UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

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BRIEFING ON RESULTS OF AGENCY ACTION

REVIEW MEETING (AARM)

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TUESDAY

JUNE 3, 2014

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ROCKVILLE, MARYLAND

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The Commission met at the Nuclear Regulatory Commission Headquarters, One White Flint North, Commissioners= Conference Room, 11545 Rockville Pike, at 9:00 a.m., Allison M. Macfarlane, Chairman, presiding.

COMMISSION MEMBERS:

ALLISON M. MACFARLANE, Chairman

KRISTINE L. SVINICKI, Commissioner

GEORGE APOSTOLAKIS, Commissioner

WILLIAM D. MAGWOOD IV, Commissioner

WILLIAM C. OSTENDORFF, Commissioner

NRC STAFF PANEL:

MICHAEL JOHNSON, Deputy Executive Director for Reactor and Preparedness Programs

LAURA DUDES, Director, Division of Materials Safety and State Agreements, Office of Federal and State Materials and Environmental Management Programs

ALLEN HOWE, Deputy Director, Division of Inspection and Regional Support, Office of Nuclear Reactor Regulation

VICTOR McCREE, Regional Administrator, Region II

MARC DAPAS, Regional Administrator, Region IV

EXTERNAL PANEL:

JOSEPH GRIMES, Tennessee Valley Authority

KEITH POLSON, Tennessee Valley Authority

DAVID CZUFIN, Tennessee Valley Authority

MATT RASMUSSEN, Tennessee Valley Authority

W. GARY GATES, Omaha Public Power District

LOU CORTOPASSI, Omaha Public Power District

TIM HANLEY, Exelon Generation

P R O C E E D I N G S

9:02 a.m.

CHAIRMAN MACFARLANE: Okay, good morning. Today we're going to be having a briefing on the results of the Agency Action Review Meeting. The Agency Action Review Meeting is an annual meeting conducted by the Executive Director for Operations with Senior NRC Managers as part of an integrated evaluation process to insure the operational safety performance of NRC licensees.

There are a number of objectives for the Agency Action Review Meeting. First, to review Agency actions that have been taken for licensees of operating nuclear power plants and plants under construction that have had significant performance issues.

Also, to review Agency actions that have been taken for those nuclear materials licensees including fuel cycle facilities with significant safety or security issues.

Also, to insure that a coordinated course of action has been developed and implemented for licensees of concern, and to review the Reactor Oversight process and the Construction Reactor Oversight Process Program effectiveness. And, finally, to insure that trends in industry and licensee performance are recognized and appropriately

addressed.

During our first panel today, we're going to hear from our NRC Staff on the results of the Agency Action Review Meeting. The Staff presentation is also going to update the Commission on the progress of two licensees, the Tennessee Valley Authority, the licensee for Browns Ferry, and the Omaha Public Power District, the licensee for Fort Calhoun.

Following the Staff presentation we'll hear first from the Tennessee Valley Authority on the performance of Browns Ferry, and secondly from the Omaha Public Power District on the performance of Fort Calhoun.

Before we go on, would any of my fellow Commissioners like to make any comments? No? Okay. Then I'm going to turn it directly over to Mike Johnson, who is the Deputy Executive Director for Reactor and Preparedness Programs.

MR. JOHNSON: Good morning, Chairman. Good morning, Commissioners.

As you indicated, we are here to brief today on the results of the Agency Action Review Meeting that was conducted on April 22nd of 2014. Can I have the objectives slide, please, the next slide.

Our oversight process, of course, enables us to identify performance declines in licensee

performance and assure that licensees are taking action to address those declines in real time. So, on a rolling basis we look at and oversee the performance of licensees. But as a part of our process, we conduct the Agency Action Review Meeting each year and the Agency Action Review Meeting, including the meetings that lead up to that, and this particular meeting with the Commission all play an important role in the objectives of the reactor oversight process.

The Chairman touched on the objectives on the slide. I'll just point you to those. They do allow the Staff, the senior managers to focus on the appropriateness of actions that have been taken for reactor plants and materials licensees that have had significant performance problems, and to identify additional actions, as needed. In addition to that, we do look to make sure that the courses of action that we would take are appropriately coordinated.

Also, as a part of the Agency Action Review Meeting we review the results of the Staff's assessment of the Reactor Oversight process, and the Construction Reactor Oversight process. And this past year in addition to some of the routine assessments that we've done, that we do to continually improve our programs we had an opportunity to take on an internal and externally conducted activities to gain additional

insights in areas that will enable us to improve the Reactor Oversight process. And you'll hear more about that later in the presentation.

We don't plan to focus on the Construction Reactor Oversight process today. We'll in a briefing for the Commission later on new reactor issues, we'll touch on the Construction Reactor Oversight process. Also, Watts Bar Unit 2 is near completion, and we plan to brief the Commission in October of this year on the status of construction of Watts Bar.

The final objective of the process is to insure that we -- that trends in the industry in licensee performance are recognized and addressed through our regulatory programs. Next slide, please.

This slide provides the conclusions that we reached based on discussions of this year's Agency Action Review Meeting. An overarching conclusion is really the label of the slide, and that is that licensees activities were safe and secure. We found that actions taken on specific facilities that warrant additional regulatory focus were appropriate and that those tools are sufficient to enable us to take -- to address the issues that were encountered, but I don't want to lose sight -- and we'll spend most of this meeting actually talking about through conversations by Marc and Vic focused on those facilities, we'll spend

most of the meeting focused on those plants with significant problems. But I don't want to lose sight of the fact that, in general, overall the industry is safe and secure based on the oversight process.

There were no significant adverse trends in Materials licensees performance that would warrant significant changes in our Materials and Waste Oversight Programs. Similarly, there were no significant trends, adverse trends in reactor performance that would warrant significant changes to our oversight process.

Regarding licensees with significant performance issues, we used the criteria outlined in Management Directive 8.14 which is the Management Directive on the Agency Action Review Meeting. There were four licensees that we discussed based on this criteria. There were two Nuclear Material licensees that were discussed because of significant security performance issues. We did not recommend inviting them to meet with you in conjunction with this meeting because all of the corrective actions have been completed associated with those facilities and inspected. Licensee performance related to violations was associated with activities that occurred approximately two years ago, and the current licensee performance is acceptable.

Browns Ferry Unit 1 was discussed because it is in the multiple repetitive degraded cornerstone column of the Action Matrix. We refer to that sometimes as Column 4. Tennessee Valley Authority last briefed the Commission on performance at Browns Ferry during last year's briefing for the Commission on the Agency Action Review Meeting.

Fort Calhoun was also discussed at the Agency Action Review Meeting because the facility had been shut down under Inspection Manual Chapter 0350 oversight due to significant performance concerns. After an almost three-year shutdown, Fort Calhoun commenced power operations last year after satisfactorily addressing numerous issues associated with safe plant operation. Omaha Public Power District last briefed the Commission again at the briefing that we had for the Commission on the AARM last year. You'll hear, of course, from Tennessee Valley Authority and Omaha Public Power District later on the performance at Browns Ferry 1 and Fort Calhoun respectively. Next slide, please.

So, to begin our presentation, Laura Dudes, the Director of the Division of Materials Safety and State Agreements Division in the Office of Federal and State Materials and Environmental Management Programs will discuss Materials and Waste Programs

performance.

Allen Howe, who is the Deputy Director of the Division of Inspection and Regional Support in our Office of Nuclear Reactor Regulation will discuss -- will review the reactor industry trends and the self-assessment program for the ROP, Reactor Oversight Process.

Vic McCree, who is Regional Administrator for Region II, and Marc Dapas, who's Regional Administrator for Region IV will then follow with discussions of current plant status of Browns Ferry 1 and Fort Calhoun Station. So with that, I'll turn to Laura to begin her presentation.

MS. DUDES: Thank you, Michael. Good morning. I'm happy to be here to be talking about the Materials Program. I was gathering with the folks earlier, and I was thinking it's a little lonely. There's all these reactor people, and for 20 years I was coming in here speaking about either reactors operating or under construction, but I work in a fascinating world, so I look forward to sharing that with you.

The Materials Program -- may I have the first slide, or my intro slide. The Materials Program includes over 22,000 NRC and Agreement State licensees. These licensees use nuclear materials for a wide

variety of beneficial practices that include industrial, academic, medical and, of course, fuel cycle facilities are included in this.

There are millions of licensed activities performed each year. I will tell you that the medical community alone performs over 16 million procedures using radioisotopes. So, when we talk about trending in the Materials Program, I will say the number of reported events versus the number of activities in a given year, I mean, is very small. However, since the impact is often seen on an individual basis, Staff takes this seriously, monitors the data, and looks for issues or events that would require NRC response, communication, or program improvements. So, I plan to highlight some of the issues we addressed this year as part of the national Materials Program. Next slide, please.

So, similar to the Reactor Oversight Program, the NRC and the Agreement States Radioactive Materials Program include licensing and inspection, incident response, and enforcement functions. We also collect, monitor, and evaluate industry operational data as part of our event reporting and assessment function.

This information is provided in the annual assessment paper that we provided to the Commission.

I would make a note for those who are following along, we've included a reference to this paper as part of this slide package, because I'm only going to touch some of the highlights from the Annual Assessment Report, and there's a lot more detail in that paper.

So, lastly, our evaluation process does include identification of significant licensee performance issues or NRC program improvement areas that would warrant the high-level attention from senior managers at the Agency Action Review Meeting.

Next slide, please.

So, the Staff uses the criteria based on -- listed on this slide to measure our performance during the year. And it's a graded approach from high level, high consequence events such as the strategic outcomes we report to Congress, and then all the way down to maybe a low level monitoring, precursor monitoring events that are reported to the NRC on a daily basis.

I just do want to make a note about some of this performance criteria. If you recall during your meeting with the Advisory Committee on Medical Uses of Isotopes, there was a presenter who kept -- had a slide that kept saying medical is different, medical is different in that theme. Well, as I've been working in the Materials world for about six or seven months now,

I'm not going to say that any use in particular is different, but I do know if you look at the performance criteria listed on there, the difference I notice from my previous experience is the daily, and often direct beneficial and also consequential impact on individuals.

One of the criteria listed is a performance measure, and that performance measure is less than two radiation over-exposures that results in a loss of function. Well, in 2012 we had an event in Texas where a radiographer actually lost a finger, so these metrics are very real and very individual in the Materials world. We did take appropriate action, and the State of Texas took action with respect to that event. But I think it's been very personal and human for me over the past few months, so I wanted to share that as opposed to just a list of performance criteria. Next slide, please.

Okay. During the Fiscal Year '13 reporting period, there were 415 NRC and licensee annual -- NRC and Agreement State licensee event reports reported to the Nuclear Materials Event Database. The slide -- the graph on this slide shows the performance over 10 fiscal years. We do that just to try and address any random fluctuations in data over a 10-year period in the Materials event reporting.

I will note something interesting on here. If you look at the spike I think in 2008, and a little bit in 2009, that is actually a singular activity, which is the Walmart's inventory of their tritium exit signs. However, they ended up reporting upwards to 274 additional events in 2008, and then about 60-70 in 2009. If we remove that particular occurrence, you'd see a slight decreasing trend in Material events.

Within the Nuclear Material Events Database, some of those events meet the abnormal occurrence threshold. This reporting year we had 10 abnormal occurrences. All of the abnormal occurrences dealt with medical procedures, eight were identified as medical events, and two were radiation exposures to embryos for women who were undergoing medical treatments.

Again, this is very individual and although the number, 10 events over, you know, 16 million procedures is small, we do try and look for ways that we can improve our program and highlight issues to the community, so with respect to this we issued a communication to our licensee, obviously shared it with our States for their licensees because four of the eight events dealt with misadministrations or challenges with high-dose rate after loaders so we did put out a communication to remind licensees about the importance

of verification of the treatment parameters for the high-dose rate after loader administrations. Next slide, please.

Okay. So, this is a high level overview of the radiography process. You have the two individuals welding a pipe up on the top left-hand corner. Then the radiographer will set up the camera to take an image of the weld, hopefully stand off from a safe distance, as you can see the picture there, crank out the source, take the image, and then retrieve the source. This can be one of hundreds of images a radiographer takes in any given day in a variety of incredibly difficult working conditions.

We initiated a study of radiography for the 2013 assessment year. We did this because we perceived increases in the number of radiography procedures performed by licensees, you know, due to oil and gas exploration. We looked at eight, ten, and twelve year trending of radiography event data, and our overall conclusion that there was nothing in that data that told us we needed to make a regulatory change, or a significant program change. But, again, we try and take action on things that we do see. So, there were several events where there were sources that could not be retracted after they had been extended due to some kind of damage. Twelve of those involved construction

equipment not even related to the camera falling on the guide tubes. Two events where radiography was being conducted at a solar generating station, the mirror beams actually melted the drive cables so the source could not be retracted. So, the Staff looked at this and said well, these are preventable events, so we did issue a Generic communication to all licensees and the States regarding the need to properly mount your equipment.

And although it's not part of the FY '13 performance assessment, I did want to just highlight, earlier this year we had three radiography events with the same company, or sister company, and we wanted to just address that. One occurred in Ohio, an Agreement State, Texas, an Agreement State, and then Region IV has some ongoing work with the same company in Alaska. So, we are communicating with all 37 Agreement States. We issued an Agreement State letter which talked about the radiological events involving Acuren, USA and Acuren Inspection. We continue to work with the States to see if there's any common cause failures that we should be addressing collectively with this company, and we will figure out what additional actions are necessary for us to do as a National Materials Program team following the completion of, of course, the States and the NRC's respective inspection and enforcement

actions associated with these events. But we have been talking about this. Next slide, please.

So, Michael mentioned that there were two fuel cycle facilities that did meet the Agency Action Review Meeting criteria, but I did not touch upon them as he covered that in his opening remarks. So beyond that, the Nuclear Materials Program met all strategic and performance safety and security measures. We identified no significant trending or program issues, so I will turn it over to Allen Howe. Thank you.

MR. HOWE: Thank you, Laura. And good morning, Chairman and Commissioners. Today I will brief you on the results of the NRC's Industry Trends Program, and the Reactor Oversight Process Self-Assessment for 2013. These areas were discussed at the Agency Action Review Meeting. Slide 12, please.

The NRC uses its Industry Trends Program to monitor for adverse trends in the industry's safety performance. Overall, the results for 2013 were no statistically significant long-term trends, and no short-term prediction limits were exceeded. However, we're continuing to review five loss of offsite power events under the NRC's Accident Sequence Precursor Program. Should our review determine that all five events are significant, a long-term adverse trend and the significant events indicator will exist, and we

will update the Commission of the change in our analysis and any planned actions.

At the time each of these events occurred we immediately evaluated the events to inform our regulatory response, and we conducted appropriate follow-up inspections to assess each event and its causes to insure continued safe plant operation.

The Industry Trends Program also includes a baseline risk index for initiating events. This is a risk-informed view of the industry performance in the initiating events cornerstone of the Reactor Oversight Process. None of the 10 initiating event category indices were exceeded in 2013. Slide 13, please.

As directed by the Commission following the 2013 briefing on the Agency Action Review Meeting, we reviewed the Industry Trends Program to identify potential enhancements and resource reductions. As a part of our review, we identified that the program doesn't include insights on the public radiation safety and security cornerstones, and we will consider adding indicators for these areas and to the program. We recognize that efficiencies could be gained by replacing or supplementing some of the Industry Trends Program data sources with Performance Indicator Program data from the Reactor Oversight Process.

