the current system where INPO looks at the over-arching structure and NRC continues to be, you know, very intrusive with where the rubber hits the road. I think there's broad understanding that we are never any better than the operations staff and the maintenance crews and the engineers that we have on plant sites and such. So, I think the current balance for one is

healthy with the way the, you know, oversight is applied. I think -- and there may not be any regulatory framework for this, but NRC in my view, has established a healthy balance with how they are involved with the training programs with the National Academy for Training that is sponsored out of the INPO offices and such, and perhaps some kind of an observation process, and I'm way out of bounds not having spoken with Bob Willard about this and such, but it does look at things from a different angle with how we resource, particularly from a fleet perspective, the stations and where decisions are made and who is looking ahead and who is dealing with yesterday's issues and things like that. So there may be some perspective to learn, but the simple answer to your question is that it has not occurred to me. And I've thought of this extensively as we run through our Fukushima activities, that there was a, you know, a significant role for NRC in the corporate dealings with nuclear. I think it's appropriately focused on whether we are doing today what we should be doing to sustain safe operations at the plant sites.

COMMISSIONER MAGWOOD: I appreciate that. Let me just ask a general question to Keith and Preston. As you've gone through you process, do you feel that you have clarity from the NRC as to what you need to do to be successful, or do you have -- are there any gray areas that concern you at this stage of the game?

PRESTON SWAFFORD: Well, I'll let Keith chime in also, but I think it's been very clear. Obviously, two years ago it was not; it was a big learning for myself and my team of how you approach this, and -- but as we've had to get into the detail and the understanding of the process, and as we've built and worked through it working with Victor and Gene, our understanding is quite

clear now. We know that our obligation to find and fix our problems was paramount. We do that through identification of the fundamental problem areas, and then having effective corrective actions through the IIP that's auditable, inspectable, if you will, and in the end, that should have covered the issues that allowed us to get to where we're at. We don't believe just by finishing the 1,300 IIP items that you've arrived. I don't think it quite does that, but it does establish the cultural move that's going to sustain it going forward. So, Keith.

KEITH POLSON: I agree. I really can't add anything. The integrated improvement plan with the 1,300 actions we feel, you know, in going through the whole process, going through the fundamental problem areas, developing the actions, getting them into the plan, and it's always a living document, but I feel that we're crystal clear where we're going right now.

COMMISSIONER MAGWOOD: All right. Excellent. Thank you very much. Thank you, Chairman.

CHAIRMAN MACFARLANE: Commissioner Ostendorff.

COMMISSIONER OSTENDORFF: Thank you, Chairman. And I add my thanks to that of my colleagues for your being here today. I had a good visit down last August with Preston and Keith at Browns Ferry. I had a chance to talk to some of the employees down there as well. I found that very helpful. I also appreciate the folks behind you you brought today.

I'm going to start maybe with one question and kind of pull some different strings here. So, I'm going to start out with Keith. And I may have -- and this is the topic of safety culture. And we don't regulate a safety culture, and I don't -- in my experience elsewhere, I don't think you can, but we certainly pay attention to it. And I believe the prior panel had made a comment. If I

misunderstood this, somebody can correct me or some of the staff can. I believe I understood from a prior panel that they were -- that there's a low participation rate --

PRESTON SWAFFORD: In 2011. Yeah, very high in '13.

COMMISSIONER OSTENDORFF: -- so that was just in 2011?

PRESTON SWAFFORD: That was 2011.

COMMISSIONER OSTENDORFF: Higher in 2013? Okay, that's fine.

KEITH POLSON: I can elaborate --

COMMISSIONER OSTENDORFF: Real quick, that got my attention.

KEITH POLSON: Yeah, so back in 2011, our participation rate was approximately 56 percent. Synergy tells you that in order to have an adequate survey and the results be valid, you should have at least 70 percent. So, what they did to make up for that is they did a lot more interviews then they normally would to make it valid. So, when we did the survey, the last survey, the participation rate was boosted up to 86 percent, and Synergy actually made the comment that that was one of the highest participation rates that they had seen.

COMMISSIONER OSTENDORFF: Okay. Keith, let me stay with you. In your slide 13, you talk about the current improvement in safety culture is considered fragile. And you made a comment about needing to, I believe, engage good behaviors all the way down from top to bottom; you're not quite there yet. And that's your top priority, I think, in response to I think maybe Chairman Macfarlane's question on what's your biggest challenge. And that's very hard to do. How do you know when you've done it?

