UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
1600 E. LAMAR BLVD
ARLINGTON, TX 76011-4511

January 24, 2018

EA-14-008
EA-14-088
EA-16-124

Mr. Richard L. Anderson
Site Vice President
Entergy Operations, Inc.
Arkansas Nuclear One
1448 SR 333
Russellville, AR 72802-0967

SUBJECT: ARKANSAS NUCLEAR ONE – NRC CONFIRMATORY ACTION LETTER (EA-16-124) FOLLOW-UP INSPECTION REPORT 05000313/2017013 AND 05000368/2017013

Dear Mr. Anderson:

On December 21, 2017, the U.S. Nuclear Regulatory Commission (NRC) inspection team reviewed your progress in implementing the specific actions from the Arkansas Nuclear One (ANO) Comprehensive Recovery Plan that were committed to in a Confirmatory Action Letter (CAL) dated June 17, 2016, (NRC's Agencywide Documents Access and Management System (ADAMS) Accession No. ML16169A193) (EA-16-124). The team discussed the results of this inspection with you and other members of your staff. The team documented the results of this inspection in the enclosed inspection report.

The team reviewed ANO's progress in implementing the ANO Comprehensive Recovery Plan, focusing on 35 actions which ANO management had concluded were complete and had been determined to be effective. Additionally, the team reviewed progress made toward closing one additional item (PH-12), and will continue to inspect this item going forward. The inspection included a review of corrective actions to address the finding of substantial safety significance (Yellow) involving the failure to adequately approve the design and to load test a temporary lift assembly (EA-14-008) and the finding of substantial safety significance (Yellow) involving requirements for flood mitigation (EA-14-088). The attached report documents the basis for closing 34 of the 35 CAL actions inspected. The NRC will further review your development and implementation of corrective actions for these risk-significant findings during future inspections.

The NRC team did not identify any findings or violations of more than minor significance.

This letter, its enclosure, and your response (if any) will be made available for public inspection and copying at http://www.nrc.gov/reading-rm/adams.html and at the NRC Public Document Room in accordance with 10 CFR 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

/RA/

Neil O'Keefe, Branch Chief
Project Branch E
Division of Reactor Projects

Docket Nos. 50-313; 50-368
License Nos. DPR-51; NPF-6

Enclosure:
Inspection Report 05000313/2017013 and
05000368/2017013
w/ Attachments:
1. Supplemental Information
2. Confirmatory Action Letter Item Status

U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Dockets:	05000313; 05000368
Licenses:	DPR-51; NPF-6
Report:	05000313/2017013; 05000368/2017013
Licensee:	Entergy Operations, Inc.
Facility:	Arkansas Nuclear One, Units 1 and 2
Location:	Junction of Highway 64 West and Highway 333 South Russellville, Arkansas
Dates:	November 27 through December 21, 2017
Team Lead:	M. Tobin, Resident Inspector
Inspectors:	M. Chambers, Physical Security Inspector J. Choate, Project Engineer J. Dixon, Senior Project Engineer T. Fredette, Reactor Operations Engineer, NRO J. Melfi, Project Engineer G. Pick, Senior Reactor Inspector
Approved By:	N. O'Keefe Chief, Project Branch E Division of Reactor Projects

Enclosure

SUMMARY

IR 05000313/2017013; 05000368/2017013; 11/27/2017 – 12/01/2017; Arkansas Nuclear One, Units 1 and 2; Confirmatory Action Letter (CAL) Follow-up Inspection.

The onsite inspection activities described in this report were performed between November 27, 2017, and December 1, 2017, by a team from the NRC's Region IV offices, the Office of New Reactors, and the resident inspector at Arkansas Nuclear One. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," dated July 2016.

The team reviewed 35 actions from the Arkansas Nuclear One Comprehensive Recovery Plan involving commitments made in a Confirmatory Action Letter (EA-16-124). The team concluded that 34 of the actions reviewed were complete and were effective in achieving the associated performance improvement objectives and held one action (FP-8) open for additional licensee action. The team reviewed five completed sub-actions for one action (PH-12), but will continue to review sub-actions as they are completed. The team also concluded that one action was not sufficiently effective to close at this time. This inspection completed closure of the final CAL actions from ANO's Corrective Action Program, organizational capacity, and Training Area Action Plans.

No findings were identified.

REPORT DETAILS

4. OTHER ACTIVITIES

4OA5 Other Activities

Confirmatory Action Letter (CAL) Follow-up (IP 92702)

.1 Actions to Address Significant Performance Deficiencies

DM-1 Establish a decision making tool for station personnel that includes expectations for use at ANO. The intent of this action is to establish a "minimum risk option" behavior that drives the decision maker to develop multiple solutions and drive the decision that has the least risk. (CR-ANO-C-2015-02832 CA-23, CR-ANO-2-2015-02879 CA-26, and CR-ANO-2-2015-00362 CA-19)

During the 95003 supplemental inspection, the NRC team noted multiple examples in prior NRC findings and ANO recovery evaluations that indicated poor decision making at ANO had allowed design and safety margins to be eroded. Examples included revising the Preventive Maintenance Program to be less conservative without assessing the impact on failure rates and placing compensatory measures for degraded or nonconforming equipment into permanent procedures rather than resolving the degraded or nonconforming condition.

During this inspection, the team interviewed personnel from the recovery team, work planners and schedulers in maintenance, and senior reactor operators who worked as liaisons with work planning. The team reviewed the corrective actions as described in the above condition reports. The team determined that, initially, the licensee had developed an administrative aid for individuals which included guidance for establishing the minimum risk option. The licensee found that this process did not effectively achieve the desired results. Subsequently, the licensee decided to include risk considerations as part of conservative decision making in both the original ANO-specific handbook and the revised Entergy employee handbook. The fleet-wide handbook reflected the Entergy Nuclear Excellence Model using the STAIR (Safety, Teamwork, Always learning, Integrity, and Respect) method that reflected five corporate values. The principle for the Safety value requires personnel to "eliminate and mitigate risk" using the prevention, detection correction (PDC) tool. The team verified that the licensee had communicated this principle and tool in a series of small group discussions. The team determined that the licensee tracked the number of employees who attended each of the rollouts and established greater than 90 percent as success criteria.

During discussions with operators and maintenance personnel, the team determined that individuals involved with the work management process discussed risk associated with planning work and integrated plant risk. Craft supervisors recognized the risk associated with work and that appropriate plant personnel reassessed risk for work scope additions. The contract manager understood that detail and definition in the scopes of work listed in contracts decreased ambiguity and, therefore, decreased risk. For the sample selected, the

team confirmed that plant personnel had an increased sensitivity and awareness to consider risk and the need to make conservative decisions. The team reviewed the implemented corrective actions and identified no concerns.

Based on the actions taken by the licensee, information evaluated by the team, and observations performed on site, the team concluded that the actions taken to address DM-1 were effective. Therefore, DM-1 is closed.

DM-6 Deliver risk recognition training and develop curriculum for all site personnel with unescorted access. (CR-ANO-C-2015-02832 CA-44)

In performing their decision making and risk management root cause evaluation, the licensee identified that decision making at all levels in the ANO organization failed to recognize, mitigate, and manage risk. During the 95003 supplemental inspection, the NRC team concluded that ANO failed to recognize the need to develop and implement corrective actions to improve knowledge and recognition of risk. The NRC team determined that actions to improve knowledge of risk were missed in the assignment of corrective actions for the decision making and risk management fundamental problem area.

The team reviewed the actions associated with this item. The licensee developed formal training for risk recognition. The team reviewed licensee records that documented 98 percent of site employees attended the training. The team interviewed operations, maintenance, and engineering staff on their experiences of the results of the site wide risk training on their daily work. Based on the examples cited of increased recognition and challenges on the risk associated with site work, the team concluded that decision making at all levels in the ANO organization relating to the ability to recognize, mitigate, and manage risk was improved by the training. The training of general employees on risk recognition occurs in the Plant Access Training when personnel are badged, ensuring sustainability for this action.

Based on the actions taken by the licensee, information evaluated by the team, and observations performed on site, the team concluded that the actions taken to address DM-6 were effective. Therefore, DM-6 is closed.

DM-11 VO-19 Revise project management procedures to ensure high consequence risks are properly identified and eliminated/mitigated through a structured risk management process. (CR-ANO-C-2014-02318 CA-16 and CA-40)

ANO found during their second root cause evaluation (RCE) for the stator drop event that Procedure EN-DC-114, “Project Management,” Revision 14, provided insufficient guidance to identify and manage project-related risk with high consequence, particularly for cases where the probability of the event was judged to be very low. During the 95003 supplemental inspection, the NRC team concluded that ANO performed a comprehensive extent of cause review with one exception. Specifically, the extent of cause review performed for RCE CR-ANO-C-2014-02318, Root Cause 2, which reviewed technical/administrative procedures to determine whether they provided sufficient guidance for the activity performed, did not provide objective evidence as to why additional corrective actions were not needed to address the area before the event. ANO performed

their extent of cause review again and concluded that a problem in the adequacy of operations procedures should have been identified, and the scope of the review should have been expanded.

The team reviewed the actions associated with these items. The licensee initiated interim actions in December 2014 under Condition Report CR-ANO-C-2014-02318 (CA-18) to ensure project risk and risks associated with project changes were addressed for selected projects identified in CA-00040. The team reviewed CA-40 for selected projects and verified that risk reviews had been accomplished and documented. The team confirmed that a monthly condition report was initiated to maintain tracking continuity from December 2014 to March 2015, when the corrective actions to prevent recurrence (CAPR) items in CA-16 were addressed. Specifically, the corrective action to prevent reoccurrence (CAPR) was to revise project management Procedures EN-FAP-PM-003 and -004, respectively. The team reviewed the latest revisions to these procedures (Revision 5 for both) and verified that the content had been upgraded to include “low probability-high risk” risk assessment and on-line risk guidance, including assessment criteria for “first-of-a-kind” or “first-in-a-while” projects. The team verified that project managers had received training on the revised procedures and the risk assessment attributes.

Based on the actions taken by the licensee, and review and evaluation of related information, the team concluded that the actions taken to address these items were effective. Therefore, both DM-11 and VO-19 are closed.

FP-8 Validate that all internal flood gaps identified from the review of documentation for credible flood paths and the follow-up walk downs have been resolved. (CR-ANO-C-2014-00259 CA-19, CA-58, CA-70, CA-73, CA-78, CA-93, CA-127, CA-250 through CA-252)

During the third quarter of 2012, ANO had an outside design agency (ODA) perform walk-downs of the flood protection features required by the licensing basis. These walk-downs were required by an NRC 10 CFR 50.54(f) request for information letter dated March 12, 2012, (ADAMS Accession No. ML12053A340). The walk-downs were part of the post-Fukushima flooding design basis verification effort that was intended to identify and address plant-specific vulnerabilities or performance deficiencies, and verify the adequacy of monitoring and maintenance procedures. A second ODA walk-down was conducted in the third quarter of 2013 as a result of self-revealed deficiencies from the flooding event. This second walk-down identified more than 100 additional deficiencies. Some of the deficiencies were from original construction, and some involved barriers that had ineffective preventive or corrective maintenance.

The team reviewed the corrective actions associated with this item, including reviewing the new flood barrier program and procedures, interviewing station personnel, performing field walk-downs of various flood barriers and penetrations, and reviewing a sample of completed work orders. The team verified that the licensee had addressed all the internal flood issues that had been identified. The team performed walk-downs of a sample of walls, floors, ceilings, conduits, junction boxes, switchgear cabinets, floor drains, ductwork,

and abandoned equipment issues and visually verified that they had been corrected.

The team identified a concern associated with the smoke testing of train bay hatch 492, and in general, the validity of the smoke testing of penetrations through the auxiliary building walls. While reviewing Work Orders 00425566, 00451805, and 52784573, and Procedure 1402.240, "Inspection of Watertight Hatches," Revision 1, the inspectors noted that hatch 492 was smoke tested to verify that it was sealed. The licensee was to ensure that the auxiliary building side of the hatch was maintained at a lower pressure than the turbine building side, then create smoke near the seal on the turbine building side; leakage would become apparent because smoke would be drawn to the area of the leak by air being sucked through the leak. The team questioned how the licensee verified that the auxiliary building was actually at a lower pressure. The licensee did not record testing data that validated the auxiliary building was at a negative pressure when hatch 492 was tested. In response to the question, the licensee performed a measurement while the team was onsite and the results indicated a slightly positive pressure inside the auxiliary building, contrary to the requirements for performing the testing, so the test method would not have provided indication of leakage through the seal being tested. This resulted in the team questioning the validity of smoke testing in general and the operability/functionality of all auxiliary building penetrations that have been tested using smoke testing. The licensee documented the concerns in Condition Reports CR-ANO-1-2017-03673 and CR-ANO-C-2017-04759.

The team determined that the corrective actions for the following items need to be reviewed to determine if this item can be closed: Condition Reports CR-ANO-1-2017-03673 and CR-ANO-C-2017-04759, resolution of the plant conditions needed to reliably establish negative auxiliary building pressure, work order and procedure improvements related to field measurements of negative pressure for performing smoke test, and operability/functionality of all auxiliary building penetrations that used a smoke test.

The team also had a concern about the testing of the floor drain system, but it was determined to not be an issue that was identified as part of the inspection and was instead an original design item that may not have been maintained. As such this item is being reviewed as part of the resident inspector baseline inspection program.

Based on the actions taken by the licensee, information evaluated by the team, and observations performed on site, the team concluded that the effectiveness of the actions taken to address FP-8 through smoke testing were indeterminate. Therefore, FP-8 will remain open until the licensee can verify through testing that the affected flood seals are leak tight through valid testing.