We acknowledge that we should explore new

ways to incorporate performance data from new reactors into the program. And we plan to update the Commission on our progress in future Industry Trends Program SECY papers. Next slide, please.

Now I'll move on to the results of the Reactor Oversight Process Self-Assessment for 2013. Overall, the Reactor Oversight Process met its performance goals and desired outcomes. We also appropriately monitored plant activities and focused our resources on licensee performance. These results indicate that the Reactor Oversight Process continues to be effective.

Regarding the government shutdown, the Staff furlough last October, I wanted to emphasize that we maintained our Resident Inspector Program during the furlough, and the residents implemented their normally assigned inspection and incident response activities. They were supported by Regional and Program Office Managers who met the excepted function criteria. However, the furlough impacted our Oversight Program. I'll give you a few examples.

We had to issue some interim guidance, inspection guidance before the furlough. We also had to reschedule some engineering and security inspections, and we completed these inspections by the first quarter of 2014. We postponed an Emergency

Preparedness exercise to the second quarter of 2014. Also, some outage-related inspection samples were missed. And, finally, for several inspection reports we missed our timeliness goals for issuance.

Despite these impacts from the furlough, we met all the Reactor Oversight Process performance goals, such as completion of the Baseline Inspection Program at all plants, and we also completed the timely completion of all inspection reports. Slide 15, please.

A specific requirement of the Agency Action Review Meeting is to discuss action matrix deviations to insure that the causes of deviations are well understood, and to identify any necessary changes to the Oversight Process guidance documents.

We had one action matrix deviation in 2013 to keep Perry in the degraded cornerstone column, also known as Column 3 of the action matrix, instead of moving it to the multiple repetitive degraded cornerstone column, or Column 4 when those criteria were met for moving it to the multiple repetitive degraded cornerstone column.

We did this because the licensee's current performance issues were well understood and limited to occupational radiation safety. And, therefore, we considered the regulatory actions for the degraded cornerstone column to be more appropriate than those

for the multiple repetitive degraded cornerstone column. We subsequently completed the supplemental inspections and closed the deviation.

As a part of our established feedback process, we are working to clarify some definitions and to add flexibility in handling older performance issues. And just to close the loop from our 2012 feedback on action matrix deviations where we had some plant technical issues that were not related to plant performance, our revised guidance now gives the Regions added flexibility to expend resources to review emerging technical issues that are not related to plant performance. Slide 16, please.

2013 was a busy year with several activities, including the Reactor Oversight Process Enhancement Project. The Commission directed independent review of the Reactor Oversight Process, other reviews by the Government Accountability Office, and the Office of the Inspector General, and also Lessons Learned related to Browns Ferry, and more recently from Fort Calhoun Station.

We also worked with the Institute of Nuclear Power Operations, industry, and other stakeholders to incorporate the safety culture common language into the Reactor Oversight Process guidance. And, finally, the Office of Nuclear Reactor Regulation

and the Office of New Reactors worked together to provide the Commission with recommendations for risk-informing the Reactor Oversight Process for new reactors in SECY-13-0137. Next slide, please.

The Reactor Oversight Process is a mature and robust program that continues to serve the Agency well. We're also striving to improve, so I'll highlight a few of our focus areas. We plan to continue with the Reactor Oversight Process Enhancement Project. We have numerous inputs from completed evaluations, including the independent assessment I mentioned a minute ago, and we plan to focus our activities on updates to the Baseline Inspection Program, along with addressing feedback on Substantive Crosscutting Issues and input we've received on the action matrix.

Regarding improvements to the Reactor Oversight Self-Assessment Process, we're pursuing creation of more objective metrics that are aligned to the Reactor Oversight Process goals and the principles of good regulation. We will continue stakeholder interaction such as our monthly Working Group public meetings, and holding public meetings on specific topics related to the Reactor Oversight Process Enhancement.

And looking ahead to new reactors becoming operating reactors, the Office of Nuclear Reactor

Regulation, the Office of New Reactors and Region II are interfacing on the transition from construction to operating Reactor Oversight.

This concludes my presentation, and I'll now turn it over to Vic McCree who will brief you on Browns Ferry. Thank you.

MR. McCREE: Thanks, Allen. Good morning, Chairman and Commissioners.

I plan to give an overview of Browns Ferry, including a brief background discussion, a review of Browns Ferry's performance in 2013, our current performance assessment, and our plans going forward. With me today are Jonathan Bartley, to my right. He's the Branch Chief for the Tennessee Valley Authority in Region II responsible not only for Browns Ferry, but Watts Bar and Sequoyah. Also, Craig Kontz, he's the Senior Project Engineer for the Tennessee Valley Authority. Craig has been very involved with our oversight activities at Browns Ferry for over six years. Next slide, please.

This is the fourth consecutive Agency Action Review Meeting, and the fifth meeting in four years where the Commission has invited the Staff and TVA representatives to meet to discuss the performance of Browns Ferry. The meetings stem from Browns Ferry entering the multiple repetitive degraded cornerstone

column, or Column 4, of the mitigating systems cornerstone in the fall of 2010 due to the Red high safety-significance determination associated with the failure of a Unit 1 residual heat removal system flow control valve.

Since that time, Browns Ferry developed and has implemented many elements of what it refers to as an integrated improvement plan to address the fundamental problems that have affected the performance of the units at Browns Ferry.

NRC has conducted multiple inspections at Browns Ferry, including the Inspection Procedure 95003, Supplemental Inspection, and a Confirmatory Action Letter Inspection actually that was led by Mr. Kontz in December of 2013. Those inspections enabled us to close the Red finding and the confirmatory action letter in January of this year. However, because of additional White inputs to the action matrix in 2013, which I'll discuss in a minute, Browns Ferry Unit 1 remains in Column 4. Next slide, please.

Unit 2 remained in the degraded cornerstone column, that's Column 3 of the mitigating systems cornerstone since the fourth quarter of 2012, and in all four quarters of 2013 due to a performance indicator for emergency AC power and a White low to moderate safety-significance finding involving an

inadequate implementation of training for a procedure modification used to shut the plant down and put it in a safe condition during various in-plant fire scenarios referred to as Safe Shutdown Instructions. Next slide, please.

Unit 3 has remained in the regulatory response column, or Column 2 of the initiating events cornerstone since the second quarter of 2012 due to a White unplanned scrams performance indicator. Although we completed the Inspection Procedure 95001 Supplemental Inspection in the fall of 2013, Unit 3 remains in Column 2 due to a recently issued White again low to moderate safety-significance finding in the emergency preparedness cornerstone. This emergency preparedness finding which applies to all three units involves TVA's failure to maintain minimum emergency response shift staffing to insure initial accident response in all key functional areas, including the ability to achieve safe shutdown during an Appendix R fire. Next slide, please.

As for the current plant status, as shown on this slide, Unit 1 has been at power since March 2013 following a startup from a reactor scram associated with a degraded main condenser vacuum. Unit 2 has been at power since May 2013 following a startup from a refueling outage, and Unit 3 has been at power since

early May after a reactor scram associated with a failed power supply during testing. The unit had previously operated since startup from a refueling outage on March 17th. Next slide, please.

TVA has continued to operate the units at Browns Ferry safely. This performance assessment is based in part on the results of over 9,700, almost 10,000 hours of inspection-related effort in 2013 associated with the supplemental and confirmatory action letter closure inspections again that we conducted in 2013. This was in addition to over 5,000 hours of NRC baseline inspection-related effort in 2013.

These inspections also identified improvements in station performance, such as progress in implementing what TVA refers to as its Safety System Reliability Plan which were evidenced by reduced maintenance backlog, improved material condition in a number of front line safety systems such as emergency equipment, cooling water, service water, residual heat removal, reactor core isolation cooling, high-pressure coolant injection, core spray, and emergency diesel generator, again, improved reliability in those systems due to that investment.

We also have seen improvements in work management due to increased resources allocated by TVA,

demonstrated worker behavior, as well as better planning and planning meetings. In addition, NRC inspections identified an improved understanding of the importance of a strong safety culture. For example, the Procedure Upgrade Project had improved the quality and usability of the site's procedures. There were demonstrated enhancements in the Corrective Action Program, including an increased quantity of service requests, a lower threshold for service requests, the services requests themselves were of a higher quality and we noted clear assignments of responsibility for implementing corrective actions.

In addition, there were noted changes in worker behavior, improvements in worker behavior while performing work in the field, such as pre-job briefs, when workers were unclear or unsure they stopped work and they effectively used human performance tools, again such as pre-job briefs. Next slide, please.

The 95003 supplemental inspection at Browns Ferry was conducted in three parts. The first two parts were conducted in the fall of 2011. The third part was completed in May of last year, and that consisted of a diagnostic review of programs and processes in a way that are not typically inspected as part of the Baseline Inspection Program. The diagnostic inspection included an independent assessment of the

safety culture at the Browns Ferry Nuclear Plant, including the results of TVA's independent third-party assessment and root cause analysis.

The 26-member 95003 inspection team which was composed of inspectors from Region I, Region III, the Office of Nuclear Reactor Regulation, the Office of Research, the Office of Enforcement and, of course, Region II found that Browns Ferry had, indeed, made gains toward improved performance as a result of their progress in implementing its Integrated Improvement Plan. The team also identified no greater-than-Green finding. However, the team did find continuing examples of the type of organizational and programmatic issues that hindered improvements and safety system reliability, and human performance, and problem identification and resolution, engineering work product quality, and oversight of station activities that were causal factors in the Red finding.

As a result, the team concluded that continued implementation of the Integrated Improvement Plan was needed to demonstrate TVA's ability to achieve sustained and substantial performance improvement at Browns Ferry. In response, TVA submitted a letter to the NRC in August of 2013 committing to a specific set of Integrated Improvement Plan actions, and other actions associated with issues identified during the

Inspection Procedure 95003 Supplemental Inspection.

In the letter, TVA identified short-term actions referred to as Tier 1 actions that would be completed at specific near-term dates, and an additional set of actions that are referred to as Tier 2 actions that would be completed in the long term and contribute to sustained improved performance.

After reviewing these commitments, I issued a Confirmatory Action Letter to confirm TVA's Tier 1 and Tier 2 actions. The letter indicated that the completion of the Tier 1 actions when verified by NRC inspection would reasonably serve to inform the NRC's decision making regarding closure of the Red Finding and the transition of Browns Ferry Unit 1 out of the multiple repetitive degraded cornerstone column of the ROP action matrix. Next slide, please.

The Confirmatory Action Letter closure inspection was an eight-member inspection, again led by Mr. Kontz, and it included inspectors from Regions I, III, and the Office of Nuclear Reactor Regulation. This inspection included an assessment again of TVA's Tier 1 commitments to determine the adequacy of the root cause evaluations, the corrective actions, as well as enhancements to the licensee's programs and practices to prevent recurrence. This team identified no findings.

Based on the inspection results, the NRC concluded that the Confirmatory Action Letter Tier 1 commitments were met, and the Confirmatory Action Letter was closed. In addition, the results of the inspection in conjunction with the previously completed inspection activities provided adequate assurance that the completed or planned corrective actions were sufficient to address the Red Finding and the associated violations. As a result, again, the Red Finding was closed, and this was in January of this year. Next slide, please.

The performance issues at Browns Ferry also included three Substantive Crosscutting Issues. The Inspection Procedure 95003 Supplemental Inspection reviewed TVA's corrective actions for the causes of two longstanding problem identification and resolution crosscutting issues associated with a thorough evaluation of identified problems and appropriate and timely corrective actions. TVA completed the required third-party assessment to address these two Substantive Crosscutting Issues and the team verified that the actions identified in the Integrated Improvement Plan, which included changes to the Corrective Action Program procedures, roles and responsibilities, staffing, tracking, and trending tools were acceptable.

Based on the adequacy and effectiveness of these changes, and a reduction in the number of findings in this area, the team concluded that TVA's action were appropriate to promote sustained improved performance.

In addition, the Confirmatory Action Letter closure inspection reviewed TVA's corrective actions for Human Performance Substantive Crosscutting Issue associated with complete documentation and labeling. Based on the team's assessment of TVA's progress in implementing the Procedure Upgrade Project, including the pre-work walk-downs of work instructions, the proper use of human performance tools with a focus on use of verification practices, the training and qualification of workers and, again, no significant increase in findings in this area, this Substantive Crosscutting Issue was closed, and no new Substantive Crosscutting Issues were opened in 2013. Next slide, please.

In 2009, again, this is to give you an idea of other regulatory activities that are underway. In 2009, we issued a Confirmatory Order to TVA following an alternate Dispute Resolution Mediation for apparent violations of 10 CFR 50.7, Employee Protection for Discrimination. Among the commitments included in this order was TVA's commitment to perform two independent safety culture assessments by the end of 2013, which

they have completed. We do anticipate verifying the status of TVA's actions for all of the commitments in this order later this year. Next slide, please.

In late April of this year we issued a second Confirmatory Order to TVA for apparent violations stemming from the failure to meet 10 CFR Part 50, Appendix R Operations Minimum Staffing Level. This Confirmatory Order is associated with the White Emergency Preparedness Finding that I alluded to earlier.

The apparent violations with associated with 10 CFR 50.9, Complete and Accurate Information, and 10 CFR 50.90, Improper License Changes. We will conduct an inspection to verify the adequacy of the closure of this Confirmatory Order when TVA informs us that it's ready to close those commitments. Next slide, please.

Going forward we plan to conduct the Inspection Procedure 95001 Supplemental Inspection for the Emergency Preparedness White Finding that I referred to. In addition, we'll perform inspections to verify adequate implementation of both the 2009 and 2014 Confirmatory Order actions. Next slide.

We will use baseline inspections by both the resident inspectors and region-based inspectors to verify that TVA has adequately implemented its

Integrated Improvement Plan Tier 2 actions. Again, these are the longer term actions. We'll also conduct a performance assessment later this summer in all likelihood in accordance with Inspection Manual Chapter 0305 to assess movement of Browns Ferry Unit 1 out of the Column 4 of the ROP action matrix once the associated performance indicators, again for high-pressure coolant injection and emergency AC power revert to Green, very low safety-significance. We completed the supplemental inspection under Inspection Procedure 95002 in April associated with those two White inputs, those two White performance indicators, so the hours associated with those performance indicators simply need to roll off which it's projected this summer, and we will be in a position to move Unit 1 out of Column 4.

In closing, TVA continues to operate the Browns Ferry units safely, and our inspections have seen evidence of improving station performance. However, TVA needs to aggressively implement the performance improvements contained in its Integrated Improvement Plan, including elements of Tier 1 and Tier 2 to avoid the cyclic safety and regulatory performance that the Browns Ferry units have experienced in the past.

That concludes my remarks on Browns

Ferry's performance and NRC actions going forward. I'll now turn it over to Marc Dapas.

MR. DAPAS: Thank you, Vic. Good morning, Chairman and Commissioners.

I appreciate the opportunity to be here today and discuss with you our Regulatory Oversight activities with respect to Fort Calhoun Station. This is the fifth time in the last 27 months that the Staff has briefed the Commission on Fort Calhoun. But before I get into the specifics regarding our oversight function, I first would like to introduce Michael Hay, who is a Branch Chief in our Region IV, Division of Reactor Projects. Mike has primary responsibility for the NRC's Inspection Program at Fort Calhoun Station. You may recall he participated in the Commission meeting back in January 2013. Mike did most of the heavy lifting involving the oversight and coordination of our many and varied inspection activities associated with the Manual Chapter 0350 process. Next slide, please.