KEITH POLSON: Well, I'm seeing signs of it already. If we go back two or three years ago -- and a lot of the decisions were made at the highest level, plant management level, my level, going through the last refueling outage, there were several -- obviously when you get a refuel outage, there's numerous issues that come up. And we've been preaching and we've been living taking the high road and making all the right decisions. And I saw on numerous occasions during the outage where I wasn't even involved, but I'd come in later and ask, "So, what was the decision made?" For example, we had a HIPC valve, that one of the traces that we did on it during testing, had an anomaly and it wasn't that bad. But when I asked the question, "What are we doing?" the answer was immediately, "We're going to go back into the valve." Well, I don't think that would have happened years ago. So that was probably at the superintendent level. Now we've got to keep moving that down to like supervisor and worker level.

COMMISSIONER OSTENDORFF: Okay. So now shifting the same topic, safety culture, going over to Preston. So Browns Ferry compared to the rest of the TVA fleet, is there any single big difference between that one site and the other sites within the TVA organization?

PRESTON SWAFFORD: There is and was a difference for sure because -- I'm going to say because there wasn't really a strong central governance model, they really were allowed to drift to where different site leaders took them. But there are a lot of similarities that we're finding in the safety culture analysis that -- and the corrective actions we put in place at Browns Ferry that we really need to -- well, not just need to, are transporting throughout the fleet. So we've had different, if you will, focus groups, we've had security in

some areas that have had particular issues. We've had some others in I&C and a couple others. So as we've looked at the learnings, well we've found that the line ownership and involvement in these cultural issues in their niche business units, if you will, has a lot to do with it. So, the training of these folks, our oversight of them, how are we going to dip down and touch them and make sure that the lessons learned out of Browns Ferry are transported, is a large part where Jim's single point is responsible for. So he's created the organization to guide those learnings, build it, have the staff necessary to look and to assure that one, we catch it early, should we start to see it. And we've had some allegations and frankly I've had discussions with Victor and his team on that, that they're out of norm. Now, we've had some big things, when the steam generator replacements, building Watts Bar 2, these red findings, they create some of it. But, frankly, our ability to really dig into the details, get the trends, get the understandings and insights is all part of a new focus area that Jim's team is responsible for, and I think that's in large part going to assure that we're gaining and learning.

COMMISSIONER OSTENDORFF: Okay. Thank you. Thank you, Chairman.

CHAIRMAN MACFARLANE: Okay. Thank you. Any further questions? No? All right. Then thank you all for coming and we're going to switch out. I invite the Omaha Public Power District folks to come up.

Okay. All right. Now that we have our next panel seated, I am going to turn things over to Gary Gates, who is the chief executive officer and president of the Omaha Public Power District.

GARY GATES: Good morning. Thank you, Chairman and

Commissioners. We appreciate the opportunity to update you on the progress at Fort Calhoun Station. My name's Gary Gates, I'm the president and CEO of Omaha Public Power District. Here at the table with me is Lou Cortopassi, OPPD's chief nuclear officer and site vice president. Also in the well is Bob Svaleson, Exelon's vice president for integration services. I'd just like to note there's five total here, but we had a few more before us, and I'll ask Chip how come he got so many here. But we're here to talk to you about it and many people are back at Fort Calhoun supporting the effort.

I sat with you twice now to talk about Fort Calhoun's performance, February of last year and January of the year before. I want to emphasize to you that OPPD is committed to return Fort Calhoun to safe and efficient operation and continue our improvement after restart. We will achieve sustained excellence. The time for restart for Fort Calhoun Station is approaching.

Hit slide two, please. Today I'll provide opening remarks and then turn the presentation to Lou. Lou will discuss what we've accomplished, what we have yet to do before restart, and our post-restart plan for sustained improvement. Then I'll wrap up with closing remarks and prepare to answer your questions. I look forward to that part.

Could we get the next slide, please? We are taking the right actions to return Fort Calhoun to operation and then to excellence. We've described these actions in past meetings to you. It's a different plant today and a different organization today. We've found and fixed many issues and we will provide the details on some of those. Our restart checklist closure inspection that began in February, did not go as smoothly as we'd like. We learned from that experience. And the operations rating inspection last month went much

better. Lou will also detail the action we've taken as a result of recent management insights, independent assessment, and NRC inspection insights. Finally, and I think very importantly, the OPPD board of directors firmly and clearly supports returning Fort Calhoun Station to safe and efficient operation and achieving sustained excellence. They are not satisfied with just restart, as well. And now, Lou, would you provide more detail, please?

