

UNITED STATES
NUCLEAR REGULATORY COMMISSION

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

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TUESDAY, JUNE 19, 2018

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ROCKVILLE, MARYLAND

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The Commission met in the Commissioners' Hearing Room at the Nuclear Regulatory Commission, One White Flint North, 11555 Rockville Pike, at 9:00 a.m., Kristine L. Svinicki, Chairman, presiding.

COMMISSION MEMBERS:

KRISTINE L. SVINICKI, Chairman

JEFF BARAN, Commissioner

STEPHEN G. BURNS, Commissioner

ANNIE CAPUTO, Commissioner

DAVID A. WRIGHT, Commissioner

ALSO PRESENT:

ANNETTE VIETTI-COOK, Secretary of the Commission

MARGARET DOANE, General Counsel

NRC STAFF:

VICTOR McCREE, Executive Director for Operations

MIKE KING, Deputy Director, Division of Inspection

and Regional Support, Office of Nuclear

Reactor Regulation

PAUL KROHN, Deputy Director, Division of Construction

Inspection and Operational Programs, Office of

New Reactors

DAVID LEW, Regional Administrator (Acting), Region I

SCOTT MOORE, Deputy Director, Office of Nuclear

Material Safety & Safeguards

SCOTT MORRIS, Deputy Regional Administrator, Region

IV

ALSO PRESENT:

CHRISTOPHER BAKKEN, Executive Vice President of

Nuclear Operations & Chief Nuclear Officer,

Entergy Nuclear

RICH ANDERSON, Site Vice President, Arkansas Nuclear

One, Entergy Nuclear

CHRIS COSTANZO, Chief Operating Officer, Northern

Fleet, Entergy Nuclear

LARRY COYLE, Chief Operating Officer, Western Fleet,

Entergy Nuclear

BRIAN SULLIVAN, Site Vice President, Pilgrim Nuclear

Plant, Entergy Nuclear

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

(9:03 a.m.)

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3 CHAIRMAN SVINICKI: Well good morning,
4 everyone. The Commission convenes in public session to hear a
5 discussion of the results of the Agency Action Review Meeting and in
6 subsequent panels to hear from, it says licensees in the purpose
7 statement, but for this year it will be one particular licensee, Entergy
8 Corporation, we will hear on their action plans regarding facilities of
9 subject today.

10 Again, I think my sense is there tends to be a little bit
11 of confusion sometimes, this is not the Agency Action Review Meeting
12 itself. The Commission will hear the results today of that meeting
13 which occurs, again, on an annual basis, but is laid out in a
14 management directive of the Agency and is a separate process, but
15 today the Commission will be briefed on the results of that meeting
16 and then we'll hear from licensees who were the subject of discussion.

17 Our first panel is led by our Executive Director for
18 Operations, Victor McCree, and they will discuss the staff's
19 assessment.

20 And also as a part of the Agency Action Review
21 Meeting there is a systematic assessment of the oversight processes
22 themselves and there is a routine look, of course, also at material and
23 waste performance trends and no licensees in that category will be the
24 subject of presentations today but we will talk about that assessment.

25 And the Agency Action Review Meeting also entails a
26 systematic look at ROP self-assessment as conducted at the reactor
27 oversight process and, as well, there will be discussion from the NRC

1 staff regarding the construction oversight process as well.

2 And then we will have a brief break and we will have
3 two shorter panels from Entergy Corporation. So I will turn this first
4 panel over to Victor, but first ask if my colleagues have any opening
5 remarks.

6 (No audible response)

7 CHAIRMAN SVINICKI: Hearing none, Victor please
8 lead the staff's presentation. Thank you.

9 MR. MCCREE: Thank you, Chairman. Good
10 morning, and good morning Commissioners Baran, Burns, Caputo,
11 and Wright. It's great to be here this morning.

12 Today we will discuss the results of this year's Agency
13 Action Review Meeting which was conducted on May 3rd. The
14 Agency Action Review Meeting process as you may know was
15 instituted when we started the reactor oversight process.

16 We began that process in April of 2000, so by my
17 count this is the 18th AARM, so, again, we are pleased to be here
18 today.

19 The process, the AARM provides an opportunity for
20 senior NRC leadership to review the performance of both our
21 licensees and the NRC's oversight process itself.

22 The objectives and format of the Agency Action
23 Review Meeting focused our discussions whether the actions that we
24 have taken and are currently implementing are appropriate and
25 consistent with the oversight process. It is at the core of the NRC's
26 safety mission and one of our most important meetings.

27 More specifically, the first objective of the Agency

1 Action Review Meeting is to review the appropriateness of Agency
2 actions taken for power reactor plants, power reactor plants under
3 construction, and nuclear material licensees with significant
4 performance issues, and to ensure that coordinated courses of action
5 are developed and implemented for these licensees with performance
6 issues.

7 As we'll discuss shortly two plants met the threshold
8 for this review and no materials licensees met the threshold as the
9 Chairman mentioned.

10 The second objective focuses on the results of the
11 staff's annual review of the nuclear materials and waste safety
12 program performance, the staff's annual assessment of the
13 effectiveness of the reactor oversight process and the construction
14 reactor process, including review of all approved deviations from the
15 action matrix or the construction action matrix. Next slide, please.

16 As you can see from the agenda we will touch on
17 each of the objectives I just mentioned. With me here today to talk
18 more in detail about these agenda items we have David Lew, to my
19 right, the Acting Regional Administrator for Region I who will present
20 the performance of Pilgrim Nuclear Power Station.

21 Scott Morris, to my left, the Deputy Regional
22 Administrator for Region IV, will present on the performance of
23 Arkansas Nuclear One. Scott Moore, to Dave's right, the Deputy
24 Director for the Office of Nuclear Material Safety and Safeguards, will
25 present on nuclear materials and waste safety program performance.

26 Mike King, to Scott's left, Deputy Director, Office of
27 Nuclear Reactor Regulation, Division of Inspection and Regional

1 Support, will present on the reactor oversight process
2 self-assessment.

3 And, finally, Paul Krohn, to Mike's left, is the Deputy
4 Director for the Office of New Reactors in the Division of Construction,
5 Inspection, and Operational Programs, will present on the construction
6 reactor oversight process self-assessment.

7 So with that I will turn it over to Dave Lew.

8 MR. LEW: Yes, thank you, Vic. Good morning,
9 Chairman and Commissioners. I will describe the staff's assessment
10 of the safety performance at Pilgrim, the NRC's oversight activities,
11 and the areas of focus for the station's recovery. Next slide, please.

12 During calendar year 2017 the NRC staff provided
13 significant oversight of Pilgrim. Based on our independent reviews
14 we concluded that Pilgrim operated safely and securely in 2017, that
15 progress in Pilgrim's recovery plan was made, and that the overall
16 plant performance improved.

17 Notwithstanding this assessment Pilgrim remains in
18 the Repetitive Degraded Cornerstone Column, or Column 4 of the
19 NRC's action matrix, and will remain there until Entergy can
20 demonstrate the sustainability of performance improvement at the site.

21 In assessing accessibility we will inspect recovery
22 plan activities as identified in our Confirmatory Action letter, or CAL,
23 and the thoroughness and the effectiveness of Entergy's
24 implementation.

25 To date about 25 percent of the CAL action items
26 have been completed and closed out by the NRC staff. Therefore,
27 much more NRC inspection of CAL action items remain to be

1 performed.

2 In the meantime, and consistent with the Reactor
3 Oversight Process, we will continue to maintain enhanced oversight of
4 Pilgrim. Next slide, please.

5 As a quick background, in late 2013 Pilgrim entered
6 the Degraded Cornerstone Column, or Column 3, of the action matrix
7 due to a series of unplanned scrams, some with complications.

8 In late 2014 the NRC conducted a supplemental
9 inspection under Procedure 95002 in which we concluded that
10 Entergy's evaluation of corrective actions were not sufficient to fulfill
11 the objectives of the inspection. Therefore, Pilgrim remained in the
12 Degraded Cornerstone Column for greater than five calendar quarters.

13 During an unplanned scram in 2015 a safety relief
14 valve failed to open on demand resulting in a finding of low to
15 moderate safety significance, or a white finding. This additional white
16 input led us to place Pilgrim in Column 4 of the NRC's action matrix.
17 Next slide, please.

18 In March of 2017 the NRC staff completed Phase C of
19 Inspection Procedure 95003. As part of this diagnostic inspection the
20 team reviewed Pilgrim's recovery plan and independently assessed
21 whether the recovery plan identified the underlying causes that led to
22 Pilgrim's decline in performance and the necessary corrective actions
23 to address those causes.

24 The team conclude that Entergy's recovery plan
25 generally addressed the right problem areas but identified some
26 weaknesses. Since the last briefing of the Commission Entergy
27 revised its recovery plan in response to the NRC's diagnostic

1 inspection.

2 The NRC staff reviewed the revised recovery plan,
3 found the changes acceptable, and issued the Confirmatory Action
4 Letter on August 2, 2017, to document Entergy's commitments.

5 CAL follow-up inspections are in progress and to date
6 a total of five quarterly team inspections have been completed or
7 scheduled and additional inspections will be scheduled as warranted.
8 I will provide more detail on the status of the CAL inspections later in
9 the presentation. Next slide, please.

10 While the Confirmatory Action Letter provides a good
11 framework for the NRC staff to assess Pilgrim's progress our reviews
12 of Entergy's recovery plan implementation, particularly the
13 effectiveness of that implementation, are also supported by
14 performance at the site with inspector insights and observations.

15 In 2017 and into the beginning of 2018 we have noted
16 progress in Pilgrim's recovery. Our inspectors have observed
17 continued emphasis and reinforcement to the Entergy staff by senior
18 site leadership on standards, expectations, and conservative
19 operational decision making.

20 Consistent with that emphasis we have seen
21 numerous examples of conservative decision making. For example,
22 during Tropical Storm Jose during last year Entergy conservatively
23 decided to remain at 70 percent power for an additional tidal cycle to
24 ensure that tide and wind effects would not again challenge
25 temperature limits in the intake while the plant was at full power.

26 In another example Entergy delayed the startup of
27 Pilgrim and took appropriate precautions including loading safety

1 busses onto emergency diesel generators in anticipation of the effects
2 of Winter Storm Skylar earlier this year.

3 Also, in response to a trip of the startup transformer
4 Entergy conducted significant testing and inspections which led to the
5 identification of an internal fault and the replacement of the risk
6 significant transformer.

7 Our inspectors have also seen improved performance
8 by operators. During the 2017 refueling outage license operators
9 with the assistance of mentors external to the station, demonstrated
10 improved performance with error free operation.

11 Also during the outage other operations department
12 staff caused no significant configuration control events and work
13 control issues were being identified prior to the commencement of
14 work.

15 In another example, licensed operators responded
16 appropriately to the loss of offsite power on January 4th of this year
17 during which they properly inserted a manual scram and during the
18 recent outage from March 6th through April 17th operations
19 demonstrated precise controls during plant shutdown and restart
20 which included significant plant maneuvers.

21 Lastly, there has been increased margins to
22 performance indicator thresholds. There were no scrams at Pilgrim in
23 2017, which is significant given that the two scram performance
24 indicators contributed to Pilgrim being placed in Column 4.

25 However, there was a scram in January of 2018 but
26 plant equipment and license operator response were appropriate and
27 the loss of the one offsite power supply that led operators to manually

1 scram the reactor was due to equipment not owned by Entergy and
2 located miles from the plant.

3 The one performance indicator that is close to the
4 green/white threshold is safety system functional failures. However,
5 that indicator has started to turn and based on no licensee event
6 reports being submitted that indicator is anticipated to improve
7 significantly after the second quarter data is reported.

8 While improvement has been noted it is not to say
9 that concerns don't remain in such areas as work control, human
10 performance, and equipment reliability.

11 What we have seen is that in many cases the
12 licensee had identified work coordination issues before work was
13 initiated. Also, human performance and equipment issues were not
14 at the frequency or significance of issues identified in the past.

15 A significant data point was the improved operator
16 response, equipment performance, and station decision making during
17 the most recent and very challenging winter storm season.

18 This was a marked improvement as compared to the
19 winter storm season in 2015, which included Winter Storm Juno and
20 resulted in equipment failures when demanded and a white finding
21 associated with a safety relief valve. Next slide.

22 While we have observed an improved performance at
23 Pilgrim the sustainability of that performance has not yet been
24 determined. The NRC staff has identified seven focus areas in our
25 Confirmatory Action Letter that consists of 156 discreet action items.

26 These seven focus areas are listed on Slides 9 and
27 10. If the actions associated with these seven focus areas are

1 effectively implemented we believe that the fundamental problem
2 areas that led to the transition of Pilgrim to Column 4 would be
3 addressed and Entergy's completed actions would provide confidence
4 in sustainability of Pilgrim's performance improvement.

5 The NRC's first quarterly CAL follow-up team
6 inspection was conducted in December 2017. During that inspection
7 the NRC reviewed 20 action items, which included eight items in the
8 focus area of procedure quality.

9 While the team concluded that Entergy made
10 progress in procedure quality, the team also concluded that two of the
11 eight action items could not be closed and that additional work was
12 needed to ensure clarity of procedures with respect to acceptance
13 criteria and precautions and limitations.

14 As a result we concluded that this focus are should
15 remain open pending the review of those two action items.

16 The second quarterly CAL follow-up team inspection
17 was conducted March 2018 and reviewed action items related to the
18 safety relief valve and operability determinations and functionality
19 assessments.

20 In total the team reviewed 24 action items, noted
21 progress in these areas, and felt Entergy's implementation of all 24
22 action items appropriate. As a result the safety relief valve focus area
23 and operability, determinations, and functionality assessments were
24 closed.

25 The third quarterly CAL follow-up team inspection was
26 conducted during the week of June 4th during which the Corrective
27 Action Program and the procedures of adherence were reviewed.

1 The results of this inspection will be issued in the inspection report
2 next month. Next slide, please.

3 The fourth CAL follow-up team inspection will be
4 conducted next quarter and is expected to cover the focus areas of
5 operation standards and site leadership and engineering programs
6 and equipment performance. Collectively there are 45 items to be
7 reviewed in this focus area.

8 The fifth quarterly CAL follow-up team inspection, and
9 possibly the last, is on the nuclear safety culture and is scheduled for
10 December 18th. There are 39 items associated with this focus area.

11 As a result there remains a substantial amount of
12 NRC inspection to be completed before we can determine the
13 sustainability of performance improvement at Pilgrim. Next slide,
14 please.

15 As you are aware Entergy announced its intent to
16 permanently shut down Pilgrim on May 31, 2019. Upon Entergy's
17 announcement the staff developed oversight strategies to look for
18 potential issues stemming from the announcement of the planned
19 permanent cessation of operations.

20 These strategies for Pilgrim have been integrated with
21 those associated with a Column 4 plant and are discussed during
22 enhanced quarterly assessment reviews.

23 This is not the first time that a nuclear power plant has
24 announced its intent to shut down well in advance of the actual date.
25 As such, we have the benefit of past experience and have captured
26 the experience in guidance provided in Appendix G of the Inspection
27 Manual, Chapter 2515.

1 For example, every calendar quarter inspectors
2 review site performance data, including staffing levels, operator work
3 arounds, control room deficiencies, and maintenance backlogs to
4 determine if any areas were potentially impacted by the planned
5 permanent shut down.

6 To date, we have not observed adverse trends. The
7 level of licensed operator staffing remains consistent with other
8 single-unit plants. Entergy continues to maintain a focus on timely
9 corrections of operator work arounds and control room deficiencies
10 and maintenance backlogs have slightly declined since January 2017.

11 The NRC staff will continue to look for potential issues
12 as the date for permanent shut down of Pilgrim nears and we'll make
13 adjustments to our oversight strategies as appropriate. Next slide.

14 With respect to next steps the NRC staff will continue
15 to provide enhanced oversight of Pilgrim. In addition to leveraging
16 the flexibilities within the baseline inspection program we will continue
17 to conduct quarterly CAL follow-up team inspections, supplement the
18 resident staff on an as-needed basis, and maintain increased NRC
19 oversight through expanded quarterly assessments and increased
20 management interactions and site visits.

21 The increased oversight of Pilgrim will allow us to
22 effectively monitor and detect changes in performance trends at
23 Pilgrim. This concludes my presentation. I will turn it over to Scott
24 Morris to discuss Arkansas Nuclear One.

25 MR. MORRIS: Thank you, David. Good morning,
26 Chairman, Commissioners. We have been providing the Commission
27 with updates on ANO's performance since 2015 when both units were

1 placed into Column 4 that is the Multiple Degraded Cornerstones
2 Column of the ROP Action Matrix.

3 I am pleased to report that as of the beginning of this
4 month we notified Entergy that we would be returning the units to the
5 licensee response column, or Column 1 of oversight, after the site
6 successfully implemented improvements in the key areas that were
7 affecting safety performance at the two-unit facility.

8 Entergy completed all of the actions listed in the
9 Confirmatory Action Letter and our inspections verified that those
10 actions were effective in meeting their specific objectives.

11 For reasons I will discuss later in my presentation we
12 believe that Entergy's completed and planned future actions will
13 enable ANO to sustain their observed performance improvements.
14 Next slide.

15 As a reminder we moved ANO Units 1 and 2 to
16 Column 4 in March of 2015 due to having two degraded cornerstones
17 at each unit.

18 Following our assessment of an event involving the
19 collapse of a special lift rig that resulted in personnel injuries and one
20 fatality as well as serious plant damage we documented a yellow
21 finding for each unit involving significant problems with vendor
22 oversight, risk management, and safety culture.

23 This event also exposed numerous degraded flood
24 protection features at the facility that were intended to protect
25 safety-related equipment. We identified that these flood protection
26 features were not designed, installed, or maintained correctly which
27 led to the second yellow finding at each unit.

1 ANO Unit 2 also had a white unplanned scrams for
2 7000 critical hours performance indicator as a result of experiencing
3 three plant trips between December 2013 and April of 2014.

4 These events exposed degraded equipment at the
5 plant and operator performance deficiencies. Next slide, please.

6 Since our last Commission update we have
7 completed four additional quarterly CAL follow-up inspections for a
8 total of eight since the CAL was issued.

9 I will summarize our findings from these inspections in
10 the upcoming slides. We continue to provide focused oversight at
11 ANO by maintaining a separate projects branch in Region IV allowing
12 the Branch Chief to make frequent site visits, closely coordinate all
13 NRC assessment activities, and plan the CAL follow-up inspections.

14 Our regional executives also increased the frequency
15 of their site visits and periodic interactions with senior Entergy leaders
16 at both the site and the corporate level.

17 Shortly after we completed our diagnostic inspection
18 in 2016 the NRC's senior managers met with Entergy leadership at
19 Entergy headquarters in Jackson, Mississippi.

20 Leo Denault, Entergy's CEO, and several members of
21 their Board of Directors participated. This was a very helpful
22 information exchange and resulted in a clear understanding of the
23 regulatory process moving forward. Next slide.

24 In May of 2016 Entergy formally submitted to the NRC
25 their Comprehensive Recovery Plan for ANO that addressed each of
26 the significant performance issues identified during their initial
27 discovery effort.

1 Shortly thereafter in June of 2016 the NRC issued a
2 Confirmatory Action Letter, or a CAL, which confirmed Entergy's
3 commitments and identified 161 specific actions that we would inspect
4 to verify that those actions were not only completed but were effective
5 in achieving the performance improvement objectives stated in the
6 Comprehensive Recovery Plan. Our CAL grouped the 161 actions
7 into the six areas shown on the slide. Next slide, please.

8 I will now highlight some of the conclusions we have
9 drawn about ANO's performance improvement efforts. So stemming
10 from the yellow finding involving the stator drop ANO created a very
11 robust and effective vendor oversight program.