I plan to focus my presentation today on three overarching areas. First, I'll provide some historical perspective on our Regulatory Oversight activities at Fort Calhoun Station. Then I'll discuss the basis for my restart readiness decision. And, thirdly, I'll discuss our planned Oversight activities going forward. Next slide, please.

In October of 2010, the NRC issued a Finding to Omaha Public Power District, or OPPD, for the licensee's failure to maintain procedures and equipment that protect the station from the effects of a design-basis flood. This resulted in Fort Calhoun Station transitioning to Column 3 of the NRC's Reactor Oversight Process action matrix for a degraded cornerstone in mitigating systems.

In early April 2011, Fort Calhoun Station shut down for a scheduled refueling outage. Then on May 23rd, in response to rising levels along the Missouri River, the licensee began implementing flood protection measures at the site to protect various safety-related structures. Subsequently on June 6th, the licensee declared a Notice of Unusual Event in anticipation that increasing river levels would reach 1,004 feet mean sea level at the station. Then on the very next day, June 7th, the failure of a feeder breaker for a 480 volt load center resulted in a fire in the station's west switch gear room. The fire caused a loss of power to six of nine safety-related 480 volt electrical distribution buses, and consequently the licensee declared an alert. Next slide, please.

In July of 2011 we issued a White Finding in the mitigating systems cornerstone for the licensee's failure to correct a degraded contactor in

the reactor protection system which subsequently failed. Then in September of 2011, Fort Calhoun Station transitioned to Column 4 of the Reactor Oversight Process action matrix for multiple repetitive degraded cornerstones due to the previously existing Yellow Finding for flood protection-related deficiencies that I mentioned which had remained open for more than four quarters, and the newly issued White Finding in the mitigating systems cornerstone, as well as several greater-than-Green Findings in the security cornerstone.

On September 2nd, the NRC issued a Confirmatory Action Letter or a CAL to OPPD which documented certain actions the licensee committed to take before restarting the plant as described in the licensee's Post-Flooding Recovery Action Plan. These actions addressed the flooding impacts at Fort Calhoun, as well as other aspects of station performance. Next slide, please.

On December 13th, 2011, the NRC notified OPPD that the Agency had made a change in the regulatory oversight of Fort Calhoun Station transitioning from the Operating Reactor Assessment Program as prescribed by our Manual Chapter 0305 to the Manual Chapter 0350 process for oversight of reactor facilities in a shutdown condition due to significant performance or

operational concerns.

The basis for the decision to transfer oversight from the Reactor Oversight process to the Manual Chapter 0350 process was that the plant was shutdown and in Column 4 of the action matrix, as well as the fact that the licensee needed to accomplish significant analysis of the extent of condition and extent of cause of known performance deficiencies to fully understand what actions were necessary.

In January of 2012, OPPD and Exelon entered into an Advisory Services Agreement in which Exelon provided advice and other support services to OPPD focused on station recovery and restart. A few months later in August, Omaha Public Power District and Exelon signed a 20-year Operating Service Agreement whereby Exelon is responsible for the day-to-day operation of Fort Calhoun Station, but Omaha Public Power District remains the owner and licensee.

And then on February 22nd, 2012 the Commission was briefed for the first time on Fort Calhoun Station by the NRC Staff and OPPD/Exelon management. In April, the NRC issued a Red Finding to Omaha Public Power District for the licensee's failure to adequately design, modify, and maintain the electrical power distribution system resulting in a fire in the safety-related 480 volt electrical

equipment that occurred back on June 7th, 2011. Next slide, please.

In early 2012, the licensee developed its Integrated Performance Improvement Plan to guide the problem discovery, analysis, and recovery activities at Fort Calhoun Station. On June 11th, 2012, the NRC issued a second Confirmatory Action Letter which included all the committed actions captured in the September 2011 CAL, as well as expanded the scope of activities to resolve the underlying performance issues at Fort Calhoun Station that were discovered after the original CAL had been issued.

The June CAL included a Restart Checklist, the purpose of which was to identify all of the issues that needed to be resolved before restart. The Restart Checklist captured the key actions encompassed by the licensee's Integrated Performance Improvement Plan and it also included an assessment of each of the key attributes described in Supplemental Inspection Procedure 95003 which was appropriate given the Red Finding for the significant performance deficiencies associated with the 480 volt switch gear fire.

In June of 2012, the Commission was briefed a second time by both the NRC Staff and OPPD on the status of recovery actions at Fort Calhoun Station. On November 13th, 2012, the NRC issued the Restart

Checklist Basis Document which clarified the scope and breadth of the Restart Checklist items and the minimum actions that the NRC planned to take to verify that the licensee had adequately addressed the specific items in the CAL. Basically, it provided a detailed description of the 460 specific items that the NRC would review as a minimum to insure operational safety at Fort Calhoun Station. Next slide, please.

In January of 2013, the Commission was briefed for the third time on the status of NRC oversight activities and licensee recovery efforts. On February 26, 2013, the NRC issued CAL 1320 which confirmed that the licensee would not operate above the hot shutdown condition, i.e., Operating Mode 3, until the NRC had completed its review of the Restart Checklist items.

The February CAL also added three Restart Checklist items associated with containment internal structural integrity involving four support columns, containment electrical penetrations, and a White performance indicator for safety system functional failures. The Commission was briefed for a fourth time in May 2013. Next slide, please.

After expending more than 23,000 hours collectively to inspect, assess licensee performance, and complete several licensing activities, the NRC

completed its review of the Restart Checklist items in December 2013. Similar to Browns Ferry, as Vic described, I'd like to emphasize that this was an Agency effort. It included support from all three of the other Regions, as well as Headquarters Technical Staff. And this extensive Agency effort to independently verify that the licensee had adequately addressed all of the Restart Checklist items culminated in the 0350 Panel's recommendation to me that the plant was ready for restart.

After completing my own due diligence which included reviewing a variety of inspection reports, the 0350 Panel meetings, receiving briefings from the Staff, and prior to reaching a decision my extensive engagement and a number of phone calls with licensee management to discuss the status of outstanding issues that had yet to be resolved, and licensee associated corrective actions. So, following my review of those various documents and receiving those briefings, I closed CAL EA 1320 on December 13, 2013.

Then on December 18th, Fort Calhoun Station operators commenced the reactor startup and reached full power operation on December 26th. Our inspectors conducted around the clock control room observations during the startup and power ascension.

To insure that the licensee continues to implement a number of long-term corrective actions to prevent recurrence of a significant decline in performance, I issued a Post-Restart Confirmatory Action Letter on December 17th. That Post-Restart CAL addresses actions considered necessary for achieving and sustaining continued performance improvements in a number of areas, including site safety culture, the Corrective Action Program, engineering activities, facility design and licensing-basis reconstitution, as well as implementation of regulatory processes involving changes to the facility which includes the 50.59 process and evaluating degrading and non-conforming conditions, or operability determinations.

This Post-Restart CAL basically captured the various commitments that the licensee had indicated are actions they plan to take as a result of the letter that they sent to me indicating the licensee's own self-assessment conclusions regarding their readiness to restart the facility. Next slide, please.

Regarding our planned regulatory activities now that the plant has resumed power operation, in addition to conducting baseline inspection activities, we plan to conduct focused inspections in specific areas. For example, we scheduled a 13-person team inspection in July of this

year. This team inspection will focus on site safety culture, the licensee's Corrective Action Program, and the licensee's Evaluation Program for degraded and non-conforming conditions. In addition, we are planning another team inspection in February of 2015 that will focus on the effectiveness of licensee actions to implement a Design and Licensing-Basis Reconstitution Program. The licensee has indicated this is a multi-year project and they would expect to complete that activity in 2018. Next slide, please.

The 0350 Panel continues to assess licensee performance on a routine basis. This includes conducting panel meetings to discuss inspection results, planned future inspections, and scheduled public outreach activities.

Regarding public engagement, we continue to discuss Fort Calhoun Station performance in public meetings with the licensee as part of our effort to provide for an open and transparent oversight process. In 2013, we continued eight public meetings, and then so far in 2014 we've held two public meetings with the licensee to discuss station performance.

Regarding transition from the Manual Chapter 0350 process to the normal level of regulatory oversight that is prescribed by Manual Chapter 0305, the criteria for termination of the 0350 process

includes verification that the licensee has established an effective long range Improvement Program, is sufficiently implementing its Corrective Action Program, has demonstrated safe plant operation, and has adequate controls in place to address the plant-specific issues that caused the significant performance decline which led to invoking the 0350 process.

The major team inspection in July should provide us with a considerable amount of information to support the 0350 Panel's deliberations on whether or not the 0350 process termination criteria have been met. Once the panel reaches a conclusion that the termination criteria have been met, the panel provides me along with the Director of our Office of Nuclear Reactor Regulation a written recommendation to return Fort Calhoun Station to a normal level of regulatory oversight.

As Michael Johnson said earlier, the Agency Action Review Committee affirmed that our regulatory actions for Fort Calhoun Station were appropriate given the significant performance issues that existed at this station. So, as such, we plan to continue with the oversight strategy that I've described to you.

Thank you, and at this point I'll turn it

back over to Mike.

MR. JOHNSON: Thanks, Marc. That concludes our presentation. We're ready for your questions.

CHAIRMAN MACFARLANE: Okay, great. Thank you very much. Commissioner Magwood.

COMMISSIONER MAGWOOD: Thank you, Chairman.

Let me begin by recognizing that this week marks the 70th anniversary of D-Day. This Friday will be D-Day plus 70, so if you know any World War II veterans please take the opportunity to shake their hand and thank them, because the opportunities are becoming fewer and fewer all the time.

First, I wanted to B- I understand that the meeting took place April 22nd, the AARM took place April 22nd. We didn't receive the Summary Letter until yesterday. I wanted to give you an opportunity to sort of talk about the process that gets us from the meeting to the letter, because I'd like to understand how we might do better to get that to the Commission faster to make it available to the public on a more expedited basis.

MR. JOHNSON: Thanks, Commissioner Magwood. We did, in fact, do the meeting on the 22nd. As a part of that meeting we capture notes. I would have anticipated that you would have gotten that written

summary of the notes that we captured in the slide and the presentation today earlier, so we'll do B- we'll make that more timely next year. It is our expectation that you would have that, and the public would have that in advance of this meeting.

COMMISSIONER MAGWOOD: Is there something in the procedure that specifies when the summary is made available?

MR. JOHNSON: Allen, do you know the specific answer to that?

MR. HOWE: I don't know that there is a specific time frame outlined in the procedure, but it certainly is our goal to get it to the Commission in a timely manner. And following up with what Mike said, you know, our objective for next year will be to improve the timeliness and get it to the Commission earlier than we did this time.

COMMISSIONER MAGWOOD: Okay, I appreciate that. I think it might be worth the Commission considering requiring an update to the Management Directive on this to make sure that we set a clear time frame to reduce the uncertainty in the future to make sure that we do get this, because I think it's very important that this document be brought publicly as soon as possible, and this time it wasn't.

MR. JOHNSON: Commissioner Magwood, could

I also just add, and in addition to that there are a number of other products that support this meeting, the trending paper, the Commission paper, the paper on the annual self-assessment for the Reactors Program, the Materials Program. And we endeavor to make sure that all those products are to you, and we did, in fact, make all of those except the Minutes.

COMMISSIONER MAGWOOD: Let me start B- well, first, let me make a couple of comments. I wanted to thank Laura for her comments about your personal experience and how you've looked at the Materials Program. The Materials Program does give B- it's probably the most visible and regular contact the Agency has with most members of the public is through the Materials Program, and it affects people, as you noted on a very personal level, both positively and negatively, especially when you think about the medical side or the exposures. And I appreciate that the Staff did not find that the number of exposures warranted any changes in the program, but there does seem to be a persistent number of these things. And maybe it's just life in the field, I don't know, but are you B- since you made the observation that you look at this very personally, are you taking any messages from this? You can give us your thoughts after working on the Reactor side for so long, and now seeing

exposures like this taking place on the Materials side?

MS. DUDES: Well, I think in particular B- are you talking about the radiography exposures? So, yes. In fact, I was encouraged. We had B- sometimes it's hard to get a lot of excitement around the Materials Program within these walls, and we had a really good discussion during the AARM because these Acuren events had just occurred. And we spent a lot of time talking about well, what can we do to maybe up the consequence, you know, for not following the rules?

I mean, you wouldn't really make a regulation change because in all three of these cases, the regulations if they had been followed would have been B- they would not have had this issue. So, we had this discussion. We are thinking B- I mean, I can't C-- I don't really want to say exactly one direction or another but, you know, Illinois' program, and I believe Joe Klinger mentioned it when he was here briefing you, that they certify radiographers, so when they're identified doing something wrong they take that certification.

I mean, you look at the balance of enforcement against an individual and you have certain financial restrictions, so the enforcement may be not as effective because it's a small amount of fine for someone who's making a lot of money doing it their way.

So, we are working with the States and talking amongst ourselves to try and figure out how can you more effectively get people to follow these regulations? And OE [Office of Enforcement] had talked about discretion, and maybe we could do more with fines, or maybe we start taking the licenses for repeat offenders so that you can really have an impact on those who are not exhibiting safety culture.

COMMISSIONER MAGWOOD: The Illinois Program, have they seen some benefits from the certification approach they've taken?

MS. DUDES: I don't know B- they think so in terms of events in their state, but then we still have reciprocity, so Texas has a very similar program, but then people can work in different states, so then you're not necessarily taking the card. But, I mean, I think it's a step where you have an action where you're actually B- if you find somebody who is not being safe with these materials, you take away their license for a period of time. Might be more effective.

COMMISSIONER MAGWOOD: All right, thank you. Marc, I appreciate also your comments about the massive cross-department Staff effort on Fort Calhoun. That was B- I was able to observe some of that as it was going on, and it was really pretty impressive to see so many components of the Agency contributing Staff

time to this. It was a pretty impressive effort, so I think all the people that participated in that deserve our thanks because it wasn't easy to go out there for weeks at a time to do that.

You know, as we've gone through the 0350 process with Fort Calhoun, is it your feeling that the guidance and procedures that we use to implement that process proved to be sufficiently clear in beginning the process, and conducting it, and now as you go forward to getting out of it, do you feel like the guidance was clear enough?

MR. DAPAS: Yes, thanks, Commissioner. I appreciate that question. I was going to mention that, I think Allen touched on this, that we conducted a comprehensive Lessons Learned regarding our implementation of the 0350 process to date, and the overarching conclusion from that B- and that was led by Greg Warnick, who's a Senior Resident Inspector at San Onofre Nuclear Generating Station, and it included participation from folks in other Regions; Ray Powell from Region I, also Michael Balazik from NRR. And the overarching conclusion was that the guidance that existed was appropriate in providing direction on assessing licensee performance, and conduct of inspection activities. And that we, as an Agency,

appropriately engaged when we saw a performance decline as a result of the Reactor Oversight Process activities. And I think from having talk to Mike Hay and some of the other members of the 0350 Panel the view is that the guidance that does exist is adequate. The Lessons Learned review did identify some areas where we can provide enhancements, in particular, with respect to some inspection procedures, like looking at tornado missile protection, high-energy line break, environmental qualification, and containment structural integrity in terms of the internal structures where there were some particular challenges at Fort Calhoun Station, and then looking at do the inspection procedures provide guidance in terms of a smart sample in those areas. And I think there is some enhancements B- there are some enhancements that the Lessons Learned team did identify in that area. But, in summary, the overarching view from the team was that the 0350 guidance was adequate.