VO-8 Develop and implement a contract management familiarization guide to include determination and documentation of work scope, risk assessment, incentives and penalties, and performance monitoring. Include a review of operating experience, such as the contractual aspects of the stator lift rig failure and other related industry events in the familiarization guide. (CR-ANO-C-2014-02318 CA-170 and CA-171)

During the second root cause evaluation following the stator drop event, the licensee identified that ANO placed undue confidence in the vendor's capabilities. This contributed to the responsible ANO personnel perceiving the risk of structural failure of the lift assembly as low because an expert vendor had certified the design, similar lifts had been made before, and the vendor asserted the lift assembly had been used for heavier lifts in the past. During the 95003 supplemental inspection, the NRC team noted recent examples of placing undue confidence in vendor expertise and concluded they were similar to those that contributed to the stator drop event.

During this inspection, the team reviewed the revised standards for developing contracts. The licensee implemented training and upgraded the existing Nuclear Contract Manager Toolkit, rather than issue a separate familiarization guide as corrective actions. The team determined that the toolkit provided examples of properly developed contract sections. The licensee implemented additional changes in 2016 that reflected increased detail and focus on the requirements related to the supplemental work force including risk management and performance monitoring. The team verified that the contract managers at ANO had completed the following activities: (1) read the revised Nuclear Contract Manager Toolkit; (2) read operating experience added to the familiarization guide; (3) became aware of the example scopes; and (4) read information on the ANO, Unit 1, stator lift assembly collapse.

The team determined that the licensee implemented requirements to provide more specificity and detail in the scope and performance requirements sections of their contracts. The team compared a contract developed prior to and issued since the licensee implemented these corrective actions and determined that the level of detail in the work scope had become more specific and measurable. After reviewing several condition reports that documented errors in contract development, the team determined that the errors did not affect the work activities. The licensee had assessed 32 of 206 contracts issued over a 7-month period following the improvements to determine the effectiveness of their changes. The team confirmed that none of the identified errors in the issued contracts affected the ability to implement the contracts. The team determined that the licensee had appropriately implemented the corrective actions.

Based on the actions taken by the licensee, information evaluated by the team, and observations performed on site, the team concluded that the actions taken to address VO-8 were effective. Therefore, VO-8 is closed.

VO-18 Revise project management procedures to ensure projects are organized and managed with: (1) effective support by subject matter experts; and (2) effective vendor and technical oversight. (CR-ANO-C-2014-02318 CA-15 and CA-193)

During the 95003 supplemental inspection, the NRC team noted that ANO's extent of cause review for the cause evaluation identified the following weaknesses needing improvement: assessing whether the organization of temporary work groups and large multi-discipline project teams ensured the ability to provide adequate oversight; assessing whether technical/administrative procedures provided sufficient guidance to identify and address items with

potentially high consequences; assessing whether non-engineering procedures with the potential to affect nuclear safety identified circumstances where engineering support should be obtained; improving guidance to ensure that the identification and management of risk items with potentially high consequences; developing a strategy to reinforce human performance behaviors in the areas of procedure use and adherence, challenging assumptions, and field presence by leaders; and revising procedures to clarify the control of engineering support.

During the NRC's first review of VO-18 in Inspection Report 05000313/2016010 and 05000368/2016010 (ADAMS Accession No. ML16314C483), the team determined that the licensee initially closed out the effectiveness review for this action based on a review of information through mid-2015. As a result, the licensee failed to incorporate licensee, nuclear independent oversight (NIOS), and NRC observations from the 2015 Unit 2 refueling outage, the 95003 supplemental inspection, and the results of recent procedure changes in the effectiveness review provided to the team. The team concluded that the corrective actions for the following items needed to be reviewed to determine if VO-18 could be closed: response to NIOS 1st Level Escalation Letters NQ-2016-032, NQ-2016-033, and NQ-2016-034, CR-ANO-C-2016-3046, CR-ANO-C-2016-3336, CR-ANO-C-2016-3539, and CR-ANO-C-2016-3540, vendor oversight team meeting minutes, and reviews and observations from Procedure EN-OM-126-ANO-RC, "Management and Oversight of Supplemental Personnel," Revision 6.

The team reviewed the additional items listed in Inspection Report 05000313/2016010 and 05000368/2016010 (ADAMS Accession No. ML16314C483), including the NIOS Escalation Letters, the vendor oversight team meeting minutes, and observations from Procedure EN-OM-126-ANO-RC. The licensee appropriately addressed and corrected the NIOS Escalation Letters, and as a result, NIOS closed the letters based on additional surveillance observations over the past 18 months. The team verified NIOS and ANO conclusions that the procedures to manage vendor and technical oversight were effective and appropriately followed.

The team reviewed six projects completed during the last Unit 2 outage to determine the licensee's adherence to the vendor and technical oversight process. The team identified that of the six projects, the licensee self-evaluated five of the projects and both the team and the licensee determined that the vendor and technical oversight was adequate. The licensee did a thorough and critical review of the five projects and determined that the station was effective in implementing the improvements from the procedure changes and the changes to address the NIOS escalation letters.

However, the team also reviewed the Unit 2 laser jet peening project, which the licensee did not include in their review, because of the issues that resulted in the licensee terminating the project before it was completed. The licensee had established a dose threshold for termination criteria based on difficulties that were being encountered. These included equipment problems, lack of replacement parts, a high number of work hours, exceeding the estimated dose, required supervisory oversight, etc. For this project the team determined that the licensee did follow the procedures, but still failed to maintain an efficient and

productive vendor and technical oversight presence. The team identified a number of minor issues with the implementation of vendor and technical oversight, however, the licensee's lessons learned review for this project was self-critical and identified all of the team's minor issues in addition to others.

The team determined that overall the licensee has been correctly following appropriate procedures, as well as writing condition reports, lessons learned, and learning organization, etc. documents to ensure that the process is continually enhanced going forward.

Based on the actions taken by the licensee, information evaluated by the team, and observations performed on site, the team concluded that the actions taken to address VO-18 were effective. Therefore, VO-18 is closed.

.2 Actions to Address Identifying, Assessing, and Correcting Performance Deficiencies

CA-3 Conduct an organizational capacity study to determine and correct staffing and proficiency needs, including needs to support corrective action program implementation. Establish an ANO People Health Committee (APHC) to support ongoing monitoring and adjustments. (CR-ANO-C-2015-02831 CA-21 and CA-22)

During the 95003 supplemental inspection, the NRC team reviewed the results from ANO's staffing studies and observed current staffing efforts. The team identified that ANO had no specific milestones to address long-term staffing needs, and administrative support for hiring was not available or effectively used. The team also noted that the APHC was approving only a portion of the recommended additions for immediate hiring, while approval for the majority of the staff increases were held for future consideration. Hiring schedules extended into late summer, which might affect the ability to meet Comprehensive Recovery Plan action targets.

The team reviewed the actions associated with this item. The team reviewed Procedure EN-HR-108-ANO-RC, "ANO Integrated Strategic Workforce Planning Process," Revision 3, and Procedure EN-HR-107-ANO-RC, "ANO People Health Committee," Revision 2. The team determined that staffing needs in key performance improvement areas were being resolved. As an example, the team verified that the APHC had been instrumental in determining the department performance improvement coordinator (DPIC) needs for each of the key departments. The team reviewed the DPIC roster and confirmed that operations, maintenance, and engineering departments were staffed with at least two DPICs, with back-up DPICs designated. The team reviewed selected corrective action and operating experience metrics and verified that they were met, indicating that staffing to support these areas was adequate. The team concluded that organizational staffing needs to support the corrective action program were systematically being addressed.

Based on the actions taken by the licensee, information evaluated by the team, and observations performed on site, the team concluded that the actions taken to address CA-3 were effective. Therefore, CA-3 is closed.

CA-7 Establish/refine key corrective action program (CAP) station and group level performance indicators. (CR-ANO-C-2015-1240 CA-36 and CR-ANO-C-2015-2836 CA-25)

During the 95003 supplemental inspection, the NRC team concurred with ANO's determination that ANO leaders did not consistently uphold standards, manage ANO personnel staffing and training, and monitor performance to maintain the corrective action program as a priority for the station. In addition, the NRC team determined that ANO failed to implement a change in trending software to ensure that data was available to support trending.

During the NRC's first review of CA-7 in Inspection Report 05000313/2016010 and 05000368/2016010 (ADAMS Accession No. ML16314C483), the team identified that 31 performance indicators were originally selected by the fleet performance improvement managers, but only 12 were chosen for implementation by ANO. These performance indicators did not appeared to be verified with the same rigor as other performance indicators, and DPICs and some principal users of performance indicators for assessing performance and trending were not all aware that these indicators were available for their organizations. The team determined that this action would remain open pending finalization of the CAP performance indicators and determination by the licensee that those indicators were being effectively used by station leaders and DPICs to monitor the performance of CAP implementation.

During the NRC's follow-up review of CA-7, the team reviewed the updated performance indicators for the site and Entergy fleet. The licensee selected performance indicators based on the Yellow finding root causes and the site is showing improvement in these areas. The team determined that these performance indicators are adequate to show early evidence of a decline in the site CAP implementation and that they are being used and updated appropriately. The team also reviewed the new fleet performance indicators, and determined that although they didn't have the same resolution down to the department level, the indicators are comprehensive and are able to effectively evaluate a decline in site CAP implementation.

Based on the actions taken by the licensee, information evaluated by the team, and observations performed on site, the team concluded that the actions taken to address CA-7 were effective. Therefore, CA-7 is closed.

CA-9 Revise the Corrective Action Review Board (CARB) process to require the Performance Improvement Manager to present the status of the condition reporting process using established metrics to the CARB. (CR-ANO-C-2015-1240 CA-34)

During the 95003 supplemental inspection, the NRC team agreed with ANO's assessment that CARB oversight was not effective in ensuring significant conditions adverse to quality and other important issues are evaluated in-depth, are thoroughly documented, and that corrective action plans are timely and applicable. The NRC team identified that effectiveness reviews for completed actions focused on whether the actions were completed rather than on whether they were effective, identified past challenges to timely improvement of the

corrective action program, and that corporate changes made performance improvement more difficult at ANO.

During the NRC's first review of CA-9 in Inspection Report 05000313/2016010 and 05000368/2016010 (ADAMS Accession No. ML16314C483), the team verified that the licensee had incorporated requirements for the performance improvement manager to present the status of the condition reporting process to the CARB on a monthly basis into their procedure. However, the licensee had indicated that Entergy was close to revising the fleet's CAP performance indicators, leading the team to conclude that it would be inappropriate to assess the effectiveness of this action at that time. The team determined that this action would remain open pending finalization of the CAP performance indicators and determination by the licensee that those indicators were being effectively used by station leaders and department performance improvement coordinators to monitor the performance of CAP implementation.

The team reviewed the new CAP performance indicators for the site and fleet, and determined that they are being used effectively. The new performance indicators are being presented in the appropriate meetings, and downward trends are discussed as soon as they become apparent.

Based on the actions taken by the licensee, information evaluated by the team, and observations performed on site, the team concluded that the actions taken to address CA-9 were effective. Therefore, CA-9 is closed.

CA-10 Improve the periodic performance reviews and oversight of the corrective action program and operating experience performance in Department Performance Review Meetings (DPRMs) and Aggregate Performance Review Meetings (APRMs). (CR-ANO-C-2015-01240 CA-69)

ANO identified in their Root Cause Evaluation Report CR-ANO-2015-01240, "Corrective Action Program (CAP)," challenges with their ability to monitor CAP performance and to detect signs of decline. During the 95003 supplemental inspection, the NRC team concurred with ANO's determination that ANO leaders did not consistently uphold standards and monitor performance to maintain the CAP as a priority for the station.

The team reviewed the actions associated with this item. The team reviewed fleet-wide Procedure EN-LI-121, "Trending and Performance Review," Revision 24, and confirmed that changes sought to improve DPRMs and APRMs were incorporated. The procedure highlights specific guidance for analysis of adverse conditions to identify performance trends and consistent coding of condition reports and issues for resolution. The team verified through direct observation of the November 30, 2017, APRM, that adverse trends, condition reporting and resolution, and operating experience were part of cognitive discussion. Detailed "How to" attributes are included to address leadership and staff fundamentals, human performance, and performance improvement.

Based on the actions taken by the licensee, information evaluated by the team, and observations performed on site, the team concluded that the actions taken to address CA-10 were effective. Therefore, CA-10 is closed.

DM-22 Benchmark outside the Entergy fleet to identify best practices in the work management process. (CR-ANO-C-2015-03034 CA-26)

During the 95003 supplemental inspection, the NRC team found that benchmarking was not a common practice at ANO. If benchmarking occurred, it was typically within the Entergy fleet. Plant personnel commented that if benchmarking resulted in suggestions for improvements, improvement items typically had not received priority due to limited resources. The team identified that the use of benchmarking was largely absent from the ANO Comprehensive Recovery Plan (CRP) even though ANO identified that they had performed limited benchmarking with plants outside the Entergy fleet and did not keep informed on industry practices.

The team observed work management meetings, interviewed Fix It Now (FIN) team craft, licensing scheduling staff, and reviewed work management performance metrics. The FIN team supervisors credited improvements in the work process that allowed them to make substantial reductions in the site work backlog. The licensee's effective use of industry benchmarking and industry expertise in making work management process improvements is demonstrated by work scope stability improvements in 2017 versus 2016, and more recently by continuing improvements via the licensee gap analysis improvement process that showed an additional step change in work scope stability improvement indicators from October 2017 to November 2017.