12 Oversight plans are now used for all contractor
13 activities. The process for qualifying supplemental supervisors and
14 oversight personnel was improved to implement high standards and
15 supervisory field presence activities have increased.

16 Technical projects are now receiving the type of
17 reviews and independent verifications that would have prevented the
18 stator drop event which was clearly demonstrated when ANO replaced
19 their degraded shutdown cooling heat exchangers in Unit 2 last year.

20 The challenges associated with rigging these large
21 components out of the plant and replacing them with new ones had
22 the same kind of rigging and plant risk elements as the stator lift but
23 our inspectors concluded that in this case the project was thoroughly
24 planned and executed in a safe, methodical manner.

25 From the yellow finding involving degraded flood
26 protection features ANO created a passive barrier program that is
27 already being benchmarked by other licensees.

1 ANO reconstituted the design basis for each of the
2 areas in the plant where passive protection is required to ensure that
3 safety-related equipment is available to mitigate the impacts from both
4 internal and external hazards.

5 Potential new challenges to passive barriers created
6 by ongoing maintenance or modifications are now thoroughly
7 examined and mitigated during the work planning process.

8 In addition, ANO completed a comprehensive effort to
9 verify that all flood protection features are in good working condition
10 after upgrading many of the seals to modern standards.

11 Equipment reliability at ANO has also improved. The
12 number of equipment-related "operator burdens" involving degraded
13 and/or low margin equipment has been reduced and has resulted in
14 fewer operational events.

15 Significant progress has been made working down the
16 backlog of equipment upgrades and plant modifications to resolve
17 longstanding reliability and obsolescence issues.

18 Station leadership has been proactive in identifying
19 and addressing new problems and now focuses on long-term
20 solutions. Outage scopes at both units were expanded to ensure that
21 the units were restarted with equipment that was in high quality
22 condition.

23 ANO has effectively reversed years of declining
24 staffing levels and has reduced their reliance on third-party contractors
25 and vendors. Entergy completed extensive organizational capacity
26 studies and has added staff and improved training.

27 ANO is currently building internal expertise to improve

1 planning and decision making. New emphasis has been placed on
2 the value of training across the Entergy fleet and the training
3 department at ANO has experienced one of the largest staff increases
4 on the site.

5 Training facilities are also being expanded and
6 modernized to improve support for maintenance personnel.

7 And, lastly, ANO improved their Corrective Action
8 Program early in the Column 4 oversight process which has helped to
9 facilitate more effective recovery efforts.

10 Site-wide training improved the individual knowledge
11 of the Corrective Action Program and resulted in lowering the
12 problem-reporting threshold and improving the timeliness and quality
13 of corrective actions.

14 ANO benched their programs with other facilities and
15 now incorporates industry best practices in a variety of areas.

16 Individual department and station-wide performance
17 assessments are now identifying and addressing trends at a lower
18 level and operating experience is being used effectively to avoid
19 events and failures. Next slide, please.

20 After entering Column 4 ANO identified that certain
21 leadership behaviors had degraded the culture at the station.
22 Accordingly, their early focus was to identify individual leadership
23 shortfalls and to conduct leadership training and team building
24 activities.

25 Designated safety culture observers and mentors
26 helped to identify problems and reinforce positive safety culture
27 behaviors. The focus then shifted to improving supervisory field

1 presence and providing plant workers prompt performance feedback
2 to raise their standards and accountability.

3 This effort helped to identify specific training needs to
4 improve operator and maintenance worker fundamental skills that had
5 degraded as the station lost experienced workers through attrition.

6 Procedure use and adherence was also an important
7 focus area which was supported by a strong effort to improve the
8 quality of procedures and work instructions to industry standards.

9 Operator performances improved and significant
10 progress has been made to create a more operations-centered
11 culture. Operation shift managers are setting station priorities and
12 driving the resolution of emergent plant issues.

13 High impact training was completed for each
14 operating crew and involved two weeks of simulator scenarios to
15 improve teamwork, raise crew standards and accountability, and make
16 the crews more self-critical.

17 As a result operator errors have declined and there
18 have been fewer events. This improvement was demonstrated last
19 year when operators responded well to a trip in May of 2017 caused
20 by tornado damage to the grid some miles from the site even though
21 the event itself caused some unusual challenges to the facility. Next
22 slide, please.

23 The Reactor Oversight Process makes it clear that
24 facilities in Column 4 oversight should take actions to ensure that
25 performance improvements are sustainable.

26 I want to share some examples of why we have
27 confidence that ANO's improvements are durable and will continue.

1 As I mentioned earlier Entergy is now building internal expertise to
2 reduce dependence on third parties.

3 Having met their current staffing needs at ANO they
4 have planned to continue to add staff through the end of next year to
5 build expertise in targeted areas, particularly work management and
6 maintenance support areas.

7 Entergy has invested significant capital in both units
8 at ANO to improve plant equipment reliability and address
9 obsolescence issues.

10 While several actions remain and are scheduled for
11 completion the ones with the most significant impact on safety and
12 reliability have already been completed.

13 One example involves the service waster system at
14 the station which historically had caused frequent challenges to the
15 operating staff. ANO performed a thorough assessment of the design
16 and maintenance of the system.

17 They created an extensive project plan that
18 addressed chemical treatment concerns, upgraded their engineering
19 department oversight, trained engineers who monitor the system, and
20 acquired new technology for large scale pipe monitoring.

21 ANO has and plans to continue to replace degraded
22 sections of pipe over the next several years. As the result of these
23 efforts the reliability of the service water system has greatly improved
24 and operational margins have been increased.

25 Next, lower tier procedures and infrequently used
26 work instructions will continue to be upgraded to industry standards
27 over the next few years.

1 Upgrades to procedures and work instructions for the
2 safety significant activities have already been completed. In most
3 cases procedure and program improvements made to ANO
4 procedures have also been applied to the entire fleet.

5 ANO's current top priority is improving work
6 management. Though staffing and training shortfalls have been
7 largely addressed and work is supporting safe plant operation ANO is
8 continuing to work on improving teamwork and adherence to the
9 processes to bolster consistency and efficiency.

10 Lastly, I mentioned earlier that our CAL captured 161
11 commitments for subsequent inspection, which we have completed.
12 However, ANO identified numerous other actions in their
13 Comprehensive Recovery Plan that were not included in the CAL and
14 several are long-term improvement actions.

15 Some of these activities involve additional plant
16 modifications and equipment upgrades. Next slide, please.

17 So in sum, our inspections verify that ANO has
18 completed each of the CAL actions Entergy committed to take to
19 address the performance issues and problems that led to the station
20 being placed into Column 4 oversight.

21 Our inspectors have independently determined that
22 those actions were effective in achieving their independent objectives.

23 Our extensive reviews included behavior observations during work
24 activities, trending of performance indicators, safety culture surveys
25 and focus group discussions, and numerous field observations of plant
26 conditions.

27 In addition, our baseline inspections and numerous

1 management site visits have shown that ANO is currently performing
2 at the level expected of a Column 1 facility.

3 Equipment reliability has been improved and the units
4 are now experience far fewer equipment failures and events.
5 Currently all NRC findings are green and the number and content of
6 our findings are about average for a Column 1 plant.

7 All ROP performance indicators for ANO are also
8 green. As a result, based on our overall assessment of performance
9 at ANO we have closed the Confirmatory Action Letter and placed
10 both units into Column 1 of the ROP action matrix as stated in our
11 letter dated just yesterday, June 18th.

12 Thank you for the opportunity to speak with you today
13 and I look forward to your questions. This concludes my comments
14 and I will now turn it over to Scott Moore.

15 MR. MOORE: Thanks, Scott. Good morning,
16 Chairman, Commissioners. Today I will discuss the nuclear materials
17 and waste safety program performance.

18 This program includes about 19,000 NRC and
19 agreement state licensees that perform a wide variety of activities in
20 areas such as industrial, academic, medical, and fuel cycle
21 operations.

22 Some of these activities involve intentional exposure
23 of humans to radiation, particularly in diagnostic and therapeutic
24 medical uses.

25 Millions of licensed activities are performed each
26 year. With respect to nuclear materials activities uses of sealed
27 sources and industrial applications and uses of sealed and unsealed

1 byproduct material in medical and academic activities exceed an
2 estimate 100 million activities per year.

3 As a result, when we assess trends the number of
4 reported events is small in proportion to the number of activities
5 carried out.

6 That said, we monitor the data and continue to look
7 for issues or events that warrant additional NRC response,
8 communication, or improvements in support of the materials program.

9 I am going to highlight some of the issues we
10 addressed this year as part of the Nuclear Materials and Waste Safety
11 Program Review. Next slide, please.

12 We collect, monitor, and evaluate industry operational
13 data on an ongoing basis as part of our event reporting function. This
14 information is provided in an annual assessment report to the
15 Commission and this year the Commission received the annual report
16 in April in SECY-18-0048.

17 Our performance evaluation process includes the
18 review of operational performance trends, significant licensee
19 performance issues, and identification of issues and gaps in the NRC
20 program that warrant high-level management awareness at the
21 AARM.

22 The first bullet on this slide, operational performance
23 trends, refers to data examined in the Nuclear Materials Events
24 Database annual report, or NMED, and the fuel cycle operating
25 experience report, and it's part of our ongoing review of events.

26 Next, licensee performance issues refers to the
27 specific criteria for identifying nuclear material licensees for discussion

1 at the AARM. And the last item, NRC program issues and gaps,
2 refers to any programmatic issues identified by our self-assessments,
3 annual event review and trending reports, special studies, and event
4 enforcement action review. Next slide, please.

5 The staff uses the criteria and information sources
6 listed on this slide to assess and measure our performance, including
7 a graded approach from high-level, high consequence events to lower
8 level precursor monitoring.

9 This event review is conducted by examining event
10 information and trends of overall numbers of events as well as in more
11 narrow categories to identify any trends that may indicate program
12 changes or weaknesses.

13 We also use the abnormal occurrence process,
14 including the AO annual report, as well as a review of significant
15 enforcement actions to identify events of high significance and identify
16 any potential licensees with significant performance problems.

17 Strategic performance measures, including the
18 agency's safety and security goals, are monitored by the materials
19 program. They were addressed in the FY-19 congressional budget
20 justification and are fully discussed as part of the AARM.

21 On the next slide I will discuss the results of the staff's
22 NMED and fuel cycle operating experience trending reviews. Next
23 slide, please.

24 This slide summarizes our review of licensee
25 performance trends. First we looked at NMED data. During the
26 FY-17 reporting period there were 410 NRC and agreement state
27 licensee events reported to NMED.

1 The annual report reviews data for the last ten fiscal
2 years as shown on this graph. For FY-17 the trend analysis
3 determined that NRC-regulated events represent a decreasing trend
4 with the lowest number of events in ten years.

5 Trends seen on this chart may also be related to
6 transfer of licensees from NRC to agreement state jurisdiction during
7 this time period, specifically, Pennsylvania became an agreement
8 state in 2008, Virginia in 2009, and New Jersey in 2009 as well.

9 Additionally, decreasing trends were identified for
10 specific segments of the data, including events related to lost,
11 abandoned, or stolen material, and events related to the release of
12 NRC licensed material or contamination at NRC-regulated licensee
13 sites.

14 The total number of events per year has been
15 relatively stable and very small in comparison with a large number of
16 radioactive material use activities performed each year.

17 We also looked at fuel cycle operating experience
18 event data from 2007 to 2017. Over the course of the 11-year period
19 168 total fuel cycle events were identified with only five occurring in
20 FY-17.

21 The results also show that similar events reappear at
22 fuel cycle facilities every three to seven years. In general, over the
23 course of the 11-year period the most recurring causal factors among
24 all events were configuration management, failure to adhere to
25 procedures, and inadequate maintenance.

26 More specifically, our Part 70 licensees have had
27 recurring challenges with unexpected accumulation of special nuclear

1 material, and you all are familiar with those, unanalyzed conditions are
2 invalid assumptions in the Facility Integrated Safety Analyses, or ISAs,
3 and failures in criticality warning or criticality accident alarms. Our
4 Part 40 licensee most commonly reported chemical releases.

5 We also compared the number of escalated
6 enforcement actions over the last several years. In FY-17 we saw 17
7 fewer actions than in FY-16. The 51 total escalated enforcement
8 actions issued in FY-17 were predominantly cases involving gauge
9 users and radiographers.

10 While this is a reduction from FY-16 the FY-17
11 number is still comparable to the five year average. Again, the
12 number of events and violations are very small in comparison to the
13 number of licensed activities in these program areas.

14 Within the NMED events some meet the abnormal
15 occurrence thresholds and are reported to Congress each year in
16 NUREG-0090. I want to note that an AO is never acceptable, but the
17 11 AOs for FY-17 is consistent with recent years' average.

18 All 11 were medical events in '17 and are a very small
19 percentage of the estimated number of nuclear medicine and radiation
20 therapy procedures involving radioactive material performed in the
21 United States annually.

22 We do not believe that there are presently any trends
23 or significant safety concerns among medical licensees.

24 And, finally, the staff further evaluated the program by
25 conducting a special events study. The special study was identified
26 as a result of routine inspections and the event reporting review
27 process where the staff observed an increase in yttrium-90

1 microsphere brachytherapy medical events which raised questions
2 warranting additional attention.

3 Basically, the staff saw what appeared to be an
4 increase in yttrium-90 events. We briefed the Commission on this
5 study during the recent business line briefing.

6 Based on the staff's assessment of the apparent
7 yttrium-90 issue no negative performance trends and no need for
8 additional guidance were identified.

9 The increase in reported events appeared
10 commensurate with the increase in number of procedures performed.
11 So what we found was that although there was an apparent increase
12 in the number of events there was also an increase in the number of
13 uses over that time period. Next slide, please.

14 In summary, the Nuclear Materials and Waste Safety
15 Program met all strategic safety and security goals and performance
16 measures in FY-17.

17 No significant trending or programmatic issues were
18 identified in our review of operational performance trends, licensee
19 performance issues, or other assessments of nuclear materials and
20 waste safety program.

21 Thanks. And I will now turn the presentation over to
22 Mike King. Mike.

23 MR. KING: Thanks. Good morning, Chairman and
24 Commissioners. I will be discussing the results of the 2017 Reactor
25 Oversight Process Self-Assessment. Next slide, please.

26 There are three elements the annual self-assessment
27 process. First, the staff measures the effectiveness of and

1 adherence to the current program using objective metrics.

2 This element is completed by a review of ROP
3 programs, specifically the area of inspections, performance indicators,
4 the significance determination process, and the assessment program.

5 Second, the staff monitors ROP revisions and
6 assesses recent program changes for effectiveness. Finally, the staff
7 performs focused, in-depth assessments of specific program areas
8 and conducts peer reviews of the regional offices. Next slide, please.

9 For calendar year 2017 the staff found that the ROP
10 meet the Agency's strategic goals and adhered to the NRC's
11 Principles of Good Regulation. That being said, the self-assessment
12 process as designed helped us to identify some areas for
13 improvement.

14 As mentioned, we evaluate ourselves against 26
15 performance metrics. In 2017 we found that we met the green
16 performance criteria for 22 of those metrics.

17 Three of the metrics were red and one was yellow,
18 which indicates that additional attention is warranted in those areas.
19 Two of the red metrics were established last year by the staff in areas
20 we self-identified as needed additional focus, and this is the first year
21 we have reported on them.

22 The staff is taking action to improve performance in
23 each of those four areas. As I mentioned on the previous slide
24 completion of focus self-assessments is another important component
25 of the ROP self-assessment process.

26 As part of the focus assessment the staff selects one
27 or more topics for a thorough, deep-dive review. The staff selected

1 the Engineering Inspection Program for a focused review in 2017 and
2 now I will discuss the results of that assessment. Next slide, please.

3 The NRC's current Engineering Inspection Program
4 operates on a three-year or triennial inspection cycle consisting of a
5 2-week design basis assurance or DBA team inspection, a 2-week
6 triennial fire protection inspection, and a 2-week DBA program
7 implementation inspection, which is currently the EQ inspection, or
8 environmental qualification inspection.

9 The program also includes in-service inspections
10 during each refueling outage, heat sink inspections, and inspections to
11 look at 10 CFR 50.59 compliance, or our requirements associated with
12 changes to the plant.

13 As part of the focused assessment the staff
14 determined that it would be beneficial to adopt a more flexible
15 inspection strategy that can be modified periodically to address
16 contemporary challenges facing the U.S. nuclear fleet and to enhance
17 the important role engineering inspections play in identifying latent
18 conditions which may not otherwise be identified through routine plant
19 surveillance activities.

20 In addition, the staff is cognizant of the lessons
21 learned from the Davis-Besse reactor vessel head degradation event
22 and specifically the need to better consider operating experience in
23 the inspection program and to take a focused look at risk-significant
24 areas which have not been reviewed frequently.

25 The staff's proposal is to change to a quadrennial
26 cycle versus a triennial cycle with a touch point every year consisting
27 of either a comprehensive engineering team inspection, referred to as

1 a CETI, or one of three focused engineering inspections, or FEIs.

2 CETIs would be a new inspection similar in structure
3 to the current design basis assurance team inspection that would
4 place an emphasis on the review of plant changes, operating
5 experience, and equipment aging.

6 The three focused engineering inspections would be
7 similar in structure to the current design basis assurance
8 implementation inspection and would focus on specific engineering
9 areas.

10 The staff would choose those areas based on their
11 impact to overall plant risk and the consideration of recent operating
12 experience. For example, the staff's initial evaluation has concluded
13 that power operated valves, which are important active components in
14 safety systems, would be a good topic for a focused engineering
15 inspection.

16 These areas would change for follow-on quadrennial
17 cycles based on risk and operating experience and would be selected
18 through engagement with internal and external stakeholders.

19 Additional information will be provided in our
20 upcoming Commission paper on this topic. These changes are
21 expected to result in a more effective suite of engineering inspections
22 which are conducted more efficiently resulting in a net reduction in
23 staff level of effort of approximately 16 percent.

24 The staff is recommending that these changes start in
25 calendar year 2020 in order to allow the NRC time to pilot the new
26 engineering inspection procedures before full implementation. Next
27 slide, please.

1 The staff plans to forward a paper to the Commission
2 shortly with the recommended changes. In addition, the staff recently
3 received a proposal from industry on a concept to credit industry
4 self-assessments in our engineering inspection program.

5 As we evaluate this proposal our aim will be to ensure
6 that we maintain independence and openness, have a means to verify
7 adequacy of the licensee's self-assessment, appropriately limit
8 self-assessment credit to licensee with acceptable overall
9 performance, and ensure that self-assessments are conducted using
10 approved guidance documents.

11 Although calendar year 2020 for implementation of
12 approved ROP changes may seem far off, significant resources and
13 regional engagement will be needed to develop new inspection
14 procedures along with associated overarching program guidance.

15 The draft timeline for necessary activities provides for
16 issuance of final procedures late in calendar year 2019. Next slide,
17 please.

18 While the focus of my presentation has been on ROP
19 self-assessment for last year, we are already making progress on
20 calendar year 2018 self-assessment.

21 We have three effectiveness reviews for this year
22 either complete or underway. One on the inspection finding
23 resolution management process, the second to assess the impact of
24 changes made in 2016 to the Inspection Procedure 95001, which is
25 our supplemental inspection used for plants with Column 2 action
26 matrix inputs such as white findings or performance indicators, and
27 the third to look at previous initiatives associated with safety culture.

1 In addition to the effectiveness reviews the baseline
2 inspection procedure assessment will take place this year along with
3 the next regional peer review which will be conducted in Region III.

4 In addition, we are looking for opportunities to take
5 credit for ongoing and emergent activities in our self-assessment
6 process to the maximum extent possible.

7 As an example we included Inspection Procedure
8 95001 evaluation in our list of effectiveness reviews to leverage the
9 resources we had already expended in evaluating those changes
10 based on questions from some of our external stakeholders. Next
11 slide, please.