There is one area, though, that where I think additional guidance needs to be provided, and this came from the Lessons Learned Team review. And that's how do you treat issues, let's take for example tornado missile protection, and you evaluate the risk-significance of that. And you determine, let's say that's a Yellow Finding, if we've already addressed

that comprehensively by virtue of the 0350 process; in other words, we treated that with the same oversight that we would have had we identified that issue separately and characterized it as Yellow.

Right now, the guidance doesn't provide for how do you handle those issues once you have reached a restart readiness decision, closed the Confirmatory Action level. Is it of value to then go in and conduct another 95002 when you essentially have done all that inspection by virtue of the 0350 process? So, there's an example, I think, of where the 0350 process guidance could be B- Manual Chapter, that is, could be enhanced to address those types of situations.

We made the decision that we didn't need B- we issued, for example, a White Finding, and we decided we didn't need to do a 95001 because we had essentially conducted everything we would have by virtue of implementing that procedure previously as part of the 0350 process.

COMMISSIONER MAGWOOD: Okay. Well, that used up exactly my 10 minutes, so I will pass. Thank you, Chairman.

MR. DAPAS: Sorry.

CHAIRMAN MACFARLANE: Commissioner Ostendorff.

COMMISSIONER OSTENDORFF: Thank you,

Chairman. Thank you all for your presentations, very comprehensive.

Laura, I'm going to start with you. I appreciate your B- and Commissioner Magwood commented on this. I appreciate your mentioning your reactor background. I think that's a real strength in this Agency where we take people and put them from one area into another. The cross-pollination I think makes us all better, so thank you for mentioning that this morning.

I want to just kind of make one brief comment on your slide. I appreciate your mentioning that event numbers are small compared to the millions of users, and I want to just draw a contrast. I think radiographers do that business every day. I've been around them since the '70s in shipyards with the Navy with nuclear welding. And I think your messages out to them are of a certain tone, but I think probably, I think, I sense there's a different tone in the medical community because patients making determinations as to what type of medical care to seek will pay attention to what we're saying, and I think I'm getting from your slide we need to be sensitive to any alarmist message or tone when you have 10 medical events out of millions conducted every year. That's a very small numerator large denominator kind of thing, so I appreciate your

highlighting that very important.

Allen, let me shift to your presentation very briefly. I appreciate the work you and your colleagues have done on the ROP self-assessments and taking action across the board on the independent assessments. I think that's real important.

A comment you made that resonated with me that was important when you discussed the Perry, what column should that be in? And I just think B- and you also made a comment about you're pursuing creation of more objective metrics to align with Reactor Oversight Program goals which I applaud, but I also appreciate that there's room still, and there will need to be room for judgment, and for people to take all of these equations and things, but still at the end of the day have some room for senior executive judgment as to where people are. So, I think that was a message I took away from your slide. Is that B- am I correct in that message being there?

MR. HOWE: Yes. Just to add to that, there's always going to be situations that we have to look at at the time, and make a decision on. And part of what we have in the process, again, is just a feedback loop. When we take an action matrix deviation, we do take feedback on that to determine do we need to make any changes to the program? And that's built into the

process.

In terms of the self-assessment, you know, what we looked at there with the self-assessment and taking stock in what we had been doing, we had been doing surveys and getting information on perceptions associated with the self-assessment. And what we wanted to do was to move, as I indicated in my remarks, to a more, you know, objective type of an approach, and to get it aligned it with some things that we have that are very solid right now including, as you said, the ROP objectives, but also the Principles of Good Regulation. So, we're going to be looking at that over the upcoming year to see what revisions we can make, and how we can improve our self-assessment.

COMMISSIONER OSTENDORFF: Mike, did you want to say something?

MR. JOHNSON: Just one more bit of context. So, when we established the ROP we were moving from a process that was criticized as being overly judgmental, overly subjective, and so with the ROP we sought to be more objective. And the Commission at that time was concerned that subjectivity not be central to the process, and that deviations from the action matrix, for example, would be rare. So, that's why we've continued to carry that, but we do, as Allen indicated, exercise judgment throughout the process, as needed.

COMMISSIONER OSTENDORFF: Okay, thank you. I'm going to turn to our Regional Administrators. I appreciate your being here, and I appreciate your bringing your team that supported the Browns Ferry and the Fort Calhoun, as well as the residents and senior residents at all your sites, and across the entire Agency. Very important for us to continue to highlight what our people do out in the field in the regions and on sites across the board.

Victor, I'm going to start out with you. It struck me that you're here to brief the status of Browns Ferry Unit 1, but you're also dealing with Regulatory Oversight of a three-unit complex there with one unit in Column 2, one in 3, and one in 4. And I'm just curious, you've been around the Agency for a number of years. I'm curious if you have any big picture observations of are there any regulatory challenges associated with providing oversight of a multi-unit site?

MR. McCREE: No, sir.

COMMISSIONER OSTENDORFF: But I'm sure you have something else to say.

(Laughter.)

MR. McCREE: Fortunately, we B- the program allows us to be at n, which allows three residents inspectors at Browns Ferry. And, quite frankly, there

were periods of time, quite frankly, when we were at n+1 over the last four or five years because we had additional workloads so we placed additional resources there. And as I alluded to, and Marc noted, as well, we have applied extraordinary oversight to Browns Ferry since its placement in Column 4.

On average, the Baseline Program at a three-unit site is normally about 5,000 hours of inspection effort which includes direct inspection, inspection preparation, and documentation. In 2013 alone we had almost twice that amount. And while I don't have the numbers at my disposal for the previous years, I can assure you that it was extraordinary, as well. So, to your question, you know, are there challenges? Yes. But are we equipped to handle them with the resources at the Commission, and we budget, absolutely. And the Staff have done a very good job in that regard.

COMMISSIONER OSTENDORFF: Thank you. I also was comment B- I appreciate your comment on the need for TVA to avoid cyclic performance, so that resonated with me.

Marc, let me turn to you. I think, I agree with Commissioner Magwood when you highlighted the scope of the Fort Calhoun action. The slide shows 23,000 hours of NRC work. That's pretty strong.

MR. DAPAS: Yes, sir.

COMMISSIONER OSTENDORFF: So, thank you for helping put it in perspective for us, and I think you've been in B- this is your third Region to be in. Is that right?

MR. DAPAS: Yes, sir.

COMMISSIONER OSTENDORFF: III, I, and now IV?

MR. DAPAS: Yes, sir.

COMMISSIONER OSTENDORFF: Okay. So, here's B- so, you've been around the block a number of times. You're dealing with a licensee who has kind of a unique relationship with Exelon as part of that partnership to recover. Curious as to how you see at a macroscopic level the Fort Calhoun OPPD/Exelon relationship working?

MR. DAPAS: Thanks, Commissioner. I think that once Exelon and OPPD signed their Services Agreement and Exelon management was involved, as the licensee went through an extensive state of discovery there were a number of issues that were identified by virtue of that extended condition. But one of the things that I have talked with licensee management about is to what degree are the fundamentals and standards being ingrained in the first-level supervisors? Many of those first-level supervisors, as I understand it, are OPPD employees. And it's very important with any

organization that when you are trying to drive organizational change, improve safety culture that you focus on the first-level supervisors. And I do know from my familiarity with the Exelon management model that there is a strong focus in that regard. And when I'm at the sites, I B- at that site, in particular, I make it a point, as well as any site, to ask licensee management how they're doing in insuring that the first-line supervisors are setting the standard and reinforcing expectations.

But I do think with respect to Fort Calhoun, that once Exelon did get involved, we did see a number of additional issues that were identified by virtue of the licensee's own extended condition reviews and self-assessments. And I do think our inspection staff also played a significant role in some of the issues that we identified.

You know, one of the challenges you face in trying to manage resources is when you want to conduct these major team inspections and you're at the site, and the licensee still has some more work to do, and you're trying to manage those resources, that can present a particular challenge. But, overall, when Exelon got involved and communicated they were ready for NRC inspection, I think as a general rule we found, and I'm looking over to Mike because he's nodding his

head, we found that the licensee was ready to receive our inspection.

COMMISSIONER OSTENDORFF: I had one last question I'm going to change into a comment because I don't want to run over my time, but Commissioner Magwood and I for some time have B- and others have been very interested in recruiting and retaining resident inspectors, senior residents. And I'll just note in Region IV, two of the three sites I'm going to mention I've been to, one I've not been to, but you get some very remote sites. You have South Texas, Wolf Creek, both which I've been to, I've not been to Grand Gulf. I plan to go there. But I just hope, and I'm not going to ask the question, but I would hope that you, and Victor, and Cindy, and Bill would bring to the table, back to Mike Johnson any suggestions you have if there are problems in recruiting people especially for these remote sites, because I know that we've seen some staff turnover on us, some people are getting close to their seven years at some sites. And I know it's not easy at times, so I know the Commission is very interested in this. Thank you, Chairman.

CHAIRMAN MACFARLANE: Thank you. Okay. Laura, I'm glad that you've gotten some attention, because I think the issue of Material Safety is very important. It's very important to our Agency, and I

think hopefully that's clear to the public from the attention you've gotten at this meeting.

When we had our meeting with Agreement States folks, I recall the gentleman from Ohio, I'm blanking on his name right now, said that he was seeing more exposures, radiography exposures recently, partly as a result of the sort of explosion in natural gas exploration and drilling. So, I'm interested in whether it's possible, whether you think it's possible for us to be somewhat proactive when we see a rapidly expanding industry and, therefore, rapidly expanding use of radiography, and maybe the development of a few cowboys out there, if there's a way of being proactive and working with the Agreement States to be proactive, to be more protective?

MS. DUDES: Well, I think yes, the short answer is anyone B- we can always work with the States to think of innovative ways. I mean, being reflective of what Commissioner Ostendorff said about B- as we are having more events, and we're seeing more events, but we're also having an order of magnitude more activities happening, too, so there's a perspective there.

And we do want these folks to be protective, and we have done B- we have been proactive in the past few years going out to conferences and trying to talk about the safety culture, showing

photographs that aren't necessarily pleasant to look at where people have lost limbs or digits. Trying to B- I mean, if you on Wikipedia, and Tony Vegel from Region IV actually went to a conference and provided the Wikipedia definition to these radiographers to say is this what you really want people to think about your professional? Because it just talks about this is like the most dangerous profession out there. You have people out in remote locations with high, or more serious sources without the supervision, so we are trying to get out and do a lot more communication about taking your personal safety seriously, and in conjunction with that working with the States to see B- actually, way back when there was a pilot initiative, this is like 2001, to talk about radiographer certification. And then after, you know, events of September 11th and other things, the shift was towards protecting the sources. So, we've been going back and looking at some of the work that was done in 2000 and 2001 to try and move the program forward and see what still is relevant that we can do? So, that's a relatively long answer to your short question, but we do believe yes, you can be proactive. We just make sure we do so in sort of a thoughtful fashion going forward.

CHAIRMAN MACFARLANE: Okay, great. Thank

you.

MR. JOHNSON: Chairman, can I just add quickly. Laura might have mentioned that she presided over in a job before now in New Reactors a growth of an industry in the supply chain, for example, where we did things proactively to reach out to the community, so I like the question. We'll look to leverage and be proactive in this area, also.

CHAIRMAN MACFARLANE: Great. Great, thanks. So, for the rest of you, feel free, anyone who is inspired to jump in first.

The Reactor Oversight Process Independent Assessment identified issues on NRC message presentation. The public was often confused by us and the Reactor Oversight Process, that there was a heavy reliance on Reactor Oversight terminology. People questioned the usefulness of the public meetings because of that. And, frankly, I have to say, I think this meeting is a clear example of heavy reliance on this terminology. You know, if people don't know what cornerstones are, or degraded cornerstones are, they're probably lost. If they don't know what an action matrix is, they're lost. You know, the jargon has been pretty extensive in our discussions so far, so what are your plans and your progress to address this, to make what B- you know, what discussed today clearer?

MR. HOWE: I'll start with response to that. One of the activities that we have under the Reactor Oversight Process Enhancement is looking at communications. And as part of that, we have done outreach recently at the RIC for the last two years with a poster that describes the Reactor Oversight Process, and introduces people to this type of terminology that you referred to.

It is a complex process. I will agree with that, but as I said, at the RIC we are doing the outreach. We also have a NUREG that describes the process and what the elements are with it, as well as a brochure that provides that information.

As a part of this we're also taking a look at other inputs and other feedback that we've gotten, including B- I mentioned the Fort Calhoun feedback. There was actually some information in there about communications that we will be taking a look at, also. But we do understand that this is a difficult area, and we are looking for ideas and areas for improvement.

MR. JOHNSON: And we've made continued improvement, Chairman. I know this might be B- I know you could look, and I would look and see where we are and say we could go further. I'll just tell you we've covered a lot of territory. And one the things that we struggle with in terms of the challenges to be able to

communicate in clear terms with someone who may not follow the process and its intricacies, to have them have an understanding of where we are with respect to the performance of plants. But on the other hand, we need to be able to communicate in a very clear way with licensees who are the recipient of our inspection and oversight, and need to understand the actions that we plan to take. So, it's, you know, on one hand being able to talk with great precision and objectivity to someone who needs that, but on the other hand be able to communicate in plain terms with the public. So, we're working on both of those.

CHAIRMAN MACFARLANE: Right. So, you're exactly right, you have to be able to do both. You know, unfortunately, you can't just do one.

MR. JOHNSON: Yes.

CHAIRMAN MACFARLANE: I would suggest that the way to communicate with the public is not to try to educate them on the Reactor Oversight Process. Obviously, you know, you can and that can be part of it. You can offer that, but that's not the way to B- that's not going to be your solution set here. And I might suggest that you might need help from outside because sometimes one gets so steeped in one's own jargon B- I know this B- and geology is full of jargon, and you lose sight of what you're really talking about

after a while. It helps to have somebody outside just give you, you know, a check.

MR. DAPAS: Just one comment, Chairman, regarding the first public meeting we conducted following the decision to close the Confirmatory Action Letter and subsequent start of Fort Calhoun Station, and I chaired that public meeting. I talked to the licensee about we have members of the public, and my engagement with you, I will take the opportunity to explain in terms that the public could understand. And recognize, licensee, that you're already aware of this here. While it is meeting between the NRC and the licensee, we made a concerted effort to insure in our discussion with the licensee, it was conducted in a manner that the public could understand. So, I ask the licensee, you know, please exercise patience and understanding because that's the overarching objective, and that seemed to work fairly well with that public meeting.

CHAIRMAN MACFARLANE: Okay, great. Just two quick questions for each of you. For Browns Ferry, how long has it been in Column 4?

MR. McCREE: Browns Ferry has been in Column 4 since August of 2010.

CHAIRMAN MACFARLANE: Is this unusual for a plant to be in Column 4 for almost four years?

MR. McCREE: I don't – it's not usual. It's unusual. It's not typical for any plant to be in Column 4.

CHAIRMAN MACFARLANE: Have there been other plants that have been in Column 4 that long?

MR. McCREE: There have been other plants who have been in Column 4, the ROP action matrix since we changed the process in April of 2001 for that long. And even prior to that, there were plants that were in the B- on the watch list for longer periods of time. The challenge is at many sites is that the problems that cause the issue of high-safety significance didn't happen overnight, so the notion of a utility being able to reverse the many issues associated with it overnight is an illusion. It does take a while.

CHAIRMAN MACFARLANE: Like losing weight, or something like that.

MR. McCREE: Pardon? Like losing weight, yes.

(Laughter.)

CHAIRMAN MACFARLANE: Okay. A quick question for Marc on Fort Calhoun. Why did it take so long to issue a Red Finding on the switch gear finding? It took almost a year. Why did it take that long?