Based on the actions taken by the licensee, information evaluated by the team, and observations performed on site, the team concluded that the actions taken to address DM-22 were effective. Therefore, DM-22 is closed.

DM-23 Have a group from another plant perform a peer assist visit in work management. (CR-ANO-C-2015-03034 CA-27)

During the 95003 supplemental inspection, the NRC team identified that ANO's work planning and scheduling processes were undergoing improvements to increase accountability and promote communication across work groups. However, the team also noted cases where work had been delayed or removed from the schedule because preparations were not completed prior to equipment being taken out of service. Examples included unavailable workers, required parts that were not available, or incomplete maintenance risk evaluations.

During the NRC's first review of DM-23 in Inspection Report 05000313/2017010 and 05000368/2017010 (ADAMS Accession No. ML17117A696), the team reviewed the results from ANO's peer assist visit in 2016 to address deficiencies in work management practices. The team determined that the peer assist visit had been effective in identifying gaps and deficiencies and the licensee had developed corrective actions. However, the licensee had not completed all of these corrective actions with many of the corrective actions being closed without actions or effectiveness reviews. The team decided that this action would remain open until the licensee completed corrective actions to address identified gaps and determined that the actions were effective to close the gaps.

The team determined that the licensee had implemented actions to improve:

- Operations leadership, engagement and interface within the work management process;
- FIN team effectiveness and management of backlogs;
- Engineering participation in the work management process;
- Organization interfaces and elimination of existing organization silos;
- Resource allocation from the maintenance shops.

The team evaluated what the licensee changes to make the work management process more effective. The team determined that the licensee had established management sponsors and monitored whether they attended the meetings. The licensee initiated corrective action documents and took actions to learn from the errors and make adjustments to improve the process. Specifically, the licensee revised their process to ensure that critical activities were completed within the established goals. The licensee also established a tool to better identify and align resources that would actually be available to perform the work rather than using a budgeted number. The team reviewed the additional corrective actions implemented in response to Condition Report CR-ANO-C-2017-00795, and the effectiveness review actions, and identified no concerns.

Based on the actions taken by the licensee, information evaluated by the team, and observations performed on site, the team concluded that the actions taken to address DM-23 were effective. Therefore, DM-23 is closed.

LF-11 Create trending and performance review metrics to improve the review of leader behaviors and performance results in the areas of:
(CR-ANO-C-2015-02829 CA-22)

- Leadership Fundamentals: (1) Vision and Values; (2) Teamwork; (3) Accountability; (4) Employee Engagement; and (5) Resource Allocation
- Performance Improvement: (1) Issue identification, evaluation, and resolution; (2) Ownership of procedures and work processes; (3) Industry participation; (4) Self-assessments and benchmarking; and (5) Operating experience
- Nuclear Safety: (1) Decision-making; and (2) Safety conscious work environment

During the 95003 supplemental inspection, the NRC team determined that ANO's performance decline occurred because of policy changes, changing workforce composition, and leadership responses. Performance monitoring tools and management responses were ineffective in recognizing and addressing the decline until they began to impact performance. While nuclear safety remained a priority, actions to balance competing priorities, manage problems, and prioritize workload resulted in reduced safety margins.

The licensee had recently revised Procedure EN-LI-121, “Trending and Performance Review,” Revision 23, to remove the “windows” method of assessment and focus on the trend codes for identifying an adverse trend. This trend analysis starts with field observations, paired observations, departmental and station meetings, and management meetings. The licensee discusses these observations in quarterly DPRM assessments. The licensee uses a quarterly APRM to oversee the DPRM meetings to ensure effectiveness of identifying adverse trends.

The team reviewed the actions associated with this item and observed the November 2017 APRM meeting. The team reviewed fleet-wide Procedure EN-LI-121, “Trending and Performance Review,” Revision 24, and confirmed that changes sought to improve DPRM and APRM have been incorporated into this latest procedure revision. The team verified through direct observation of the November 2017 APRM, and review of the meeting report that adverse trends, are being identified and discussed.

Based on the actions taken by the licensee, the identification of trends by the licensee, discussions with the licensee, and observations of an APRM meeting, the team concluded that the actions taken to address LF-11 were effective. Therefore, LF-11 is closed.

OC-6 LF-14 Create and issue an ANO-specific recovery procedure to align with Procedure EN-LI-121, “Trending and Performance Review Process,” and incorporate a simple tool to analyze externally identified performance issues both individually and in aggregate to present actionable data to the Aggregate Performance Review Meeting. (CR-ANO-C-2015-2829 CA-23, and CR-ANO-C-2015-2831 CA-24 and CA-38)

During the 95003 supplemental inspection, the NRC team determined that ANO’s performance decline occurred in part because of policy changes, changing workforce composition, and leadership responses. Performance monitoring tools and management responses were ineffective in recognizing and addressing the decline until they began to impact performance. While nuclear safety remained a priority, actions to balance competing priorities, manage problems, and prioritize workload resulted in reduced safety margins.

During the NRC’s first review of OC-6/LF-14 in Inspection Report 05000313/2016010 and 05000368/2016010 (ADAMS Accession No. ML16314C483), the team found that, although the tool created was being used in some cases, the sample data showed that the new tool was not being used consistently. Without consistent implementation, the team was unable to conclude that this action would result in long-term improvement. ANO completed a self-assessment evaluation and created actions to address problems identified, but had not completed those actions. The team decided that this action would remain open pending a determination by the licensee that the new tool was being effectively used by station leaders and department performance improvement coordinators to monitor performance.

During this inspection, the team conducted a follow-up review of the actions associated with these items. The team reviewed Procedure EN-LI-121, “Trending and Performance Review,” Revision 24, and interviewed the recovery manager for this action. The team confirmed that the revised procedure addresses responsibilities for DPICs and performance improvement specialists for preparing and facilitating DPRMs and APRMs. The procedure establishes the site Performance Improvement Review Group (PRG) as the oversight group for monitoring corrective action backlog and condition report screening. The Performance Improvement Integrated Matrix (PIIM) in Attachment 9.2, and additional attachments to the procedure, serve as the analysis tool for issues presented and dispositioned at the quarterly APRMs.

The team reviewed DPRM and APRM meeting summaries for the 2017 calendar year and attended the fourth quarter APRM on November 30, 2017. The team observed that issues and trends were introduced at an appropriate level to allow for meaningful use of the analysis tool and a cognitive discussion among the attendees (station managers and supervisors) was conducted to capture actions. The PIIM serves as the focal point for any analysis results. Although the structure of the tool had changes since the last review following review of ANO self-assessment results, the team determined that it was being used as designed. Following review of the 2017 DPRM data, the team concluded that the DPRMs and APRMs were conducted within the guidelines of Procedure EN-LI-121, with an appropriate focus on early identification of adverse trends in performance and engagement of the plant staff. Additionally, the team confirmed that the changes implemented for Procedure EN-LI-121 were appropriately controlled and managed through a new procedure, Procedure EN-FAP-OM-023, “Entergy Nuclear Change Management,” Revision 0, and included considerations and checklists for change risk factors, gap analyses, and uniqueness of a dual unit site with different nuclear units.

Based on the actions taken by the licensee, information evaluated by the team, and observations performed on site, the team concluded that the actions taken to address OC-6 and LF-14 were effective. Therefore, OC-6 and LF-14 are closed.

TR-4 Training manager provides presentation(s) to managers and Department Performance Improvement Coordinators on the use of training to support organizational performance improvement. (CR-ANO-C-2015-04626 CA-6)

During the 95003 supplemental inspection, the NRC team identified that ANO did not assess the specific shortfalls in advanced qualifications in engineering and maintenance that were identified during the safety culture assessments. The team noted that this shortfall needed to be assessed to ensure resources would be identified and provided. ANO stated that the action for the training manager to provide presentations to managers (TR-4) would help line managers identify and account for the organizational capacity needed to ensure that continuing and advanced qualifications would be supported.

The team reviewed the actions associated with this item. The licensee developed and implemented training course, “What Every Leader Should Know about Performance,” to introduce the concept of organizational performance improvement to managers, supervisors, analysts, and DPICs in each major plant

department. The team reviewed the course content and confirmed that it included topics covering performance improvement and analysis. Additionally, feedback documentation from the recipients of this training were all positive, indicating a strong level of alignment with the performance improvement concept.

The team reviewed performance analysis metrics and confirmed that Pursuit of Excellence and Training Engagement goals were being met. Based on the actions taken by the licensee and review and evaluation of related information, the team concluded that the actions taken to address TR-4 were effective. Therefore, TR-4 is closed.

TR-5 Factor training needs into resources for key departments, including the training department, to ensure that resources support training for organizational performance improvement. This action refers to staffing to support training beyond that necessary for accredited programs. (CR-ANO-C-2015-04626 CA-9)

During the 95003 supplemental inspection, the NRC team noted that the 2013 Human Capital Management (HCM) initiative cut 25 percent of ANO's training personnel. The HCM model supported continuing training needs only, and necessitated hiring contractors to be able to support initial training for new hires, operator pipeline training, and other training needs. HCM also shifted significant responsibility to line managers to develop and provide training to their departments with little support from the training department.

The team reviewed Condition Report CR-ANO-C-2015-04626, initiated to address the results of a cause analyses that indicated a common weakness in continuous learning (training) and a lack of commitment by ANO in using training processes to improve organizational performance. The team confirmed that a discrete corrective action (CA 9), for this condition report, provided the link between organizational staffing analyses and training needs to support performance improvement.

Additionally, the team reviewed Condition Report CR-ANO-C-2015-02831 CA-21 and verified that training needs for station departments beyond operations, maintenance, and technical disciplines were included in each departmental staffing study. Quantitative Pursuit of Excellence training metrics were reviewed and verified to be met. The team reviewed the organizational staffing guide and confirmed that training elements were included in the staffing guidance and templates.

The team reviewed a sample of ANO People Health Committee meeting summaries to assess how training resource issues have been presented and dispositioned. The team determined that the APHC actions for identified issues were appropriate.

Based on the actions taken by the licensee, and review and evaluation of related information, the team concluded that the actions taken to address TR-5 were effective. Therefore, TR-5 is closed.

.3 Actions to Address Human Performance Issues

DB-9 Experienced mentors will be assigned to the component and programs areas from July 1, 2016, through July 1, 2017. This mentoring effort will focus on behaviors, qualification, and standards of the ANO component and programs areas to ensure full compliance and to build the knowledge and proficiency in these areas. (CR-ANO-C-2016-00614 CA-6)

During the 95003 supplemental inspection, the NRC team identified that the organizational capacity assessments were designed to identify hiring targets, many of which included the need to recruit experienced workers. The NRC team noted that ANO had experienced difficulty recruiting experienced people in key technical areas, and that ANO had not addressed the challenge of recruiting experienced workers within the Organizational Capacity Area Action Plan.

The team reviewed the actions associated with this item. The licensee assigned experienced mentors to the component and programs areas as described in DB-9 above. The team conducted walk downs and interviews with several component, programs, and system engineers to assess their knowledge and proficiency with component and program knowledge. The team found their knowledge to be sufficient, including several new engineers still in the qualification process that have replaced the engineers that went through the initial July 1, 2016, through July 1, 2017, mentoring effort. The licensee has continued the mentoring process for these component and programs engineers to ensure sustainability of knowledge and proficiency in these areas.

Based on the actions taken by the licensee, information evaluated by the team, and observations performed on site, the team concluded that the actions to address DB-9 were effective. Therefore, DB-9 is closed.

DM-13 Assign a mentor from outside the Entergy fleet to coach and mentor each shift manager, emphasizing the aspect of leadership in operational focus. (CR-ANO-C-2015-02832 CA-25)

The licensee identified during their decision making and risk management root cause evaluation that the station has sometimes exhibited weak operational focus with respect to eliminating or mitigating challenges to reliable plant operation, promptly and thoroughly resolving challenges, maintaining margin, and communicating the basis of decisions affecting plant operation.

The team reviewed the actions associated with this item. The team interviewed operations shift managers and operations supervisors on their experiences of having a coach and mentor. The examples cited by the staff demonstrated improved organizational, supervisory, risk management and managerial oversite skills that are being continually improved by the on-going mentoring process. The team also noted that quantitative parameters that monitor the operations department performance such as the Operator Aggregate Index, and On-line risk (Actual vs. Planned) metrics have improved. Sustainability of this performance increase is demonstrated by programmatic changes, included in Conduct of Operations, Operations Assessment Resources, and Operations Mentoring Programs procedures to continue and reinforce actions such as: shift manager

responsibilities on conservative decision-making, oversight of operating teams, effective communications, and continuation of observation by a superintendent level of the operating teams.

Based on the actions taken by the licensee, information evaluated by the team, and observations performed on site, the team concluded that the actions taken to address DM-13 were effective. Therefore, DM-13 is closed.

LF-2 Establish and roll out an ANO employee handbook with attributes and behaviors supporting nuclear safety and long term strategic improvement. The purpose of the handbook is to communicate and reinforce key values and behaviors. (CR-ANO-C-2014-02318 CA-172, and CR-ANO-C-2015-02829 CA-25 and CA-26)

The licensee found during their leadership fundamentals root cause evaluation that ANO leaders lost focus on the long-term strategic actions necessary to maintain sustainable high levels of performance. Specifically, the need for behaviors that consistently supported CAP implementation and a culture of continuous improvement, the strategic allocation of resources, the quality of processes and procedures, a strong nuclear safety culture including some elements of safety conscious work environment, high standards of individual and team performance, effective communications, and the building of trust. Key CAP values and behaviors were not in a handbook to support daily reference by employees and reinforcement by leaders.