12 Before turning our presentation over to Paul I wanted
13 to provide some information on two special topics. The first is a trend
14 in the number of inspection findings.

15 This slide shows the number of findings issued per
16 unit for each regional office going back to 2001. As you can see we
17 have observed a notable downward trend across all regions over the
18 last several years.

19 Our preliminary analysis indicates this is likely due to
20 a combination of factors, including increased focus on ensuring
21 discipline in determining whether a finding is minor or more than
22 minor, such as the use of finding review panels, changes to
23 engineering inspection programs that we have recently made,
24 reductions in the number of supplemental inspections we have
25 performed in recent years.

26 And, in addition, some improvement is likely attributed
27 to the licensee performance. For example, we have seen similar

1 improved trends over the past several years in the number of reactor
2 scrams, collective radiological dose, and the number of event reports
3 in licensee notifications.

4 Since the 2013 GAO audit regarding regional
5 differences in the number of green findings we have also seen a
6 reduction in the magnitude of differences between the regions.

7 Suspected drivers for these improvements are also
8 similar to drivers for the other trends, specifically greater utilization of
9 regional peer reviews, increased use of panels for decision making,
10 and better communications to share best practices across the regions,
11 and we have also made changes to inspection program guidance in
12 the area of identification credit for findings and improvements to
13 training and guidance documents.

14 In summary, the trend is likely due to a number of
15 factors. As I mentioned previously we have a biennial ROP
16 inspection procedure assessment planned for this year and we tend to
17 more fully assess the trends at that time.

18 As part of that look we look at individual inspection
19 procedures in the trends and findings within those procedures, which
20 is a level of detail more than what we have in this analysis. Next
21 slide, please.

22 The final topic I will cover is closeout of licensee event
23 reports, or LERs. LERs are submitted when required by 10 CFR
24 50.73. We conduct a review of each LER, disposition any inspection
25 findings, and then close the report.

26 As a feature of our program we proactively look for
27 opportunities to obtain insights into our performance by conducting

1 lessons learned reviews following significant supplemental
2 inspections.

3 The lessons learned review conducted following the
4 95003 inspection at Pilgrim was recently completed and a report on
5 that evaluation was issued within the past two weeks.

6 The evaluation identified that some LERs from the
7 2011 to 2013 timeframe had not been reviewed and disposition
8 consistent with program guidance. In cases where the LER was
9 self-revealing we found that corresponding inspection findings weren't
10 properly screened such that they could be used as inputs into our
11 performance assessment process.

12 We ultimately completed a retroactive review of those
13 LERs and concluded that if the findings had been screened properly
14 they would not have impacted our assessment of plant performance.

15 In addition, we conducted an extended condition
16 review for a sampling of LERs from across all regional offices to verify
17 this issue was limited in scope.

18 Separately we received some feedback recently from
19 an external stakeholder regarding the timeliness of our review of an
20 LER. In looking into that issue we ultimately concluded that there
21 was a good basis for the delay in closing out that particular report but
22 the question led us to conduct a broader assessment of the timeliness
23 of our review of LERs.

24 That assessment found that while we are generally
25 timely in closing LERs in some cases closeout can take a number of
26 years.

27 We recognize there may be good reasons for delays

1 in closing out LERs, such as the need for a detailed headquarters
2 technical review, but in light of the two recent issues we plan on
3 assessing the programmatic changes to improve these reviews.

4 For example, we plan on working with the regions to
5 ensure our guidance and Inspection Procedure 71153, which is used
6 by our inspectors to conduct LER reviews, is sufficient.

7 We are also considering additional guidance for
8 discussing LER status as a focus topic during end-of-cycle meetings.
9 Next slide, please.

10 So in closing, the calendar year 2017 ROP
11 self-assessment confirmed that the ROP provided effective oversight,
12 that it ensured openness with our stakeholders, and that it was
13 objective, risk-informed understandable, and predictable.

14 We also identified a number of areas for improvement
15 and we are actively working on addressing those areas to make the
16 ROP better. With that I would like to thank you for the opportunity
17 and turn the presentation over to Paul Krohn.

18 MR. KROHN: Thank you, Mike. Good morning,
19 Chairman and Commissioners. This morning I will be discussing the
20 Construction Reactor Oversight Process Self-Assessment, or
21 Construction ROP.

22 Put simply, the purpose of the construction ROP
23 self-assessment is to evaluate the effectiveness of the construction
24 ROP and determine if additional actions are warranted.

25 One common theme that should be evident throughout
26 this presentation is that we modeled the construction ROP after the
27 ROP per Commission direction.

1 The construction ROP is still relatively new but the
2 history of implementation can be traced back to July 1, 2013, when we
3 first implemented the program.

4 The staff found that the construction ROP met the
5 Agency's strategic goals when ensuring safety and security through
6 objective, risk-informed, understandable, and predictive oversight and
7 adhered to the NRC's principal of good regulation, independence,
8 openness, sufficiency, clarity, and reliability.

9 During calendar year 2017 the NRC construction
10 inspectors issued a total of seven findings to Vogtle. All of the
11 findings were green, in other words a very low safety significance, and
12 as a result both units remained in the licensee response column of the
13 construction action matrix.

14 Following the July 31, 2017, announcement that V.C.
15 Summer Units 2 and 3 would not be continued there was a prompt
16 assessment of the both the NRC's NRO staffing needs and the
17 Region II Division of Construction Oversight's inspection resources
18 needed to implement the construction inspection program.

19 The Vogtle site continues to maintain five construction
20 resident inspectors supplemented by inspectors from the regional
21 office and technical experts from the program offices.

22 There are an additional six full-time equivalent for
23 operator licensing security emergency preparedness and radiation
24 protection inspections. Next slide, please.

25 Here is a snapshot of the direct inspection hours for
26 Vogtle Units 3 and 4 expended through the end of calendar year '17.
27 Staff originally estimated that direct inspection on a per unit basis

1 would require 35,000 hours total with 15,000 hours for inspections
2 related to inspections, tests, analysis, and acceptance criteria, or
3 ITAAC.

4 This estimate was based on our look at construction
5 experience in the '80s and '90s. As construction of Vogtle Units 3
6 and 4 has progressed and more detailed construction schedules had
7 become available the staff has been able to perform detailed
8 inspection planning for ITAAC-related inspections.

9 As a result the staff has been able to refine
10 assessment of the direct inspection hours required for ITAAC
11 inspections.

12 The staff estimates that there will be approximately
13 21,000 hours of direct inspection related to ITAAC for Unit 3 and
14 15,000 hours of direct inspection related to ITAAC for Unit 4 based on
15 detailed planned hours and efficiencies that had been observed.

16 Based on current planning estimates the staff has
17 expended approximately 43 percent of the total number of planned
18 ITAAC direct inspection hours at Vogtle Unit 3 and 32 percent of the
19 planned hours at Vogtle Unit 4. Next slide, please.

20 The licensee is committed to an aggressive
21 uncompleted ITAAC notification submittal schedule and expects to
22 submit one for every uncompleted ITAAC by the end of 2018.

23 An uncompleted ITAAC notification, or a UIN, explains
24 the proposed methodology for completing an ITAAC. The staff
25 developed and the licensee has embraced the UIN process to allow
26 early engagement on ITAAC issues.

27 One hundred forty-four ITAAC closure notifications, or

1 ICNs, and 272 UINs have been approved as of May 14, 2018, out of a
2 total of 890 ITAAC, or about 47 percent for both Vogtle Units 3 and 4.

3 In spring 2017 the staff completed an ITAAC
4 demonstration project to enhance the NRC's ITAAC inspection and
5 closure verification processes and to identify potential gaps in
6 preparation for the surge of ITAAC notifications expected towards the
7 end of construction.

8 The staff is currently completing the recommended
9 actions from the project which include enhancing external stakeholder
10 interactions, improving NRC processes guidance, and creating
11 organizational structures and informational dashboards.

12 In addition, the staff completed a tabletop exercise
13 with industry and other stakeholders on December 12, 2017, at
14 Region II focusing on two complex ITAAC.

15 The goal was to define clear expectations for
16 licensee's completion and staff's closure verification of complex ITAAC
17 by working through two examples.

18 Furthermore, the NRC metrics track performance
19 reinforce accountability and communicate issues needing attention at
20 the appropriate management levels both internal and external to the
21 NRC.

22 These efforts have the NRC well positioned to meet
23 the surge in ITAAC submittals towards the end of construction. Next
24 slide, please.

25 In the next few bullets I will talk about our plans for
26 focusing and readiness for 2018. In November 2017 the staff issued
27 an implementation plan to ensure staff readiness for AP1000

1 operations and is making progress on the readiness issues.

2 The implementation plan provided a solid foundation
3 for the formation of the Vogtle Readiness Group, or VRG. On March
4 12, 2018, NRO in Region II in coordination with OGC, NRR, and
5 NSIR, issued the publically available charter for instituting the VRG.

6 The charter describes how the VRG will identify and
7 resolve any licensing, inspection of regulatory challenges, or gaps that
8 could impact the schedule for completion of Vogtle Units 3 and 4.

9 The group is also developing an integrated project
10 plan that identifies the critical activities, their organizational leads, and
11 their schedules and milestones, which will be linked to the licensee's
12 construction schedules.

13 The VRG will also serve as the focal point to ensure
14 effective communication of status and issues across NRC offices and
15 to NRC management, the Commission, the licensee, and other
16 external stakeholders.

17 Regarding the 52.103(g) finding the staff is
18 developing a plan to communicate with the Commission regarding the
19 status of ITAAC completion and other activities including construction
20 oversight and enforcement.

21 We are looking at recent best practices, specifically
22 Watts Bar Unit 2. The associated office instruction is expected to be
23 complete by the end of 2018.

24 In conclusion, NRO and Region II continue to
25 implement a successful construction reactor oversight program.
26 Vogtle Units 3 and 4 will remain in the licensee response column of
27 the construction action matrix.

1 The staff is well positioned to meet the ITAAC surge
2 and the NRC is taking active steps for a smooth transition to
3 operations. At this point I will turn it back over to Vic McCree.

4 MR. MCCREE: Thank you, Paul. Chairman,
5 Commissioners, that completes our presentation and I appreciate your
6 time and attention.

7 We met the objectives of the Agency Action Review
8 Meeting process and that we confirm that the processes were
9 appropriate, the decisions that we made were reasonable and
10 consistent with the reactor oversight process, and we also evaluated
11 the effectiveness of all of our oversight processes and confirm that
12 they were appropriate.

13 We did not, although mentioned in our presentation,
14 there were no deviations taken to the reactor oversight process or the
15 construction reactor oversight process. And that completes our
16 presentation. We are ready for your questions.

17 CHAIRMAN SVINICKI: Well, thank you. Let me
18 thank each of you for very comprehensive presentations this morning.
19 I am certain the Commission will have quite a few questions.

20 As it is our practice as a Commission to alternate the
21 order of recognition for Q&A this morning we begin with Commissioner
22 Baran. Please proceed.

23 COMMISSIONER BARAN: Thank you. Well thank
24 you for your presentations. This is one of the most important
25 Commission meetings we have each year because it is focused so
26 directly on safety.

27 Before I ask some questions about Pilgrim I want to

1 ask about a broad trend in inspection findings that relates to the graph
2 on Slide 33.

3 MR. MCCREE: Of course.

4 COMMISSIONER BARAN: As Mike discussed this
5 graph highlights a steep decline in NRC inspection findings over the
6 last few years.

7 When you look at the data for the first 15 years of
8 ROP implementation the total number of findings nationwide per year
9 averaged about 850. Even though the number of reactors hasn't
10 changed appreciably since 2015 the number of NRC findings dropped
11 dramatically after 2015.

12 In 2015 there were a total of 821 findings nationwide,
13 in 2016 the number of findings had dropped to 704, and in 2017 the
14 number of findings fell further to 560. So that's a 32 percent
15 reduction in just two years. It's also the lowest number of findings in
16 any year since the ROP began, by far.

17 That could be a good thing if it's an indication that
18 licensee performance has improved or that we are improving
19 consistency across the regions and consciously weeding out any
20 cases that shouldn't rise to the level of a finding, or the steep decline
21 in findings could be a bad thing if it's an indication that the NRC is
22 lowering its safety standards or just catching fewer problems.

23 Mike mentioned a few factors that could be
24 contributing to this trend. Vic, I would like to ask you how much
25 analysis has the staff done to determine what factors are driving this
26 drop in findings?

27 Is the drop something the staff was expecting and

1 sees as a positive trend or should we be concerned?

2 MR. MCCREE: Commissioner, thanks for your
3 question. Let me begin with the fact that I am not surprised.

4 I am not surprised that we are seeing a change in the
5 number of findings across the nation because of efforts, intentional
6 efforts that we began six, seven years ago ostensibly to improve
7 consistency, although you'll only see the word "consistency" used
8 once in our Principles of Good Regulation and it focuses at a much
9 higher level.

10 But when we observed the disparity among the
11 regions and lower-level findings, and these were principally "green
12 findings," and higher level, higher significance findings that we were
13 rigidly consistent, if you would. We were implementing the process
14 reliably as the Principles of Good Regulation would compel us to.

15 But collegially, with the direction, at the direction of
16 NRR we began the initiatives that Mike spoke to and we recognized at
17 the time when we started to align on performance deficiencies that
18 were minor or more than minor, better aligned, then we would reach a
19 new level, if you would, in terms of the number of findings that would
20 be issued as green across the nation.

21 And that number could have increased because, quite
22 frankly, a couple of regions, Region IV in particular, was much higher
23 than some of the other regions, but we have found a way I think to
24 normalize around what is more minor or more than minor through the
25 processes that Mike mentioned.

26 So I'm not surprised by the change. I wouldn't
27 characterize it as good or bad, it is what it is. It certainly doesn't

1 imply that inspectors are changing their approach to identifying issues,
2 it's just that in characterizing the significance they are characterizing
3 more I believe at minor than more than minor.

4 And in that interaction with the licensees, the
5 licensees are entering those performance deficiencies into the
6 corrective action programs and they are being resolved, so at a higher
7 level from a safety and security significant standpoint, the same effect,
8 the same result, is being achieved and that's what is most important.

9 COMMISSIONER BARAN: Well thank you for that
10 response. I take some comfort in it. I think it's -- You know, I don't
11 have a judgment about whether this was a good trend or a bad trend
12 and I don't know whether the trend will continue, but I think when you
13 see it drop at about a third in two years in the number of findings the
14 NRC is making we need to understand what is driving that.

15 We need to do a thorough analysis and understand is
16 this something we are comfortable with, is it something we expected
17 and it's headed in the right direction, or something is happening here
18 that we need to correct, and I appreciate that you are starting to take a
19 look at that.

20 I want to turn to a separate issue that relates to
21 Pilgrim. The NRC staff conducted an assessment of whether NRC's
22 oversight of Pilgrim was adequate in the period before the plant
23 entered Column 4 and whether the decline in Pilgrim's performance
24 was detected prior to a significant reduction in safety.

25 The staff concluded that NRC's oversight was
26 effective. However, in conducting the self-assessment the staff
27 discovered that several potential performance deficiencies described

1 in licensee event reports during the 2011 to 2013 timeframe were not
2 cited as violations when they should have been or were cited as green
3 findings without an adequate evaluation of whether they might have
4 been greater than green.

5 Dave, based on the staff's analysis of 37 Pilgrim
6 licensee event reports issued between 2007 and 2015 how many
7 performance deficiencies should have been cited but were not?

8 MR. LEW: Yes, thanks for the question,
9 Commissioner Baran. First, let me say, we have a very good team
10 taking a look at this and they did a very thorough look.

11 They're approach when they were looking at the LERs
12 and what they identify were just by reading the LERs. And they
13 thought that perhaps 12 could have been performance deficiencies.

14 And I want to emphasize they could, because
15 certainly, until you actually do the inspection and understand some of
16 the details behind them, there may not be a performance deficiency.

17 That said, the approach that was taken was to look at
18 all 37 to ensure that the issues did rise to greater than green.
19 Because that would be material to the action matrix.

20 And their review of that confirmed that there was no
21 issues with performance deficiencies greater than green that would
22 impact the action matrix.

23 COMMISSIONER BARAN: Let me ask about that
24 piece. The finding that all of the un-cited performance deficiencies
25 would have been very low significance or green.

26 It's not clear to me that that's the case when I look
27 back at this, and so maybe you have more you can offer on this. The

1 assessment examined the license event report associated with the
2 loss of offsite power during Winter Storm Nemo in 2013, and found
3 that it could have been a substantial, of substantial safety significance
4 or yellow.

5 It's unclear though whether there was an actual
6 performance deficiency associated with that event that could have
7 resulted in a finding. The assessment stated "a performance
8 deficiency was not readily apparent, given the facts within the
9 licensee event report." This is kind of the issue you were referring to.

10 But the first page of the event report states, that a
11 contributing cause of the event was corrective actions taken in
12 response to prior licensee event reports in 2008 that did not prevent
13 recurrence. So that's a possible corrective action performance
14 deficiency, at least on the face of the LER.

15 Five years after the fact, as you say, there's probably
16 no way of knowing whether there really was or was not a performance
17 deficiency there. And we don't know for sure that the preliminary look
18 at it, suggest that it could be yellow, actually would have panned out
19 and that it would have been a yellow.

20 But I guess the question I have is, can we really
21 conclude with any confidence that NRC's failure to properly cite and
22 evaluate performance deficiencies would not have changed oversight
23 outcomes at Pilgrim?

24 Isn't it possible that if that were a performance
25 deficiency and it were a yellow, that that would have or could have
26 moved Pilgrim to Column 4 much sooner?

27 MR. LEW: Perhaps, two pieces to that. First, we

1 did look at that issue at the time of the event. And also recently.

2 And based on some senior staff review, they believe
3 that there was no performance deficiency. And it does make sense
4 because, if you look at what was lost, these were offsite lines, Lines
5 342 and Lines 355, were associated with the grid and outside of the
6 area in terms of the switch yard. Which was, as we learned overtime,
7 was vulnerable since 2013.

8 With respect to -- also, I don't think that there's a
9 performance deficiency. Even if --

10 COMMISSIONER BARAN: Taking a close look at it,
11 your staff will take a close look at it, you're confident there was no
12 performance deficiency?

13 MR. LEW: We are very confident that there's no
14 performance deficiency.

15 COMMISSIONER BARAN: Okay. Well, that's good
16 to understand.

17 Let me ask about crosscutting issues. Substantive
18 crosscutting issues. The assessment, the staff assessments, states
19 that if all the findings had been properly cited, Region I may have
20 been in a better position in the 2011 to 2013 time frame to conclude
21 that there was a substantive crosscutting issue regarding human
22 performance and problem identification and resolution. These were
23 later identified as significant problems at Pilgrim.

24 If the performance deficiencies had been cited as they
25 should have, is there a chance the staff would have identified a
26 substantive crosscutting issue earlier?

27 MR. LEW: Yes, I think they would have. All that

1 said, you know, when we have a crosscutting issue, we identify it in a
2 end of cycle letter, or a mid-cycle letter, which was in place at the
3 time. And there may have impacted, in terms of some of the scrutiny.

4 But what was happening at the time was, we were
5 already focused on those areas. We were already scrutinizing those
6 areas because the plant was either in Column 2, 3 or 4.

7 And as a result, any additional scrutiny would have
8 been minimal in terms of the minimal impact in what we would have
9 done in our oversight process.

10 COMMISSIONER BARAN: Hmm. So, from your
11 point of view, if the staff had been doing the right things, there would
12 likely have been a substantive crosscutting issue identified, you don't
13 think it would have affected our actual level of oversight at Pilgrim? If
14 that had happened.

15 MR. LEW: Yes. There could have been a
16 substantive crosscutting issue. And just to put a time frame in,
17 initially you'll be identified as a theme and then it has to continue for a
18 period of time for it to be considered a substantive crosscutting issue.