MR. DAPAS: If I may ask Mike Hay to comment on that, but there was a fair amount of discussion

regarding determining the risk-significance and insuring that we had the appropriate models. So, that's basically my understanding of why it took so long. And I'll ask Mike if he wanted to add anything. If you want to go to the mic, okay.

MR. HAY: Good morning. I was not directly responsible for Calhoun at that time, but I can tell you like what Marc was saying, it took time to understand the safety-significance of it. And I believe you had to go through not only the shutdown condition of the plant, but the operational state, so it took a while for us to get down to what was the real safety significance. And seeing as it came out Red, you can imagine we took a lot of time to make sure we had it right.

MR. DAPAS: I'll just add to that, as part of our process, we make sure that the licensee understands the basis for our assumptions regarding the risk assessment, and they have an opportunity to comment on those. And by the same token, we want to make sure we understand the results of the licensee's risk assessment to compare and insure that, you know, there's sensitivity analysis, et cetera, because given the significance we want to insure absolutely that we get it right to the best of our ability regarding what's the appropriate significance characterization given

the oversight activities, like a 95003, et cetera, associated with a Red Finding.

CHAIRMAN MACFARLANE: I just want to B- you know, a year is a long time, and I don't know that it serves us, the industry, or the public for it to take that long. But, anyway, I will turn things over to Commissioner Svinicki.

COMMISSIONER SVINICKI: Well, I add my thanks for everyone's presentations, and also I'll join in thanking you for acknowledging some of the NRC experts who work very directly. As impressive as the individuals sitting across from us are, we know that you're supported in the work you do by many, many individuals in your own organizations, but also I appreciated the acknowledgment of the cross-organizational support it takes in order to achieve these programs, and to accomplish them year in and year out.

Laura, I do appreciate that you are here to give us a very high-level overview, but also some context setting for the diversity of Materials uses, and then what we're seeing there. I join in wanting to say that that's an important acknowledgment of that part of our mission.

I was thinking about the Chairman's comment on the use of jargon, and I was reflecting a

little bit that we leap frogged in the Staff's presentations to an assumption that people have a good understanding of the Reactor Oversight Process, which is not going to be true of all those maybe here or tuning in today.

Something that I've been struck by is that I agree that we do need to give the public a fundamental understanding of, you know, who we are, and what we do. And I think it's more the way that you do that, do you have to educate them in the exact nomenclature that we use, or can what you convey B- is it more important that that just include the broad concepts of the structure of the program, and what it entails?

I was also struck by some of the inspection hours, the numbers of inspection hours that were referenced here today. I'm not sure that even I have a good appreciation for what 10,000 hours, or 23,000 hours of inspection looks like. There was reference to a 13-person inspection team that is about to be deployed to look at just one narrow aspect of performance.

Our entire Agency underwent an international peer review in the International Regulatory Review Service. I doubt that team, I can't remember specifically, but I'm pretty sure it was less than 20 individuals. It may have been closer to 15. And we, as an Agency, found that extremely labor-intensive

to prepare for, to respond to, to take as seriously as we needed to. And that was most aspects of, not all aspects of the Agency's mission, but a good portion of it. So, I don't know if either of our Regional Administrators have a sense from end-of-cycle meetings that you've had the opportunity to sit in at various stages of your careers where nearby residents and folks from the community come on a yearly basis to hear about our assessment of the operation of a nuclear power plant.

Do you think that they have, or that we have communicated successfully the degree of intrusiveness of this Reactor Oversight Process to these folks? I'm not even sure what kind of plain language ways you could do that. Maybe sometimes analogies help. Are you aware of any safety regulated industry or operation in the U.S. that would even be equivalent in some instances to the intrusiveness of our oversight program?

MR. McCREE: Commissioner, thank you for the questions. I guess starting at the end, I'm not familiar with other agencies and how intrusive and extensive their engagement is with the public. But as far as engaging members of the public, I'll just use as an example the end-of-cycle assessment that we just completed for Browns Ferry. The meeting started at 4:00 in the afternoon Central Time, and ended I think about

7:00 in the evening. The first 45 minutes or so, it was actually a two-part meeting. It was the end-of-cycle assessment, it was also the results of the 95002 Inspection Procedure Supplemental Inspection, and it took about 45 minutes, an hour. The remainder of the time was spent engaging members of the public, many of whom had participated in the previous meetings, two or three meetings every year since Unit 1 was placed in Column 4. And we spent time engaging from various levels from a program discussion, to just basic questions about what we did, and why, and what does it mean from a safety-significance perspective. And, of course, responding to their perspective or their views on issues.

So, based on their feedback after the meetings, after the cameras, and after the radio stations and media leave, they appear to be very appreciative and very understanding of what we shared with them. And I think it's similar to what Marc mentioned, is that you do take the time to interface with the public, even though they're not a homogenous group, they're individuals, and each have their own questions or issues, and they start at a different level of familiarity with this technology that we regulate. But it is important to meet them where they are, and answer their questions very candidly, and that's what

we try to do at all of our sites.

COMMISSIONER SVINICKI: So, do you have B- do you observe that maybe to a greater or lesser extent depending on the individual engagement we do at times successfully communicate. And I should be clear, I use intrusive in a good way. I mean, I think that our regulation is intrusive by design, but it is a graduated and escalated kind of thing depending on facilities moving to performance categories of greater regulatory concern. So, you think when we talk about these thousands of hours and, again, we put in all of our press releases about plants in Column 1, that they will receive our very thorough Baseline Inspection Program. But even that, I'm not sure we communicate how extensive that program is.

MR. McCREE: I do believe we do, and we let them know that we have resident inspectors that are there, and that they're working B- they're there, they live in the community, and that they're at the plant every day or whenever they're needed. And we talk about the fact that these hours, you can actually relate it to the number of people who are on site doing these additional inspections where warranted. So, I do believe they get a good understanding of what we do.

COMMISSIONER SVINICKI: Okay, thank you. Marc, did you want to add anything?

MR. DAPAS: Yes, just a couple of comments, Commissioner. I, similar to Vic, would not be in a position to comment on the degree of intrusiveness regarding some of the other federal agencies and their oversight processes. But one of the things that I have experienced when I was Region I and trying to invoke the same approach here in Region IV, is when we are engaging members of the public and you talk about increased oversight and you mention X number of hours, putting it in context to say our Baseline Program would entail Y number of hours which is the minimum hours that we feel are necessary to insure the licensee is identifying issues appropriately and correcting them in a time frame commensurate with the issue's importance to safety. And when you provide that as kind of a benchmark and say so, we conducted X number of additional hours focused in these areas, I think that provides some additional context.

But, you know, your question was how effective have we been in providing a perspective. I think it's also a function of the degree of public interest at some of these sites when we conduct these annual assessment meetings. Just back on May 22nd, we had a public meeting with the licensee for Diablo Canyon, Pacific Gas & Electric. You know, we spent an extensive amount of time engaging members of the public

because there was a lot of interest in that facility. And there are other facilities where we take full advantage of the flexibility in the Reactor Oversight Process to maybe conduct specific outreach forums because when we have those advertised public meetings we get maybe one or two members of the public that show up. So, we may proactively reach out to selected folks that we know have interest and tailor our communications. So, you now, that's a very good question, how effective have we been in providing a perspective? And I think the best answer to that is asking the question well, what's your sense about what all these inspection hours mean, and listen to what takeaway do they have from the discussion?

COMMISSIONER SVINICKI: Yes. And I realize maybe you're not the right folks to answer the question of our effectiveness, but I do appreciate that Victor at least said, you know, he has a sense from some of the B- at the very end of the meeting. You do get some feedback as you're there, and the NRC Staff does. I know it's anecdotal.

I wanted to pursue the point about how long a reactor licensee might be in Column 4. I think B- well, there's a number of you who could respond to this, but upon exiting B- I mean, upon entering Column 4, isn't there a minimum period of time that you're

going to be in Column 4? It is not possible under the process to exit extremely quickly. What would be the minimum period of time given, again, the intensity of the process where you need to have a Corrective Action Program, an Improvement Plan, and all of those things. Then we need to inspect you to the effect you need to implement the actions, have the NRC inspection, and then you need to continue at a level of performance. And then that is B- we need to accumulate the data and exit you. Once you enter it, you're not exiting it fast, I mean, by design of the process.

MR. JOHNSON: I think you have it right, there is a minimum amount of time. And it depends, but there is certainly to go through the steps that need to be gone through for us to be able to inspect licensee's actions. We talked a lot about that inspection, that Supplemental Inspection 95003, and all of what it entails, for a licensee to be ready to go through that, and for us to do that inspection, and then be ready to move on takes B- there is a minimum amount of time.

COMMISSIONER SVINICKI: I would just conclude by saying I can't envision in my time here observing the small handful of reactors that have found themselves in Column 4. I think two years would be a minimum on paper, and I think three years would be a

minimum in actual practical reality, so that's my observation. Thank you.

CHAIRMAN MACFARLANE: Okay, Commissioner Apostolakis.

COMMISSIONER APOSTOLAKIS: Thank you, Madam Chairman. Thank you all for your presentations, very interesting.

I want to pick up on the issue of subjectivity that Commissioner Ostendorff also raised. Allen, if we go to your Slide 15, you said that there was a deviation B well, it's not important to have the slide - a deviation from the action matrix for Perry, which based on the evidence belonged to Column 4, but you decided to put it in Column 3. And then you said something that I don't know how to take. You said that, "Because the licensee's current performance issues were well understood and limited to occupational radiation safety," I hope you don't mean that occupational radiation safety is not important enough, and you moved it down. Well, let me finish the question.

Then the other thing you said is that you thought, I mean the Staff thought, obviously, that the regulatory actions for Column 3 were more appropriate than those of Column 4. How can that be? And is this B- does this happen often where B- you see, the whole idea of the objective of the ROP, as I remember, and

Mr. Johnson was one of the developers a century ago, was to remove the subjectivity. And now we have the ROP, and then the Staff says well, gee, it's only occupational radiation safety. I'm a little confused about that. Would you please elaborate?

MR. HOWE: Okay. Let me try to help a little bit, and I'm working off of memory here. But as I recall with the Perry deviation, the plant was already B- the facility was already in Column 3 of the action matrix. They had been there for some period of time. We have actually done the follow-up inspection at Perry, and the licensee was not ready for that inspection. So, we closed the inspection at that point with it being an unsuccessful completion of the corrective actions that we were expecting to see as part of that inspection. So, there's a time factor associated with this.

In addition to that, there were some additional findings, I believe they were in the security area. I'd have to go back and check to verify that, but those B- that combination of issues would have said if you just took the inputs for the action matrix without any additional, you know, judgment or thought as a part of the process it would have suggested that we should move Perry over into Column 4, or the multiple degraded cornerstone column of the action matrix.

Stepping back and taking a look at it, and thinking through the process, again our reasoning and our rationale was no, it's B- the area of concern that had them in Column 3 was associated with the occupational radiation exposure. It was relatively narrowly focused in that area. We didn't see the types of performance issues in other aspects of the licensee's performance. And as a result of that, and as a part of a well thought out and well reasoned process when we go through the action matrix deviation process, we documented the decision to keep them in Column 3 rather than moving them over B- further over in the action matrix.

And I'll add to that that there some B- there's a B- in terms of the regulatory response, the follow-up inspection, I believe the hours for a follow-up inspection when a facility is in Column 3 is about 200 hours of follow-inspection. It goes up by a factor of 10 for a 95003 up to 2,000 hours for the follow-up. And as a part of that, one of the comments that was made earlier was the impact on a licensee. The licensee B- one of the expectations is that they would need to do a fairly comprehensive assessment of their overall programs, their performance, as well as their safety culture as part of that. So, that was a little bit more of elaboration of why we B-

COMMISSIONER APOSTOLAKIS: Yes.

MR. HOWE: B- elected to keep them B-

COMMISSIONER APOSTOLAKIS: This issue of subjective evaluations in other context it says the use of qualitative factors that we have discussed in public meetings. How widespread is this? How frequently do you do this? And, also, do you go the other way? The evidence says it's Column 3, but using, again, arguments like you just gave us, you say no, the Staff believes it's really Column 4. Do you ever do that?

MR. JOHNSON: So, let me just try to answer that question. First of all, they are rare, deviations from the action matrix are rare as we intended them to be. And there have been situations where we've looked to see B- looked at a performance deficiency or the way B- what the action matrix, which is fairly prescriptive about what we would do, whether or not the appropriately envelopes what we think the action should be. And the Regional Administrators are free to propose additional changes, additional inspections, or additional focus, for example, based on that. So, that's our preserving judgment within the process. We want to know about it, we want to get it approved up through me, deviations to keep them rare. But we do have that flexibility within the ROP.

So, the action matrix is B- objectivity in

the action matrix is we get performance indicators and measure those against the defined criteria, so a performance indicator crosses a threshold, that's objective information for us. We look at inspection findings and use a significance determination process. Sometimes we do it quickly enough, sometimes it takes us a little bit longer, but we use risk tools to make that as objective as we possibly can in the areas where we can use those tools. And it's those two inputs then that dictate where a plant would fall out in the action matrix. That action matrix then prescribes things that we do, things that we would expect licensees to do, and how we would communicate around that. So, on occasion you have to deviate.

COMMISSIONER APOSTOLAKIS: Okay.

MR. HOWE: Yes. I'll just add B-

COMMISSIONER APOSTOLAKIS: I got my answer.

MR. HOWE: Okay.

COMMISSIONER APOSTOLAKIS: Thank you. The time is limited, you understand, I mean.

Vic, I don't know what to make of Browns Ferry. You're telling us here NRC inspections identified the improved understanding of the importance of strong safety culture. 95003 identified no findings of greater-than-Green significance, and yet all three units are in various high columns of the

action matrix. What's going on?

MR. McCREE: Well, Unit 1 again remains in Column 4 because of White inputs to the action matrix. There are actually three that stem back from the first quarter of 2013, an unplanned scrams indicator, a high-pressure coolant injection, mediating systems performance indicator, and an emergency AC power performance indicator. Because the action matrix recognizes all inputs to the action matrix, both findings and performance indicators, the fact that there were these three White inputs in 2013, even though we closed the Red Finding based on the inspection in December, it met the criteria for repetitive degraded cornerstone, so Unit 1 remains in Column 4.

Now, since we issued B- I issued the letter in January closing the Red Finding and closing the Confirmatory Action Letter, we have performed the required supplemental inspection, the 95002 inspection for those White inputs for the emergency AC power and the mitigating systems performance index, performance indicator. So, the only thing we're waiting for now is for the hours associated with the performance indicators to again roll off and revert to Green, and then we can make an assessment to move Unit 1 back to the left. As far as the other two units, they've had inputs to the action matrix, as well, so we have to

respond to those.

COMMISSIONER APOSTOLAKIS: So, they're really still trying to get out of there. I mean, things may be improving but B-

MR. McCREE: Correct. There are still issues that we have to assess.

COMMISSIONER APOSTOLAKIS: Laura, you said you have been in the fascinating world of Materials for seven months, implying that the Reactor world is not fascinating?

(Laughter.)

COMMISSIONER APOSTOLAKIS: You can hurt some people in this room.

MS. DUDES: No, I would actually say B- and, of course, the Reactor world is always fascinating, but I do think it's a lot more linear. In the Materials world, there are issues coming at you from different places all the time, medical, industrial, academic, research, and then working with the States and the other Directors, so they're both probably equally fascinating, just in different nuances.