LOU CORTOPASSI: Yeah. Thank you, Gary. Excuse me, thank you, Gary, and again, good morning Chairman and Commissioners. Slide four, please. I'm going to start with insights from the February/March inspections, areas for additional focus. And just by means of background, in the fall of 2012, we did complete our identification and cause analyses for our fundamental performance deficiencies. And one of those concerned the control of our design and licensing basis. That root-cause analysis for this area identified necessary corrective actions and was based on a six-year historical review. And I know there's been some meaningful discussion about how far to go back in time, and since that time, we've identified a number of additional issues concerning design and license basis control, and the NRC inspection team also identified issues in this area. So, in March of this year, we did initiate a new and broader causal analysis that essentially went back to the start of design work at Fort Calhoun in the late '60s, reviewed thousands of documents of information ranging back to that time, including the change of architect engineers during original construction. From that, we have identified comprehensive actions that we can effectively use currently to control design and license basis and continued improvement in this area after restart, and we'll talk about some examples a little bit later.

Also in early 2012, we made fundamental changes in the corrective

action program, our staffing and expectations for finding and fixing our own problems. These actions resulted in significant changes to our corrective action program and its effectiveness. We are identifying and documenting issues well and our department of station review boards are improving and reinforcing standards and behaviors in this area. Through our own self-assessments in early 2013, we did identify that we needed further focus on the completeness and timeliness of our action item closure. The NRC inspections earlier this year reinforced these concerns and did identify additional opportunities, primarily in the extent of condition area in our root cause analysis; and we'll talk about some perspectives of just the sheer -- we talked a little bit about volume of identification, about some of the ideal volume of analysis work that we've done during our recovery. We have initiated improvement plans with good granularity down to the department level and we're monitoring progress and with continued focus on a couple of key areas, one being our design engineering, that are receiving additional attention and management focus.

Slide five, please. As Gary indicated in his opening remarks, Fort Calhoun is a different plant today. We have addressed the organizational effectiveness and causes for our performance decline. We've established a new blended leadership team and new standards and expectations. I continue to meet weekly with my supervisors, managers, and directors. We align on key issues. We review performance and reinforce expectations. Overall, our blended team is functioning well. We have implemented improvement actions and established what we believe are industry best metrics for safety culture and organizational effectiveness and have had opportunities to share that with other sites. The improvement in these areas is significant. For example, in January of

2012, we were the lowest performing operating plant in human performance and industrial safety. We're now second quartile in human performance and first quartile in industrial safety. We believe we've achieved this improvement with significant numbers of on-site and additional individuals doing an extraordinary amount of work in a configuration that the industry does recognize can contribute or challenge regarding human performance and industrial safety.

As I mentioned, our corrective action program is now more effective at finding and fixing issues. We still believe we have check and adjust actions to achieve excellence. The Exelon nuclear oversight function is recognized as a strength in the industry. We have integrated the Exelon nuclear oversight model at Fort Calhoun Station. That includes our on-site independent nuclear oversight department that provide intrusive and effective quality checks and safety assessments that add value. We've also transitioned to the Exelon fleet model for the Nuclear Safety Review Board and their reviews are providing valuable insights. Additionally, we've talked previously about corporate governance and the oversight functions that are in place and continue to provide effective feedback to the station.

Slide six, please. As detailed on this slide, we have completed extensive discovery activities using teams of both OPPD and outside experts. We've refined those insights into what was needed to be fixed before restart and are completing those actions. Through the discovery process, we focused on 15 fundamental performance deficiencies with clear plans to address these areas. The restart actions are nearing completion and post restart actions are identified, and I'll talk a little bit more about that in a bit. You can also see on this slide the extensive amount of recovery work that we've accomplished. And finally, the

technical aspects of the four areas with greater-than-green findings have been addressed for restart. We've also identified and addressed a number of other hardware issues.

Slide seven, please. And I want to touch on a couple of examples to illustrate the work that we've done. This illustration shows our improved raw water cell level control, which is for our design basis flood level, which is illustrated on the right-hand side. That red pipe is indicative of a line now that communicates between the Missouri River with two isolation valves to control raw water cell level. Previously, we would have used the slouch gates, which are on the bottom right hand side, and have one of those in a throttle position. And now those slouch gates are placed in a closed position well before flood conditions exist at the site, and the operators now have a much finer level of control for this important safety function.

Next slide, please. I do want to provide a quick update on our modified containment electrical penetrations. In this photo and in the upcoming photo, they'll both show the new style feed-throughs as well as the cap spares. Overall, this project is about 90 percent complete with installation and testing. And the next slide will give a little bit closer up view of those new penetrations as well as a spare cap on the lower right hand side.