19 And what we would do is we expect the licensee to
20 address, hey, what's the underlying issues in terms of these human
21 performance or corrective action issues, which we were already
22 scrutinizing at the time.

23 And even most recently, in the latest assessment
24 letter for Pilgrim, we identified a crosscutting, a new crosscutting
25 theme. But we understand why that was, what the cause of that, the
26 issues underlying it, because it's part of the broader review that we
27 have with the 95003 inspection that was completed and our current

1 focus on the licensee's actions.

2 COMMISSIONER BARAN: I'm over my time and
3 we've got a bunch of Commissioners now and three panels, but let me
4 just ask one quick thing.

5 I appreciate that the staff did a detailed analysis of
6 what the impacts of what happened in the past, and I appreciate the
7 staff looked to see an extent of condition, was this happening to any
8 other plants anywhere else, but, and those are good steps to take.

9 At this point, do we know how this happened at
10 Pilgrim so that we can make sure this doesn't happen at other plants?

11 How did this occur that for years performance
12 deficiencies that should have been cited were not cited?

13 MR. LEW: I think for a certain period of time, I think
14 what we looked at was, it was isolated for that period of time.
15 Generally what we believe is, there was an issue of knowledge, an
16 issue of perhaps not understanding, of meeting of expectations.

17 Unfortunately, the individuals that were involved have
18 retired. But we generally understand what could have caused that,
19 and I think we're taking actions in terms of training, we're sharing the
20 issues with the other regions to see what some of the other practices
21 are.

22 For example, Scott Morris is here, and they actually
23 have all this, have all their LERs screened by senior reactor analysts.

24 MR. MOORE: Risk analysts.

25 MR. LEW: Risk analysts, yes. Thank you. And so
26 I think there are things that can be done. And more on a
27 programmatic level.

1 As Mike King had indicated, we'll be taking a look at
2 what programmatic issues that we were going to do to address this
3 issue.

4 COMMISSIONER BARAN: Okay, thank you.

5 MR. MOORE: And I'll just add, we've already started
6 drafting some of those changes to the programmatic guidance to
7 address that issue.

8 COMMISSIONER BARAN: Thank you to my
9 colleagues --

10 MR. MCCREE: And Commissioners, just to close,
11 I'm sorry.

12 CHAIRMAN SVINICKI: If Colleagues don't mind, we
13 let the Executive Director just complete the answer. Thank you.

14 MR. MCCREE: And thank you so much. I wouldn't,
15 I would want to emphasize that the independent review that was
16 conducted as part of the Pilgrim 95003 was not a one-off, it is a
17 systematic institutional part of our process for conducting 95003s,
18 which short of an incident investigation, is the most significant and
19 intrusive diagnostic evaluation that we do under our oversight process.

20 In fact, the previous, the proceeding process was a
21 diagnostic evaluation team. And it also included an assessment of,
22 what could we have done differently or what did we do to contribute to
23 this. So that was a result of that.

24 If you look back at Browns Ferry, at Cooper, at Palo
25 Verde and others, you will see similar artifacts that were very helpful
26 and instructive to us.

27 And I believe that it just continues to eat those. We

1 want to be our own worst critic, we want to improve, excellence
2 remains our goal. So I do appreciate the thoroughness and insight
3 obtained from that assessment.

4 COMMISSIONER BARAN: And I asked my
5 questions in just that spirit. Thank you.

6 MR. MCCREE: Thank you.

7 CHAIRMAN SVINICKI: Thank you very much.
8 Commissioner Burns, please proceed.

9 COMMISSIONER BURNS: Thank you again for the
10 presentations. And it's always an interesting meeting to go over.

11 And again, I'll reflect, as I do on occasion. Earlier in
12 a career when I walked in this agency I would argue that there were
13 five individual fiefdoms. In other words, five regional offices.

14 And the issue of consistency was a real issue in how
15 you sort of rub this regional administrator the right way or the other,
16 another one right way. We sort of grew through that.

17 And I think one of the, you know, to jump to the
18 creation of the ROP. And I think some of the discussion that you just
19 had emphasize, is this continual assessment has been, I think, the
20 real strength of it, over the last 18 years or close to that. In terms of
21 looking at it.

22 Because, again, to make the comparison I would
23 almost argue it was sort of like you had the parking citation and it was
24 like, just flip them out and see where they are. They'll pile up lots of
25 severity level 5's, lots of severity Level 4's.

26 I think what we do better is, yes, we're looking at what
27 is the significance of particular activity or a particular event in terms of

1 what the, the terms of the license say, but we're also looking at the
2 events and what they mean. So, I think we've put ourselves on a
3 good path with the ROP over the years.

4 Let me ask a couple of questions in terms of that
5 assessment. One of my questions is, as robust as our self-evaluation
6 and self-reflection on it is, do you think we do too much in that way?

7 And I'll let anybody say, maybe, Mike, if you want to
8 start off?

9 MR. KING: Thanks for the question. I would say,
10 we're certainly sensitive to the amount of resources involved with
11 taking these invasive self-critical looks and we're conscious to the
12 amount of effort in where we focus our attention.

13 But I'd say overall we've benefitted from those looks.
14 We continue to identify areas where we can improve the program.

15 So, the current level of amount of self-assessment
16 activities I would say, overall, I'm comfortable with.

17 MR. MORRIS: And I would just add, from a Region
18 IV perspective, I think we get a lot out of them. For example, we're
19 preparing to do the assessment of Region III in August, I believe we're
20 going to start that.

21 And the team leader for that is a branch chief in
22 Region IV. But it's comprised of folks from other regions and
23 headquarters.

24 And it's a real opportunity for mutual understanding,
25 learning. It just enhances, it just strengthens and enhances
26 programmatically across all four regions.

27 And particularly with, as with folks, depart the agency

1 through retirements, et cetera, some of the knowledge that's been
2 accumulated over the last 17, 18 years of implementing this program,
3 it's really good that we bring in the younger folk.

4 And so, it really just bolsters the whole program. So I
5 wouldn't characterize it as too much. I think, you know, we've played
6 with it over the years but I think we're about the right place.

7 COMMISSIONER BURNS: Okay. Okay, good.

8 MR. MCCREE: And so do I. And I see Dave's
9 phone on the clicker, or finger on the button.

10 COMMISSIONER BURNS: Something like that.

11 MR. MCCREE: We spend, as you know, hundreds
12 of thousands of hours --

13 COMMISSIONER BURNS: Yes.

14 MR. MCCREE: -- literally, on inspection oversight
15 across the, our licensees. And it's consistent with our principles of
16 good regulation. We want to be reliable, we want to be efficient.

17 So the level of effort that we expend on assessing the
18 effectiveness, that's the second goal of this process, I believe is
19 reasonable. And it's well worthwhile.

20 It's collegial, it's candid, it's frank and we end up
21 usually coming up with good issues to focus on and further evaluate.
22 I believe it's worth the investment.

23 COMMISSIONER BURNS: One of the questions,
24 one other question I have, and, Mike, you describe the changes, I
25 think in the engineering, I've got the title wrong. The engineering, it's
26 big engineering inspection.

27 And one of them, one of the aspects is looking at

1 50.59, 50.59 changes. What I wasn't sure I understood from your
2 presentation, how would a change, the potential change effect looking
3 at 50.59, and I'll give you some context of why I'm asking the question.

4 50.59 is an area I know in the transformation paper
5 that it has some attention. It is one of those things, again, looking
6 back over the years that has come up. It came up after the San
7 Onofre in terms of the steam generator replacement 20 years ago.

8 We're a little bit more in the early to mid-'90s in terms
9 of the, I think the stability or consistency in the process. So it's one
10 that's, I think, important.

11 And, again, because it has this interface with what
12 license requirements, what tech spec requirements are and the
13 flexibility, which I think is necessary in terms of licensees being able to
14 work within them.

15 So if you could, with that long context for my question,
16 if you could talk about how you see the 50.59 aspects of these
17 changes being affected.

18 MR. KING: Of course. Actually, one of the, a focus
19 of the changes for the engineering inspections, is to increase our
20 focus on looking in how the licensee maintains their equipment over
21 time. Which, 50.59 is a very important aspect of that.

22 COMMISSIONER BURNS: Yes.

23 MR. KING: So, the more comprehensive engineering
24 team inspection, the CETI inspection, a lot of the existing two week
25 programs look at 50.59 would be bundled into that inspection. As
26 opposed to the focused one year focused engineering inspection.

27 COMMISSIONER BURNS: I see. I see.

1 MR. KING: So, a lot of that would occur in the
2 comprehensive engineering team inspection.

3 But it's absolutely, one of the objectives of the team's
4 recommendations is to increase our look how the licensee is
5 maintaining their equipment. Unless they look at, is the equipment
6 designed to their original design basis. It's more a look at things that
7 have changed over time and how the licensee is maintaining that.

8 COMMISSIONER BURNS: Okay, thanks. No,
9 that's helpful.

10 Dave, let me ask a question or two related to Pilgrim.
11 With less than a year before the planned shutdown, permanent
12 shutdown of Pilgrim, what do you see is the biggest challenges in
13 terms of getting back to Column 1 with the plant?

14 MR. LEW: Well, I believe that the CAL, the CAL
15 provides a good framework. And within it I think it identifies some of
16 the issues and challenges that the licensee has to accomplish and
17 complete before we have that level of confidence.

18 What I didn't cover, in terms of my discussion is,
19 some of the initial CAL follow-up team inspections were probably the
20 easier challenges. Moving forward, there are still certain areas that
21 they need to focus on.

22 Corrective actions, we just reviewed. Work control,
23 that's a challenging issue because by the nature of work control you
24 have to have all the organizations functioning well and communicating
25 well within itself.

26 Then you have nuclear safety culture, which will be a
27 challenge. And we're trying to look at preparing ourselves to be

1 ready to inspect and assess the licensee.

2 Particularly since right before the inspection on
3 nuclear safety culture, there will be a nullification of their staff of the
4 new organization and who will be continuing on.

5 So those are some of the things that we would have
6 to be mindful of and be thinking about. And those are some of the
7 challenges Entergy would have to address.

8 COMMISSIONER BURNS: Okay. And sort of a
9 follow on that, and I think I know the answer, it's not really a rhetorical
10 question is, this kind of improvement is not just related, I would think,
11 to operation, a plant in operation.

12 These improvements are important as it transition, I
13 would think you would agree, are important as it transitions to the next
14 phase, in terms of the decommissioning phase. And maybe you can
15 elaborate on that as well.

16 MR. LEW: Yes. I believe that there are elements
17 that are going to be very important. There are elements which may
18 not be asked, so when you develop a, when we get to the point and
19 there is still a confirmatory action letter in place, and we look at the
20 transition, at that point we'll review, okay, what is still important, what
21 is still applicable.

22 Because certainly, depending where they are in
23 decommissioning, the systems that are involved is much smaller.
24 Than we get to a point where the footprint is much smaller.

25 So those are the things that we will make a conscious
26 decision in terms of what is the right appropriate focus to transition
27 over.

1 COMMISSIONER BURNS: Okay. And finally,
2 Scott, if you could, really without trying to pre-judge anything, ANO
3 had an event last week. If you could speak to how that fits into where
4 the region will be and --

5 MR. MORRIS: Yes.

6 COMMISSIONER BURNS: -- particularly in the
7 contexts of this AARM assessment?

8 MR. MORRIS: Yes, thanks for the question. So,
9 just for the benefit of everyone, last week there was a, I got a call from
10 Mr. Larry Coyle who will be in the next panel, chief operating officer for
11 Entergy with oversight of ANO, and he called me and said, hey, Scott,
12 we're proactively, and I'm saying this as this is very positive,
13 proactively received a phone call saying we've got some elevated
14 leakage from a reactor coolant system, doesn't exceed our tech spec
15 limit but we're going to go ahead and shut the unit down, take a look
16 at it, understand what the problem is, and address the issue as
17 proactively as possible.

18 So, I'll just start by, I view that as very positive sign
19 and one that we've, a trend that is continuing. The unit was shutdown
20 and identified a leak from a system connected to the reactor coolant
21 system.

22 Ultimately determined, and we don't have all the
23 analysis yet --

24 COMMISSIONER BURNS: Sure.

25 MR. MORRIS: -- this is a live issue --

26 COMMISSIONER BURNS: Yes.

27 MR. MORRIS: -- but the plant was shutdown safely.

1 The unit was put into a stable condition, they promptly went after,
2 identified the issue, corrected the issue associated with the leakage.
3 Don't know the root cause as of yet. Some work needs to be done.

4 But then ultimately during restart there was an
5 additional challenge with the turbine bypass valve that failed open
6 during instrument airline failure.

7 But, again, in that case, when challenged, the
8 operators performed very, very well, conservatively. The plant was,
9 again, the plant was manually tripped and placed in a safe condition.

10 And once again, received information from site
11 leadership and, all up and down, horizontally, between Region IV at
12 the branch chief level up to the senior executive level about what's
13 going on.

14 And, again, it's a live issue, don't know the details of
15 all the technical issues, but when faced with some additional
16 equipment challenges, which are going to occur in complex facilities,
17 these are very complex machines, even Column 1 plants have events
18 like, issues like this all the time.

19 And the encouraging part of this, I think is in spite of
20 those issues, now we're seeing really, really solid performance on the
21 part of the operators. And the organization in large to communicate
22 what they're doing and how they're going to proceed.

23 So I view it as positive from a --

24 COMMISSIONER BURNS: So, again --

25 MR. MORRIS: -- we're still confident that they're in
26 the right place in the oversight, in the action matrix.

27 COMMISSIONER BURNS: Okay. And we'll stay

1 tuned. Thank you.

2 MR. MORRIS: Oh, let me just add, I'm sorry. We
3 did do, as with every event, we do what we call a Management
4 Directive 8.3 evaluation to determine whether using risk and/or
5 deterministic criteria, whether or not we should launch some sort of
6 special reactive inspection.

7 And we've completed those reviews and determined
8 that consistent with our program no special inspections are required.

9 COMMISSIONER BURNS: Okay. Okay, thank you.
10 Thank you, Chairman.

11 CHAIRMAN SVINICKI: All right, thank you very
12 much. Commissioner Caputo, please proceed.

13 COMMISSIONER CAPUTO: Good morning, thank
14 you all for your presentations. Very informative, very useful, I'm
15 learning a lot.

16 MR. MORRIS: Thank you.

17 COMMISSIONER CAPUTO: There is one area in
18 particular I want to focus on today, that I'm very interested in learning
19 more going forward, is engineering inspections in general. So, Mike,
20 I'm going to direct my questions to you.

21 Starting with environmental quality inspections,
22 environmental qualification. So the Nuclear Utility Group on
23 Environment Qualification, which has been around for, I guess some
24 30 years, has raised concerns about the backfit implications of EQ
25 inspections.

26 In particular, the Commission received a letter, I think
27 last fall, noting that certain elements of the inspections, which the

1 group believes reflect a NRC Staff effort that is not only outside the
2 framework in intent of the EQ program inspection procedure, but
3 which are simply inquiries into and challenges related to licensee's EQ
4 program licensing bases.

5 This letter cites backfit concerns. In that vein, there
6 are other quotes in the letter which I will not go into that further.

7 Mike, do you believe these assertions are valid?

8 MR. KING: Well, we were actually, through the
9 course of the beginning stages of those inspections, inspectors
10 identified fairly early on, some questions came up as to what was
11 considered in the EQ license basis and what was not.

12 Inappropriate with our inspection program, those
13 issues were capture as unresolved items. And we started to
14 accumulate a number of those unresolved items in the early days of
15 the inspections.

16 And about that time the NUGEC letter, we received a
17 NUGEC letter. And we responded, said, we hear you, we're going to
18 have a sequence of public meetings, which we've had initial public
19 meeting, and started to prepare our interpretation of the broader kind
20 of more generic topics on what is considered in the licensing basis
21 and what's not, to address those fundamental concerns.

22 So, to date, the inspection violations that have been
23 issued, we have not received feedback that those actual violations
24 that have been issued, the enforcement actions we've taken, have
25 been backfits. We have not received that sort of, and we don't
26 believe that to be the case.

27 But we are taking the time to ensure, through working

1 with NUGEC and our external stakeholders, that before we do take
2 enforcement action on that collection of unresolved items, we've
3 thoughtfully considered whether or not those issues are part of the
4 licensing basis and subject to enforcement or more in the backfit
5 arena.

6 So we're taking a careful approach to ensure that we
7 aren't heading in that direction.

8 COMMISSIONER CAPUTO: So, to what extent does
9 CRGR have a role in reviewing either the concept of the inspection
10 itself or these individual backfit concerns?

11 MR. KING: If we do get a backfit concern, certainly
12 that would fall into the realm of CRGR. As we develop the inspection
13 procedures themselves, the intent of the procedure is to verify
14 compliance with your existing licensing basis.

15 So, if we're designing the procedure right, the
16 inspectors will be verifying compliance with existing licensing basis.
17 So backfit should not be a concern.

18 So, CRGR did not review our inspection procedure as
19 we developed the inspection procedure, but that's not a normal
20 process of where we would engage the CRGR.

21 COMMISSIONER CAPUTO: So, it sounds like the
22 concept is fine but they're raising a concern that some of these
23 inquires revisit historically acceptable accepted practices, adding time
24 and burden without safety gain.

25 MR. MILLER: Commissioner, Chris Miller. I'm the
26 director for the division of inspection regional support, currently on
27 rotation down in Region II as the deputy regional administrator.

1 So, two points if I could to supplement some of Mike's
2 comments. He's right on target.

3 I met with the NUGEC group back in November. We
4 also met with them in a recent meeting in the last couple of weeks.

5 As Mike said, there has been, and I asked them
6 specifically because they said this, based on where we think you're
7 going with these things there could be some implications of backfit.
8 And both of those meetings, public meetings, I asked them
9 specifically, were there any instances.

10 Because we take those very seriously. Those issues
11 very seriously. We have a whole training program, and I want to tell
12 you about that next.

13 But very specifically designed to ensure the
14 inspectors are aware of backfit concerns and that they handle them
15 appropriately. Your question, and by the way, the answer to those, in
16 each of the specific times I asked those questions in those two public
17 meetings where, no, we don't have any specific examples we just see
18 that there's a potential for that. And I agree, there is potential.

19 These are complicated issues. You have to, there is
20 a number of layers of peeling back the onion to get to the specific
21 issues you're looking at.

22 Not to go into the original program on design, but
23 implementation of recent issues, recent modification, recent changes,
24 recent commitments that have been made.

25 COMMISSIONER CAPUTO: So, have the --

26 MR. MILLER: So, back to --

27 COMMISSIONER CAPUTO: So, have the inspectors

1 who have been conducting these EQ inspections, have they been
2 through the backfit training?

3 MR. MILLER: Yes, ma'am, they have. In fact, I
4 want to tell you about a recent backfit training that I just participated in
5 down in Region II. And it's happening at all the regions at their
6 counterpart meetings and it's happening across the agency with all
7 inspectors.

8 Which CRGR was integral part of helping design that
9 training and then working with NRR, OGC, and a number of other
10 offices to make sure that we had the right information getting out to
11 the inspectors.

12 Really good positive examples where scenarios were
13 developed saying, it's one thing to just read the requirements, it's
14 another one to say, well, how does this affect me when I'm going out
15 on the inspection trail and trying to figure out how to resolve these
16 items.

17 And there was a number of scenarios specifically
18 created to the different areas of inspection. And the inspectors
19 worked through those, had members of CRGR helping to help this
20 dialogue take place. And in the end we had some outstanding
21 responses back from, I know from the Region II staff and I've heard
22 from other regions as well.

23 COMMISSIONER CAPUTO: Okay, thank you. So, I
24 noted in the slides that, and watched from afar, a little bit, about the
25 agencies effort to improve the engineering inspection program.