During this inspection, the team determined that the licensee had rolled out an ANO-specific handbook through their supervisors in 2016. In May 2017, Entergy developed a fleet-wide handbook for use at all sites. The fleet-wide handbook reflected the Entergy Nuclear Excellence Model using the STAIR (Safety, Teamwork, Always learning, Integrity, and Respect) method that reflected the five corporate values. The team determined that the licensee developed the excellence plan and handbook to establish values that supported nuclear safety and to sustain desired behaviors. At the time of this inspection, the licensee had rolled out three of the five values and their implementing tools. The licensee established principles and tools (administrative aids) to ensure employees and managers develop behaviors that reflect their values. The team verified that the licensee had rolled out this principle and tool in a series of small group discussions. The team determined that the licensee tracked the number of employees who attended each of the rollouts and established greater than 90 percent as success criteria.

The handbook provided shortened descriptions of five key values in their excellence model as well as information and expectations related to:

- Procedure use and adherence;
- Nuclear safety culture;
- Worker safety;
- Pre- and post-job briefings;
- Worker fundamentals; and
- Effective communications.

The team verified that the Entergy handbook had incorporated the same fundamental values and desired behaviors described in this corrective action. The values and behaviors related to corrective action program implementation and a culture of continuous improvement; strategic allocation of resources; quality processes and procedures; a strong nuclear safety culture, including some elements of safety conscious work environment; high standards of individual and team performance; effective communications; and building trust. The team reviewed the implemented corrective actions and identified no concerns.

The team noted that other related actions implemented and measured performance in specific areas that were addressed using the handbook as a tool, and those have been or will be inspected to ensure effectiveness in detail.

Based on the actions taken by the licensee, information evaluated by the team, and observations performed on site, the team concluded that the actions taken to address LF-2 were effective. Therefore, LF-2 is closed.

NF-9
SC-8 Develop and implement a “field presence” initiative that promotes and measures leader field presence. The objective is to drive and verify field presence by leaders to engage with employees and reinforce high standards. (CR-ANO-C-2016-00748 CA-12)

During the 95003 supplemental inspection, the NRC team identified that the Comprehensive Recovery Plan had limited actions to directly address improving worker behaviors or increasing field presence of managers to set and enforce expectations. The CRP did not contain specific metrics to measure and trend the number, duration, or results of field observations to demonstrate whether field presence was improved or effective. In response, ANO developed improved actions to strengthen field presence and set expectations for worker behaviors, and developed a “field presence” initiative.

To evaluate the licensee’s field presence effectiveness, the team interviewed personnel from operations, maintenance, systems engineering, as well as contractors and first line supervisors. With the exception of some first line supervisors, station personnel acknowledged the observation process was effective in improving Nuclear Safety Culture attributes and behaviors. A few first line supervisors expressed concerns about the additional administrative burden of having to record their observations in the licensee observation database. In response, the licensee implemented processes to minimize the administrative burden. The team reviewed the licensee observation program health index that showed a high participation of field presence by management and the consequential error rate trends that show improved nuclear safety performance.

Based on the actions taken by the licensee, information evaluated by the team, and observations performed on site, the team concluded that the actions taken to address SC-8 and NF-9 were effective. Therefore, SC-8 and NF-9 are closed.

OC-4 Establish and implement an ANO People Health Committee to place priority on staffing and retention issues that are impacting ANO employees or could impact nuclear safety. (CR-ANO-C-2015-02831 CA-22)

During the licensee's second root cause evaluation following the stator drop event, the licensee noted that an unexpected increase in retirements between late 2012 and 2014 resulted in a loss of experienced personnel which was not effectively managed by the licensee. Insufficient organizational capacity contributed to high levels of overtime in maintenance, backlogs, teamwork issues, uncertainty, and stress among the workforce. During the 95003 supplemental inspection, the NRC team concurred that high workloads and limited staffing made it challenging for the licensee to train a workforce with over 40 percent of the workers having less than 5 years of experience at ANO.

The team reviewed the actions associated with this item. The team reviewed Procedure EN-HR-108-ANO-RC, "ANO Integrated Strategic Workforce Planning Process," Revision 3; Procedure EN-HR-107-ANO-RC, "ANO People Health Committee," Revision 2; and the ANO Integrated Strategic Workforce Plan. The team conducted interviews with the owners of this action item as well as the Human Resources Business Partner who is a member of the ANO People Health Committee (APHC). The team also reviewed the Organizational Risk Management Reviews from the operations, maintenance, and engineering departments and the minutes from recent APHC Meetings.

The NRC team concluded that actions to establish and implement an ANO APHC were effective because the APHC, supported by the Strategic Workforce Plan, monitors staffing needs and uses department inputs, including experience, training, and knowledge management requirements to formulate hiring and training needs for new staff. The team reviewed the last 3 months of APHC meeting minutes and verified that the APHC received this information in the Strategic Workforce Plan and discussed actions to fill vacancies and plan for potential vacancies over the long term, up to 5 years out. The team verified selected corrective actions and maintenance backlog metrics that are being utilized to demonstrate ANO's effectiveness in completing work in a timely manner without impacting station nuclear safety. The team concluded that the APHC, modified as a draft Entergy Fleet Procedure EN-HR-107, "Plant Health Committee," Revision 0, addresses staffing and retention concerns at ANO, and provides sustainability for tracking and dispositioning staff changes and their associated impacts.

Based on the actions taken by the licensee, information evaluated by the team, and observations performed on site, the team concluded that the actions taken to address OC-4 were effective. Therefore, OC-4 is closed.

PM-19 Revise the preventive maintenance (PM) procedure to require that craft work order feedback is monitored and incorporated within 90 days or model work order placed into "plan" status. (CR-ANO-C-2015-02834 CA-129 and CA-130)

During the licensee's second root cause evaluation following the stator drop event, the licensee identified that the level of detail in work orders was not sufficient to prevent plant events, the backlog of work orders and PM feedback

increased, PM documents were not updated until the PMs were entering the work scheduling process, and sufficient resources were not available to support work planning. During the 95003 supplemental inspection, the NRC team found that planners did not always perform searches to look for feedback. The NRC team identified that planners typically only reviewed the feedback on the last work order and not the work order feedback log when planning for the next job.

The team reviewed the corrective actions associated with this item, including metrics associated with preventive maintenance, work orders, or work order feedback; interviewed station personnel; reviewed Procedure EN-WM-105-ANO-RC, "Planning," Revision 3, and Procedure EN-WM-105, "Planning," Revision 19; reviewed planning quality review meeting minutes; and reviewed a sample of work orders during various stages of the work planning process to determine effectiveness of feedback incorporation and timeliness.

The team determined that the licensee was striving for incorporating all feedback within 90 days of identification and not waiting until the next use of the work order. This is reflected in the Open Craft Feedback Requests metric goal and is reviewed by planning management at least monthly during the planning quality review meeting. The team determined that the licensee has made progress in addressing the backlog of feedback requests, in achieving the 90 day goal of incorporating feedback, and in providing the work orders to the responsible organization with enough time to perform a thorough review and walk down before the activity is scheduled to be performed.

The team reviewed a sample of work orders over the last 6 months and determined that the licensee was identifying items at all levels and throughout the process. However, the majority of the items were identified during the activity rather than before. The team concluded that the change from the ANO specific procedure to the fleet procedure was appropriate as all the ANO specific items were incorporated into the fleet procedure.

Based on the actions taken by the licensee, information evaluated by the team, and observations performed on site, the team concluded that the actions taken to address PM-19 were effective. Therefore, PM-19 is closed.

PQ-4 Conduct a Procedure Professionals Association (PPA) certification course for selected plant personnel. (CR-ANO-C-2015-03033 CA-31)

During the 95003 supplemental inspection, the NRC team found that the licensee's corrective actions as part of their Comprehensive Recovery Plan did not include providing training to the work planners on writing work orders using industry standards. In response, ANO developed actions to assess the extent of work instruction quality issues, and to conduct industry certification training for procedure writers.

During the NRC's first review of PQ-4 in Inspection Report 05000313/2017010 and 05000368/2017010 (ADAMS Accession No. ML17117A696), the team found that of 16 planners, only three had completed the PPA certification course. The team reviewed the licensee's training program for planners and determined that there was no other formal training on writing work orders using industry

standards. Therefore, the team concluded that the licensee had not completed this action as intended and it would remain open until the licensee demonstrated that an adequate number of current work planners and procedure writers successfully completed a PPA certification course and determined that the training was effective in ensuring sustained improvement of procedure quality.

The team reviewed the licensee's updated training program for planners and determined that the formal training for writing work orders using industry standards was adequate. Forty of the forty-two procedure writers and planners had attended the course, with the other two scheduled to attend in the future. The team noted that there has been sustained improvement of procedure quality.

Contract procedure writers are now required to have PPA qualifications before beginning work on site. And although contractor planners are not required to have PPA certification before beginning work on site, the formalized training program that ANO implements requires a review of their completed documents by one of the PPA qualified permanent planners until they become qualified. The team concluded that this oversight is sufficient to ensure that work orders are meeting industry standards.

Based on the actions taken by the licensee, information evaluated by the team, and observations performed on site, the team concluded that the actions taken to address PQ-4 were effective. Therefore, PQ-4 is closed.

.4 Actions to Address Equipment Reliability and Engineering Program Deficiencies

DB-12 Training and industry exposure will be used to build the knowledge, proficiency, and standards within the program and component areas as the owners of each program listed in DB-11 will participate in at least one industry meeting or specialized training course focused in their program area. (CR-ANO-C-2016-00614 CA-7)

During the 95003 supplemental inspection, the NRC team noted that the loss of experienced engineers had created challenges. Through interviews, the NRC team identified that many program owners had limited experience with their programs, some had not completed assigned training or qualifications, and some had responsibility for running multiple programs. Program owners did not believe they had sufficient time to implement all of their assigned responsibilities.

The team reviewed the corrective actions associated with this item, including changes to engineering program qualification cards, metrics associated with engineering programs, changes made in Procedure EN-DC-329-ANO-RC, "Engineering Programs Control and Oversight," Revision 3, and Procedure EN-TQ-104, "Engineering Support Personnel Training Program," Revision 23, and interviewing engineering program owners. The team determined that the licensee had ensured that program or component owners, listed in DB-11, had attended at least one training program or industry meeting specific to their area. Several of these meetings resulted in the engineering program owner writing a condition report or work tracker to enhance ANO's programs based on information learned during the meeting.

The team also determined that the licensee did not make any changes to the qualification cards, but did update Procedure EN-TQ-104 to define continuing training and specify which qualification cards are required to be completed. Procedure EN-DC-329-ANO-RC was revised to include guidance on using program notebooks, health reports, action plans, assessments, and provided definitions of minimum and desired qualification levels. The team concluded that the licensee was using the health reports as a metric to ensure that all engineering program and component engineers were either at or progressing to the desired qualification definition.

Based on the actions taken by the licensee, information evaluated by the team, and observations performed on site, the team concluded that the actions taken to address DB-12 were effective. Therefore, DB-12 is closed.

PH-3 Review and update the current Aging/Obsolescence List, Critical Spares List, and Equipment Reliability Issues List to identify items that should be included in the 2017 and 2018 business cycles. (CR-ANO-C-2014-00089 CA-38, CR-ANO-C-2015-02831 CA-28 through CA-30, CR-ANO-C-2015-02832 CA-37 and CA-39, and CR-ANO-C-2015-02833 CA-42 and CA-43)

During the ANO recovery team's evaluation of Plant Health, the licensee identified that leaders had not ensured that resources were available to support equipment reliability, for addressing obsolete equipment, and reducing growing backlogs of changes to procedures, drawings, and other documents. The 95003 supplemental inspection team reviewed activities associated with three Unit 1 Aging Management Programs, identifying performance deficiencies in the Wall Thinning Monitoring Program and the Service Water Integrity Programs

The team reviewed the licensee's corrective actions for these items, and interviewed the action owners. The licensee did review and update the Aging/Obsolescence list, identified critical spares, and were taking actions to address equipment reliability issues. These actions included addressing service water integrity issues, fire systems, and other plant reliability issues. The resolution of specific plant equipment reliability issues are covered in other actions and have been or will be reviewed for effectiveness.

Based on the actions taken by the licensee and observations made by the team, the team concluded that the actions taken to address PH-3 were effective. Therefore, PH-3 is closed.

PH-4 Review and update the current site Unit Commitment List to identify operations and maintenance and capital projects which are required to be resolved by completion of Refueling Outages 1R27 and 2R26. (CR-ANO-C-2015-02831 CA-31, CR-ANO-C-2015-02833 CA-44, and CR-ANO-C-2015-03029 CA-2, CA-3, CA-4, and CA-6)

During the ANO recovery team's evaluation of Plant Health, the licensee identified multiple problems with the implementation of the Site Integrated Planning Database (SIPD) process, used for modifications, replacements, and other capital projects. ANO had 1745 issues in the process, and a recovery team reconciliation subsequently closed 1350 as being already complete or no longer

needed. The 95003 supplemental inspection team found that ANO's implementation of the SIPD process lacked long-range planning, was difficult to manage, and lacked the engineering resources to fulfill the SIPD process requirements.

The licensee conducted a plant issue day, and solicited input from site personnel to identify issues that resulted in degraded plant performance.

The team reviewed the licensee's corrective actions to update the Unit Commitment List. The team reviewed the licensee's implementation of the SIDP process and the licensee's Procedure EN-FAP-PM-001, "Asset Management Plan Development, Tracking and Control," Revision 2. The team reviewed the abandonment SIDPs and Danger Tags greater than 90 days old and concluded that the licensee included appropriate items into the Unit Commitment List.