Next slide, please. I do want to show a couple of examples of infrastructure improvements. This happens to be one of our important manholes, manhole 31, that contains both safety-related and non-safety-related cables to our intake structure. That manhole and the cabling has been fully remediated, including a state-of-the-art water detection system.

Next slide. Also just a brief focus on security remediation. One

particular photo here that's part of our additional security infrastructure improvements that are scheduled across the year, in part for flood restoration and in part for additional work that we've been doing to improve security.

Next slide. And finally, perspective on our containment internal structure -- and this is a floor level looking up, and that red box, I'll call it as a future potential home for a support column. We're working through the finalized calculations that are also in the inspection process to show why we're okay today. And this perspective of this drawing -- or of this photo, just on the complexity of future modifications if needed -- you can see the interferences, and when and if we do those modifications, it has to be done in a controlled and integrated fashion. So, just a little perspective on that. Next slide.

We still have work to complete before reloading fuel into the reactor and heating up the plant. Approximately 2,900 work tasks to complete, 1,400 testing tasks before declaring the system operable, and 1,600 actions to close out; primarily paper closure. At our current production level, this does equate to several weeks of work. We'll then perform our final confirmations that the plant, the people, and the organization are ready for restart. Slide 14, please.

Finally, I'd like to describe our plan for sustained improvement. We are fully integrating the proven Exelon process for performance improvement at the Fort Calhoun Station. It's called the Performance Improvement Integration -- excuse me -- Integrated Matrix. And it's a management tool that drives continued improvement at each station across the Exelon fleet and will drive our path to sustained excellence. We are currently in the process of developing the matrix and detailed action plans for excellence, drawing on long-term actions from our root cause assessments, fundamental performance deficiencies, restart

checklist items, INPO areas for improvement, and key Exelon integration evaluations. Our leadership team will meet regularly on site periodically with OPPD and Exelon senior leadership to review progress on this plan for sustained improvement and check and adjust as appropriate; and also provide to the NRC Region IV, and anticipate periodic review on progress on implementing the plan with the NRC after restart. With that, I'll turn the presentation back over to Gary for closing remarks.

GARY GATES: Thank you Lou. A little over our time. Chairman, Commissioners, thank you --

CHAIRMAN MACFARLANE: Press the --

GARY GATES: Thank you. Chairman and Commissioners, thank you for allowing us to share our progress today. This is a different plant and a different organization. We're approaching safe and efficient restart at Fort Calhoun and sustained excellence in its continued operation. We are positioning ourselves well for continued improvement and achieving sustained excellence with solid, proven process and our plan for sustained improvement that Lou mentioned. We now look forward to answering your questions.

CHAIRMAN MACFARLANE: Great. Thank you. Thank you both for coming out here and talking with us. So, Lou, what is the most challenging step before you get to a restart decision?

LOU CORTOPASSI: Obviously we are continuing to fix the technical issues. And as we talk about design and licensing basis, as I communicate to the staff, really from two perspectives: today's problems today, and given that we do have some challenges, design and licensing basis, what we're doing both from a knowledge and skill standpoint, from a process

standpoint, just for making good rigorous technical decisions that start from the control room with support from the rest of the staff. And I'll say one of the nice things about the issues we're working on: We've got opportunities to improve that and reinforce that with the staff as well as the bias for fixing equipment that we've talked about in previous meetings.

CHAIRMAN MACFARLANE: Gary, did you want to add anything?

GARY GATES: I sure would. I'll look at it from a little different perspective. Two of the biggest challenges I see for us are returning what we've termed "operating tension" to the organization -- we've been shut down for over two years, and we're going to be bringing the plant up. We need to return that operating tension in a controlled and positive manner so that we have crews and maintenance and everybody else has got an operating plan again. We have -- that is part of our startup plan, to make sure we got additional oversight. People realize that that operating tension is necessary coming up. And then blending our recovery organization into the operating organization. You know, we've had two separate organizations, and that's good because there's a distraction issue that some of you mentioned before; we could get distracted. But we've blended the recovery under Lou and will continue to integrate recovery into our operating organization as we go forward; so that we line up then as an operating plant and part of the fleet.

CHAIRMAN MACFARLANE: Okay. So, how long has Exelon been in place doing oversight?

GARY GATES: Right now -- we brought Exelon in in February of 2012 to help with the recovery. That was the recovery. But then in August, we entered in an operating agreement, which is when we brought in Lou as the site

vice president. Lou's been there since February of '12 as part of the recovery. Lou moved over in an operating agreement; so it's really two different levels, but that's how long they've been there.