26 Clearly there were efforts with the CDBI inspection,
27 component design basis inspection. And perhaps a lot of resources,

1 but not necessarily a lot of safety significance.

2 Then we moved to the design basis assurance
3 inspections and environmental qualification. Now presenting the
4 comprehensive engineering team inspection and focused engineering
5 inspections.

6 With the focused engineering inspections perhaps
7 being flexible or fluid, shifting depending on issues that may arise, in
8 all of this change, what is the staff doing to ensure that the changes
9 are not undermining the reliability principle of regulation, that they're
10 not unjustifiable in a state of transition, that we're making sure that
11 whatever changes are being driven will, in the end, be safety,
12 beneficial and worth the resources and worth the transition?

13 MR. KING: Well, I guess first of all I would say that
14 the areas of focus that we would use, as part of the focused
15 engineering inspections, the entering principle there would be, it would
16 need to be risk informed selection of those areas.

17 So I mentioned the power operated valves. Those
18 are important active components in safety systems. And there's been
19 challenges in that area in the past. So that's an area --

20 COMMISSIONER CAPUTO: I'm sorry, I'm confused,
21 isn't that covered under the maintenance rule?

22 MR. KING: Yes.

23 COMMISSIONER CAPUTO: Wouldn't that be,
24 power operated valves, wouldn't those be inspected under the
25 maintenance rule?

26 MR. KING: Yes. Within the baseline inspection
27 program, there is the ability to sample across more.

1 But what we're talking about here is, sending a team
2 of inspectors out in a focused manner to look at this category of risk
3 significant components. So, it's more of a focused looked in areas
4 where we haven't looked at it in a focused way in some time.

5 And, as a result of lessons learned in the past, this
6 has been a recurring kind of area of suggested improvements is, build
7 your ability to look at areas where you're recent operating experience
8 indicate you ought to take a look at or areas where you haven't looked
9 at, in more of a focused way in some time, that are risk significant.

10 So those are kind of the principles which we'll be
11 following to identify those areas. And as part of our routine process,
12 we would inform you of those selected areas. And we intend to work
13 with industry to help identify what those, and the public, on, identify
14 what those areas would be ahead of time.

15 COMMISSIONER CAPUTO: Okay, I'm sorry, one
16 quick follow-up. I'm a little confused.

17 For areas that are risk significant but haven't been
18 inspected in a while?

19 MR. KING: In a focused way, yes.

20 COMMISSIONER CAPUTO: And under risk
21 informing, shouldn't we be focused on things that are risk significant?

22 MR. MCCREE: So, Commissioner, great question.
23 One of the things that we inclined our ear to 22 years ago, when the
24 Commission issued the PRA policy statement, was a recognition that
25 we were to implement a risk informed performance based process.

26 And that is using PRA to the extent practical. And
27 certainly taking qualitative risk into consideration to know what could

1 happen, how significant it is and how likely it is and what the
2 consequences are. But also, to recognize performance issues as
3 they arise.

4 When the Davis-Besse event occurred in the 2002,
5 yes, one of the lessons learned was that we had required a boric acid
6 corrosion program. It was a generic issue resolved back in the, I
7 think early '90s or '80s.

8 Some inspections had been done but we had not
9 institutionalized inspection oversight of boric acid control programs in
10 our procedures. So we didn't not look at it yet.

11 That was the root among the causes, apparent
12 causes, of the degradation and the head of Davis-Besse. So among
13 the lessons learned that we gained was we need to take a risk
14 informed, performance base approach to integrating a periodic look at
15 previous processes that we had inspected, closed out, like
16 environment qualification. Which we closed out in the '80s and early
17 '90s.

18 But because of the importance of those programs,
19 why is it important? What do we do and why do we do it that way?

20 We haven't looked at environmental qualification in a
21 long time and we recognize that people implement processes, and
22 because people are flawed, the processes may fail or they may not be
23 implemented. So as a safety regulator, we need to build an
24 appropriate scaled approach to ensure the effectiveness of those
25 processes. And in an efficient way.

26 So, several years ago we had the opportunity in
27 looking at the engineering program to see how we could augment a

1 look, an observation, a sample of environmental qualification in a
2 responsible way to confirm that those programs were being
3 implemented acceptably.

4 Acceptably separately, the Commission asked that we
5 take a harder look at our backfit processes. And we've done that.

6 So, we happen to be at a time where we're ensuring
7 discipline and implementation of the backfit process while at the same
8 time, taking a look, an appropriate look, at environmental qualification.

9 And when we finish EQ, we're going to look something else to make
10 sure that that appropriate risk significant program is also examined.
11 So that's why we're doing it.

12 CHAIRMAN SVINICKI: Okay, thank you.
13 Commissioner Wright, please proceed.

14 COMMISSIONER WRIGHT: Thank you. Good
15 morning.

16 MR. LEW: Good morning.

17 MR. KING: Good morning.

18 COMMISSIONER WRIGHT: It's quite informative,
19 and there's a lot of reading. A lot of acronyms and things that I've not
20 seen before, not familiar with or have seen them but not as often as
21 you do.

22 So, let me ask you a couple of questions in my ten
23 minutes that I have. David, you talked about that Pilgrim seems to be
24 making progress but you caution some of the items, the action items,
25 in the CAL, they remain to be, I guess, demonstrated, inspected,
26 whatever. As far as sustainability and all that.

27 So, having heard some of the challenges at Pilgrim,

1 related to sustainability and performance improvement today, through
2 some of the questions we've already heard, let's go to the flip side of
3 that. Can you just tell me what you see as Pilgrim's biggest area of
4 improvement?

5 MR. LEW: I think they have made significant
6 improvements in a number of areas. One, is in terms of the rigor by
7 which they perform their activities, the questioning attitude, the
8 improved identification of corrective action items.

9 Which in the past they had not done. And also
10 contribute to them not being able to address the underlying issues.
11 So they have made significant progress.

12 I do have the resident inspector here from Pilgrim
13 here and he can certainly share, if he wants, his perspective as well in
14 terms of what are the greatest improvements that he's seen while he's
15 there.

16 MR. PINSON: Sure. Thanks, Dave. And good
17 morning, Chairman and Commissioners. My name is Brandon
18 Pinson, I am the resident inspector at Pilgrim. Been there about two
19 years now.

20 As Dave said, we have noticed a number of areas of
21 improvement over the last two years. Conservative decision making,
22 really over the last year has improved greatly.

23 I think the biggest contributor to that is likely the new
24 leadership that was brought in and the really driving the standards and
25 accountability down through the organization. We see that in the
26 control room daily, we see that in the pre-job briefs in the shops.

27 They're really able to penetrate down through the staff

1 at all levels, which wasn't happening before. So I think that's
2 probably one of the bigger areas of improvement.

3 Additionally, Dave talked about work control as being
4 a challenge. We have seen improvement in that area as well,
5 however, one of the big factors that was leading to challenges before
6 had to do with not being able to efficiently get out of work windows.
7 And recently we've seen that's not been as big of an issue.

8 COMMISSIONER WRIGHT: Very good. Thank you
9 very much.

10 MR. PINSON: Thank you.

11 COMMISSIONER WRIGHT: Thank you for that.
12 Scott.

13 MR. MORRIS: Sir.

14 COMMISSIONER WRIGHT: I'm the new guy on the
15 block so I'm still trying to, I'm just not going to assume anything at all,
16 so some of these questions may seem a little bit trivial to you but
17 maybe, for me, I think I have an idea about some of this but I just want
18 to, I want to confirm it with you.

19 In your discussion of ITAAC, at Vogtle, the
20 inspections at Vogtle, you mentioned that the staff may need 21,000
21 hours to complete those inspections at Unit 3 and then on Unit 4 you
22 thought it could drop down to maybe 15,000. Is that right?

23 What is your, what do you think the key drivers are for
24 that?

25 MR. KROHN: First, I'm Paul Krohn.

26 COMMISSIONER WRIGHT: Right.

27 MR. KROHN: So, from a construction ROP

1 standpoint I'll try to address that. I think initially we based our
2 estimates on the '80s and '90s construction model, and AP1000 is a
3 different construction model, so I think that's one of the drivers.

4 The other drivers are, as the licensees have gotten
5 more detailed construction schedules, we've been able to look at
6 those schedules and do more detailed planning. So we have been
7 able to monitor and refine our estimates.

8 So I think that's probably the biggest driver in revised
9 21,000 inspection hours for direct ITAAC inspections for Unit 3.

10 Now, we do expect to gain some efficiencies, so that's
11 why when I commented on Unit 4 we expect to get back down to
12 15,000.

13 COMMISSIONER WRIGHT: Okay.

14 MR. KROHN: So it's really overall just a question of
15 being able to sharpen a pencil and refine our estimates. From what
16 was otherwise a reasonable guess, if you will.

17 COMMISSIONER WRIGHT: Okay.

18 MR. KROHN: To start out based on the '80s and
19 '90s experience.

20 COMMISSIONER WRIGHT: Right. Right, and I
21 apologize for calling you Scott. And I apologize for calling you Paul.

22 (Laughter)

23 COMMISSIONER WRIGHT: So, Scott, I'm going to
24 come back to you, okay. To follow-up on Commissioner Burns'
25 comments earlier about ANO Unit 1 and the small leak that they had
26 coming out of the outage last week and the small, the reactor trip on
27 Saturday.

1 You mentioned that you got a proactive phone call
2 and that you felt very positive about that, which I agree with, I think it's
3 very proactive. So let me ask you this.

4 Do you think, and you've talked about today, you've
5 talked about some things that were reflected in the licensee's
6 response of how we've done things, do you think that the performance
7 improvements that you've talked about today were related or reflected
8 in the licensee's response to these issues?

9 MR. MORRIS: Oh, I absolutely do. Thanks for the
10 question.

11 The underlying reasons for why the two units in ANO
12 found themselves in Column 4, I covered in some depth the least, not
13 the least of which is just fundamental safety culture challenges.

14 And Entergy has invested a great deal of effort in
15 enhancing their safety culture from senior leadership on down. We
16 see that day-to-day, from our resident inspectors to our specialist
17 inspectors, the site visits that we make, the interactions that we have
18 at my level and even more senior levels, with Chris and his team and
19 even the board of directors, annual meeting with Entergy, fleet
20 meeting in typically the last couple of August's.

21 It's just been a, I think a sea change in the way that
22 they've just fundamentally approached their business. And focusing
23 on fixing the plant, working with the people, getting the people the
24 right, having the right number of folks with the right skills, focused on
25 the right things.

26 And, again, we see this even at the, we're beginning
27 to see this emanate across the entire fleet. So it's been very positive.

1 And I do think it's a direct, the performance over the last week is a
2 direct reflection of that.

3 Again, there is still going to be equipment challenges
4 because they're complex machines, but it's how they're, when
5 presented with those challenges, how they respond to those.

6 COMMISSIONER WRIGHT: So, with what you'd
7 seen with Unit 1 at ANO, and just the overall culture that seemed,
8 maybe seems to be changing or the new things that are implementing
9 from a leadership top down, making sure it filters through, we just
10 heard that happening at Pilgrim.

11 MR. MORRIS: Yes.

12 COMMISSIONER WRIGHT: Is this something that
13 you think is beginning that was beginning at Arkansas Unit 1 and then
14 is something that can be transferable and can be mimicked in other
15 plants across the fleet?

16 MR. MORRIS: I mean, I do think so. I'm sure Chris
17 and his team will address that when they have their opportunity here
18 shortly, but I'll just say that a lot of things have been, and Dave can
19 confirm this, that a lot of things have bubbled up from the ANO
20 experience, to the corporate level and then across and down.

21 And there's a lot of reasons for how and why that's
22 occurred, but I think the short answer to your question is yes. And we
23 do see it and it's been very positive.

24 And I'll just mention one thing. The fact that they are
25 now a formal safety culture monitoring program with designated staff
26 whose essentially their job it is to point out challenges and to do
27 real-time coaching and mentoring for safety challenge types of

1 questions that they can get asked, I think that's all very positive.

2 COMMISSIONER WRIGHT: Thank you.

3 MR. LEW: I will say that it is filtering through. I think
4 what we have seen, I've seen this at Indian Point as well, many of the
5 decisions that they make, in terms of operational, the decision making,
6 they do have fleet cause that do get impact across the fleet for their
7 views. And I think that's strengthen some of their decision making.

8 And also, there is a, there is this approach, which I
9 think is a positive approach, in which they're looking at fixing issues for
10 the long-term. Which is particularly important for plants like Indian
11 Point and Pilgrim. In which they have a set date that they plan to
12 shut down.

13 COMMISSIONER WRIGHT: Thank you.

14 CHAIRMAN SVINICKI: Well, thank you all very
15 much. I agree with Commissioner Baron that this is one of the most
16 important meetings that we hold over the course of the year, not just
17 because we talk about the results at certain licensees or the results of
18 the systematic looks that we're taking, we're talking kind of about how
19 we do, what we do and the philosophies that are behind it.

20 And I think that that's something, if that's not
21 something that we should talk about every year I don't know of any
22 other topic we take on that's more important than this.

23 I was very pleased that we have a resident inspector
24 in the audience, and I missed his name. But do we have any of the
25 resident team here from ANO?

26 MR. MORRIS: So, I brought along, our ANO
27 residents are all --

1 CHAIRMAN SVINICKI: Are busy?

2 MR. MORRIS: -- are busy.

3 (Laughter)

4 CHAIRMAN SVINICKI: Okay.

5 MR. MORRIS: The branch chief, Neil O'Keefe,
6 whose been monitoring this very closely over the years, his son is
7 getting married, but we've brought along his right-hand man, and
8 frankly an individual who's done quite a bit of the onsite inspections at
9 the facility over the last several years, John Dixon is here with me
10 from Region IV.

11 CHAIRMAN SVINICKI: Okay.

12 MR. MORRIS: So if there are any real, I brought him
13 along --

14 CHAIRMAN SVINICKI: Well, no, it wasn't about my
15 questions it's more if I manage my time well, which I hope to do, and I
16 think we've all run over a little bit, but I think it's just an
17 acknowledgment of what we were talking about.

18 There's so much content presented at this meeting
19 that I think Commissioners should take that time, and we have the
20 right experts in front of us.

21 But I'm going to return to resident inspector topics at
22 the end, if I manage my time well because, since I guess we only have
23 one from Pilgrim here, I want to say that I hope he knows that what he
24 does is the foundation of everything in reactor space that we're talking
25 about today. Including the assessments of the program as a whole.
26 All of that.

27 If we don't equip him and his peers to do that job and

1 do it well, then the rest of this develops systematic flaws as we move
2 up from the work they do to the ultimate expressions of having chief
3 nuclear officers and others sit in front of our Commission.

4 And it pleases me that Mike Johnson recently asked
5 for a systematic team to be chartered to look systematically at the
6 recruitment and retention and the success of the resident inspector
7 function and resident inspectors as individual NRC employees.

8 It troubles me that the results of the surveying and
9 focus groups done of resident inspectors is that they're not sure that
10 the agency and the Commission value their work, so that, I'll speak
11 only for myself, that's not something to have any doubt in. But there
12 are some possible changes to be made to that program that I know
13 are, the team put together some recommendations. Those are being
14 looked at now.

15 And I mean what I say about that being kind of the
16 foundation for success on everything else, so, I was concerned a few
17 years ago. I understand that we looked at a lot of routine reporting to
18 the Commission and we decided to be efficient about it and we
19 eliminated some of it.

20 It did worry me that anything that we take our eyes off
21 of, sometimes it has kind of an inevitable loss of management
22 attention as a result of that, I'm not alleging that in the case of the
23 resident inspector program, but we ceased to the kind of routine,
24 some of the routine reporting about the resident inspector program to
25 the Commission.

26 Others have kept an eye on it but I still sometimes
27 think that the routine reporting of something can be a forcing function

1 to make sure that it is getting the kind of high level care and attention
2 it needs, so I'm very supportive of this effort.

3 I want to hear more about the implementation of
4 things that we feel we can do to make sure that we have the boots on
5 the ground strengths regarding the resident inspector function, which
6 I'll belabor by saying, I think for the third time, I think is the foundation
7 of what we're talking about today in reactor safety.

8 I was going to turn to some of the assessments. I
9 want to start with Scott Moore because we haven't talked too much
10 about it.

11 Thank you for continuing, once again, to take a look
12 at the events. Principally they tend to arise in the medical, in both the
13 therapeutic and diagnostic technics, which as you mentioned, as we
14 do every year, there are many millions of these procedures. We end
15 up in an abnormal occurrence space of having a handful of things.

16 One thing you didn't mention, that continues to be
17 something I struggle with, is the normal occurrence. The medical
18 events we report to Congress pretty routinely.

19 The medical evaluation is that those will not have an
20 adverse health effect on the patient. And again, you mentioned that
21 these are purposeful administrations of radiation, which is unlike other
22 areas that we look at.

23 Often it is the failure to deliver a sufficient dose that
24 has an adverse outcome. Meaning, if you're trying to attack a cancer
25 or tumor or something, you need to make sure that you deliver enough
26 radiation to the source.

27 So, I know that for patients who are a part of that

1 reporting, I'm sure it's very unsettling to have their medical procedure
2 identified as a handful of abnormal occurrences throughout the United
3 States in a year. Particularly if it is the view of their medical team,
4 that it will not have an adverse health effect.

5 But, I agree with your statement that you want
6 medical procedures to be administered according to the medical
7 directive, and it is very, very important that that be done. And that is
8 the reason why we count those as irregularities or normal
9 occurrences. So I think that that's important to do.

10 I also share a view that we need to look
11 systematically at the baseline inspection program, the engineering
12 inspections, the entirety of the ROP. I do struggle to balance that
13 against the stability of the system.

14 Because there's the uniqueness here, we may be
15 looking at it systematically for our own continuous improvement and
16 evaluation. The issue arises though when it ends up having an effect
17 out in the regulated community that they have a number of things, like
18 our failure to train people or to give them the right knowledge, results
19 in a proliferation of things that may potentially be findings, may not be
20 findings, are the regulated entities expend significant resources as a
21 result.

22 Now, I'd like to step back and think there is just a
23 concrete and absolute good that comes out of it. I think in the area of
24 EQ inspections, while it's been a challenging, and there's a lot of
25 unresolved items, I think it fortified the action taken by the executive
26 director and the general counsel to systematically require that backfit
27 retraining be done throughout the agency.

1 I think we also identified the difficulty that we have in
2 getting our hands on the documentation that is for the historic
3 licensing basis. Some of these reactors, as we all know, were
4 licensed quite a while ago. Was an era of paper records.

5 I want to credit, the Staff has before the Commission
6 right now for voting, and I happen to support, a notion of accelerating
7 the digitization of records so that when we get to these matters, part of
8 the efficiency of just laying our hands on the right historic documents
9 so that we can resolve this with finality I think will be helpful.

10 Those are the kind of systematic things that we learn
11 as a result of the deep dives or the areas of focus for review. The
12 unfortunate effect is that in order for us to have our learnings, others
13 often have to expend significant resources.

14 Now, if we can fix, if we can find things and fix them
15 systematically, that has that absolute good going forward because as
16 we retrain individuals, as we fortify qualifications for various types of
17 things, as we find out maybe areas where we haven't equipped people
18 with the right knowledge and we can remedy that on a systematic
19 basis, then we nip problems in the bud going forward. So that is
20 important.

21 But we do need to strike the right balance. I would
22 note that the EDO's presentation at our regulatory information
23 conference, which is our big annual conference, he, himself, put up
24 some INPO statistics about the overall improved performance of the
25 U.S. operating fleet.

26 So, we need to have some balance where we look at
27 the number of declining findings. There are a lot of contributing

1 factors.

2 There is an element of improved performance across
3 the United States. The industry through the creation of INPO and
4 other mechanisms that they use, has worked to improve their
5 performance across the board.