Based on the actions taken by the licensee and observations made by the team, the team concluded that the actions taken to address PH-4 were effective. Therefore, PH-4 is closed.

PH-5 Develop and implement a comprehensive site plan for equipment reliability that identifies the implementing resources (people, materials, funding, and time) needed to support on-line and outage Unit Commitment List items that require resolution by completion of Refueling Outages 1R27 and 2R26. (CR-ANO-C-2014-02601 CA-7, CA-8, and CA-9, and CR-ANO-C-2015-02831 CA-32 and CA-45)

During the ANO recovery team's evaluation of Plant Health, the licensee identified that on-line and outage scope control practices and decision making did not support equipment reliability and maintenance of equipment performance. During the 95003 supplemental inspection, the NRC team found the Plant Health Project Plan to be incomplete and lacking sufficient detail to provide assurance that identified issues would be corrected. Some of the steps did not appear to support timely improvements in equipment reliability, potentially missing opportunities to add scope to the next outage for each unit.

The team reviewed the licensee's corrective actions and interviewed plant personnel regarding the comprehensive site plan. The licensee introduced a Nuclear Strategic Plan to increase capital investment at ANO through 2021. The team found that the licensee identified and scheduled appropriate projects to be implemented in order to improve equipment reliability, and had the necessary funding. The team also found that the licensee was effectively identifying needed manpower resources and was purchasing critical spares.

Based on the actions taken by the licensee and observations made by the team, the team concluded that the actions taken to address PH-5 were effective. Therefore, PH-5 is closed.

PH-6 Obtain an independent third party review of the selection of Site Integrated Planning Database items that are targeted on the comprehensive site plan for equipment reliability to ensure the decisions for inclusion and exclusion are aligned with industry standards and expectations associated with timely

resolution of degraded equipment and design margins.
(CR-ANO-C-2015-02831 CA-34, and CR-ANO-C-2015-02833 CA-46)

During the ANO recovery team's evaluation of Plant Health, the licensee identified multiple problems with the implementation of the SIPD process, used for modifications, replacements, and other capital projects. ANO had 1745 issues in the process, and a recovery team reconciliation subsequently closed 1350 as being already complete or no longer needed. The 95003 supplemental inspection team found that ANO's implementation of the SIPD process lacked long-range planning, was difficult to manage, and lacked the engineering resources to fulfill the SIPD process requirements. The NRC team noted that many items lacked management sponsors or project leads, or lacked information needed to proceed through the process, and many items had been in the SIPD process for years without being resolved due to deferments, insufficient funding, or unavailable parts.

The team reviewed the licensee's corrective actions and interviewed plant personnel regarding the third party review. The team also reviewed the third party review report. The team concluded that the third party review supported a conclusion that the licensee made appropriate decisions on equipment reliability associated with timely resolution of degraded equipment and design margins.

Based on the actions taken by the licensee and observations made by the team, the team concluded that the actions taken to address PH-6 were effective. Therefore, PH-6 is closed.

PH-12 The following list contains equipment reliability issues in systems or components necessary for the safe and reliable operation of the unit(s) that will be resolved over the next two unit operating cycles. The intent of this action is to demonstrate improved equipment reliability by resolving long-standing equipment issues. (CR-ANO-C-2014-00259 CA-130, CR-ANO-C-2015-02832 CA-33 through CA-35, CR-ANO-C-2015-03029 CA-13, CR-ANO-2-2013-02242 CA-50, and CR-ANO-2-2015-02879 CA-24)

- Unit 1 reactor building coatings margin improvement
- Unit 1 NI-501 detector replacement
- Unit 2 shutdown cooling heat exchanger replacement
- Unit 2 instrument air compressor replacement
- Fire suppression system reliability improvement
- Diesel fire pump engine overhaul
- Radiation monitor reliability improvement
- Unit 2 component cooling water (CCW) system performance improvements
    - 2P-33C CCW pump overhaul
    - 2P-33B CCW pump overhaul
    - 2E-28B CCW heat exchanger replacement
- Service water and circulating water chemical treatment system upgrade
- Unit 2 cooling tower crane replacement
- Unit 2 condensate pump 2P-2A rebuild
- Unit 1 letdown heat exchanger replacement

- Decay heat check valves DH-17 and DH-18 replacement
- Unit 1 reactor vessel head O-ring leakage resolution
- SU2 transformer inspections
- SU3 transformer inspections
- Complete design of Unit 1 integrated control system reverse engineered modules
- Implement single point vulnerability (SPV) mitigation and elimination efforts

The licensee's Collective Evaluation identified weaknesses with the organization's ability to identify, prioritize, fund, and implement modifications and other capital improvements required to address equipment issues in a timely manner. Multiple aspects of this process were found to have challenges. The licensee committed to complete multiple actions to improve equipment reliability related to items in the SIPD process. Most of these actions are addressed through actions PH-1 through PH-6 in the Plant Health Area Action Plan. However, detailed plans to improve specific equipment reliability issues were not available at the time of the 95003 inspection. The NRC plans to review the results of the equipment reliability issues to be addressed under actions PH-12 and PH-13 as those projects are completed.

The team reviewed the licensee's progress in resolving equipment reliability issues by evaluating the completed actions taken to address the following:

- Unit 1 reactor building coatings margin improvement
- Unit 2 instrument air compressor replacement
- Diesel fire pump engine overhaul
- Unit 2 CCW system 2E-28B CCW heat exchanger replacement
- Start-up transformer #3 inspections

The team reviewed the system health reports and work orders and interviewed plant personnel regarding the specific equipment reliability issues. In each of the five cases, the licensee had either replaced the equipment or adequately addressed its deficiencies through maintenance. The team noted the equipment has been operating with no major issues since these replacements.

Based on the long term goals of this action item, PH-12 will remain open. This action will be reviewed in future inspections to verify the licensee is resolving the equipment reliability issues listed.

.5 Actions to Address Safety Culture Issues

DM-3 Establish decision making and risk management content in the ANO Employee Handbook to include behaviors for making effective decisions and appropriately managing risk with the expectation for employees and leaders to use the book in communicating, demonstrating, and reinforcing appropriate behaviors. (CR-ANO-C-2015-02832 CA-18)

In performing their decision making and risk management RCE, the licensee identified that decision making at all levels in the ANO organization failed to

recognize, mitigate, and manage risk. During the 95003 supplemental inspection, the NRC team concluded that ANO failed to recognize the need to develop and implement corrective actions to improve knowledge and recognition of risk. The NRC team determined that actions to improve knowledge of risk were missed in the assignment of corrective actions for the decision making and risk management fundamental problem area.

During this inspection, the team determined that the licensee had rolled out an ANO-specific handbook through their supervisors in 2016. In May 2017, Entergy developed a fleet-wide handbook for use at all sites. The fleet-wide handbook reflected the Entergy Nuclear Excellence Model using the STAIR (Safety, Teamwork, Always learning, Integrity, and Respect) method that reflected five corporate values. The licensee established principles and tools (administrative aids) to ensure employees and managers develop behaviors that reflect their values. At the time of this inspection, the licensee had rolled out three of the five values and their implementing tools. These values included Safety, Teamwork, and Always Learning that included the principles related to eliminating and mitigating risk, engaging people and maintaining a learning environment, respectively. The team verified that the licensee had rolled out this principle and tool in a series of small group discussions, explaining the standards and expectations. The team determined that the licensee tracked the number of employees who attended each of the rollouts and established greater than 90 percent as success criteria.

The team determined that employee handbook pages 14 and 15 specifically address decision-making and managing risk. The team determined during interviews of plant personnel related to these corrective actions and changes on site that consideration of risk was a major element in their daily decision making. Although personnel were not required to carry their employee handbook at all times, the team determined that personnel focused on considering risk and conservative decisions at the time of this inspection. The team reviewed the implemented corrective actions and identified no concerns.

Based on the actions taken by the licensee, information evaluated by the team, and observations performed on site, the team concluded that the actions taken to address DM-3 were effective. Therefore, DM-3 is closed.

PM-20 Track Leadership Fundamentals RCE CR-ANO-C-2015-02829 CA-022. Improve the performance review process for leadership fundamentals supportive of long term strategic improvement. (CR-ANO-C-2015-02834 CA-105)

During the 95003 supplemental inspection, the NRC team reviewed the licensee's leadership fundamentals RCE conclusion that leaders at ANO have not maintained a strong continuous improvement organization. Specifically, a focus on short-term results sometimes took precedence over the continuous improvement activities such as performance reviews, benchmarking, use of operating experience, and self-assessments that are necessary to maintain strong station performance and achieve excellence.

During the NRC's first review of PM-20 in Inspection Report 05000313/2017010 and 05000368/2017010 (ADAMS Accession No. ML17117A696), the team found

that the licensee had revised Procedure EN-LI-121-ANO-RC, “Trending and Performance Review Process,” to include qualitative guidance to evaluate the department or station performance in each element of leadership fundamentals. The team interviewed a sample of department performance improvement coordinators to determine how the department leaders used the guidance and found that some departments had rigorous evaluations and actions in leadership fundamentals, and other departments did not document an auditable basis to show what was evaluated or support their conclusions. The inspectors determined that without a repeatable process for evaluation of quantitative and qualitative leadership data, the licensee’s actions would be unlikely to satisfy the intent of PM-20. Therefore, the team concluded that the licensee had not completed this action as intended and it would remain open until the licensee developed and implemented additional guidance and determined whether those actions had been effective.

During the current inspection, the team interviewed the owners of this action item, various maintenance department supervisors and craft personnel; reviewed the corrective actions associated with this item; reviewed quarter review meeting minutes; interviewed station personnel; and reviewed Procedure EN-LI-121, “Trending and Performance Review Process,” Revision 23.

The team reviewed a sample of DPRM reports over the last 6 months and determined that the licensee was identifying leadership performance items at all levels and had an auditable basis to support their conclusion. The team concluded that the licensee’s actions were effective.

Based on the licensee actions and observations made by the team, the team concluded that the actions taken to address PM-20 were effective. Therefore, PM-20 is closed.

SC-5 Create an ANO Employee Handbook that includes nuclear safety culture, safety conscious work environment, and corrective action program (CAP) standards and expectations, and provide orientation and expectations to ANO personnel on the contents and use of this handbook as a daily tool for communicating, reinforcing, and demonstrating nuclear safety culture and CAP expectations. (CR-ANO-C-2015-01240 CA-64, and CR-ANO-C-2015-02829 CA-25 and CA-27)

The licensee found during their leadership fundamentals root cause evaluation that ANO leaders lost focus on the long-term strategic actions necessary to maintain sustainable high levels of performance. Specifically, the need for behaviors that consistently supported CAP implementation and a culture of continuous improvement, the strategic allocation of resources, the quality of processes and procedures, a strong nuclear safety culture including some elements of safety conscious work environment, high standards of individual and team performance, effective communications, and the building of trust. Key CAP values and behaviors were not in a handbook to support daily reference by employees and reinforcement by leaders.

During this inspection, the team determined that the licensee had rolled out an ANO-specific handbook through their supervisors in 2016. In May 2017, Entergy developed a fleet-wide handbook for use at all sites. The fleet-wide handbook

reflected the Entergy Nuclear Excellence Model using the STAIR (Safety, Teamwork, Always learning, Integrity, and Respect) method that reflected five corporate values. At the time of this inspection, the licensee had rolled out three of the five values and their implementing tools. These values included Safety, Teamwork, and Always Learning that included the principles related to eliminating and mitigating risk, engaging people and maintaining a learning environment, respectively. The team verified that the licensee had rolled out this principle and tool in a series of small group discussions. The team determined that the licensee tracked the number of employees who attended each of the rollouts and established greater than 90 percent as success criteria.

The team verified that the employee handbook contained information related to nuclear safety culture, safety conscious work environment, and corrective action program standards and expectations. The team verified that the licensee had provided orientation and expectations to plant personnel on the contents and use of this handbook as a daily tool for communicating, reinforcing, and demonstrating nuclear safety culture and corrective action program expectations. The team reviewed the implemented corrective actions and identified no concerns.

Based on the actions taken by the licensee, information evaluated by the team, and observations performed on site, the team concluded that the actions taken to address SC-5 were effective. Therefore, SC-5 is closed.

SC-6 Conduct meetings facilitated by members of site management to familiarize personnel with the contents of the ANO Employee Handbook and expectations for its use. (CR-ANO-C-2015-02829 CA-26)

The licensee found during their leadership fundamentals root cause evaluation that ANO leaders were not consistently demonstrating and reinforcing standards and expectations. ANO concluded that there were weaknesses in the leader behaviors needed to provide effective communications and build trust with employees, to create a vision to arrest the performance decline, to reinforce high standards and expectations, to foster a learning organization and culture of continuous improvement, and to make sound decisions that manage risk.

During this inspection, the team determined that the licensee had rolled out an ANO-specific handbook through their supervisors in 2016. In May 2017, Entergy developed a fleet-wide handbook for use at all sites. The fleet-wide handbook reflected the Entergy Nuclear Excellence Model using the STAIR (Safety, Teamwork, Always learning, Integrity, and Respect) method that reflected five corporate values. At the time of this inspection, the licensee had rolled out three of the five values and their implementing tools. These values included Safety, Teamwork, and Always Learning that included the principles related to eliminating and mitigating risk, engaging people and maintaining a learning environment, respectively. The team verified that the licensee had rolled out this principle and tool in a series of small group discussions. The team determined that the licensee tracked the number of employees who attended each of the rollouts and established greater than 90 percent as success criteria. The team reviewed the implemented corrective actions and identified no concerns.

Based on the actions taken by the licensee, information evaluated by the team, and observations performed on site, the team concluded that the actions taken to address SC-6 were effective. Therefore, SC-6 is closed.