CHAIRMAN MACFARLANE: Okay. And how is conversion to Exelon operations going?

GARY GATES: It's going very well. That was obviously a concern because we're flanging up two separate cultures, two separate organizations. One thing about the men and women at OPPD in general and Fort Calhoun in particular; they're willing -- they want to do very well. They're a very proud group of people and they want to succeed. Providing this leadership that we're getting from Exelon is good and with that desire, we just have not seen large bumps. There were some bumps along the way, obviously, with two organizations, but the integration's gone very, very well from my perspective.

CHAIRMAN MACFARLANE: So people have been pretty accepting?

GARY GATES: Absolutely.

LOU CORTOPASSI: Just to -- maybe a quick update on where we're at in the process -- the remaining on-site visits, which complement the off-site looks -- from a functional standpoint -- are completing this month. And that allows us now to go back to the employees and say what's going to change in the roles and responsibilities to what's functionally going to change. That'll alleviate some fear about what it's going to look like in the future. But then complement that with, you know, now teaching individuals to think fleet, right? And so if we've got a niche expertise that maybe left or retired that we can draw on the fleet experience, especially for technical issues -- whether it's a

maintenance or operations or engineering -- and that's just sort of been very visible to the site as we've been working through how -- working through our technical issues.

And then the broader piece is, you know, we aligned 2013 goals for the station with the fleet, starting with the organizational piece, which is our identification of high potential candidates and emerging leaders. And now taking the Fort Calhoun staff, of which we have many talented men and women, and now showing them that there's opportunities, even with the management team, you know, brought in -- there's opportunities to accelerate their development, they're integrating with the Exelon process for both of those, you know, they get to kind of mesh up with their peers -- call it top gun school -- and will be able to show that flow path for, you know, for individuals that have aspirations to move up not only in the organization, but to get experience in the fleet.

GARY GATES: That was real important to us as we looked around the industry for lessons learned when I was going to bring in an operating company -- one thing, you don't want a ceiling to be perceived or real for the current people there. So actually, contractually, we're as a team required to start scoping down the Exelon presence on a time thing so that we can bring in the, you know, OPPD people into those positions. And the opportunity will be there to do that. That was very important to us that we didn't have that limit for our folks.

CHAIRMAN MACFARLANE: Okay. So just let me explore just a tiny bit further. What do you think is the biggest challenge bringing in Exelon going forward now?

GARY GATES: I think the biggest challenge going forward -- it's -- there's a lot of positives to it, obviously, with the fleet support, going forward.

That is -- that is a great cure for a lot of the issues that we've talked about, is to have that fleet support from previously a small, single unit. And there's all different kinds of single units. We were a very small one with very limited corporate support. So that's going to be a very big positive.

The challenges going forward, they are going to be continuing to line up with what the Exelon goals are and blend those into the OPPD goals. Because we have an entire utility on the back end and I think it'll be a good learning experience for Exelon as well to be part of a full-scope utility and operating a unit that is part of many other units and part of transmission, distribution, and customers. So it's going to be advantageous to both of us. But the challenge is to operate a unit that's now part of a full utility. And making sure that we blend Fort Calhoun in with the rest of our Generation system.

CHAIRMAN MACFARLANE: Okay. Okay. Good. Thank you. Turning it over to Commissioner Svinicki.

COMMISSIONER SVINICKI: Well thank you for being here today and for the status presentation that you provided. The Chairman has covered some of the areas that I might have asked about. But I have two questions that I don't think are related; maybe they are when you answer them. The first is that Nebraska is a public power state, so Fort Calhoun operates in that public power structure. What do you see as the challenges and benefits of operating in that environment in terms of achieving the improvement, resourcing it, and sustaining it over the long-term? And the second question was just going to be, you know, you have been in the shutdown and recovery period for a long period of time. How would you characterize the station morale and just the overall focus of the station personnel?

GARY GATES: I'll take the public power one and I'll have comments on morale, but Lou, why don't you cover a little bit of that after I talk about public power setup? I think it's very – first of all, I think having the public power structure is very positive. You know, electricity is fundamental for everybody to have and I think it's a good way to govern that. We have an elected board; however, the statues that develop OPPD -- any public power district in Nebraska are a little unique in that the statutes clearly call out that we are a public power district who are to be operated as a business. Which means we pay attention -- we have -- we monitor what we call net profit, but it's actually reinvested into the company, not as it would be in an IOU. So, you look at Public Power District as structured like that, it operates as a business, but with an elected board.