6 And so the ROP somehow, through this assessment
7 work we do, it needs to be continually adjusted, it needs to be right
8 sized, we need to make sure that its implementation out in the field
9 has consistency.

10 I share the view of Commission Burns. I was here
11 for the IG report on finding the proliferation of non or low safety
12 significance findings.

13 I appreciate that we've tackled that in a systematic
14 way across the regions. I think that was important to do. Partly
15 because it's a nuisance to have a lot of things out there that aren't
16 significant, but moreover, I would hope that it would increase the
17 confidence of the American people in this entire, in this system.

18 When we have greater coherency in the
19 implementation and the results across the nation to give people the
20 sense of the granularity and integrity with which we approach this.
21 So, I appreciate all of these elements.

22 I think what makes our work so interesting is that we
23 have to balance a lot of these different factors. I think we take an
24 awfully good swag at it and we give it a college try.

25 But as we look in, and I also have a theory
26 unsubstantiated, so probably someone in my position should not
27 articulate unsubstantiated hypotheses, but this agency was in a

1 growth imperative starting in maybe 2005 to maybe, I don't know, like
2 2010. It took us a while to realize that the work wasn't going to
3 materialize and we shifted into, now a substantial number of years
4 where we first stabilized and now we've come down by quite a bit in
5 size.

6 But I think when an organization is growing like that,
7 the imperative is to bring people onboard and get them working. I
8 would suspect that our ability to onboard mentor and train people was
9 not as thorough as it had historically been.

10 And so when I hear things, like someone wasn't
11 trained on what to do with LARs at a particular plant, that might have
12 come down to a handful of employees that just didn't have the right
13 training or something, you know, something was missed or something
14 fell through a gap, that I think that it could be during that growth
15 imperative, you know, a lot of those folks have now risen to levels.

16 They might be a project manager, they might be a
17 branch chief, they might be a first line supervisor of some kind. Did
18 they not get the kind of apprenticeship, because I do think regulation
19 is a craft, as my colleague has called it, you don't learn it anywhere
20 else, did they not get the apprentice time that others got because we
21 were growing so quickly?

22 So, I think that we are uncovering some systemic
23 areas for improvement. Like backfit, like, I was surprised to learn
24 recently, I hope this is true, I didn't research it to a gnat's eyebrow, but
25 I learned that backfit training was dropped some years ago from
26 fundamental inspector qualification programs.

27 So I don't know how somebody knows whether or not,

1 maybe they're advancing something that's a backfit if we didn't train
2 them on backfit. I put on that on us. I mean, that's, these are
3 systemic things that people need to be equipped to have success in
4 implementing what we send them out in the field to do.

5 So, I'll just kind of conclude with those philosophical
6 thoughts. Everyone ran over a little so I'll let Victor respond, if there's
7 anything you'd like to say. Because we're giving you a month of
8 indulgence now as you run up to your retirement.

9 MR. MCCREE: Yes. Well, Chairman, thank you so
10 much for that, I was making so many notes. I don't know if my
11 thoughts are coordinated, but as this is my final Commission meeting
12 and final Agency Action Review Meeting, it's appropriate that it's an
13 Agency Action Review Meeting.

14 I'm having flashbacks that I'm sure Commissioner
15 Burns does as well. I'm thinking the old process, the watch list, the
16 trending list. We even had good guy letters trying to figure out, and
17 we've changed over time for a whole variety of reasons. All for the
18 good in my opinion. I believe we can do better.

19 Regarding engineering inspections, I recall, I mean,
20 we've had, it would be interesting to prepare a histogram of the
21 different types of engineering inspections we've employed from way
22 back in the day. Engineering design verification inspections, safety
23 system design and performance capability, electrical design
24 inspection, service quarter, and all kinds of inspections we adopted
25 after we incorporated risk safety system design performing capability
26 inspections.

27 All of which were driven by either areas where there

1 were performance issues or generic issues that we needed to focus
2 on more appropriately or balance efficiencies in our process. And it
3 would be interesting to see whether the programs were in place and
4 stable enough, long enough, for us to produce results.

5 I believe they were. And are. But it would be
6 interesting to see that.

7 Your observation about training and experience and
8 regulatory craft I believe is spot on and we do recognize an
9 opportunity to improve our wisdom and decision making in that area.
10 I think that will help us in the long-term. So thank you for it.

11 CHAIRMAN SVINICKI: Okay. Well, thank you.
12 And if your numbers are right, this is the 18th --

13 MR. MCCREE: It is.

14 CHAIRMAN SVINICKI: -- AARM. I've been 11 of
15 those. This is my 11th, so I don't know if any Commissioner would
16 have, could beat that record. But, again, thank you for that.

17 And I just, I don't have perfect ideas or perfect
18 wisdom about anything myself, I'm not sure if any of us do, but what I
19 look for is, are we looking to have the ROP for the fleet we regulate
20 now, not the fleet of SOWP, which was that previous process, which
21 had breathtaking subjectivity as been depicted by my colleague, but
22 we also, if it's truly risk informed it can't look, as performance of the
23 regulated fleet rises, our ROP has to be sized to that.

24 I think otherwise, to do otherwise is not risk informed,
25 it's just saying I want to have the same amount of findings or
26 inspection hours. And so, I don't know what the answer is, that will
27 require skill of the craft, as we're calling it.

1 But I think the assessments themselves are important
2 to do so I appreciate that. And with that, I think I went over more than
3 anybody else, I apologize for that.

4 We will take a break until 11:15. Thank you.

5 (Whereupon, the above-entitled matter went off the
6 record at 11:08 a.m. and resumed at 11:16 a.m.)

7 CHAIRMAN SVINICKI: Thank you. If I could ask
8 people to retake their seats, we will now proceed with the panel where
9 we will hear from Entergy Corporation.

10 And we'll have two panels with at least one of the
11 same participants, but first we will begin in discussing Pilgrim. Thank
12 you very much. Mr. Bakken, please proceed.

13 MR. BAKKEN: Good morning, Chairman Svinicki,
14 Commissioner Baran, Commissioner Burns, Commissioner Caputo,
15 and Commissioner Wright.

16 Thank you for inviting Entergy to join you this morning
17 to discuss our plans for continued improvement at Arkansas Nuclear
18 One, which we refer to as ANO and Pilgrim.

19 My name is Chris Bakken and I'm the Chief Nuclear
20 Officer. With me today for this portion of the panel is Entergy Chief
21 Operating Officer, Chris Costanzo, and our Pilgrim Site Vice
22 President, Brian Sullivan, in a subsequent panel.

23 And sitting behind me we have Entergy Chief
24 Operating Officer, Larry Coyle, and the Site Vice President for ANO,
25 Rich Anderson, who will join me for the second half of the panel.

26 I would like to first offer my sincere thanks to you and
27 to the entire NRC Staff for the important work you do in protecting the

1 health and safety of the public and the environment.

2 As we have continued our work to improve our
3 performance and return to excellence, the NRC's oversight and
4 feedback on how we can and must improve have been invaluable to
5 us, and we sincerely appreciate and value the role the NRC provides.

6 Next slide, please. At Entergy, our top priority
7 continues to be operating our facilities in a safe, concerned, and
8 deliberate manner. This priority is reinforced through our nuclear
9 excellence model in which safety is our bedrock value.

10 In addition to safety, our other values are teamwork,
11 always learning, integrity, and respect. These values form the STAIR
12 model, as we refer to it, and align with Entergy's broader company
13 values and promote a culture that supports our goal of achieving
14 excellence.

15 The STAIR model is prominently displayed throughout
16 our nuclear plants and our Headquarters building and it is
17 incorporated into our meeting and communications structures. Next
18 slide, please.

19 Last year at this meeting, I introduced our STAIR
20 values and our multi-year nuclear strategic plan to you at a time when
21 we were building our foundation for a nuclear roadmap back to
22 excellence.

23 As I described previously, our nuclear
24 strategic plan is organized into three fleet focus areas, the first being
25 people with our Be Professional initiatives, the second being plant and
26 our Fix the Plant initiatives, and finally, process and our Operate as a
27 Fleet initiatives.

28 Entergy is executing a nuclear strategic plan with the

1 resources and support we need to return to excellence. Through the
2 Be Professional initiative, we have recruited, hired, and on boarded
3 nearly 1200 nuclear professionals with more talented additions to
4 come this year.

5 Under the Fix the Plant effort, we have invested over
6 \$600 million to date in equipment and plant upgrades and other
7 efficiency improvements across our fleet, which also correcting
8 numerous site and fleet operational issues.

9 We are improving our focus on operating as a fleet,
10 sharing best practices, operating experience, and lessons learned.
11 As an example of how we are executing our plan, we made 160
12 million investment in the Grand Gulf during the current extended
13 refueling outage.

14 Additionally, we supplied dozens of resources to
15 Grand Gulf from throughout the fleet to support this extended outage,
16 which was imperative to improve the plant's equipment and reliability,
17 and reduce risk so we could have better online performance and
18 importantly, remove challenges to our operators. This is
19 important at all our facilities but given Grand Gulf's challenges during
20 the last operating cycle, it's a key fleet focus area.

21 We are making good progress at ANO and Pilgrim
22 and are incorporating lessons learned from our recovery efforts at
23 those sites throughout our fleet, but we know that we have additional
24 work to do.

25 In 2018, we were focusing on changing our behaviors
26 in ways that improve our performance and sustain that improvement.

27 We recognize that we have opportunities to raise

1 expectations and positively effect change by reinforcing through our
2 actions, day after day, the nuclear excellence model, and the STAIR
3 model of our values.

4 Our expectation is to achieve excellence in
5 performance. Key to excellence is our commitment to an operational
6 focus where our licensed operators lead the entire organization in
7 ensuring that the highest standards are maintained and that all our
8 nuclear units are operated with the utmost focus on safety.

9 Also critical to excellence is our ability to find and fix
10 our own issues. We're using our prevention, detection, and
11 correction model as a key tool to prevent human performance errors
12 before they occur. Today, you will hear about the work we are doing
13 to return to excellence at ANO and Pilgrim.

14 ANO continues to be a critical long-term asset for
15 Entergy, the nuclear fleet, and the state of Arkansas. The facility
16 plays a key role in delivering electricity to our customers across the
17 state.

18 ANO is a major employer and is helping the local
19 community of Russellville become a better place to live, work, and
20 raise families. We have made great strides at ANO; sustainable
21 actions will drive continuing progress and return ANO to one of the
22 top-performing stations in the industry.

23 For Pilgrim, we're committed to safely operating the
24 station until it is shut down in June of 2019, and then safely through to
25 decommissioning. We're committed to executing our recovery plan
26 and finishing strong.

27 Our day-to-day focus at the plant centers on safe,

1 conservative, and deliberate operations, engaging the workforce and
2 striving for excellence every day. We continue to work with the goal
3 of returning the plant to Column 1 in the spring of 2019, prior to plant
4 shutdown.

5 Next slide, please. I'll now turn the discussion over
6 to the Pilgrim Site Vice President, Brian Sullivan.

7 MR. SULLIVAN: Thank you, Chris. Good morning,
8 Chairman and Commissioners. Thank you for providing us the
9 opportunity to discuss the progress we've made in Pilgrim's recovery
10 efforts from Column 4 and our ongoing efforts to return the station to
11 excellence.

12 It was just a little over a year ago that I was appointed
13 Site Vice President and I first spoke with you about Pilgrim's recovery
14 efforts. I am pleased to say we have made good progress in
15 completing our recovery actions and have transitioned to focusing on
16 achieving excellence in operations.

17 Last year I spoke to the Commission about three
18 things, our comprehensive recovery plan, safe plant operation, and
19 people. This year I will address these same topics, however, prior to
20 getting into these topics I would like to briefly discuss this past year's
21 annual assessment results.

22 The NRC's assessment letter made three key points.
23 First, progress has been made by new site leadership through their
24 reinforcement of site standards and expectations.

25 Second, there has been an overall improvement in
26 the performance of licensed operators. Lastly, however, a significant
27 amount of work related to performance recovery at Pilgrim remains for

1 Entergy to complete. Said differently, we must demonstrate that our
2 efforts are sustainable.

3 While I appreciate the recognition of our progress
4 during the past year, my focus during this presentation and my
5 ongoing focus in the next year will be on continued improvement and
6 sustainability. As we have progressed through our recovery, we
7 have leveraged the experience at ANO to accelerate our
8 improvement.

9 In particular, we applied lessons learned from ANO in
10 the conduct of our causal analysis, identification of our problem areas,
11 and ensuring appropriate resources are available during the recovery
12 phase to address anticipated increases in workload.

13 Use of our fleet experience in sharing lessons learned
14 has begun to show results. Additionally since last year's meeting with
15 you, we have completed three thorough but fair NRC confirmatory
16 inspections.

17 We have used each NRC inspection as a learning
18 opportunity to make each subsequent inspection more efficient for
19 both the NRC inspectors and the Pilgrim Staff.

20 As we progress through the confirmatory inspections,
21 we are looking towards the future for Pilgrim. The next step is
22 achieving sustainability of our improvements.

23 I would now like to shift my focus to the site's three
24 focus areas, safe plant operation, people, and process.

25 As I mentioned earlier when I spoke at this meeting
26 last year, I discussed two of the above three focus areas, safe plant
27 operation and people. We have subsequently added a third focus

1 area for process and I will discuss that topic later in my presentation.

2 In the area of safe plant operation, this is really made
3 up of two components: equipment reliability, meaning maintaining and
4 fixing the plant, and sound decision-making.

5 Last year I discussed our maintenance backlogs and
6 our focus on maintaining and fixing the plant. We have begun to
7 sustain our performance in this area with our indicators showing good
8 performance in corrective maintenance and backlog reduction.

9 While these are largely lagging indicators, there are
10 leading indicators that we track as well. Twice per month we review
11 our weekly schedule adherence, schedule completion, and
12 preventative maintenance activities with leaders across the fleet.

13 These indicators provide insight into work execution,
14 discipline, and teamwork. We have shown significant improvement in
15 these areas over the last year as well. While I would like to take
16 credit for these improvements, I have to defer credit to the entire
17 nuclear team's drive for consistent fleet performance in these areas.

18 This is a direct result of our fleet's nuclear strategic
19 plan and its Fix the Plant and Operate as a Fleet focus areas. We
20 have continued to invest in our plant to ensure it operates sufficiently
21 until permanent shutdown next year.

22 Most recently, we replaced our startup transformer.
23 This major undertaking was executed safely, ensuring all facets of
24 safety, industrial, environmental, and nuclear, were maintained during
25 the project.

26 We have also addressed malfunctions with our
27 feedwater regulating valves and took the station offline to ensure there

1 was not a feedwater-induced plant transient.

2 Again, we recognize that we will be remembered for
3 our actions in demonstrating safety as we complete the last cycle of
4 operation.

5 The second and perhaps the more important aspect
6 of safe plant operation is making sound, technical, and conservative
7 decisions. In the past year, we have consistently demonstrated these
8 behaviors.

9 During Tropical Storm Jose, when Cape Cod Bay
10 seawater temperatures challenged our ultimate heat sink, we
11 conservatively lowered power and made a conscious decision, based
12 on forward-looking predictions of seawater temperatures, to maintain
13 the plant at reduced power.

14 During Tropical Storm Grayson, the operating crews
15 took the actions, as directed in our storm response procedure, to
16 rapidly shut the unit down.

17 While it is expected that we would follow our
18 procedural guidance, and I understand this, I bring this point up to
19 highlight the operating crews readiness to take these actions and
20 ensure personnel had been properly briefed for that potential,
21 operating crews had received just-in-time training, and that the plant
22 would be safely maneuvered to a cold shutdown condition.

23 During a challenge with the leak in a feedwater
24 heater, benchmarks were set and the unit was removed from service
25 before it presented a challenge to the operators.

26 There are many other examples I could provide of
27 where we have established and demonstrated a change in station

1 culture, which is another important component of sustainability.

2 During recovery from the feedwater heater plant
3 outage, we postponed restart of the unit when weather predictions
4 were unfavorable.

5 I will now transition to people, and as I stated last
6 year, people health has a strong correlation to safe plant operation.
7 We need to keep our people engaged and focused. We are being as
8 transparent as possible about their options for the future.

9 Our Chief Executive Officer, Leo Denault, has made it
10 very clear that every Pilgrim employee will have a job post-Pilgrim
11 operation if they wish to stay with Entergy. Rest assured, however,
12 that we recognize our first priority is continued safe plant operation.

13 For the remainder of the cycle, we will maintain
14 consistent staffing to ensure we do not challenge the sustainability of
15 our performance improvements.

16 Regarding life after plant retirement, we are
17 communicating frequently with our employees to ensure they
18 understand what's coming and what resources are available to help
19 them through the transition.

20 We are using various methods such as Department
21 meetings with the Decommissioning Director, all-hands meetings with
22 station leadership, and through our newsletter, Making the Transition.

23 We are informing employees about their retirement
24 options and we recently held employee information sessions with the
25 Massachusetts Department of Career Services. We know it is
26 essential to provide a variety of resources to employees; not all
27 employees have the same long-term goals or long-term needs.

1 There is also an initiative underway to ensure
2 employees have access to training opportunities, for example, training
3 sessions in pressurized water reactor fundamentals through an
4 exchange program with Palisades and Indian Point Energy Center are
5 planned.

6 In addition, an engineering fundamentals and
7 professional engineer examination preparation class, project
8 management certification class, and waste-water treatment license
9 and preparation course, will all be offered over the next year.

10 We are actively engaged with our external
11 stakeholders, in particular in the Nuclear Decommissioning
12 Community Advisory Committee. Additionally, I have met with the
13 Plymouth Chairman of the Board of Selectmen to ensure we are
14 supporting the town and keeping the town informed.

15 Lastly, the process element. We have a site
16 excellence plan. The plan was developed using input from
17 Department excellence plans, and replaces the comprehensive
18 recovery plan which is being phased out.

19 We intend to drive station improvement by aligning
20 the Staff on actions over the remainder of plant life to sustain the
21 performance and behavioral improvements we've made in the last few
22 years. Our priorities also include continued improvements in work
23 management and preparing for life after plant retirement.

24 Next slide, please, next slide. Back a slide. We
25 remain committed to safe and reliable plant operations with the key
26 element being finding and fixing our own problems. This will be a
27 cornerstone of demonstrating sustained improvement.

1 We don't plan on declaring victory and being satisfied,
2 rather, we plan to continue making strides in our improvements in
3 leadership, operations, performance, and demonstrating the behaviors
4 necessary to return to Column 1.

5 Sustained performance improvement is our goal. We
6 will continue to engage our stakeholders on the status of station
7 improvements and the transition to decommissioning.

8 And most importantly, we will implement our vision
9 until we leave a legacy of excellence for the fleet. That concludes my
10 remarks, we welcome any questions.

11 CHAIRMAN SVINICKI: Thank you very much for that
12 presentation. We'll begin again with Commissioner Baran.

13 COMMISSIONER BARAN: Thanks. Thank you for
14 being here and for your presentations. On the first panel, Acting
15 Regional Administrator, Dave Lew, provided his assessment of how
16 things were going at Pilgrim.

17 Is there anything from his presentation that you
18 disagreed with or thought was unfair?

19 MR. SULLIVAN: No, there isn't.

20 COMMISSIONER BARAN: Thank you. Chris, at
21 last year's meeting, we talked quite a bit about the performance of the
22 operations team at Pilgrim. You're in a good position to compare
23 Pilgrim's performance to other plants at the fleet.

24 Have you seen an improvement in operations
25 standards and decision-making during the past year at Pilgrim? And
26 how does the current operations performance there compare to other
27 Entergy and non-Entergy plants?

1 MR. BAKKEN: We have seen continued and
2 sustained performance improvements there. We have been working
3 quite hard to ensure that. As I mentioned in my opening remarks,
4 one of the key focus areas for us to have strong operational
5 leadership at all of our sites. We've seen that improve significantly at
6 the Pilgrim station.