COMMISSIONER APOSTOLAKIS: But do you think, for example, with your background B- I'll be done in a second. From Reactors, do you think you're bringing anything new to this world that maybe something we are doing in the Reactor arena, those guys

are not doing?

MS. DUDES: Oh, I hope so. In fact, so we had B- and as Commissioner Ostendorff said, having the mix of people go and work in the different programs and spend time there, too. I mean, I'm not trying to just come in. You really want to get a sense of the program. When we had our Counterparts meeting with my counterparts in the Region a couple of months ago, we talked about, some of those folks had come and spent time in the Reactor world, bringing some of the structure and programmatic assessment, and repeatability, and predictability of the way we do assessments. Those are some positive things we can bring from the Reactor world to the Materials Program. We don't want to be overly prescriptive, because the modalities and the uses are so different, but we're definitely looking to bring some of the Reactor Program structure into our own programs.

COMMISSIONER APOSTOLAKIS: Thank you very much. Thank you, Madam Chair.

CHAIRMAN MACFARLANE: Okay. Any other questions, comments?

COMMISSIONER MAGWOOD: Just a quick one I think for Mike. There were several B- many recommendations and suggestions out of the ROP Independent Assessment. What's the status plan to close

those out?

MR. JOHNSON: We have taken those recommendations and added those to recommendations, matched those up with recommendations from the enhancement activity that Allen talked about, and we're working through those. Some of those recommendations were to evaluate, so we've got, again, those in a common database, and we'll work through those in terms of making improvements as we evaluate them.

COMMISSIONER MAGWOOD: Is there a general target date to try to B-

MR. JOHNSON: There are multiple target dates, and we'd be happy to share that.

COMMISSIONER MAGWOOD: Okay, great. Thank you. Thank you, Chairman.

CHAIRMAN MACFARLANE: Anybody else? No? Okay, good. Thank you very much. We're going to take a five-minute break to change panels.

(Whereupon, the proceedings went off the record at 10:52 a.m., and went back on the record at 11:02 a.m.)

CHAIRMAN MCFARLANE: All right, I'm going to get started and Commissioner Apostolakis will join us.

So now we have the external panels. First we're going to hear from the Tennessee Valley

Authority, and I'm going to turn the floor over to Mr. Joseph Grimes who is the executive vice president and chief nuclear officer of the Tennessee Valley Authority. Sir?

MR. GRIMES: Thank you, and good morning Chairman and Commissioners. We appreciate your time today. I am the Chief Nuclear Officer for Tennessee Valley Authority. Next slide, please.

With me today from Browns Ferry are Matt Rasmussen who leads our work management organization, Keith Polson, our site vice president at Browns Ferry, and from our corporate office, David Czufin who's the senior vice president of Engineering and Technical Services. Keith and David are presenting today as well. Next slide.

We're here today to discuss how Browns Ferry has demonstrated clear and measurable performance improvement, and Keith will share some insights. I would describe this site as transitioning from recovery and fundamental performance improvement to setting their sights on excellence. We are establishing the plans to achieve excellence, and our plans will sustain high levels of performance and will also put in place strong corporate oversight to validate those actions and the sustainability of the performance.

From the nuclear executive team through the TVA Board, the continued support of Browns Ferry's performance is a clear and high priority for us. Keith will now discuss current performance and the future focus for Browns Ferry.

MR. POLSON: Thank you for the opportunity to discuss the status of Browns Ferry Nuclear Plant. Before I get started with the slides, actually, I'm going to start on Page 4. But as I go through the presentation I'm going to talk about different improvements that are going on and the different efforts to get to excellence.

But I don't want at any point for anyone to think that we've arrived and that we've achieved excellence. We still have a lot of work to go although we have seen a lot of improvements.

So some of the recent successes that we've had is we do have an improved safety culture. And this is evidenced by we had an independent company come in 2011 called The Synergy Company, and they work throughout the industry. And they performed a safety culture survey, and at that time we scored in the bottom decile or bottom quartile in every single category.

We took a lot of actions based on that survey, put those in place, and 18 months later we had the same company, the same people, come out to the site.

They administered the same survey, and we scored in the top quartile or the top of the second quartile in every single category.

So the safety culture continues to improve but we have more work to do. We talked about the second bullet. We did close the red finding in a confirmatory action letter.

I'd like to spend a little bit of time on the last Unit 3 refueling outage, because I think everybody understands that a refueling outage is really a team sport and everybody has to play in order to be successful.

And if you look at the outage from a safety perspective as far as personal, nuclear, radiological we did very well in all areas. As far as personal safety and human performance, we had one OSHA recordable and only two first aids for the entire outage. And as far as human performance, there were no significant human performance issues and no challenges at all to our shutdown risk.

As far as radiological safety, we had a set a goal of 200 rem for the outage, and based on behaviors and different innovations we actually came in at 164 rem which was 36 rem less than our goal. And then the real big one for me that I know that things are changing is as far as nuclear safety culture.

We had an issue at the beginning of the refueling outage, it was in the first week. Actually I was at home and I got a phone call about 2 o'clock in the morning. And it was our outage control center saying that they had been monitoring the weather coming into the area, and there were severe thunderstorms, potential hail and potential tornadoes. We had actually taken out of service our residual heat removal systems and secured shutdown cooling for upcoming work.

And what the outage control center asked me or recommended to me was that we go ahead and retag RHR and reestablish shutdown cooling to the vessel until the weather system moved through the area, even though this was going to cost us probably a day or two on the outage. And I said, absolutely the right decision, and that's the way we went. So that really tells me that people are really thinking about what is the real risk to the people at that plant, what's the risk of health and safety to the public.

And the last thing, I was mentioned earlier, we did have, we've improved the safety systems at the plant. And we took on a project approximately three years ago called the Safety System Reliability Project, and this is, we've essentially completed the project, and I'll show you on the next page, a graph.

We have one more major modification to do

and that's going to occur in July. That'll be the last diesel generator where we're going to install a lube oil modification and that will officially end this project after three years.

So if we can turn to Slide 5, that's just the work-off curve that we had for the safety system improvements. And like I said, we just have the one diesel left. We can move on to Page 6. This is a chart that I've used at the previous meetings that we've had and it's become known as the piano chart.

But really what it was, was just an easy way to look at the overall project as we went through the 95003 inspection process. And it really just, at high level it's the plan that we had. And this just shows that basically that we're making progress on the plan. The last time I sat here, you can see the one cloud, we had just completed the 95003 inspection and we were waiting on the confirmatory action letter. And now where we are, I believe we're at the point where we continue to improve performance at the plant, but we still have to drive for what we call sustained excellence, and as I mentioned earlier we're not there yet. A lot of work to do.

So if you look at the bottom green arrow, it says implement the integrated improvement plan. Like Joe said, we're in a transition right now. We're

transitioning from an integrated improvement plan to an integrated excellence plan.

And if you turn to, or Slide 7, the integrated excellence plan is really developed to continue driving improvements at the plant, to continue to improve the nuclear safety culture, but most of all it's to ensure sustained performance improvement and sustained excellence.

So we have five focus areas. The first one is procedure and work instruction upgrade. And I'll just tell you, if I look in the rearview mirror and I could go back four years, because I've been at the plant for four years, our procedure quality is something I wish I would have recognized early. The quality was not up to industry standards, and we were allowing workers to go out in the field and have to try to interpret procedures versus following them step-by-step.

The second focus area is operational focus. The third is work management where we've made improvements. However we're not there yet, not to the excellent level. And I talked about equipment reliability. We're almost complete with safety systems, now we're transitioning over to balance of plant which has caused us numerous issues. And then to tie them all together there's a training piece to

each one of those focus areas.

So with that I'm going to turn it over to David Czufin.

MR. CZUFIN: Thank you, Keith. I'm on Slide 8. Our corporate model is governance, oversight, execution, and support. And in the past there's been more emphasis on execution and support.

As Keith said, equipment reliability is an important element for sustainability and there's two primary focus areas. The first is robust and reliable equipment, and the second is organizational response to equipment issues. Lastly, we are shifting our emphasis from execution and support to oversight, and raising the standards for those performing the oversight.

I'll turn it over to Joe for his closing remarks.

MR. GRIMES: Okay, Slide 9, please. In closing, we've established clear goals that are based on top industry performance and want to implement the action plan to help achieve that performance. We'll also provide the corporate oversight to ensure that we can sustain the performance moving forward.

We're committed to both the investment and to the resources necessary to ensure that we are sustainable in achieving that performance. Thank you

for your time this morning. This concludes our remarks, and we're available for your questions.

CHAIRMAN MCFARLANE: Great. Thank you.

Commissioner Magwood?

COMMISSIONER MAGWOOD: Thank you, Chairman. I feel like I spend a lot of time with Joe and Keith and this team in the various sites, visits I've made to TVA sites and the various times you've been to NRC headquarters. It seems like we've had a lot of these conversations already. So I appreciate the support for the various site visits I've had since you've been there.

MR. GRIMES: Thank you. Appreciate you coming, Commissioner.

COMMISSIONER MAGWOOD: You know, let me ask you a big picture question. Because I was thinking about a long time ago I knew an experienced, use that term, experienced site operations guy in the DOE system who used to tell me that he could tell a good site as soon as he came on site because he would look around and see how the grass is mowed, and he would know immediately if there were operational problems or not.

It's not that easy to detect issues at sites, but I wonder, since you've come into this relatively recently, when you were looking at some of these TVA sites that have had issues, were there some

clear signs that you saw very early on that told you, yes, there's problems here, without looking at all the performance indicators, looking at all the reports? Were there some clear signs that you saw when you got on site?

MR. GRIMES: I think the clearest sign for me was not necessarily the physical signs, Commissioner, but in conversations with the various senior staffs, really, their understanding of where they stood relative to the rest of the industry, how their performance metrics measured up, and whether they were implementing best practices and their ability to share why that was. I think that was probably the most telling sign for me early on.

I think if I could comment on Browns Ferry in terms of its, you know, the physical appearance of the plant, Keith and his staff have invested a lot over the last several years in upgrading the plant, as Keith noted, a lot of the safety systems. Just about all the major components have been replaced.

And the appearance of the site, I think, will go a long way towards establishing and holding the right standards with the work forces. They appreciate that kind of support.

COMMISSIONER MAGWOOD: So as you look forward to trying to sustain excellence in the long

term, because one of the conversations you and I have had, and I think we've already heard come up today from the first panel, is the cycling that we see sometimes at TVA facilities, where, you know, for a while things are going very well and then a few years later things aren't going as well and then you have this trend.

Is this philosophy of comparing yourselves against the industry, overall, is that in your view the key to the sustained excellence? Is that the right guidepost that TVA will be, we'll be seeing used in the future?

MR. GRIMES: I think there are several keys, Commissioner. I think that's one of them. I think being very clear about where you stand in the industry and that you're implementing best practices gives you a fairly accurate picture of your performance.

I think secondly, it's really ensuring that you get good external views of the performance of the different stations and what those challenges look like. We've made some changes on our external safety review board and other things to ensure that we have the right eyes on that.

And then lastly, I believe sustainable performance, you know, is an everyday thing, you know, day in and day out for each of the sites. And we're

establishing the appropriate oversight measures that, you know, work from a daily perspective through a monthly and a yearly perspective to know where our performance is.

COMMISSIONER MAGWOOD: What do you do to provide an independent point of view? I mean I think that's something that's often very helpful with sites, and even at sites where things are going well, maybe even especially in sites where things are going well, to have someone outside the system come in and give perspectives and review. What have you done? Most sites have something like that. What are you doing?

MR. GRIMES: Well, I think what we're doing has been somewhat typical. The one thing I would comment on that's been different, you know, I've been there about nine months as you know, Commissioner, and fundamentally I've rebuilt the entire senior, nuclear senior executive team, and three of the four members of that senior executive team are from outside TVA.

They're from other parts of the industry from multiple of the big operators, and so we had the advantage of bringing both those viewpoints to bear as well as the experience that comes with that.

COMMISSIONER MAGWOOD: Okay, great. All right, thank you very much. Thank you, Chairman.

CHAIRMAN MCFARLANE: Okay.

Commissioner Ostendorff?

COMMISSIONER OSTENDORFF: Thank you, Chairman.

Thank you for your presentations. Dave, I'm going to start out with you. I'd be interested in any, what you can share with us as the top two or three examples of where TVA corporate oversight has been enhanced or increased. Can you give us specific examples of how that's manifested vis-a-vis Browns Ferry?

MR. CZUFIN: Okay. I've been with TVA for about seven months now, and the two examples I would give you is, first off, I talked about the equipment reliability and I talked about the two areas. One is robust, reliable equipment, and the second is the organizational response to those issues.

Since I've been there we've held what we call equipment reliability management review meetings, where we go to the station, sit across the table and we talk to in particular Keith's team, and we talk through what are we doing for equipment reliability.

And primarily focused at, are we aligned, are we working as a team, what are our priorities and what are we doing? And there's also an index in the industry called Equipment Reliability Index, and we have not done well in Equipment Reliability Index at

TVA, historically.

So what we did is we committed as a corporation and a station to set targets for where we were going to be at the end of the year for Equipment Reliability Index. And I review those every month, and if we are not meeting our targets I call Keith or I call the other site VPs and we talk about why we're not meeting them and what we're doing to change that. Those are two areas specifically.

COMMISSIONER OSTENDORFF: Is there any specific interface that TVA has had with INPO where INPO has provided other suggestions or approaches that you had not considered?

MR. CZUFIN: Yes, in particular to the, if I just stick with equipment reliability, INPO provided us input on what we call the plant health committee. They provided us input on some ways that we could actually enhance plant health committees and do increased monitoring and oversight on plant health committee.

COMMISSIONER OSTENDORFF: Okay, thank you. Keith, I appreciated your communications with the Commission for the past four years. I know we've had a lot of meetings, as Commissioner Magwood has mentioned.

I wanted to ask you just one specific

question and it deals with employee morale. I know it's been a long journey and sometimes those long journeys can be difficult and sustaining interest can be a challenge. I'm curious as to what leadership challenges you might have faced in trying to keep your work force going, motivated, enthusiastic about improvement.

MR. POLSON: Well, it has been a challenge over the four years, but I will say, and I've gotten opinions from externals that have come in is that the employee morale is very high. That the whole entire team is poised and ready to drive for excellence. They're just looking for the clear cut direction which I think we've laid out for them in the excellence plan.

But some of the challenges that I came up against I'd just say it was a deep embedded culture. It was a culture of knowing that there was a constant churn in the management team and they were just waiting for the next leader. It was a culture of taking the minimalistic approach.

And I think by taking the high road and making the right decisions and then communicating it and then listening and taking action, I think that we've got a very high, the morale is very high right now and I do believe it's sustainable.

COMMISSIONER OSTENDORFF: Thank you.

Did you want to comment, Matt?

MR. RASMUSSEN: Oh, I was just going to add, so I've been at Browns Ferry 12 years. I started there right out of college. And I worked in maintenance, as a senior reactor operator and operations shift manager, and most recently worked in management.

And my view is this is the most invigorated the work force has been in my 12 years that I've been there. They believe that the plant's getting better, the equipment's getting better. And I look at my peers, the operations manager and the maintenance manager, and these are all people that I grew up with.

So we're developing our talent on site and really developing it, and people believe in the leadership team and that has made a huge difference in the work force and the attitudes.

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

CHAIRMAN MCFARLANE: I recently had the opportunity to visit Palo Verde in Arizona, and I was very impressed by their employee engagement program. I was talked to by one fellow who talked about he was, he wasn't a manager, and he talked about how when he first started at the site it was just another job, it wasn't that meaningful to him.