4OA6 Meetings, Including Exit

Exit Meeting Summary

On December 1, 2017, the team presented the inspection results to Mr. R. Anderson, Site Vice President, and other members of the licensee staff. On December 21, 2017, the team leader presented the final inspection results during a supplemental exit meeting by telephone to Mr. R. Anderson, Site Vice President, and other members of the licensee staff. In both meetings, the licensee acknowledged the issues presented. The licensee confirmed that any proprietary information reviewed by the team had been returned or destroyed.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

R. Anderson, Site Vice President
T. Arnold, Recovery Manager
L. Blocker, Recovery Director
C. Bregar, Recovery Contractor
P. Butler, Design Engineering Manager
B. Daiber, Engineering Programs and Components Manager
B. Davis, Engineering Director
R. Downs, Motor-operated Valve Test Engineer
D. Edgell, Recovery Manager
B. Egnew, Regulatory Assurance
A. Freeman, Contract Manager
C. Garbe, Unit 2 Outage Manager
D. Hill, Shift Manager
G. Hudnall, NIOS Manager
C. Johnson, Flood Barrier Program Engineer
G. Kilpatrick, Training Manager
A. Kindrick, Human Resources Manager
R. King, FIN Team Senior Reactor Operator
N. Ledbetter, Operations Control Room Supervisor
J. Loving, U2 Emergency Feewater (EFW) System Engineer
A. Martin, Unit 2 Shift Manager
P. McCray, Senior Manager Site Projects
K. McNeil, Shift Manager
K. Morris, Performance Improvement Specialist
N. Mosher, Regulatory Assurance
E. Nicholson, Performance Improvement Manager
B. Pace, Production Manager
B. Patrick, Maintenance Manager
R. Penfield, Regulatory Affairs and Performance Improvement Director
M. Phalen, Radiation Protection Manager
S. Pyle, Regulatory Assurance Manager
F. Shewmake, Unit 2 Operations Manager
M. Skartvedt, System Engineering Manager
G. Stephenson, Acting Corrective Action Program Manager
G. Sullins, Regulatory and Performance Improvement Director
J. Toben, Nuclear Safety Culture Manager
D. Van Es, U1 EFW System Engineer
D. Vogt, Operations Manager

LIST OF CONFIRMATORY ACTION LETTER ITEMS CLOSED AND DISCUSSED

Closed

Significant Performance Deficiencies

DM-1	(Section 4OA5.1)
DM-6	(Section 4OA5.1)
DM-11	(Section 4OA5.1)
VO-8	(Section 4OA5.1)
VO-18	(Section 4OA5.1)
VO-19	(Section 4OA5.1)

Identifying, Assessing and Correcting Performance Deficiencies

CA-3	(Section 4OA5.2)
CA-7	(Section 4OA5.2)
CA-9	(Section 4OA5.2)
CA-10	(Section 4OA5.2)
DM-22	(Section 4OA5.2)
DM-23	(Section 4OA5.2)
LF-11	(Section 4OA5.2)
LF-14	(Section 4OA5.2)
OC-6	(Section 4OA5.2)
TR-4	(Section 4OA5.2)
TR-5	(Section 4OA5.2)

Human Performance Issues

DB-9	(Section 4OA5.3)
DM-13	(Section 4OA5.3)
LF-2	(Section 4OA5.3)
NF-9	(Section 4OA5.3)
OC-4	(Section 4OA5.3)
PM-19	(Section 4OA5.3)
PQ-4	(Section 4OA5.3)

Closed

SC-8 (Section 4OA5.3)

Equipment Reliability and Engineering Program Deficiencies

DB-12 (Section 4OA5.4)

PH-3 (Section 4OA5.4)

PH-4 (Section 4OA5.4)

PH-5 (Section 4OA5.4)

PH-6 (Section 4OA5.4)

Safety Culture Issues

DM-3 (Section 4OA5.5)

PM-20 (Section 4OA5.5)

SC-5 (Section 4OA5.5)

SC-6 (Section 4OA5.5)

Discussed

Significant Performance Deficiencies

FP-8 (Section 4OA5.1)

Equipment Reliability and Engineering Program Deficiencies

PH-12 (Section 4OA5.4)

LIST OF DOCUMENTS REVIEWED

Audits/Self Assessments

Number	Title	Date
LO-ALO-2013-0004	Focused Self-Assessment for CAPR 1 and CAPR 2 of CR-ANO-C-2013-00888	
LO-ALO-2016-00049	Focused Self Assessment Flood Protection Program	February 10, 2017
LO-ALO-2016-0063	Vendor Oversight Process Snapshot Benchmark	August 24, 2016
LO-ALO-2017-0080	Focused Self-Assessment for CAPR 1 and CAPR 2 of CR-ANO-C-2014-02318	August 28, 2017
LO-ANO-2017-00057	VO-8 Effectiveness Assessment	October 18, 2017
LO-ANO-2016-00046	Track Action Items Associated with Effectiveness Review Challenge Board (ERCB) Meetings and Actions	November 8, 2017

Miscellaneous Documents

Number	Title	Revision/Date
	2017-03 APRM Report (FINAL).	November 2017
	April 2017 T-28 Repetitive Task Review Meetings	
	May 2017 T-28 Repetitive Task Review Meetings	
	June 2017 T-28 Repetitive Task Review Meetings	
	July 2017 T-28 Repetitive Task Review Meetings	
	Backlog Reduction Graphs through November 6, 2017	
	Conduct of Maintenance – Strive for Excellence Handbook	
	Crew Clock Non-Consequential Error Rate graphs for 2015, 2016 and 2017	
	CRP Action Item Closure Report, LF-11	May 16, 2016
	ECRG Meeting Minutes	August 3, 2017
	ECRG Meeting Minutes	August 17, 2017
	ECRG Meeting Minutes	October 5, 2017
	ECRG Meeting Minutes	October 19, 2017
	ECRG Meeting Minutes	November 2, 2017
	Employee Handbook – *Achieving and Sustaining Excellence*	
	Maintenance PQRT Meeting Minutes	August 24, 2016

Miscellaneous Documents

Number	Title	Revision/Date
	Maintenance PQRT Meeting Minutes	February 28, 2017
	Maintenance PQRT Meeting Minutes	June 28, 2017
	Maintenance Standards and Expectations Fix-It-Now (FIN) Team Charter	
	Maintenance Rule (a)(1) status update from Expert Panel	November 6, 2017
	O&M and Capital Project Lists	
	Planning Quality Review Team PQRT Monthly Rollup	September 27, 2017
	PS&O Roles and Responsibilities	0
	Recovery Backlog Reduction Plan Presentation	
	Revised Observation Program Health Index	
	SIPD Quarterly Prioritization Report	November 20, 2017
	Various T-Week Meeting Agendas	
	Work Management Fundamentals Presentation	
	Work Management Process Presentations for Work Week Manager, Project Coordinator, Work Management Planning, Cycle Schedule, Operations Work Control, and Discipline Coordinator	
	Your Connection to the Core trifold	
ANO-2016-0066	First Level Escalation of Vendor Oversight of ANO Supplemental Employees	September 2, 2016
ANO-2016-0093	NIOS First Level Elevation of ANO Comprehensive Recovery Plan	December 19, 2016
ANO-2017-0064	Closure of Nuclear Independent Oversight (NIOS) Escalation CR-ANO-C-2014-00437. In some cases, Entergy Oversight personnel, Supplemental Supervisors, and Supplemental Foremen do not recognize or correct at risk behaviors concerning procedure use and adherence	August 8, 2017
ANO-2017-0068	Closure of Nuclear Independent Oversight (NIOS) Escalation CR-ANO-C-2016-03539. Supplemental workers often do not perform critical rigging and lifting evolutions properly because of deficiencies in applying fundamental rigging practices	August 28, 2017
CALC-ANOC-CS-15-00003	ANO Flood Protection Design Basis	6
CALC-ANOC-CS-16-00006	Arkansas Nuclear One Passive Barrier Features List	7

Miscellaneous Documents

Number	Title	Revision/Date
CALC-ANOC-CS-16-00009	Floor Drain Maintenance	0
Contract Order 10375608	Agreement No. 10148946 and Barnhart Crane	February 27, 2013
Contract Order 10402100	Agreement No. 10148946 and Barnhart Crane	February 25, 2014
Contract Order 10494022	Agreement No. 10370805 and Barnhart Crane & Rigging Co	November 2, 2016
EC 50092	Room 72 Floor Drain and Equipment Drain Flood	0
EC 57793	Laser Peening pf ANO-1 RV Bottom-Mounted Instrument Nozzles	0
FCBT-SLFSTDY-ADM-IPCM	Nuclear Contract Management Toolkit	5
FLP-ADM-IOI	Integrity & Own It! – Our Values, Principles & Tools for Achieving Excellence	1
FLP-ADM-PDC	Safety, Risk and PDC	0
FLP-ADM-TEAMENGAGE	Teamwork & Engagement – Our Values, Principles & Tools for Achieving Excellence	1
FTK-ESPP-G00016	Check Valve Program Engineer Qualification Card	6
FTK-ESPP-G00007	Implement the Maintenance Rule	4
LF-11 ERF	Leadership Fundamentals Area Action Plan, Key Action LF-11	
NQ-2016-032	Nuclear Independent Oversight Surveillance of ANO Comprehensive Recovery Plan – July, 2016 Report	August 18, 2016
NQ-2016-034	First Level Escalation of Vendor Oversight of Supplemental Employees at ANO	August 31, 2016
NQ-2016-042	NIOS Comprehensive Recovery Plan Surveillance for October, 2016 (QS-2016-ANO-019)	November 30, 2016
NQ-2016-043	First Level Elevation of Comprehensive Recovery Plan at ANO	December 12, 2016
NQ-2017-014	Nuclear Independent Oversight (NIOS) Third Follow-up of Quality Assurance Finding (QAF) CR-ANO-C-2014-00437 and the Comprehensive Recovery Plan (CRP) Lift Rig Failure and Vendor Oversight Area Action Plan (AAP) Escalation	August 8, 2017

Miscellaneous Documents

Number	Title	Revision/Date
NQ-2017-017	Nuclear Independent Oversight (NIOS) Third Follow-up of Area for Improvement (AFI) MA 2.2 Rigging, Lifting, and Material Handling Escalation (QS-2017-ANO-007)	August 24, 2017
OBS 2017-2330	ANO Paired Observation	August 22, 2017
OBS 2017-19354	ANO Paired Observation	November 2, 2017
OBS 2017-20590	ANO Paired Observation	November 08, 2017
OBS 2017-22572	ANO Paired Observation	November 16, 2017
PH-04 ERF	Plant Health Area Action Plan, Key Action PH-04	
PI-001	Paired Observation Program	1
RRN-DOC-17-0024	Arkansas Nuclear One Asset Management Plan Review, (by Rolls Royce)	September 21, 2017
WO 00425566	HTC-492 Has Small Leakage Repair	
WO 00451805	HTC-492 Re Move Hatch and Replace Gasket	
WO 00451805	Clean & Paint Combing – Replace Gasket HTC-492	
WO 00457650-01	P-36B-Pump	April 17, 2017
WO 52639848	2TBS-44 Clean and Inspect Valve Internals per OP-1402.245	
WO 52671708	2TBS-43 Clean/Inspect Internals per OP-1402.245 (Red Train)	
WO 52702570	2TBS-43 (B EFW Pump Room) – Clean Piping Downstream of Valve	
WO 52784573	HTC-492 Two Year Leak Test (Smoke or Chalk Test)	

Procedures

Number	Title	Revision
1402.240	Inspection of Watertight Hatches	1
1402.245	Inspection of Floor Drains and Backflow Preventers	3
COPD-013	Operations Maintenance Interface Standards and Expectations	58
COPD-024	Risk Assessment Guidelines	64
COPD-028	Operations Performance Tracking Program	17
COPD-037	Operation Mentoring Program	

Procedures

Number	Title	Revision
EN-DC-112	Engineering Change Request Process	3
EN-DC-143	Engineering Health Reports	20
EN-DC-143-02	Program Health Report Supplemental Guidance	6
EN-DC-203	Maintenance Rule Program	4
EN-DC-204	Maintenance Rule Scope and Basis	4
EN-DC-205	Maintenance Rule Monitoring	6
EN-DC-206	Maintenance Rule (a)(1) Process	3
EN-DC-207	Maintenance Rule Periodic Assessment	3
EN-DC-336-ANO-RC	Plant Health Committee	2
EN-FAP-LI-001	Performance Improvement Review Group (PRG) Process	11
EN-FAP-LI-002	Project Review Boards	2
EN-FAP-OM-021	Critical Decision Procedure	5
EN-FAP-OM-16	Performance Management Processes and Practices	6
EN-FAP-PM-001	Asset Management Plan Development, Tracking and Control	2
EN-FAP-PM-002	Project Initiation, Segmentation and Funding	1
EN-FAP-TQ-001	Standard Training Performance Indicators	7
EN-FAP-TQ-004	Entergy Nuclear Training Fleet Oversight	2
EN-HU-101	Human Performance Program	19
EN-HU-102	Human Performance Traps and Tools	
EN-HU-105	Human Performance – Managed Defenses	15
EN-LI-102	Corrective Action Program	29
EN-LI-12-12-ANO-RC	Comprehensive Recovery Plan and Performance Metrics	2
EN-LI-121	Trending and Performance Review Process	23, 24
EN-MA-101	Conduct of Maintenance	20
EN-MA-130	Fix It Now (FIN) Team Process	5
EN-MP-106	Contract Management	12
EN-OM-126	Management and Oversight of Supplemental Personnel	4