And we educate our board a great deal; our board is very supportive. Many of you have met our board members; from time to time we bring them out here as well as at the site when both Commissioner Magwood and Ostendorff were there, our board was there. So they're very involved in the operation all our units, and particularly in Fort Calhoun, obviously, right now. So it's a good structure; it does not provide any barriers for us and provides us resources we need. We have never had issues of capitalization or operating expenses for the plant.

LOU CORTOPASSI: Yeah, I'll start with morale -- both from a -- what we're doing to measure that -- if one can measure that -- we talked about safety culture in this setting and others settings before. We think we've got some very good metrics through pulse survey, through the two Cs process that I used, through the daily monitoring of corrective actions, just to look for issues either at

the site level or at the department level, recognizing the communication strategy back from my perspective with my leader's perspective. There's things that we do for the entire site. For example, plant manager and I, we do periodic all hands meetings, touched about 700 employees last week on many of the things that do cause concern about where we're at in the schedule, what's in our control, and some of the stuff that we're working on that's still, you know, maybe a little bit outside of our control right now. So trying to keep the workforce focused on that, on that periodic basis helps us.

And then, you just dig down now to the department level, some unique things that we're doing with the security organization, because we're making lots of changes in how we've been bringing them into the fold -- everything from the observation program, to the corrective action program, to what it means to be, you know, a nuclear security professional. And then I've touched on one of the other groups in particular, our design engineering organization, you know. A funnel for a lot of those corrective action documents that we've talked about; a funnel for a lot of those casual analysis. So what are we doing that's so unique for, you know, either supplementing the design engineering staff. And I use the term, probably can't give a work-life balance right now, but can give you work-life flexibility. And that does get down to the supervisor individual relationship where school's getting out right now, so what does this person need that maybe this person doesn't need? And it really is that hands on piece and just the drive of alignment through, you know, core station priorities and progress that we're making that we believe is helping keep the morale up. And we both have that from our own assessments, independent assessments, as well as self-assessment groups that have come in, you know,

either from INPO or from the fleet as we've been going through the integration process.

GARY GATES: In addition to that, the supervisors and managers at Fort Calhoun participate in the rest of the OPPD activities, so we get a chance to take a look at them from a corporate perspective as we have meetings and go forward there, and that's a good way to evaluate it as well. The best thing on morale is just one on one. If you're walking around the plant and talking to people, make your own assessment; and we all do that. And that's probably been the best and most powerful for me.

COMMISSIONER SVINICKI: Okay, thank you. Thank you, chairman.

CHAIRMAN MACFARLANE: Commissioner -- excuse me. Commissioner Magwood.

COMMISSIONER MAGWOOD: You okay? Can't have the chairman choking at the table. Tell me about it. Well, first, welcome back. Gary's been a fixture at NRC Headquarters over the last year; we've seen a lot of you. We really do appreciate the fact you've spent so much of your time to keep us informed; so that's been very helpful building understanding for the Commission as to what's happening at Fort Calhoun from your perspective. I appreciated the conversation with Commissioner Svinicki about morale. As I'm sure Commissioner Ostendorff saw during his visit, I thought morale was actually quite good. I think you and I did have a conversation about the operations. I think you used the word "operating tension," was that your terminology? So I appreciated hearing you comment on that. But I was going to ask you to elaborate a little bit more; what sorts of steps are you expecting to take to restore

that tension before the restart?

LOU CORTOPASSI: Yes. I'll start. Both from -- as we're transitioning now with a lot more of the plant being in operations control and the testing phase, you know, that does afford us with focused observations that we'll reinforce in training but also can reinforce much more in the control room now as the plant has shifted. One of the other specific tools that we're using and we've used at other facilities, and it will ring true for some folks here, the term "fast crews." So, we're going to go through a fast crews process with each of the operating crews, again, with external observations, with nuclear oversight observations as another just test to know that the operators are back at least in compliance with the standards that we would expect, both for normal operations, as we integrate any of the transient operations into that. And we've kept -- as we've discussed -- the requalification training has stayed in full flight. We've done a number of those periodic type of normal operations type of things. And then we've sent, you know, the non-licensed operators to operating facilities. We're also looking at potentially another round of that. But more importantly, bring in experienced operating staff to be with the operators in the field. And it'll expand out there. When look at the last cycle of RP training, for example, we did basically a mock at power containment entry: What does that look like from a pre-job brief, what does that look like from a setup? Because there is periodic containment entries that we do for preventative maintenance. And so each of the departments has looked at, you know, looked at their training program, looked at what we would expect from a restart standpoint. This also includes a refresher on modifications that were put in over the last two years, and we cycle and provide oversight for that training component all under the guise of what Gary

described as that “operating tension.”