7 The other key focus area across the fleet is the focus
8 on safe, conservative, and deliberate operation, and if I can take a
9 minute to just explain what we mean by that.

10 In the past, I believe our organization has, at times,
11 been over-focused on production. So we've been very clear across
12 the fleet that our first and foremost responsibility is to operate the units
13 safely, and if we can't operate them safely, then take them out of
14 service and fix things.

15 It's our bedrock value and we've been very clear in
16 rewarding people for making decisions, quite candidly, that support
17 that perspective.

18 From a conservative perspective, we're not looking at
19 having our employees take undue risk with the plant or the equipment.
20 And again, looking to take the unit out of service, repair the
21 equipment or replace it as necessary, as opposed to continue to
22 operate with undue risk.

23 And in terms of being deliberate, we want them to be
24 careful and methodical about how they're operating the plant and
25 moving the unit. And in each of those areas, we have seen continued
26 improvements not only at the Pilgrim site but across the fleet.

27 Now, I wouldn't sit here and tell you we're done, we have

1 many opportunities to continue to improve, but one of the key things
2 we've been able to do as a fleet is provide more focus, more
3 governance, and more oversight as we've added resources to ensure
4 that we're driving those behaviors and those changes across the
5 entire fleet.

6 So, Commissioner, I do believe we've made
7 significant improvement; I think there's further improvement to be
8 made.

9 And my closing comment in this is one of the things
10 we are very keen to have happen is that when we do close Pilgrim, we
11 have as much of our Staff from Pilgrim transferred to our other plants.

12
13 So, it's important to us that we continue to build the
14 standards and the capabilities of that team so that when they come to
15 our other sites, they're a net positive addition to the other sites.

16 COMMISSIONER BARAN: As you noted Pilgrim's
17 plan to permanently shut down in less than a year, how big a
18 challenge is that for keeping the sites focused on improving
19 performance?

20 MR. SULLIVAN: It is a challenge. We did
21 recognize, well, we have recognized that challenge. We knew it was
22 going to be a significant event when we passed the one-year mark.

23 Because of that, we hold station stand-down meetings
24 with the employees to address any concerns, allow them to take a
25 breath, reflect on what they needed to do to stay focused, reinforce to
26 employees if they felt distracted or they couldn't remain focused, that
27 they were always to stop. And every employee knows that they can

1 stop any job, any time, for any reason.

2 We are continuing on with that, we're calling it
3 Transition Tuesday, where every Tuesday morning we're going to
4 have stand-down shop meetings in the Decommissioning Director
5 meeting with different shops, myself and other members of the station
6 leadership team going around, human resources representatives
7 going around, talking to different shops and finding out what's
8 important to that shop. Because they all don't have the same needs.

9 Generally, what people have been looking for -- well,
10 it depends where they're at in their career. If they're young in their
11 career, they're looking for career opportunities and what career
12 opportunities exist.

13 If they're in the middle of their career, it's a little bit
14 different, and if they're at the end of their career, they're looking for
15 retirement planning and what type of transitional services are
16 available.

17 That's why we brought in the Massachusetts
18 Department of Career Services. They provide outreach programs for
19 education, training, support, et cetera.

20 MR. COSTANZO: Just to add one more aspect of
21 that, part of the corporate governance in oversight so we also
22 recognize that as we start to approach the top-quartile indicators, both
23 in our fleets and in the fleets in the United States of America, we
24 continue to lower the threshold of each one of those, not too unlike the
25 Nuclear Regulatory Commission.

26 Because we're on a Column 4 plant, Pilgrim has
27 corporate governance and oversight on a monthly basis and we take a

1 look at those indicators and continue to drive those down.

2 And to answer a part of the question from before, the
3 aggregate look, which is almost a mathematical equation so we don't
4 have to guess whether or not Pilgrim is making improvements or not,
5 we have almost a mathematical equation.

6 There is certainly some subjectivity to that but have
7 raised from the bottom of the fleet to Number 5 currently. And I have
8 some commitment from the site that it will be Number 1 at the end of
9 the summer.

10 COMMISSIONER BARAN: Thank you.

11 CHAIRMAN SVINICKI: Thank you. Commissioner
12 Burns?

13 COMMISSIONER BURNS: Thank you for the
14 presentations and the update on the performance. I might have one
15 question for Chris Bakken with respect to the overall nuclear strategic
16 plan.

17 You noted your process goal, which is operate as a
18 fleet, and a number of elements can contribute to that goal including
19 driving consistency through a peer group.

20 Can you describe how that's being implemented at
21 the Entergy fleet? Entergy sites, excuse me.

22 MR. BAKKEN: If you go back to the second half of
23 2016, one of the things that we did was benchmark the industry to
24 develop a set of corporate governance documents that were best in
25 class.

26 So we did that through benchmarking. We started to
27 put them in place in the first part of 2017 and our real key focus for

1 this year is to remove all the site-specific procedures that deviate from
2 those corporate governance documents. And that may sound like a
3 simple thing to do but it actually is a pretty significant piece of work.

4 So each of the functional areas have a peer group,
5 they have done an assessment at each of the stations of where they
6 have deviations, and we have a plan on work-down curves that we're
7 tracking in terms of eliminating all the deviations from the fleet
8 procedures, with the goal of doing that by the end of the year.

9 One of the ways we're looking, then, to see if we're
10 being successful is if you look at the overall performance of each of
11 our units, we have a fairly wide band in terms of their performance
12 capabilities. And we expect to see that narrow in, and we track that
13 relative to other fleets in the industry.

14 So that's one of the things we would expect in the
15 next year and the following year, to see that band start to close in and
16 then have the overall fleet performance improve.

17 So we are tracking that quite carefully, it's one of the
18 things we review periodically with the Board of Directors as well.

19 COMMISSIONER BURNS: Thank you for that.
20 Most of my questions were asked by Commissioner Baron with
21 respect to some of the challenges you have, and particularly with
22 respect to the transition from operations to the next phase,
23 decommissioning.

24 The one thing I do appreciate that Mr. Sullivan
25 mentioned that I think has been important and I recognize is a
26 challenge, I have family up north of the Pilgrim area so I know, is
27 historically communication with the local government, local population

1 has been a challenge.

2 But I encourage those efforts, both in terms of the
3 efforts to improve plant performance, but as you also mentioned, as
4 you transition to the next phase. And I think those are important.

5 Thank you.

6 CHAIRMAN SVINICKI: Thank you. Commissioner
7 Caputo, please proceed.

8 COMMISSIONER CAPUTO: Mr. Sullivan, so Pilgrim
9 entered Column 3 in 2013, Column 4 in 2015. Obviously you have a
10 recovery plan that you devised and the Agency responded with a
11 Confirmatory Action Letter.

12 As the Staff reported, 25 percent of the action items
13 have been completed?

14 MR. SULLIVAN: That's correct.

15 COMMISSIONER CAPUTO: So prior to shutdown a
16 year from now, realizing your starting to manage people, work
17 management, all of that, how are you going to address that other 75
18 percent in roughly 11 months' time?

19 MR. SULLIVAN: It's actually a lot less than that
20 because we're looking to have our last inspection in December of this
21 year. We have a separate Recovery Department and a Recovery
22 Director responsible for developing the recovery plan and he's
23 responsible for implementation of the recovery plan. We're
24 leveraging the fleet to provide assistance to us to help us get ready for
25 the inspections, to review our plans, make sure we're ready for the
26 inspections. We do recognize that challenge; we have the resources
27 available to meet that challenge.

1 We're also working with the Region and we have
2 worked with the Region to accelerate the delivery of the
3 documentation needed to close out or action plans so that we're
4 working more efficiently and we're doing a lot more work in parallel
5 that we were otherwise doing in series.

6 COMMISSIONER CAPUTO: Okay. Mr. Bakken,
7 we've heard a little bit already just about maintaining morale and the
8 quality of work at Pilgrim, but Entergy will close three sites over the
9 next three years.

10 How are you going to manage morale and retention of
11 qualified personnel fleet-wide?

12 MR. BAKKEN: We recognize that's really one of the
13 key challenges that we have.

14 We remain committed to operating the plants safely
15 and reliably right through to the end of operation, and obviously, we
16 have stewardship for getting the fuel safely to the pad and then
17 monitoring that until, ultimately, at some point it's disposed of.

18 We early on recognized that would be a challenge.
19 We put in place what I would argue are some fairly generous retention
20 plants so to incent people to stay through certain phases of the
21 closure. And the other key point and it was mentioned earlier is from
22 a corporate perspective and from a Board of Director's perspective,
23 we've been very clear with our workforce that if they're willing to move,
24 we have opportunities for them in the rest of our fleet, not only in the
25 nuclear portion of the company, but across the entire enterprise.

26 So that actually has been, I would say, a stabilizing
27 impact with our workforce. We have been tested in that, we worked

1 through it for Vermont Yankee, soon we'll be testing that at Pilgrim.

2 But I can assure you from the Board level on down,
3 there's a very firm commitment that if the people are willing to move,
4 they'll stay employed with us. Those things, quite frankly, have
5 helped us retain the people.

6 The other thing that I believe has proven to be quite
7 helpful is the fact that we're continuing to invest in and improve the
8 plants.

9 So if you were to visit our plants, even these plants
10 that are shutting down, we're making capital improvements to the
11 plant, we're redoing coatings, we're fixing parking lots. We're doing
12 all the things that you would do if the plant were to continue to
13 operate.

14 So that's an intentional strategy to be very clear to the
15 team that we're going to work to continue to improve the reliability and
16 the safety of this asset right up to the day it closes. And that also, the
17 employees have seen.

18 So our attrition rates have been quite reasonable and
19 we're watching it closely, but those things taken together have been
20 quite impactful in a positive way.

21 COMMISSIONER CAPUTO: Thank you.

22 MR. COSTANZO: Just to add one more thing, in
23 addition to that, we found out -- because we've done surveys with
24 almost every employee at Pilgrim, and asked what their future is, do
25 they want to stay with potentially a third-party seller after the plant
26 shuts down -- overall, the majority of the people that we have
27 surveyed want to know what's going to happen next.

1 So Mr. Sullivan had described some of the training
2 aspects that we're providing but in addition to that, we're looking at
3 training throughout the fleet.

4 So in other words, we may even postpone some SRO
5 classes if there's some instant SROs at some of the sites, or some
6 reactor operators, that would like to get a license at a different plant.

7 And we're organizing and orchestrating throughout
8 the South all those courses so that we can give them a little bit of
9 assurance that they can understand what their future is going to bring.

10

11 And we believe, through their interviews with them,
12 that's probably one of the more reassuring things with regards to
13 retention for our employees.

14 CHAIRMAN SVINICKI: Thank you. Commissioner
15 Wright?

16 COMMISSIONER WRIGHT: Thank you. A lot, if not
17 everything, that I was thinking about has been addressed.

18 And I guess I can start with Brian but it's open to any
19 of you guys to respond to this. The Staff in their annual assessment
20 letter, which was back in February, I think the 28th, indicated they had
21 observed progress by the new site leadership.

22 And it was confirmed by the site inspector here today,
23 which was very positive. But one thing that the Staff also mentioned
24 was that one of the areas remaining to inspect as part of the recovery
25 plan actions was the safety culture issue.

26 Now, I've heard today some really good things that I
27 wasn't aware that you were doing; I'm really excited to hear it.

1 And I don't know if it's a question or a comment that's
2 in this or just maybe a comment on your part, but morale, motivation,
3 how do you keep them focused with all the stuff that's going on? Is
4 that an issue or a problem at all?

5 There's things that you're doing are trying to help and
6 assist, but is there more? I know it's a very difficult issue.

7 MR. SULLIVAN: Surprisingly, and I say that that
8 way, it hasn't been an issue. And I have previous experience at
9 FitzPatrick Station where we went through an announced shutdown
10 and then the sale to another company where the plant kept running.

11 Employees become very engaged in wanting to close
12 the unit down safely and wanting to leave a legacy of excellence. So,
13 that is something that won't do it by itself but that is a very positive tool
14 that can be leveraged.

15 The other things we've done, we have a site
16 excellence plan, we have site focus areas. Each department has
17 focus areas that build towards the site focus areas that build towards
18 the fleet focus areas. And each individual has written down in a book
19 that they carry with them what they're doing, their individual actions
20 that they're taking to leave a legacy of excellence.

21 So, it's just primarily providing the leadership, the
22 alignment that people can focus around. We have a mission, safe
23 and event-free operation. It's very clear, very simple.

24 Vision is leave a legacy of excellence and from that,
25 everything else builds to that: being open and transparent with the
26 employees about the opportunities going forward, our Chief Executive
27 Officer visiting the site with the Board of Directors, highlighting Entergy

1 corporations' commitment to every employee that wants to have a job
2 will have a job.

3 And for the folks that don't, we're still doing things to
4 help them prepare through the training opportunities that we've
5 discussed.

6 COMMISSIONER WRIGHT: So, I do subscribe to
7 the finish well motto, I do agree.

8 CHAIRMAN SVINICKI: Thank you. If everything
9 hadn't been asked when Commissioner Wright was recognized, now
10 it's really been asked. But let me get into the realm of a few quick
11 items that are probably not central to the safety mission but would
12 inform my understanding.

13 Mr. Bakken, if you had to from one to ten put a degree
14 of absolute firmness to the shutdown date for Pilgrim, ten being that's
15 an absolute firm date, where would you put that on the scale?

16 MR. BAKKEN: Unfortunately, I would put it at a ten.

17 CHAIRMAN SVINICKI: Okay, it's just we have had
18 sites that have closed before the termination, ending, of their licensed
19 operating period. It's sometimes announced so far in advance that
20 there's some fluidity, and then they might move it up a little bit.

21 They tend not to move it out. But in any event, we're
22 so close now to the projected date that I presume that would be the
23 answer, but I just wanted to check my understanding on that.

24 And then in terms of Commissioner Caputo's question
25 about 25 percent of the CAL items being closed, just to clarify for my
26 own understanding, it may be, though, that you have implementation
27 or substantial partial completion on other items in the CAL?

1 Now, that doesn't mean you've only started to work on
2 25 percent so that for the big, arguably, the largest inspection that
3 comes in December, you have varying degrees of progress on the 75
4 percent of open items?

5 It's just that they're not closed until they're inspected
6 and then closed? Is that accurate?

7 MR. BAKKEN: That's accurate.

8 CHAIRMAN SVINICKI: Okay, thank you. And then I
9 know that you've communicated that there's a corporate commitment
10 that employees at sites shutting down, if they're able to move and
11 willing to move, there would be other opportunities.

12 What's been the general experience of Entergy or
13 perhaps industry-wide? My sense is that many employees elect not
14 to take you up on that offer. So for maybe Vermont Yankee or
15 something, maybe even if we narrowed it to just operators.

16 You talked about that's a class of people that might
17 choose to move to another site, you might have some instant SROs
18 and things like that, but what's the experience? Is it relatively few?

19 MR. BAKKEN: I don't recall the specific statistics
20 from Vermont Yankee, but what we're seeing is an increasing interest
21 in moving.

22 So we're also trying to give the employees
23 opportunities to work in some of the Southern plants for a short period
24 of time to get a sense of what it's like.

25 But I can just tell you from personal experience most
26 recently at Indian Point, there's far more interest there in relocating
27 than we had seen at some of the other plants.

1 So I think as it becomes closer and it becomes more
2 real and we're giving people an opportunities to see what it's like to
3 work and live in the South, we're seeing more traction.

4 So I would say that we probably plan on roughly 25
5 percent, but we expect to perhaps see more than that. And, Chris, if
6 you have better stats please jump in.

7 MR. COSTANZO: No, that's accurate, Chris, I would
8 just put some of it in context. The first Phase 1 organization, if I have
9 a 600-people contingent at the site, half of that is reduced.

10 300 people are available to move but I need 300
11 people to be able to safely get into what we call Phase 1, until the zirc
12 fire period of time is over, and then you can do another reduction.

13 So, when we talk about the numbers, it's really 300
14 and 30 percent of those people, 20 to 30 percent of those have
15 indicated to us through those surveys that they're willing to move.

16 Many of those folks are I guess the right word is
17 experienced and have decided that they may want to retire with
18 Entergy. But certainly, there's some youth in the workforce that does
19 want to move and we're providing that.

20 MR. BAKKEN: Interestingly enough, we're recruiting
21 new employees as Palisades who completely understand that they'll
22 be moving south at the end of their training and their work there.

23 So there's people actually joining the company,
24 understanding that they're going to work at one asset for a period of
25 time and then move to another. So we've recruited people with that.

26 CHAIRMAN SVINICKI: Well, I'm glad I asked the
27 question then, it may have been my general sense that people were

1 not mobile.

2 Maybe it was more accurate historically, but it wasn't
3 rooted in what's happening now, and it may be compounded by both
4 what Commissioner Caputo observed, is that within your own fleet you
5 have anticipated shutdowns.

6 Also, nationwide there are a number of units, and it
7 may have been that previously, people didn't move with your company
8 because there were other operators nearby that they could perhaps
9 be competitive for a position within the state they worked, if it was a
10 different fleet.

11 And it may be that the opportunity space is narrowed
12 and so they're more vigorously pursuing other opportunities with their
13 current employer anyway. I'll leave that to some MBA student to
14 analyze at some future time.

15 With that, we will pivot and I think we need to reset
16 the table just very quickly. We will not take a break but we will now
17 move into the third and final panel where we will discuss Arkansas
18 Nuclear One. And again, we are swapping out nameplates and
19 having individuals take their seats.

20 Thank you very much as you get seated at the table.
21 I'll just give you a moment to get your papers settled. But again, I will
22 turn this over to Mr. Bakken to initiate this panel discussion. Thank
23 you.

24 MR. ANDERSON: Thank you, Chris. Good
25 morning, my name is Rich Anderson and I am the Site Vice President
26 of Arkansas Nuclear One. With me today, I'd also like to introduce
27 Larry Coyle, our Chief Operating Officer responsible for ANO. Next

1 slide, please.

2 Thank you. Chairman and Commissioners, I
3 appreciate the opportunity today to provide an update on ANO's
4 performance and talk about how we've transitioned from a recovery
5 organization to an organization focusing on sustained performance
6 improvement with the drive to achieve excellence.

7 When I was named the Site Vice President in 2016,
8 ANO was already in the process of implementing their comprehensive
9 recovery plan, which contained actions from the Confirmatory Action
10 Letter. We committed to these actions with the intent of achieving the
11 level of performance required to move back to Column 1 performance
12 within the NRC ROP matrix.

13 The follow-up inspections by the NRC were tough and
14 rigorous but they were fair. The site gained insights from each of
15 those inspections and was able to incorporate the learnings from
16 those inspections into our future actions, and has made substantial
17 progress at the site over the last year and a half.

18 This progress is attributed to the line organizations
19 ownership of these actions and driving them through with a committed
20 workforce and strong support from our unions at the site.

21 We are pleased that the NRC has acknowledged the
22 performance improvements that would warrant returning ANO to
23 Column 1 performance.

24 The ANO team has performed a lot of hard work over
25 the last 18 months, and with the help of the Entergy fleet and the
26 industry, to achieve these performance improvements.

27 I assure you that we will sustain our momentum and

1 our line managers will continue to be the drivers of performance
2 improvement as we move forward to continue our journey to
3 excellence.

4 We will continue our performance improvements
5 guided by our Pursuit of Excellence plan, which aligns with the fleet
6 nuclear excellence model and our nuclear strategic plan.

7 Our ANO Pursuit of Excellence plan was developed
8 with focus on those areas that drive overall performance improvement,
9 including strong leadership fundamentals, excellence in equipment
10 reliability, and training that ensures a highly-qualified and proficient
11 workforce.

12 In addition, we have Department excellence plans
13 which were developed with targeted improvement opportunities, and
14 they complement our site Pursuit of Excellence plan.