But through the employment engagement program that they instituted there a few years ago, he now sees the place very differently and it's, you know, he understands the importance of safety of the mission. So I was impressed with that. I don't know if you guys have had contact with them or do that kind of thing, but it seemed to be effective.

You know, when you say morale is high, how do you know? I'm interested in how you measure these things, okay. Being here in management at the NRC, we also have to have metrics for different programs that we have. And so I'm interested in how you measure your morale, how you measure your progress to excellence. How do you know if you're not continuing to improve?

MR. POLSON: As far as morale, it's you have to really get out and see it, and then you also see that the employees are getting engaged in more activities. You see them volunteering to be engaged, where before they were kind of stuck in a cubicle just doing their job for eight hours.

We did actually benchmark Palo Verde years ago when we first started into this process, and we took pretty much carte blanche what they had done to turn things around.

So as far as performance improvement, the integrated excellence that we have, the five focus

areas actually have five feeders and each of those feeders have indicators. And we share those indicators with the employees so that they can see as we're making progress.

And also we get out and communicate with the people a lot, and I do what I call town hall meetings and I do those every three months. And then I actually go to the shops in the morning and so does the senior managers.

But the town hall meetings, we have pretty close to 2,000 people on site, and the meetings that we just finished up there were over 1,500 people that attended the meetings. And the reason they're attending them, because they are interested in what's going on and they're interested to hear, you know, where we're going.

CHAIRMAN MCFARLANE: Okay.

MR. GRIMES: Chairman, if I could add just a little bit. We also have some objective evidence with the culture surveys we've been doing. In fact, Keith's site just, over the past two weeks finished up a survey, submitted the survey information for an upcoming evaluation from the Institute of Nuclear Power Operations, and we're looking forward to those results to give us a good midyear view here of how the site's continuing to progress.

CHAIRMAN MCFARLANE: Okay.

So Browns Ferry's had a past history of fire issues, now you have applied for a license amendment for transition to NFPA 805, right? So what are some of the modifications you're planning at the plant to improve the shutdown strategies in the case of fire?

MR. CZUFIN: I'll start with that. They range from cable routing, fuses, circuit isolation, fire wrap. Those are some of the primary ones we're doing. We actually, the license amendment is not approved yet, but we have started some modifications. We have 20 modifications that we have identified before the submittal that we identified as good risk opportunities to eliminate, and about 50 percent of those are complete right now.

MR. RASMUSSEN: And so just to kind of go along with that, this is something that's been ongoing for some time now. We've laid out these modifications over the next three refueling outages, and I've been fairly aggressive with executing them. But they're not solely confined to refueling outages. Over the last few weeks as a matter of fact, we've been executing consecutive modifications to our RHR system to remove single-point vulnerability associated with fire.

So it is an ongoing process. We're

tracking each one of those modifications in our corrective action program as OFFA (phonetic)-level actions, and we monitor those as a management team and ensure their execution goes flawlessly.

CHAIRMAN MCFARLANE: Okay, great. Thanks.

MR. GRIMES: I didn't want to leave you with that we were only doing 20 modifications. We have over a hundred that we'll eventually do.

CHAIRMAN MCFARLANE: Okay.

Commissioner Svinicki?

COMMISSIONER SVINICKI: Well, thank you, gentlemen, for your presentations. My colleagues have covered a number of areas already. The stage of your process that you're in now where you're moving from recovery activities more to a sustained higher performance level, do you agree that it's important that you have tools and measures that you're using to make sure that all station personnel are invested in this level of sustained performance?

And then what would be some of the mechanisms that you use to both assure that that's happening and also to get, as the Chairman said, some sense of measuring it and knowing whether it's real and will allow for sustained performance?

There have been as you note a number of

leadership changes, so how is the, you know, continuing and enduring station personnel as a whole? How are you making certain that they have a personal ownership stake in this process?

MR. POLSON: Well, I talked about the integrated excellence plan. And the way the plan was developed, the focus areas were derived at the senior level, but then when we came up with the feeders and the actual actions that went into the plan, that was developed at the site level.

So there was engagement in coming up with the plan. It wasn't just a top down driven plan, because we find that, you know, as we were going through the 95003 process, that was necessary, but I think to reach the excellent level you have to have all of that engagement from every level of the organization. And we have that, and as we start going through the plan and executing and completing those actions they'll see the improvements through the indicators.

MR. RASMUSSEN: Additionally, so more from a tactical aspect, each of the senior managers have touch points that they've established programmatically with their work force. So I have a two Cs meeting every Tuesday with my work force, that's a Compliments and Concerns meeting.

We go over and talk about the status of our

recovery, talk about the status of our action plans. We go through a metrics review with certain key leaders in the organization at the FLS level and all the way down at the worker level for some of the meetings.

So we do have programmatic touch points that we've established with the work force to make sure that they understand and they've bought into where we're going as a site and as a fleet.

COMMISSIONER SVINICKI: Okay, thank you. Those specifics are very helpful. Thank you, Chairman.

CHAIRMAN MCFARLANE: Commissioner Apostolakis?

COMMISSIONER APOSTOLAKIS: Thank you. Thank you very much for your presentation. Over the years I've seen organizations that are performing very well all of a sudden deteriorate and have problems like Browns Ferry has problems, or Fort Calhoun and other units in the past.

And I've been wondering, what is it that makes these organizations deteriorate? I mean things are going well and then all of a sudden you hear all sorts of terrible things. Can you give us your thoughts on that? I mean is there anything one can do? Is it complacency? What is it?

MR. POLSON: Well, to start off, and Joe

and David can jump in, but I think a lot of it has to do with corporate governance and oversight. Every plant out there is going to come into some point where performance may take a small dip, but if you're doing the governance and the oversight correctly, as soon as there's a small dip it gets corrected immediately.

And I think a lot of the plants that have the issues, their governance model and their oversight model is not well established and they allow those plants to take that dip in performance.

And if you look at the history of TVA, going back five years ago, prior to that we really didn't have a corporate governance and oversight model set up or the people established at the corporate organization. And each site was allowed to, you know, basically run on their own without oversight.

And as got mentioned several times in a previous meeting and this meeting, the history of the TVA and especially Browns Ferry was very cyclic. And I think the organization that we have in place now will not allow that to happen.

MR. CZUFIN: I would add, in addition to governance and oversight I would add what Joe started with and that was industry comparison. Comparing ourselves to industry top performance and not where we've been.

And then secondly, the external viewpoint. I think it's always vital to get an external viewpoint of what the organization may not be seeing in the, and it's important to have that external view.

COMMISSIONER APOSTOLAKIS: But didn't you always have a nuclear safety, what's called review board? You've always had that so you've had external input, right?

MR. CZUFIN: Yes.

COMMISSIONER APOSTOLAKIS: I guess it didn't work. Did it work?

MR. GRIMES: I think at times, Commissioner, the challenges haven't been appropriately targeted. And I think that the key in our industry is that both the organization has strong processes they follow, the oversight ensures that those processes are in place and followed, and then the challenge that, you know, constantly is trying to raise standards. And I think if you're not doing those three things then you're going to be challenged performance-wise at some point.

COMMISSIONER APOSTOLAKIS: Thank you. One last question. What do you think of the reactor oversight process? Is it good? Is it working? Do we need to improve it? Do we need to do something?

MR. POLSON: I think the process is good

and I do think it works.

COMMISSIONER APOSTOLAKIS: On that happy note, thank you very much.

CHAIRMAN MCFARLANE: Okay. Thank you very much for your presentations and the discussion. I'm going to let you guys go and invite Omaha Public Power District.

(Pause)

CHAIRMAN MCFARLANE: Okay, ready? Good. Okay, so I will turn the floor over to Mr. Gary Gates who's the president and chief executive officer of the Omaha Public Power District.

MR. GATES: Thank you, Chairman and Commissioners. Glad to be here this morning. We're going to talk about the drive into excellence for Fort Calhoun Station and through OPPD.

I have here with me today, Lou Cortopassi who's our site VP and chief nuclear officer. Tim Hanley is the senior vice president for West operations of Exelon. Also with us today is Mo Doghman who's our vice president of energy delivery and chief compliance officer. He's here in the back. Our commitment -- and if I could have the slide on, it starts with our commitment, please. I want to assure you that OPPD and our board remains committed to a continued safe operation of the plant and driving to sustained

performance. And that's an excellent performance.

Some of the key lessons learned have been discussed already this morning, but to highlight three of them. For our sustained focus going forward is an active corrective action system, one that provides value to the organization and is robust. Aggressive, independent oversight of our facility. And of course, the fleet operations. And as been mentioned, our partnership with Exelon and that model has allowed us to have a large depth in engineering and challenges in all aspect of our organization, as well as providing a very healthy tension in competition. Because we're now right in the fleet and we have an idea of what top decile and top quartile performance is, and that's the competition we like and we're looking forward to moving Fort Calhoun down that path.

So with that I'll let Lou talk about plant status and engineering, and then Tim will talk about our integration with Exelon.

MR. CORTOPASSI: Yes, thank you, Gary. And again good morning, Chairman and Commissioners.

Next slide, please. Plant status. Thank you.

I'm going to begin with a brief plant status and we'll start with safety culture. And we do continue to monitor and make improvements in safety

culture with a myriad of different tools that we use. You've heard the term compliments and concerns. That's a meeting that I hold with a broad group of employees, direct face-to-face communication facilitating, actually, what's on their mind, real-time feedback from my employees.

We also do monthly pulse surveys. We've been doing those for about two years now, and that really provides me, as well as the senior leadership team, meaningful feedback. Both at the department level and for the departments of ten or greater we get statistical feedback that we can use.

For example, what I might use from a communication or a feedback or a corrective actions with a security officer may be different than what I do with design engineers. And we've shared that tool with our industry peers.

And probably the two biggest feedback items that we're getting right now is on integration because that does touch everybody on site, as well as our transition to online work management. You heard earlier the term "team sport" during refueling outage, you know, that whole team sport is built very similarly to what the behaviors as an organization works well together performing online maintenance.

I also did want to touch on industrial

safety and human performance that hits the element of supervisory engagement. It certainly hits the element of employee engagement. And I would get questions in the public forum, last year in particular, about, you know, how are we compare against a running facility, you know, whether I'm talking about industrial safety, human performance, or at least some of the other metrics, while we were in a shutdown state?

I am happy to say since we have returned the plant to service, zero first aids, zero recordable injuries, zero lost time. And that is each and every day, each and every employee that's engaged with that. And I'm very confident, similar here is a challenging environmental conditions that we had, you know, especially at the power plant.

Also with respects to human performance, and I'll use the term "department level clock resets," so it's our lower level precursor type issues that we track very closely, lessons learned from a department standpoint as well as how we transmit those to the rest of the departments, significant or noteworthy reduction so far in clock resets at the department level.

Talking just broader plant performance, since restart we've been at 94-1/2 percent capacity factor. That's through the month of May. I will

highlight though two noteworthy events that we dealt with and dealt with effectively, and I'll talk a little bit about operator performance through that.

In the January time frame we had, I'll say, a confluence of low river water level. We had a small leak on a section of non-safety related piping combined with the extreme cold. We ended up with a large block of ice on one of our traveling sluice gates that ended up being damaged.

One of the other questions I would get in the public forum last year is, you know, with the operators and with the plant having been shut down, how do you know? How do you know that the operators are going to make the right decision at 3 o'clock in the morning?

This happened overnight, was detected by a non-licensed operator doing his rounds. The shift manager appropriately engaged the rest of the organization, and I'll say, lo and behold, at about 3:05 in the morning we commenced an orderly shutdown to deal with the ice and to deal with the sluice gate. Corrective actions have been taken to prevent a recurrence of that activity or of that issue.

The other plant status piece that I'll talk about is in March of this year we did have an unplanned automatic reactor trip due to an issue with our stator

water cooling system.

And on line maintenance activity that we can do on line, a combination of equipment failure and human performance, but really, as we stood back and looked at accelerating some aspects of fleet on line risk management, while we can do the activity on line we think we had a much better opportunity, I'll say, to strengthen the contingency planning such that if an equipment issue happened we'll set up not only the technicians' supervision but the rest of the organization to have better contingency actions. And that's one of the things that we've accelerated with respects to fleet status.

All right, next slide please. Before I get into the details of the engineering products, and it's really a focus on as you can see in the items up there. But if I stand back and just give some perspective on the recovery work scope, and it might be a corollary to some of the discussions we've had on inspection hours, but just some of the, I'll call them some of the statistics.

We have about eight million person-hours, about 69,000 task completions, and that's, you know, actual physical work that we did, you know, with either modifications or improvements in the plant. We mentioned the 20-year operating agreement with Exelon,

the more than 450 restart checklist items, and it may be germane to the earlier discussion, about 474 radiography shots and that was due to the piping replacements that we did both on safety related piping replacements both on a primary and the secondary system, and all from my perspective still maintaining industry-leading measurements of safety culture.

All right, with respects to corrective action products, significant reduction on the post restart backlog and that's primarily and designed and in program engineering, and we monitor that very closely with fleet metrics.

And in the two areas in particular because they were both restart items, 10 CFR 50.59 evaluations and operability evaluations, very close focus where I maintain an independent engineering assurance group independent on both the site, independent of the fleet that gives 100 percent feedback on those products.

We take that feedback, we provide it directly back to the operators, directly back to the engineers, real-time on a weekly basis as well as we do roll-ups and look for opportunities to feed that back into the training programs, or if nothing else feedback to the individuals that are performing.

We have seen improvement in the 10 CFR 50.59 evaluations. Frankly, we just don't do as many

right now in this phase of operations so we do monitor each one of those closely. And probably more so on the operability evaluations because those take place every day, every night in the control room that we're seeing, I'll say, improvements in those areas, but being very critical of performance and ensuring that we don't miss operability calls.

The last piece that I'll touch on is the design and license basis control and use. As we mentioned that is a large commitment that we made post restart. We have completed the vendor selection and that will be, really, a significant effort to perform risk based reconstitution of the design basis, licensing basis, and the updated safety analysis report.

We selected the raw water system as the risk significant system that we will pilot this year to ensure not only that we can do a solid job with it but that we can manage the output, as well as really what we're looking for is a very easily retrievable system that our operators and engineers going forward can use to make the right technical decisions.

So it's a blended team of outside expertise as well as internal both new and experienced employees across operations and engineering corrective action program so that we own the product that comes out of

the longer term commitment as we mentioned that we'll complete in the fourth quarter of 2018.

And with that I will turn the presentation over to Tim Hanley.

MR. HANLEY: Can I have the next slide, please? So a cornerstone of our plan for sustained improvement is to integrate Fort Calhoun into the Exelon fleet. And, you know, over the last several months since the plant's been up and running, we've seen kind of a shift in the view of the people at the plant who kind of viewed integration before as an optional thing that might happen or parts that might happen to believing that integration is going to fix everything or implementing the Exelon procedures is going to fix everything, which we obviously know is not the case.

You can have the best processes in the world, if you don't change the behaviors you're not going to get there. So we're trying to realign the site to recognize integration is more than just implementing new procedures.

The integration plan itself has over 12,000 activities, 4,000 that we've completed already this year, another 6,000 are scheduled to be completed by the end of the year, and we're actually a little bit ahead of our integration schedule right now.

We have again using extensively the fleet

resources particularly in the area of engineering to provide an independent review of engineering products or independent review of troubleshooting plans which has helped the station get through a number of technical issues that have come up over the past couple of months.