GARY GATES: We’re also starting to include the Fort Calhoun people in the site calls. They’ve gone from 10 site calls to 11 site calls of fleet. And there’s a lot of good integration of that tension, when you start listening to people talking about operating at the other 10 sites that Exelon has, and you start to get that in your vocabulary and part of your thinking and how you’re dealing with things. That’s been a positive as well.

COMMISSIONER MAGWOOD: I appreciate that. Interesting. Fast crews -- I’ve talked to Commissioner Ostendorff to understand the full implications of that term. The -- one aspect of your effort is to rely somewhat on operability determinations for several items. Can you elaborate a little bit more on the strategy for that? Do you see that as a interim step or will these determinations be used for long-term operations? Can you talk about how you expect to use them?

LOU CORTOPASSI: Yeah. In respects to some of the design issues that we’re working through right now with the inspection teams, containment internal structures is probably one of the prime examples where we would be in operability space for a period of time. For some of the other issues, tornado missile protection, one in particular, where we’re doing modifications to the plant where our intent would be to adopt, you know, current regulatory guidance in total or be able to go through that be it the 50.59 process. As well as, you know, there’s a couple potential other issues that we would look at, you know, license amendment process through. And we’ve had some meaningful discussions back here. Overall, the operability process, you know, which is one of our 350 checklist items, it does have tentacles back to design and licensing

basis issues. So much focus now on our ability to make, one, the right decisions, the right fixed decisions, and the right oversight between operations and engineering on making those operability decisions; where in the past we may have been in some cases an over-reliance on engineering judgment without having the full documentation. That's one of our key focus areas right now, to ensure we're making good decisions with the issues that are on our plate.

COMMISSIONER MAGWOOD: Do you have an expectation that at some point you'll establish a plan to deal with all these operability issues and simply, you know, move into more of a firmer regulatory space?

LOU CORTOPASSI: Yes. Absolutely. Absolutely. And even though a number of, you know, items that we are working on right now will reduce that operability determination backlog or open operability issues that, you know, that we have flushed out through our discovery activities.

COMMISSIONER MAGWOOD: All right. I appreciate that. Thank you. Thank you, Chairman.

CHAIRMAN MACFARLANE: Okay. Commissioner Ostendorff.

COMMISSIONER OSTENDORFF: Thank you, Chairman. Thanks for being here today. I think Art and I had a great eight hours, nine hours with you last Wednesday on sites, spending a few hours on containment as well. Don't have a lot of questions. I do want to make a couple of comments maybe. And this is less specific to Fort Calhoun, but I really got a lot out of -- in the visit -- you know, the slouch gate piece, looking at, you know, your throttle valves and, you know, the proximity to Missouri River and how you're looking at where are all the different levels, and now looking at throttle valves vice being able to control the gate position based on, you know, motors being submerged. And I think it

just highlighted to me as a Commissioner, the importance of looking at site-specific characteristics and designs, because it was a pretty unique solution you had that made a lot of sense. But it was certainly not a solution that might be appropriate for everybody.

The same thing -- the picture you have of the containment structures, you know, having looked at this and walked around the containment for a long period of time Wednesday afternoon, this is a good picture, it doesn't do justice to the complexity of the overhead interference issues. And so I know that our staff both from Region IV as well as the resident inspectors have been spending a lot of time in containment with your team. I think that's important to be able to see what's involved in trying to make any new modifications. So again, I thank you for the visit; I thought that was very, very helpful to see those things as well as other features.

I agree with Commissioner Magwood that from his visit and mine last week that I thought morale appeared to be pretty good. I was on a submarine back in 1984 that flunked, as in F, a nuclear weapons technical proficiency inspection. And that's a big deal; you couldn't carry nuclear weapons any more. And there was a hang dog look on everybody on that submarine for a long, long time. And you can kind of get a sense, a flavor, walking around, where people kind of down in the dumps, they look like, "woe is me", "Atlas Shrugged," and I didn't see any of that, so I, you know, my anecdotal one day visit, for what it's worth, I thought that consistent with Commissioner Maywood's comment; that I did see signs of a good morale and I think that reflects strong leadership. Just my personal opinion. But I thank Commissioner Magwood for bringing that topic up.