Procedures

Number	Title	Revision
EN-OM-126-ANO-RC	Management and Oversight of Supplemental Personnel	6
EN-OP-115	Conduct of Operations	20
EN-OP-117	Operations Assessment Resources	9 and 10
EN-PL-100	Nuclear Excellence Model	8
EN-QV-123	Nuclear Oversight Observations	20
EN-TQ-214	Accredited Training Program Assessment Process	8
EN-WM-101	On-Line Work Management Process	14
EN-WM-104	On Line Risk Assessment	15
EN-WM-105	Planning	19
OP-1104.043	Penetration Room Ventilation System	31

Condition Reports (CR-ANO-)

1-2015-02537	1-2016-02406	1-2016-02439	1-2016-03015	1-2017-03673
1-2017-03721	2-2016-02151	2-2017-05817	2-2017-05856	2-2017-05884
2-2017-06013	C-2013-00888	C-2013-01304	C-2014-00089	C-2014-00259
C-2014-02318	C-2014-02601	C-2015-00078	C-2015-01240	C-2015-02829
C-2015-02831	C-2015-02832	C-2015-02833	C-2015-02834	C-2015-02836
C-2015-03029	C-2015-03033	C-2015-03034	C-2016-00520	C-2016-00614
C-2016-01461	C-2016-03540	C-2016-03775	C-2016-04289	C-2017-00631
C-2017-00795	C-2017-00882	C-2017-00830	C-2017-01238	C-2017-01486
C-2017-01572	C-2017-02123	C-2017-02273	C-2017-03244	C-2017-04308
C-2017-04527	C-2017-04528	C-2017-04564	C-2017-04567	C-2017-04759

Contract Evaluation Sheets

10482042	10484349	10484456	10486091	10490008
10492500	10492507	10492563	10493860	10494022
10494381	10495539	10496514	10497507	10498603
10498916	10499277	10499475	10500173	10502090
10503693	10504046	10507396	10508458	10509987
10510040	10511482	10512089	10516122	10516823

Contract Evaluation Sheets

10517162 10551151

CONFIRMATORY ACTION LETTER ITEM STATUS

Significant Performance Deficiencies

Area Action Plan	Description	Inspection Dates	Inspection Report Number(s)	Status
CO-5 OC-5	Develop and issue an Entergy change management procedure for planning, execution, and follow up of “high risk” changes. The procedure will include specific expectations for reviewing the effectiveness of “high risk” changes. Perform a snapshot benchmarking to check the approach for change management against industry practices.	8/28/17 – 9/1/17	05000313/2017012, 05000368/2017012	Closed
DB-1	Establish metrics to monitor performance that would indicate that leadership focus on minimizing risk and nuclear safety results in improvement to the health of maintenance rule systems.	8/28/17 – 9/1/17	05000313/2017012, 05000368/2017012	Closed
DB-2	Facilitate behavior change by rewarding performance that indicates leadership behaviors are focused on minimizing risk and nuclear safety by incorporating maintenance rule monitoring goals into the supervisor and above incentive plan.	8/28/17 – 9/1/17	05000313/2017012, 05000368/2017012	Closed
DB-3	Provide training to Engineering, Operations, and Planners to increase the knowledge and skills regarding passive barriers and other Design Basis Features.	10/31/16 – 12/2/16	05000313/2016008, 05000368/2016008	Closed
DM-1	Establish a decision making tool for station personnel that includes expectations for use at ANO. The intent of this action is to establish a “minimum risk option” behavior that drives the decision maker to develop multiple solutions and drive the decision that has the least risk.	11/27/17 – 12/1/17	05000313/2017013, 05000368/2017013	Closed

Area Action Plan	Description	Inspection Dates	Inspection Report Number(s)	Status
DM-6	Deliver risk recognition training and develop curriculum for all site personnel with unescorted access.	11/27/17 – 12/1/17	05000313/2017013, 05000368/2017013	Closed
DM-7	Develop and implement training on procedures governing risk assessment for work management SROs, work week managers, shift managers, and unit coordinators.	8/28/17 – 9/1/17	05000313/2017012, 05000368/2017012	Closed
DM-10	Revise procedure EN-WM-104, “On-Line Risk Assessment,” to include guidance for classifying as high risk those work activities involving a credible risk concern with unacceptable consequences and first-of-a-kind or first-in-a-while activities.	5/22/17 – 5/26/17	05000313/2017011, 05000368/2017011	Closed
DM-11 VO-19	Revise project management procedures to ensure high consequence risks are properly identified and eliminated/mitigated through a structured risk management process.	11/27/17 – 12/1/17	05000313/2017013, 05000368/2017013	Closed
FP-1	Develop external flooding design basis documentation so configuration control is defined and maintained. Develop an engineering report and flood protection drawings similar to fire protection drawings to clearly document the flooding design basis and credited flood protection features (credited external flood protection features and credited operator actions), and assign unique equipment ID to each flood protection feature and boundary.	10/31/16 – 12/2/16	05000313/2016008, 05000368/2016008	Closed
FP-2	Develop internal flooding design basis documentation so configuration control is defined and maintained. Develop an engineering report and flood protection drawings similar to the fire protection drawings to clearly	10/31/16 – 12/2/16	05000313/2016008, 05000368/2016008	Discussed, awaiting licensee action

Area Action Plan	Description	Inspection Dates	Inspection Report Number(s)	Status
	document the flooding design basis and credited flood protection features (credited internal flood protection features and credited operator actions). Update the Flooding Upper Level Document (ULD). Assign unique equipment identification to each flood protection feature and boundary.	5/22/17 – 5/26/17	05000313/2017011, 05000368/2017011	Closed
FP-3	Label external flood barriers in the plant to provide in-field awareness of flood protection features.	10/31/16 – 12/2/16	05000313/2016008, 05000368/2016008	Closed
FP-4	Establish an Engineering Barrier Program to include external and internal flood protection in accordance with the requirements of procedure EN-DC-329, “Engineering Programs Control and Oversight.” Assign program owner and backup. Establish PMs for external and internal flood protection features including scope, frequency, testing criteria, and acceptance criteria.	8/28/17 – 9/1/17	05000313/2017012, 05000368/2017012	Closed
FP-5	Revise procedure EN-DC-329, “Engineering Programs Control and Oversight,” to include external and internal flood protection in the Engineering Program List. Revise the flooding programmatic aspects of procedure EN-DC-150, “Condition Monitoring of Maintenance Rule Structures.” Revise EN-DC-136, “Temporary Modifications,” to incorporate external flood considerations.	2/27/17 – 3/3/17	05000313/2017010, 05000368/2017010	Closed
FP-6	Validate that all external flood gaps identified from the review of documentation for credible flood paths and the follow-up walk downs have been resolved.	10/31/16 – 12/2/16	05000313/2016008, 05000368/2016008	Closed
FP-7	Perform walk downs of all credited internal flood protection features and document the results in an engineering report.	10/31/16 – 12/2/16	05000313/2016008, 05000368/2016008	Discussed, awaiting licensee action

Area Action Plan	Description	Inspection Dates	Inspection Report Number(s)	Status
		5/22/17 – 5/26/17	05000313/2017011, 05000368/2017011	Closed
FP-8	Validate that all internal flood gaps identified from the review of documentation for credible flood paths and the follow-up walk downs have been resolved.	11/27/17 – 12/1/17	05000313/2017013, 05000368/2017013	Discussed, awaiting licensee action
FP-9	Establish the Program Notebook and initial Program Health Report for flood protection in accordance with procedure EN-DC-143, "Engineering Health Reports," to identify, communicate, prioritize and drive resolution of issues that challenge an effective flood protection strategy including performance indicators, initial color rating (Red or Yellow), and action plan.	5/22/17 – 5/26/17	05000313/2017011, 05000368/2017011	Closed
FP-13	Develop and conduct initial and continuing training essential to understanding and maintaining the license basis for flood barrier features. Address Operations, Engineering, and Work Planning groups.	10/31/16 – 12/2/16	05000313/2016008, 05000368/2016008	Closed
VO-1	Designate a Subject Matter Expert (SME) to oversee implementation of the procedure for Management and Oversight of Supplemental Personnel and contractor oversight for ANO.	8/29/16 – 9/16/16	05000313/2016010, 05000368/2016010	Closed
VO-4	Establish a Vendor Oversight Team to drive continuous improvement in Vendor Oversight.	8/29/16 – 9/16/16	05000313/2016010, 05000368/2016010	Closed
VO-5	Develop and implement a process for monitoring of supplemental oversight plan compliance.	5/22/17 – 5/26/17	05000313/2017011, 05000368/2017011	Closed
VO-6	Establish specific templates/guidance/examples to support consistent development of supplemental oversight plans.	5/22/17 – 5/26/17	05000313/2017011, 05000368/2017011	Closed

Area Action Plan	Description	Inspection Dates	Inspection Report Number(s)	Status
VO-7	Develop and implement initial and continuing training on the procedure for management and oversight of supplemental personnel. Training is for site contract managers and project managers.	8/28/17 – 9/1/17	05000313/2017012, 05000368/2017012	Discussed, awaiting licensee action
VO-8	Develop and implement a contract management familiarization guide to include determination and documentation of work scope, risk assessment, incentives and penalties, and performance monitoring. Include review of operating experience, such as the contractual aspects of the stator lift rig failure and other related industry events in the familiarization guide.	11/27/17 – 12/1/17	05000313/2017013, 05000368/2017013	Closed
VO-9	Perform an organizational capacity assessment for vendor oversight, including contract management and administration, critical procurements, and department-specific resource impacts.	8/28/17 – 9/1/17	05000313/2017012, 05000368/2017012	Closed
VO-10	Evaluate span of control with regard to responsible oversight of vendors, and place actions to address identified weaknesses in the Corrective Action Program.	2/27/17 – 3/3/17	05000313/2017010, 05000368/2017010	Closed
VO-11	Revise the “Supplemental Personnel Expectations Brief Checklist” to include supplemental personnel receiving a site employee handbook and a discussion by responsible management on the site employee handbook and expectations for use.	5/22/17 – 5/26/17	05000313/2017011, 05000368/2017011	Closed

Area Action Plan	Description	Inspection Dates	Inspection Report Number(s)	Status
VO-14	Establish a fleet charter team or ANO team to address weaknesses in the procedures for contractor oversight. Specifically, identify gaps in the procedures to align with industry guide AP-930, "Supplemental Personnel Process Description." Assign additional actions as warranted to address any gaps identified.	2/27/17 – 3/3/17	05000313/2017010, 05000368/2017010	Closed
VO-15	Review current processes in Engineering related to Vendor Oversight Fundamental Problem. Determine if additional actions are required to address less formal interfaces with suppliers of contract services. Assign additional actions as warranted to address any gaps identified.	10/31/16 – 12/2/16	05000313/2016008, 05000368/2016008	Closed
VO-18	Revise Project Management procedures to ensure projects are organized and managed with (1) effective support by subject experts and (2) effective vendor and technical oversight.	8/29/16 – 9/16/16	05000313/2016010, 05000368/2016010	Discussed, awaiting licensee action
		11/27/17 – 12/1/17	05000313/2017013, 05000368/2017013	Closed
VO-20	Issue a procedure for management and oversight of supplemental personnel including improvements to (1) defined responsibilities, (2) assessment of risk, and (3) vendor oversight plans.	2/27/17 – 3/3/17	05000313/2017010, 05000368/2017010	Discussed, awaiting licensee action
		8/28/17 – 9/1/17	05000313/2017012, 05000368/2017012	Closed
VO-21 DM-9	Develop and implement recurring training for project management personnel on risk recognition and conservative decision-making.	5/22/17 – 5/26/17	05000313/2017011, 05000368/2017011	Closed

Area Action Plan	Description	Inspection Dates	Inspection Report Number(s)	Status
VO-23	Revise EN-DC-114, Project Management, to provide guidance in specifying contract language which will ensure detailed engineering calculations, quality requirements and standards are provided for internal and third party review, in accordance with revised EN-MA-119, Material Handling Program, when specially designed temporary lift assembles are to be used.	10/31/16 – 12/2/16	05000313/2016008, 05000368/2016008	Closed
VO-24	Revise EN-MA-119, to require a documented engineering response to evaluation critical lifts if using any specially designed temporary lifting device, any lifting device that cannot be load tested per EN-MA-119 criteria, or any lifting device without a certified load rating nameplate rating affixed to it.	10/31/16 – 12/2/16	05000313/2016008, 05000368/2016008	Closed
		2/27/17 – 3/3/17	05000313/2017010, 05000368/2017010	Additional information added

Identifying, Assessing and Correcting Performance Deficiencies

Area Action Plan	Description	Inspection Dates	Inspection Report Number	Status
CA-1	Establish Corrective Action Program (CAP) content in the ANO Employee Handbook to include behaviors for prompt identification of conditions into CAP.	5/22/17 – 5/26/17	05000313/2017011, 05000368/2017011	Closed
CA-3	Conduct an organizational capacity study to determine and correct staffing and proficiency needs, including needs to support CAP implementation. Establish a People Health Committee (APHC) to support ongoing monitoring and adjustments.	11/27/17 – 12/1/17	05000313/2017013, 05000368/2017013	Closed