As mentioned earlier, you know, it's more than just implementing the processes. Part of the management model is to supply certain touch points which include management review meetings that occur monthly, the fleet phone call that occurs every morning, the peer groups that all of the managers at Fort Calhoun are now fully functioning members of, and also including our business planning process and goal setting meetings, which Lou just attended last month, which will give Fort Calhoun establishing goals that will get them towards top quartile performance in the industry. Thanks.

MR. GATES: Thanks. The startup of the unit was a significant milestone but it was just that, a milestone on our journey. We're committed to excellence and we're on track to getting there. And we look forward to your questions.

CHAIRMAN MCFARLANE: Great. Thank you.

Commissioner Magwood?

COMMISSIONER MAGWOOD: Thank you, Chairman.

And thank you for coming today, I know you're happy to be here, right? They always say that don't they? A couple of questions and I'll aim those at Gary and you can distribute them as you see fit.

We heard the earlier panel, the staff indicated that the review of the 0350 process that the guidance was clear and, you know, the staff had clear understanding of what the requirements were.

From your perspective, when you first realized you were going into the 0350 process and you looked at that process, was it clear to you what was going to happen when this began, and have you had clarity throughout the process as to what to expect as this proceeded?

MR. GATES: Yes, we quickly of course looked at the 350 process as we talked to the Region about entering that. The criteria are very specific. I think the biggest advantage of the 350 process with Fort Calhoun being in the situation it was, was the checklist and the basis document that Mr. Dapas mentioned, the regional administrator.

I think as we've gone through this process and reflecting on it, as you get into the bigger issues, which again Mr. Dapas mentioned, for example, tornado missile, those are the ones that within the process could probably use more definition of how you frame

those in the process, but definitely not, that's an enhancement to it, but it's very clear what the process is and there's no doubt what you have to do.

COMMISSIONER MAGWOOD: Okay, thank you. One of the interesting things that came out of all this is your decision to go forward with a complete, or a risk based as you put it, license basis reconstitution.

And I wonder if you can give us, sort of step back for a moment and think more broadly is, when you think about your time with the facility you came to that conclusion after going through this long process, but do you look at this as something that would have been useful to do before getting into this? Is this something you would recommend others to consider?

MR. GATES: I think design basis is always a subject you should look at. Going back, I would say for us being a 40-year facility, as you consider the time frame when the plant was built in '68 to '73, retrievability of records had a whole different definition to it at that point. And so we've worked through that process, and part of our design basis reconstitution will focus on that information availability.

But you always want to have your design basis to be easily understood by your engineering group and your operations group and very easily accessible

to them. And that's the key learnings for us out of this as well as making sure of course that you're complying with it at the same time.

COMMISSIONER MAGWOOD: Appreciate that. And just one last question. You mentioned the engineering assurance group that you've created to help with the 50.59 process and oversee or to review the operability determination work that you're doing.

Who are those people? How are they trained? Can you just give us a little bit of --

MR. GATES: Yes, a combination of ex engineering expertise, ex operations expertise, and we used quite a few individuals during the recovery phase that we were able to, one, evaluate their skill set, their standards, et cetera.

So that group has stayed fairly consistent as we got into the operational phase this year. It's four individuals that we keep on retainer, and it is a regulatory commitment in that what we expect to be able to do as we see performance stabilize and continue to improve that we'll slowly peel products off of that group and into the Exelon process that will be running in parallel.

But I've been quite satisfied with the level of feedback, the level of intrusiveness, and the level just good, collegial discussions with my SROs and

engineers.

COMMISSIONER MAGWOOD: So that process will phase out --

MR. GATES: Yes.

COMMISSIONER MAGWOOD: -- over time. And can you describe exactly what process will take up after that's over?

MR. CORTOPASSI: Yes, the Exelon process is called the quality review team. It's a selected group of individuals on a rotating basis that review the engineering products. They are actually part of the line, but they're removed from that responsibility of completing the products when they're part of the review team.

COMMISSIONER MAGWOOD: So this is something fleet-wide?

MR. CORTOPASSI: Yes. Yes, it's standard process.

COMMISSIONER MAGWOOD: Okay. Excellent. All right, thank you very much.

MR. CORTOPASSI: Thank you.

CHAIRMAN MCFARLANE: Commissioner Ostendorff?

COMMISSIONER OSTENDORFF: Thank you, Chairman.

Thank you for your presentations. Gary,

I have a question for you. You've been there throughout the process interfacing with this Commission. If you look at the impact of the integration with Exelon and the oversight assistance provided by Exelon throughout the last few years, are there one or two big picture changes of ways of doing business that have been brought to bear at Fort Calhoun as a result of Exelon's direct involvement?

MR. GATES: Yes, I can name two very quickly. One is the increased independent oversight. Our NSRB has changed in format as well as membership. And the oversight period has changed a great deal from the fleet approach.

The second is the fleet approach for the CFAMs, which I know is jargon, but it's the experts in each area. For example, in radiation protection the fleet has an expert across all the plants. So when the radiation protection manager at Fort Calhoun has a question he has an immediate person to call that has a fleet-wide experience basis to give him advice on.

That's proving to really improve the performance at Fort Calhoun, and it really addresses a lot of single plant vulnerabilities. Not that you can't be a single plant, but as I reviewed it and recommended to our board that we go to the Exelon partnership, I felt that that really addressed all

those vulnerabilities for us now and going forward for the next 20 years of our license extension. So those two areas really garnered it.

COMMISSIONER OSTENDORFF: Thank you. Now I'm going to ask a symmetrical question to Tim and Lou from your Exelon experience and I'll start with Tim. What was the single biggest area for improvement that you thought Fort Calhoun needed based on Exelon fleet practices?

MR. HANLEY: I'd jump on what Gary said. It's probably the first one, our corporate functional area managers which is what we call CFAMs, their ability to get in, find big gaps at Fort Calhoun against industry standards and very quickly get corrective actions then, I think, was key. It kind of goes to the idea that Fort Calhoun had become somewhat isolated from the industry.

So I think that was a huge benefit to them. I think, actually, even getting on the morning phone calls, the morning fleet phone calls, hearing the interaction, hearing the type of questions that are being asked, caused the people at the site to start asking those questions internally that, you know, they weren't thinking about before.

So I think those are probably two things that very quickly got people thinking differently about

the way they were operating the plant or the way they were looking at what excellence is or where they wanted the station to be.

COMMISSIONER OSTENDORFF: I just want to comment before, but your comment on the fleet phone calls resonates with me. I know when I was a captain on a submarine many years ago and going to weekly management meetings where you heard all other submarines' repair and material problems, and you oftentimes went back and said, well, do we have that kind of same issue on our boat? So I think that's, I appreciate your highlighting that.

Lou, do you want to comment here?

MR. CORTOPASSI: Yes, I was just going to echo what Tim said and it's, I'd call it just the daily cadence from what it looks like at 6 o'clock in the morning, which mirrors what's going on in the other plants, to the engineering morning meeting to the engineering morning phone call, you know, building up as Tim mentioned to the broader fleet piece, which is an accountability aspect but for us it really is a teaching moment.

We get to hear, you know, not only what's going on and challenge for what we're doing for the day, what we're doing for the week, but we get to hear it in that broader sense, you know, as we go on to our daily

activities where, you know, the corrective action program firmly embedded into the management team's daily activities.

So that daily just cadence and routine for us is really strengthened. And the management leadership team's intrusiveness not only into our own issues but broadening, you know, our questioning attitude and perspective as we look across the fleet.

COMMISSIONER OSTENDORFF: Thank you. Thank you, Chairman.

CHAIRMAN MCFARLANE: Great. I trust with all those radiography experiences there weren't any events.

MR. CORTOPASSI: That is correct.

CHAIRMAN MCFARLANE: Okay. So I'm interested in understanding from Omaha Public Power District's point of view and from Exelon's point of view what you think are the most challenging issues to sustain the improvements that you've made.

MR. GATES: I'll take a start at that Tim, and then Tim or Lou can jump in. I think the biggest challenges are probably the challenges to any organization and that is maintaining your focus and maintaining a healthy tension on the organization. That's fundamental going forward. We have that commitment.

And if we maintain that healthy tension, we maintain the competition, it's a natural competition when you're looking at your numbers compared to 18 other plants. I find that in this industry, and I include, broadly, everybody, we're very competitive individuals. I'm not sure how that ended up that way. But I think in your organization, Chairman, and in ours that's just true.

So we see those numbers, and it's a healthy competition. And so I've watched the plant as I go around talking to people. They see it and they say we can be in that top decile. We can put the plant there. That's what will sustain the performance is that kind of attitude, that kind of tension.

MR. HANLEY: I think the biggest challenge will be people being happy with the progress they've made, comparing themselves to their past performance as compared to industry excellence. And, you know, I've had some discussion with Lou already. When you go into the plant there's still a lot of posters, a lot of communications about the restart. Well, that's in the past, right? We need to be focused on where we're going to be next.

And it's constantly wanting to get better, comparing yourself to the best not to your past performance. And getting people in that mindset of

doing that is, I think, always, no matter what plant you're at, the biggest hurdle to keep performance improvement going.

MR. CORTOPASSI: Yes, and I'd echo Tim. I use the illustration with the employees, we would, kind of operating on the wide range, right, and we've gotten off the, you know, of the lower portion of the wide range, but now the level of precision, whether it's management decisions, whether it's alignment at the station, whether it's performing an activity in the field, just that level of precision is what we're driving towards right now because we've been operating in such a broader band of performance.

And the tools, like I said, as we populate, you know, not only the indicators for the ROP but the indicators for the fleet, you know, our own internal indicators as, you know, we'll start to get a real clear view where we stay in amongst our peers. And that is the fun part, as Gary mentioned.

CHAIRMAN MCFARLANE: Okay, thank you.

Commissioner Apostolakis? Sorry, Commissioner Svinicki?

COMMISSIONER SVINICKI: Gentlemen, thank you for your presentation. Lou, I wanted to follow up on one point you made. You indicated that prior to restart when you were out in the community, a primary

concern people had, or they asked for assurance of whether operating crews that hadn't operated in three years at 3 o'clock in the morning would make appropriately conservative decisions or do the right thing. And you gave an example of the ice build-up on the sluice.

And so, but that happened after you were operating. How did you answer that question prior to restart?

MR. CORTOPASSI: Yes, we had touched on some of the, I'll call the innovative things that we did in operator requalification training that we did in the, I'll say, the middle latter part of 2013, as well as we've discussed, you know, taking the operators and having them at operating facilities just to have that healthy operating tension or at least remember what that operating tension looks like, recognizing that a fair number of the employees, not only in operations but across the site, had not seen the plant run.

So a lot of focused training at the departmental level, simulations, everything from what a containment entry will look like for a radiation protection technician to what the sampling techniques will look like for a chemistry technician as well as, you know, very similar to the NRC and INPO even, seven

day a week, 24 hour a day, you know, oversight over the period of operation before plant startup.

You know, we had the same with our nuclear oversight and our operations managers, again with very pointed feedback during the shift, during the mid-shift briefs on the behaviors that we observed. And as I mentioned, you know, both the heat-ups that we've done and the reactor startups that we've done subsequent to the two issues I've mentioned we've seen, I'll call very solid operator performance.

But even that said, you know, one of the fleet techniques that we use is even when things go well, a 4.0 critique that's put in the corrective action system that's either tracked at the crew level, tracked at the department level, rolled back into training so that we're keeping that tension that the operators, you know, we expect very, very high performance from them, and even when things go well that we know there's continued areas for improvement. And that's really what we've been driving, especially with the shift managers.

COMMISSIONER SVINICKI: When you collect these things that worked well or maybe things you would have done differently in terms of restarting after a long period of shutdown, do those go into any kind of INPO or industry-wide database of recommended

practices?

I know this doesn't occur at all stations, but for a station where did occur, I would think having your experiences documented would be beneficial.

MR. CORTOPASSI: Yes, in aggregate we've worked with a recent document that's come out that's looked at broader organizational risk, but for each of the sub-elements the corrective action process drives that. Typically, and especially if it's a root cause or an apparent cause evaluation on a significant technical or human performance issue, it'll drive us to put out timely operating experience to the rest of the industry.

MR. GATES: From the people side of it, I've been down to INPO once and I'll go back down in August to talk to the senior managers' courses down there, and the executive senior managers' courses to share my experiences and lessons learned from them.

COMMISSIONER SVINICKI: Okay, thank you. And my last question is just we hear these numbers of, we have 12,000 items in the integration plan, we have many items in a corrective action program. How do you manage and prioritize that so the work force doesn't look at that and just get kind of discouraged?

MR. CORTOPASSI: I have, I'll say, a pretty simple message when it ties directly to our

vision and mission statement. Safe, reliable plant operations, that takes precedence. And so if we need to defer and actually need to defer a meeting because we've either got an emergent activity or something that we, you know, is taking management's attention away from the power plant, then we'll make that conscious decision to the plant manager or to the senior leadership team.

That said, the next tier is regulatory commitments of which we have a number of post restart commitments. Those have a special pedigree, a special oversight if they're going to get moved, adjusted, deferred, you know, that gets, I'll say, daily attention and daily monitoring through the corrective action program.

And then the subset of that which is one of our regulatory commitments is the integration schedule. So as Tim kind of mentioned, you know, on schedule, overall, right now a little rough for the first couple of months as we, you know, kind of stood back and say, do we really have all of this sequence to write, you know, loaded correctly, and seen much more stronger performance over the past couple of months with significant support from the fleet.

So I keep it in pretty simple terms on those priorities for the station, and we've been able to

manage the workload, I'll say, fairly effectively given that principle guidance.

MR. HANLEY: But I think the other part of it is communicating when you have successes. So as you complete various milestones, making sure the plant understands that hey, we've gotten through this, here's what we've got left. We're ahead on integration. Show them the workdown curves, showing some significant equipment, long term equipment issues that have been fixed recently and publicizing that, I think, keeps the employees engaged in recognizing that it is doable, they can get through it and that they're making progress.

MR. GATES: Interestingly enough, what adds to the desire to complete these, the rest of our corporation is looking at what's happening there and they're taking those practices into the rest of the corporation, both our transmission distribution, fossil generation, they're doing support/refute matrixes (sic), some of readiness. So when they see the rest of the corporation absorbing those that helps.

COMMISSIONER SVINICKI: Okay, thank you.

CHAIRMAN MCFARLANE: Okay, Commissioner Apostolakis, now.

COMMISSIONER APOSTOLAKIS: No questions, Madam Chairman.

CHAIRMAN MCFARLANE: Okay. Yes, Commissioner Ostendorff?

COMMISSIONER OSTENDORFF: Very briefly. I agree with Commissioner Svinicki that the number of corrective actions gets my attention. And I had spoke, and I think I talked to you guys about this yesterday. I was talking to Bob Willard last year about this.

I don't know how in looking at, and it's not a criticism of Fort Calhoun or Browns Ferry, but just when we're talking numbers in thousands or in perhaps tens of thousands in a given year trying to make some management sense of that, I'm still trying to get my hands around how one looks at it a, you know, submarine.

I'm talking strictly material deficiencies not training issues, but the submarine typically would have maybe a few hundred equipment deficiency items, and there it was called ESL, equipment status log. And so I appreciate you raising that because it's something that we need to continue to perhaps question and better understand.

CHAIRMAN MCFARLANE: Okay, anything else? No? All right, thank you. I want to thank the staff for their presentations in the discussion. I want to thank both our external panels, Tennessee Valley Authority and the Omaha Public Power District for your

presentations and for the discussion, and the meeting is now adjourned.

(Whereupon, the foregoing matter was concluded at 12:03 p.m.)