We'll talk separately Bill about fast crews. Think about taking Patty Bubar and going underneath your desk, and having Rebecca light a fire in her trash can, Patty throws a bucket of water on you, you slip and fall, and you have, you know, Renee come in and try to pull you out and resuscitate you.

[laughter]

That would be the office version of it.

COMMISSIONER MAGWOOD: I was going to ask, can we use your trashcan?

[laughter]

COMMISSIONER OSTENDORFF: And so, that's the thing. Here's -- on a serious note, certainly for a plant -- and Gary you mentioned it -- I mean for a plant that's been shut down for a long period of time, and returned to operability -- I've been there. I've been in shipyards for a lot longer than I counted to be on two of the six submarines I served on; that's a hard time period when people get out of the mode of operating. So I think the fast crews comment you made, Lou, really got my attention as it did others. And I think that's -- you walk before you run, you take care of the basic principles that you can do without operating plant at power, whether it be communications, use of procedures, log taking, documentation of issues, and doing that in incremental step is just important because the -- you kind of lose your operational edge. Simulators are, you know, no substitute for operating the plant at power. So I resonated with your fast crews comment.

I guess the one question I have -- and the Chairman got into this, talking about the Exelon role, and Gary, you talked about the blended approach with becoming a part of the fleet. Commissioner Magwood, in the first panel,

talked about fleet aspects as to what we look at. Has the fleet issue between OPPD and Exelon caused any challenges in dealing with us as a regulator?

GARY GATES: I cannot think of any right now, at all. No. No, we clearly understand, and I want to make sure that I leave here with you clearly understanding that we are a blended leadership team, we are having Exelon operate our plant, but OPPD is the licensee, so we're accountable for that unit, clearly, to you, and to the public, and to our customer owners. Exelon we brought on as a good operator and we're having a great integration with them. But from interfacing with a regulator, I don't -- have not seen any issues at all. Some positives, because we've got the fleet behind us now.

COMMISSIONER OSTENDORFF: I was motivated by you talking about trying to, you know, match up or marry two different organizational cultures, and that was kind of the comment the Chairman was raising, I thought, was a very appropriate question.

LOU CORTOPASSI: What we've found so far – I think there is real science behind it -- if you look at the organization's nuclear oversight being one in particular where, again, we recognize the importance of the barrier and as one of our fundamental performance efficiencies, we just accelerated the integration process. And you see it in the -- not only in the results of what nuclear oversight is doing, but you see it in the folks' faces. Now, and fully implemented the process and that includes all the, you know, pre- and post-fleet challenge for, you know, issues and so -- And nuclear oversight being in a unique position to both challenge the organization and are just bringing more insight; and we believe it's a function of that early integration. And seeing it even, you know, I can track departmental safety culture numbers I think that how far and how deep the

integration we're in.

COMMISSIONER OSTENDORFF: Okay. Thank you. Thank you, Chairman.

CHAIRMAN MACFARLANE: Okay. Any further questions?

COMMISSIONER SVINICKI: If I could just make one quick acknowledgement. Lou, your presentation had a number of photographs in it, and the Commission, I think, had a significant learning this week and I need to commend Commissioner Ostendorff's questioning attitude, because he asked why, given the complexity of the systems you're describing, there were no photographs. Turned out we discovered a pervasive folklore that presenters before the Commission are not supposed to have photographs. Office of the Secretary of the Commission has confirmed that that is not true, and I think it's a legacy of how grainy webcast videos used to, you know, over the Internet, they were so grainy that people couldn't see them. But to the extent they come through, I would just say that I think not all of the listeners to this meeting have the opportunity to see these systems firsthand. It's very difficult sometimes to know what presenters are describing. So I think that I was pleased to see the photographs. I thank Commissioner Ostendorff for pulling the thread on that. And I hope that we'll see some more of it; I think it's very helpful. Thank you.

CHAIRMAN MACFARLANE: Anybody else? No. Let me just say hear, hear. I have a note to myself to say that we need more figures and photographs, and illustrations except, you know -- and fewer just large words on the slides. We can be a lot more informative, especially for those folks who are watching this on webcast. And so, thanks for making that point Kristine.

So, now that nobody has any further comments, let me say that I

think today's meeting was a really good example of the detailed oversight that NRC is providing to its licensees. And the Commission is going to be looking forward to hearing about the progress at your two plants. I appreciate you all for coming out here and engaging in discussion with us. I appreciate the staff for their presentations and their engagement with the Commission as well. And with that, I will say we will adjourn.

[Whereupon, the proceedings were concluded]