15 And these are continuously updated based on
16 performance findings, input from both our own self-assessments,
17 benchmarking, and other external feedback, and we continue to
18 evolve those.

19 Given that a strong nuclear safety culture remains an
20 overriding priority, the elements to continue to improve nuclear safety
21 culture are incorporated into those three focus areas.

22 Under the leadership focus area, ANO is emphasizing
23 a high level of operations, leadership, and employee engagement, and
24 use of our fleet processes to achieve strong safety performance and
25 operational excellence.

26 These leadership fundamentals will create a
27 workforce that are aligned with an operational focus to improve our

1 equipment reliability. And we'll have teams that we'll develop and
2 organize to manage workflow and address issues in a timely manner.

3 The station continues to adopt behaviors that support
4 an operations-led organization with having strong operations
5 performance. The use of the fleet prevention detection and
6 correction model, and our behavior-based safety program ensure that
7 we're reinforcing safety in all aspects.

8 That's nuclear safety, radiological safety, industrial
9 and environmental safety, and a strong security presence at the site.
10 To do this we use our corrective action program to make sure that we
11 are identifying and fixing our own issues and using them to strengthen
12 safety and our operational performance.

13 Our efforts to achieve excellence in equipment
14 reliability will minimize plant challenges similar to the challenge that
15 we've had over the last nine days, and will ensure the work-life
16 balance is improved for the employees at the site, our operational
17 focus is improved, and our long-range planning and reliability of
18 equipment.

19 As Mr. Morris mentioned in his discussion, we are still
20 working to ensure that our maintenance activities and projects are
21 being planned and executed with our work management process to
22 ensure high quality in accordance with our online and outage
23 schedules.

24 To accomplish these goals, actions are being taken to
25 align station personnel and programs to identify and prioritize actions
26 that improve our work management, maintenance execution, and
27 proficiency in our workforce, as well as that long-range planning.

1 Excellence in implementation of the training programs
2 and processes will produce a knowledgeable and proficient workforce
3 and as you've heard, we have greatly increased the staffing in our
4 training Department to not only account for the new employees
5 coming in but to raise the proficiency level of the employees that we
6 already have on Staff.

7 As a result, equipment reliability and station
8 performance will continue to improve.

9 In several areas, learnings from ANO and our
10 recovery have been implemented across the fleet at the fleet level and
11 will continue to be used to improve performance at all Entergy sites.

12 For example, the People Health Committee is a
13 periodic forum where we look at the knowledge, skills, and ability in
14 each of our Departments.

15 We look at projected attrition, any critical skillsets
16 where we need knowledge transfer and retention, or any specific
17 actions where we need to hire overlaps for critical skill sets before
18 those individuals reach retirement point or leave the company.

19 As part of the efforts to return ANO to our place as an
20 industry leader, it includes the processes the leadership, and a
21 mindset that we're always looking for ways to improve and ensure
22 long-term, safe, reliable plant operation.

23 As Mr. Bakken said, our goal is not just to achieve
24 Column 1 performance but it'll be a continuous journey to achieve
25 excellence at ANO and return ANO to its place as an industry leader.
26 Thank you.

27 MR. BAKKEN: I have some final closing remarks in

1 advance of the questions. In closing, let me say again how much we
2 appreciate today's briefing, your feedback, and the opportunity to
3 update you on our performance progress.

4 On behalf of my leadership team and the 7000
5 nuclear team members, I want to thank everyone associated with the
6 NRC for the regulatory oversight work that you provide every day in
7 protecting the public's health and safety.

8 Let me be clear, we're not where we need to be as a
9 fleet or as a team but we are continuing to head in the right direction.
10 As outlined in our nuclear roadmap, Entergy is focused on continuing
11 to improve our performance and sustaining the results, not just at
12 Pilgrim and ANO, but also across the entire fleet.

13 In 2018, we were taking lessons learned from our
14 performance recovery experiences at ANO and Pilgrim and applying
15 those across the fleet. We were acting with a sense of urgency and
16 closing our performance gaps.

17 It is also important to emphasize that we continue to
18 have the full support of Entergy Chairman, Leo Denault, and the
19 company's Board of Directors. Above all, operating in a safe,
20 conservative, and deliberate manner remains our number-one priority
21 as safety is our most important value.

22 Thank you, and this concludes our formal remarks
23 and we welcome your questions.

24 CHAIRMAN SVINICKI: Thank you. Commissioner
25 Baran?

26 COMMISSIONER BARAN: Thanks. Thank you for
27 your update on the performance and improvement efforts at Arkansas

1 Nuclear One.

2 I know the site still has challenges, as was mentioned
3 earlier; you just had a complicated scram there this past weekend.
4 But to be honest, at this point, I'm actually more worried about the
5 Grand Gulf plant in Mississippi.

6 Chris, when Grand Gulf had significant operations
7 issues in 2016, you made the call to temporarily shut the plant down to
8 begin addressing those problems. I appreciate how you approached
9 that situation with a safety focus.

10 Over the past year, Grand Gulf has continued to have
11 challenges in equipment reliability and human performance.

12 For example, last fall there were issues with a residual
13 heat removal pump that led to your staff shutting down the unit to
14 replace the pump. That was the right operator response but it's also
15 an indication of equipment reliability issues. Then last
16 month, human performance issues during maintenance resulted in the
17 temporary loss of a safety-related electrical bus.

18 What is your current assessment of operational
19 performance at Grand Gulf?

20 MR. BAKKEN: So operational performance had
21 been really a key focus area, and in particular as you mentioned,
22 Commissioner, when I took the decision to keep the unit out of service
23 for period of time and refocus our operational teams.

24 We have seen progress in particular in the operational
25 performance. We see a movement towards continuing improvement
26 in safe, conservative, and deliberate operations. We've also seen an
27 improvement in the resources available in operations.

1 As you may recall, we were pretty thin on the ground
2 in terms of licensed operators and non-licensed operators. We've
3 been able to bolster the ranks.

4 So from that perspective, we see Ops stepping
5 forward, they're starting to step into a leadership perspective, and
6 generally speaking, running the plant well and safely.

7 The challenges that we've had are really equipment
8 challenges that then put operations in a position where they have to
9 react. And candidly, we've had too many of those and that really is
10 the focus that we had coming into this extended refueling outage, was
11 to go in and fix as much as we physically could in the plant to remove
12 those challenges.

13 So, as I mentioned in my opening remarks, we have a
14 very significant scope in this outage. Money is one way of measuring
15 it, so a \$160 million outage is a huge outage, with the intention of
16 removing as many of the backlogging challenges to the operators as
17 we can.

18 So our expectation coming out of that outage in the
19 next several weeks is that the plant will be more robust and have less
20 challenges on the operators.

21 There are some things that we couldn't address in this
22 outage, so an example of that is turbine controls has been a challenge
23 for us.

24 We can't design, manufacture, and properly test that
25 in a timeline to put it in in this outage. So it will be next outage but we
26 have put risk mitigation in place.

27 So I think, in summary, we've seen good improvement

1 in operations performance, there have been too many challenges in
2 terms of equipment issues to operations, and we've been working to
3 close that gap.

4 COMMISSIONER BARAN: Thanks, what's your
5 sense of your assessment of the situation of the maintenance and
6 procedural adherence, particularly given this last event?

7 MR. BAKKEN: We've seen improvements in the
8 maintenance procedural adherence but what we have had are some
9 failures, frankly, in human performance and execution. So the issue
10 you described with the electrical bus, we had technicians remove the
11 wrong set of power transformer fuses.

12 So that's resulted in not just at Grand Gulf, but a
13 fleet-wide initiative, and what we're trying to think through, which I
14 won't get into, but we're taking the learnings from that specific event
15 and applying it across the fleet.

16 So, we still have opportunities where we need to
17 continue to improve that and we're focused on that.

18 COMMISSIONER BARAN: At this point, I appreciate
19 all the effort you're talking about, how would you compare Grand Gulf
20 performance to the performance of the other Entergy plants?

21 MR. BAKKEN: At the moment, Grand Gulf is, from
22 an operational perspective, our poorest performance unit and that's
23 the unit that is the top priority for us, not to reduce the commitment we
24 have to ANO and Pilgrim, but Grand Gulf is our key focus area today.

25 COMMISSIONER BARAN: Are there lessons from
26 Pilgrim and ANO that should be applied at Grand Gulf and that you're
27 going to be applying?

1 MR. BAKKEN: Absolutely, there are, yes.

2 COMMISSIONER BARAN: Well, thank you for being
3 here and for your candid assessment, I appreciate it. I encourage
4 you to keep focusing on this.

5 I don't think I have to encourage you, it sounds like
6 you're doing that already, but I don't want to see Grand Gulf here at
7 the next meeting next year or at a future meeting.

8 MR. BAKKEN: Commissioner, I was hoping this was
9 my last meeting so we'll see.

10 CHAIRMAN SVINICKI: Thank you very much.
11 Commissioner Burns?

12 COMMISSIONER BURNS: Again, thank you for the
13 presentation of the oversight. Chris, I think when I visited ANO I think
14 about two years ago, very soon, I think it was about a month or six
15 weeks after you started.

16 One of the observations I think you made then was
17 one of the things or the strengths, even in the recovery period, was
18 basically the operators. And you or Mr. Anderson had a comment
19 about how you see that and how they performed in terms of the
20 leadership, in terms of the recovery and getting back to good.

21 MR. ANDERSON: I can start with that and Chris can
22 add in, but as we got into our recovery, we had started focusing on
23 operator fundamentals so we did see generally good performance
24 from our operating crews.

25 But having seen other recoveries, I didn't want to wait
26 until the end and find that operations had lagged other departments in
27 the plant.

1 So along with the fleet initiative on high-impact
2 training for operators, we established that high-impact training at ANO.
3 It was two-week long for each operating crew.

4 I personally kicked off the training sessions, observed
5 some of the simulator training during the period, and attended their
6 management review meeting at the end.

7 And through that ten weeks of running our operating
8 crews through the high-impact training, we saw a step change in
9 performance, in their standards, and them getting a picture of what we
10 mean when we ask to be operations-led and operationally-focused.

11 So I think that has made a difference, the crews
12 continue to work on that.

13 I wouldn't say that we've arrived at excellence yet and
14 each crew has their own crew notebook where they focus on their
15 improvement items, they work on them on shift, and in the training
16 environment.

17 And we continue to see that improvement.

18 MR. COYLE: Commissioner, if I can also add one of
19 the areas we wanted to focus on from an operational standpoint,
20 notwithstanding the point of contact, was is there an ops-led
21 organization? What's the philosophy operators are continuously
22 driving operation focus?

23 And Rich and I arrived at the plant, one assessment
24 again was handling controls and the other one, we'll tell you frankly,
25 was a wrestle between the engineering team, because it may be an
26 engineering-led organization.

27 And we all know that to be the best, world class, you

1 need to have that operational focus driven from the operators holding
2 us all accountable all the way up through Chris.

3 So, under previous discussions we've had today with
4 the previous panel, that is what we're seeing now. So not only at the
5 point of contact but operations taking ownership, driving the backlogs,
6 driving us to make sure that we support them in being a world-class,
7 ops-led organization.

8 COMMISSIONER BURNS: Thanks, I appreciate
9 that. The interesting thing is the Staff had mentioned the robust
10 vendor oversight program that ANO has created following the yellow
11 finding related to stator drop.

12 Interestingly enough, I participated in an NRC
13 workshop last week with the vendor community. It's actually Paul
14 Krohn who was the moderator for the thing.

15 I was able to attend about half of it and actually, in the
16 break, Paul mentioned that in the afternoon session I missed, there
17 was a lot of talk about getting back to basics, Appendix B, Part 21 and
18 all that.

19 And it's an interesting attendance because it's both
20 people from I'll call it the vendor community as well as operator
21 licensees. And I think Chris, this is another thing and a theme I've
22 heard from you since we first met at ANO, that this sort of taking
23 charge, particularly in the vendor oversight and other types of things
24 has been very important. So, maybe somebody can just talk a
25 little more or elaborate a little more in terms of how the oversight
26 program is paying dividends for ANO or across the fleet?

27 MR. BAKKEN: I guess, Commissioner, the first thing

1 I'd mention is the program that we have at ANO has been
2 implemented fully across the fleet. In my remarks, I mentioned that
3 we had added 1200 employees over the course of the last 18 months
4 and it's probably another 400 or so this year.

5 A good portion of that has actually been to take in
6 house work that we actually subcontracted. So, in my opinion, in our
7 strategy we had become a bit over-reliant on contractors so we're
8 looking to bring those skills in house, whether it be contractor
9 oversight for the execution and modifications, design, project
10 management, project controls, the gamut.

11 So I would say we're about halfway through that
12 transition today and developing and redeveloping frankly some of our
13 competencies. So from that perspective, that is the intent, is for us to
14 be able to do more and be more self-reliant on our own.

15 We've seen better execution, although we still have
16 challenges and I know Mr. Morris mentioned the shutdown heat
17 exchangers which I think is a good example of extremely complex lift
18 that came off of that issue.

19 We recently moved the turbine generator rotor at
20 Grand Gulf without incidents, so we've seen some better performance.

21

22 I was waiting for you to tell me that some of the
23 supply chain community was less than happy with the level of rigor
24 that we have because we have had some pushback that we're a bit
25 over the top. But from our perspective, that's where we need to be.

26 MR. ANDERSON: Just to add to what Chris said, at
27 the site level, one of the first improvements we saw was improvement

1 in industrial safety during this last larger outage. And I kind of look at
2 that as a leading indicator of where you are on the rest of safety
3 forum.

4 And we executed our outage with one OSHA
5 recordable, which we don't want any, but it was an individual walking
6 and tripped over an item. But execution in the plant has been much
7 improved from an industrial safety perspective.

8 COMMISSIONER BURNS: Thanks.

9 CHAIRMAN SVINICKI: Thank you, Commissioner
10 Caputo?

11 COMMISSIONER CAPUTO: I think I'm going to add
12 my comments to a couple of my colleagues who have remarked about
13 your candid assessment.

14 I really appreciate the candid assessment, I really
15 appreciate the forthright attitude that you bring to the table today. I
16 also hope it's your last visit to AARM, but I have to agree with
17 Commissioner Baran.

18 Between the performance at Grand Gulf and I think
19 the two unplanned shutdowns at ANO in the last few weeks gives me
20 pause.

21 And I think it also reminds me a bit of my history
22 coming fresh out of college into a company with six sites, three of
23 which were on the watch list, and the turnaround that was then
24 executed to establish improved performance and sustain it. Other
25 companies have had similar efforts, whether a single site or multiple
26 sites.

27 So I guess my question is the playbook is out there, I

1 know Entergy has done a lot of things internal in terms of trying to
2 incorporate lessons learned from higher-performing sites, spread them
3 fleet-wide.

4 Mr. Bakken, do you feel like you have sifted those
5 lessons learned from other turnarounds at a high level to really
6 incorporate fully strategies and lessons that have proven successful
7 elsewhere?

8 MR. BAKKEN: We did a considerable amount of
9 benchmarking and then on a very personal level, reaching out to key
10 industry leaders for input. We also have a Nuclear Executive
11 Oversight Committee that oversees our recovery efforts.

12 So it's four of my peers that assist us on a periodic
13 basis at looking at our performance and our plans, and we've taken
14 their feedback.

15 Did I get everything? No, we did the best, I think,
16 that we could to get the key attributes of it, and then we've been
17 checking and adjusting.

18 I would like to come back for a second and talk about
19 the two recent trips, shutdown and trip at ANO. In the first instance,
20 I'd actually argue it's a positive.

21 We started up with unidentified leakage at the plant
22 that was more than historical, well below the Tech Spec limits. We
23 could have chosen to continue to operate indefinitely.

24 We had a team at the site that recognized it was off
25 normal and worked through a methodical process to identify the
26 source of the leak, adopting our new operating philosophy, and then
27 found something, and we took the decision to shut the unit down.

1 And I believe that's fully appropriate. It's completely
2 consistent with our strategy, and one of the things with our strategy,
3 particularly in our situation as we work through correcting all the
4 equipment issues, we expect the plants to shut down more frequently.

5

6 That's been a discussion we've had with the Board
7 and some of you that we've briefed, and your new Commissioners will
8 be in to see you as well.

9 That was an expected outcome, so in my mind,
10 actually, it's unfortunate we ended up there with a leak but I think all
11 the behaviors coming to that and making the decision to take the plant
12 out of service and fix it were demonstrative of the change in the
13 corporate culture.

14 The recent trip over the weekend in terms of the
15 turbine control valve that failed, that is disappointing, it shouldn't have
16 happened.

17 But there's another piece to that behavior which
18 hasn't been expressed today, that we had the technician that did the
19 work on that component come forward quickly and say, hey, I did
20 something on that, I believe that actually it could have been impactful.

21 And that really helped us in addressing the issue and correcting it
22 promptly.

23 So, both of those shouldn't have happened, if the
24 plant was running properly and we had the maintenance 4.0, we'd be
25 online and running.

26 But the bottom line is I think both of them demonstrate
27 a change in culture and a change in behavior that in the long term are

1 what will drive us to excellence.

2 COMMISSIONER CAPUTO: So while performance
3 of Entergy has been somewhat cyclical over the past, a lot of that
4 predates you so you feel comfortable that you have in place what will
5 lead to a lasting positive change, fleet-wide?

6 MR. BAKKEN: I do.

7 COMMISSIONER CAPUTO: Thank you.

8 CHAIRMAN SVINICKI: Thank you. Commissioner
9 Wright?

10 COMMISSIONER WRIGHT: Thank you very much
11 and you've very eloquently answered the questions that I was going to
12 ask because I had asked in the first panel, or the Staff panels earlier,
13 to Commissioner Caputo.

14 You had spoken to the leadership in the top-down and
15 the culture change, and I hope that is where it goes and you can go
16 fleet-wide with it and it makes a big difference across the fleet.

17 Because I know it's important to you, I can tell just the
18 way you present yourselves here today so thank you, and I yield back.

19 CHAIRMAN SVINICKI: Thank you very much, and
20 I'll be similarly briefed to Commissioner Wright. I just have one
21 question, the Staff seemed, the NRC Staff in their presentation
22 seemed, very complementary of the vendor oversight program that
23 had been developed there with perhaps an implication that other fleets
24 and peers of yours might benefit from a greater understanding.

25 Has it been shared through INPO or any other of the
26 industry-wide bodies as kind of just a recommended practice? Or is it
27 somewhat proprietary to you?

1 MR. BAKKEN: Anything we're doing we will share. I
2 know INPO's aware of it but I have an opportunity to address my
3 peers later this fall and I'll make sure to go through the specifics of it
4 again.

5 CHAIRMAN SVINICKI: Okay, thank you for that.
6 And again, I join my colleagues in thanking you for being here. It is
7 interesting for me to reflect on, having been at many AARM
8 Commission meetings.

9 I still think the elusive thing is the sustainability piece
10 because although Entergy has been appearing at recent meetings,
11 early in my time here it was APS, it was Palo Verde, it's others that
12 are now strong, consistent performers.

13 But if we look over a much longer historic slice, laying
14 aside that previous assessment programs by the NRC had a
15 subjectivity that perhaps made the data a little bit, I'll use the term
16 corrupt, meaning just that it's hard to draw rigorous conclusions from
17 them.

18 But still, I remember it was Chairman Klein early in my
19 time here who remarked that if someone could permanently solve the
20 sustainability piece, meaning how do you sustain accidents over long
21 periods of time, they wouldn't stay long in the nuclear business
22 because they could earn a lot of money with that somewhere else.

23 Because it's just one of those things that's hard to
24 solve, but thank you again for being here today and thank you to the
25 NRC Staff for their presentations. And we are adjourned.

26 (Whereupon, the above-entitled matter went off the
27 record at 12:19 p.m.)