Area Action Plan	Description	Inspection Dates	Inspection Report Number	Status
CA-4	Develop and implement initial and continuing CAP training for station employees, ACE/RCE evaluators, responsible managers (including CARB and CRG), DPICs, OE specialists and points of contact, and performance improvement personnel.	5/22/17 – 5/26/17	05000313/2017011, 05000368/2017011	Closed
CA-5	Train investigators, managers and Performance Improvement (PI) Staff on proper causal techniques, manager oversight expectations and engagement, and conducting quality reviews of completed cause evaluations and corrective actions. Establish initial and refresher training requirements in these areas.	8/29/16 – 9/16/16	05000313/2016010, 05000368/2016010	Closed
CA-6	Implement training, benchmarking, process improvements, and monitoring/feedback to improve the rigor, attention to detail, and overall quality of operability determinations and functionality assessments.	5/22/17 – 5/26/17	05000313/2017011, 05000368/2017011	Discussed, awaiting licensee action
		8/28/17 – 9/1/17	05000313/2017012, 05000368/2017012	Closed
CA-7	Establish/refine key corrective action program station and group-level performance indicators.	8/29/16 – 9/16/16	05000313/2016010, 05000368/2016010	Discussed, awaiting licensee action
		11/27/17 – 12/1/17	05000313/2017013, 05000368/2017013	Closed
CA-9	Revise the CARB process to require the Performance Improvement Manager to present the status of the condition reporting process using established metrics to the CARB.	8/29/16 – 9/16/16	05000313/2016010, 05000368/2016010	Discussed, awaiting CA-7 closure and further inspection
		11/27/17 – 12/1/17	05000313/2017013, 05000368/2017013	Closed
CA-10	Improve the periodic performance reviews and oversight of corrective action program and operating experience performance in Department Performance Review Meetings and Aggregate Performance Review Meetings.	11/27/17 – 12/1/17	05000313/2017013, 05000368/2017013	Closed

Area Action Plan	Description	Inspection Dates	Inspection Report Number	Status
CA-11	Revise EN-LI-102 “Corrective Action Program” to require a focused self-assessment every 2 years focused primarily on whether staffing levels support effective corrective action program implementation and oversight.	8/29/16 – 9/16/16	05000313/2016010, 05000368/2016010	Closed
CA-12	Develop metrics to evaluate and monitor the health of the operating experience program.	8/29/16 – 9/16/16	05000313/2016010, 05000368/2016010	Closed
CA-13	Establish an Operating Experience (OE) mentor to review OE responses and provide critical feedback.	5/22/17 – 5/26/17	05000313/2017011, 05000368/2017011	Closed
CA-14	For a period of one year, establish Corrective Action Review Board (CARB) oversight of selected operating experience (OE) responses to verify program implementation meets CARB standards.	8/28/17 – 9/1/17	05000313/2017012, 05000368/2017012	Closed
CA-15	Revise the Operating Experience (OE) actions for selected responses to require a pre-job brief from the OE specialist. This brief should include examples of missed opportunities from past OE responses and a review of the procedure requirements for a satisfactory OE written response.	2/27/17 – 3/3/17	05000313/2017010, 05000368/2017010	Closed
CA-16	Train each Operating Experience (OE) point of contact on their responsibilities and skills needed to recognize the applicability of OE, elevate OE, and use search tools to locate OE for evaluation.	2/27/17 – 3/3/17	05000313/2017010, 05000368/2017010	Discussed, awaiting licensee action
		8/28/17 – 9/1/17	05000313/2017012, 05000368/2017012	Closed
CA-17	Revise Operating Experience (OE) Program procedure to include an annual review of the list of vendors providing safety-related products/services to ensure new suppliers are added.	2/27/17 – 3/3/17	05000313/2017010, 05000368/2017010	Closed

Area Action Plan	Description	Inspection Dates	Inspection Report Number	Status
CO-2	Revise procedure EN-FAP-OM-002, "Management Review Meetings," to prioritize review of Nuclear Safety Culture status and regulatory performance to the operational excellence management review meeting agenda.	5/22/17 – 5/26/17	05000313/2017011, 05000368/2017011	Closed
CO-3	Align ANO and fleet key performance indicators with the industry and establish goals that are challenging and consistent with industry practices.	8/29/16 – 9/16/16	05000313/2016010, 05000368/2016010	Closed
DM-5	Benchmark a nuclear facility outside the Entergy fleet for its ability to recognize risk. Incorporate the learnings and develop a risk recognition training plan to be delivered at ANO.	2/27/17 – 3/3/17	05000313/2017010, 05000368/2017010	Closed
DM-22	Benchmark outside the Entergy fleet to identify best practices in the work management process.	11/27/17 – 12/1/17	05000313/2017013, 05000368/2017013	Closed
DM-23	Have a group from another plant perform a peer assist visit in work management.	2/27/17 – 3/3/17	05000313/2017010, 05000368/2017010	Discussed, awaiting licensee action
		11/27/17 – 12/1/17	05000313/2017013, 05000368/2017013	Closed
LF-11	Create trending and issue performance review metrics to improve the review of leader behaviors and performance results.	11/27/17 – 12/1/17	05000313/2017013, 05000368/2017013	Closed
OC-6 LF-14	Create a simple tool to analyze externally identified performance issues both individually and in aggregate to present actionable data to the Aggregate Performance Review Meeting (APRM).	8/29/16 – 9/16/16	05000313/2016010, 05000368/2016010	Discussed, awaiting further inspection
		11/27/17 – 12/1/17	05000313/2017013, 05000368/2017013	Closed

Area Action Plan	Description	Inspection Dates	Inspection Report Number	Status
PH-9	Conduct a benchmark of the Plant Health Committee and Plant Health Working Group at a recognized industry leader in identifying and addressing equipment reliability issues. The intent of this action is to validate the action plan for improving our Plant Health Committee and establishing a Plant Health Working Group.	2/27/17 – 3/3/17	05000313/2017010, 05000368/2017010	Closed
PM-6	The Event Report Review Board will review all formal operating experience (OE) evaluations for 12 months and initiate corrective action for any that do not meet management standards for quality.	8/28/17 – 9/1/17	05000313/2017012, 05000368/2017012	Closed
PM-9	Develop metrics for the number of open craft work order feedback requests.	2/27/17 – 3/3/17	05000313/2017010, 05000368/2017010	Closed
PM-10	Reestablish the Preventive Maintenance (PM) Program health report for a period of at least 12 months.	5/22/17 – 5/26/17	05000313/2017011, 05000368/2017011	Closed
TR-2	Define and incorporate guidance in the condition report (CR) screening and review process to prompt discussion and/or action for conditions potentially warranting a training solution.	8/28/17 – 9/1/17	05000313/2017012, 05000368/2017012	Closed
TR-3	Define and incorporate practical guidance in Procedure EN-LI-121, “Trending and Performance Review,” to support consideration of training as a potential solution for organizational performance issues.	8/29/16 – 9/16/16	05000313/2016010, 05000368/2016010	Closed
TR-4	Training Manager provide presentation(s) to managers and Department Performance Improvement Coordinators on the use of training to support organizational performance improvement.	11/27/17 – 12/1/17	05000313/2017013, 05000368/2017013	Closed

Area Action Plan	Description	Inspection Dates	Inspection Report Number	Status
TR-5	Factor training needs into resources for key departments, including the training department, to ensure that resources support training for organizational performance improvement. This action refers to staffing to support training beyond that necessary for accredited programs.	11/27/17 – 12/1/17	05000313/2017013, 05000368/2017013	Closed
VO-16	Benchmark an industry leader outside the Entergy fleet to capture best practices in vendor oversight.	8/28/17 – 9/1/17	05000313/2017012, 05000368/2017012	Closed

Human Performance

Area Action Plan	Description	Inspection Dates	Inspection Report Number	Status
DB-9	Experienced mentors will be assigned to the component and programs areas from July 1, 2016, through July 1, 2017. This mentoring effort will focus on behaviors, qualification, and standards of the ANO component and programs areas to ensure full compliance and to build the knowledge and proficiency in these areas.	11/27/17 – 12/1/17	05000313/2017013, 05000368/2017013	Closed
DB-18	Re-baseline expectations for supporting information for NRC license amendment requests or relief requests based on past requests for additional information.	5/22/17 – 5/26/17	05000313/2017011, 05000368/2017011	Closed
DB-19	Provide Regulatory Assurance departmental training on development of NRC license amendment requests.	5/22/17 – 5/26/17	05000313/2017011, 05000368/2017011	Closed
DM-13	Assign a mentor from outside the Entergy fleet to coach and mentor each shift manager, emphasizing the aspect of leadership in operational focus.	11/27/17 – 12/1/17	05000313/2017013, 05000368/2017013	Closed
DM-17	Develop roles and responsibilities for the quorum line participants in the work management process.	8/28/17 – 9/1/17	05000313/2017012, 05000368/2017012	Closed

Area Action Plan	Description	Inspection Dates	Inspection Report Number	Status
LF-1	Conduct leadership assessments for the senior leadership team, managers and superintendents and establish individual development plans to support closing identified gaps in leader behaviors.	2/27/17 – 3/3/17	05000313/2017010, 05000368/2017010	Closed
LF-2	Establish and roll out an ANO employee handbook with attributes and behaviors supporting nuclear safety and long term strategic improvement. The purpose of the handbook is to communicate and reinforce key values and behaviors.	11/27/17 – 12/1/17	05000313/2017013, 05000368/2017013	Closed
LF-4	As an interim action, establish weekly leadership alignment meetings for supervisors and above to reinforce actions and behaviors needed to achieve recovery objectives.	8/29/16 – 9/16/16	05000313/2016010, 05000368/2016010	Closed
LF-6	Benchmark an external organization for leadership fundamentals and develop improvement actions as warranted based upon the results.	2/27/17 – 3/3/17	05000313/2017010, 05000368/2017010	Closed
LF-8	As an interim measure, establish and implement external coaching for a sample of department and station performance review meetings in the Trending and Performance Review process.	8/29/16 – 9/16/16	05000313/2016010, 05000368/2016010	Closed
LF-10 NF-10	Establish and implement a paired observation program. This is a “coach the coach” program to improve the quality of interactions between supervisors and those they supervise.	8/29/16 – 9/16/16	05000313/2016010, 05000368/2016010	Closed

Area Action Plan	Description	Inspection Dates	Inspection Report Number	Status
NF-1	Implement a What It Looks Like sheet for nuclear professional behaviors based on objectives in "Performance Objectives and Criteria." Include a continued focus on the following four performance issues: • Procedure use and adherence • Challenging assumptions and decision making • Conservative bias and risk recognition • Low threshold for reporting issues.	8/28/17 – 9/1/17	05000313/2017012, 05000368/2017012	Closed
NF-3	Develop content for the Employee Handbook that addresses procedure use and adherence.	8/28/17 – 9/1/17	05000313/2017012, 05000368/2017012	Closed
NF-5	Develop content for the ANO supervisor training that addresses procedure use and adherence.	8/28/17 – 9/1/17	05000313/2017012, 05000368/2017012	Closed
NF-6	Revise procedure EN-OM-126, "Management and Oversight of Supplemental Personnel," to ensure that supplemental employees receive the Site Handbook.	5/22/17 – 5/26/17	05000313/2017011, 05000368/2017011	Closed
NF-9 SC-8	Develop and implement a "field presence" initiative that promotes and measures leader field presence. The objective is to drive and verify field presence by leaders to engage with employees and reinforce high standards.	11/27/17 – 12/1/17	05000313/2017013, 05000368/2017013	Closed
OC-1	Perform organizational capacity assessments to determine staffing requirements for 16 key departments based on experience, training needs, knowledge management needs, timing of expected retirements, resignations and reassignments and the needs for a site with two dissimilar units.	8/28/17 – 9/1/17	05000313/2017012, 05000368/2017012	Closed

Area Action Plan	Description	Inspection Dates	Inspection Report Number	Status
OC-2	Authorize the hiring of Entergy personnel and/or contractor positions identified as immediate staffing requirements by the ANO People Health Committee (APHC) during organizational capacity assessment reviews.	8/28/17 – 9/1/17	05000313/2017012, 05000368/2017012	Closed
OC-3	Establish and implement an ANO Integrated Strategic Workforce Plan that provides a strategic long-term perspective of future staffing needs with a focus on ensuring staffing is sufficient to support nuclear safety. The workforce planning process will look into the future at least five-years, be updated annually, and reviewed quarterly by the ANO People Health Committee.	8/28/17 – 9/1/17	05000313/2017012, 05000368/2017012	Closed
OC-4	Establish and implement an ANO People Health Committee to place priority on staffing and retention issues that are impacting ANO employees or could impact nuclear safety.	11/27/17 – 12/1/17	05000313/2017013, 05000368/2017013	Closed
PM-13	Perform a resource allocation study of the Preventive Maintenance (PM) Program that identifies positions needed to maintain a continuously improving PM Program.	8/28/17 – 9/1/17	05000313/2017012, 05000368/2017012	Closed
PM-19	Revise the Preventive Maintenance (PM) procedure to require that craft work order feedback is monitored and incorporated within 90 days or model work order placed into “plan” status.	11/27/17 – 12/1/17	05000313/2017013, 05000368/2017013	Closed
PQ-1	Develop and implement a site procedure writer’s guide based on applicable industry standards.	2/27/17 – 3/3/17	05000313/2017010, 05000368/2017010	Closed
PQ-2	Develop and implement a work order instruction guide based on applicable industry standards.	2/27/17 – 3/3/17	05000313/2017010, 05000368/2017010	Closed
PQ-3	Perform scoping reviews to assess extent of procedure and work instruction quality issues.	8/29/16 – 9/16/16	05000313/2016010, 05000368/2016010	Closed

Area Action Plan	Description	Inspection Dates	Inspection Report Number	Status
PQ-4	Conduct a Procedure Professionals Association certification course for selected plant personnel.	2/27/17 – 3/3/17	05000313/2017010, 05000368/2017010	Discussed, awaiting licensee action
		11/27/17 – 12/1/17	05000313/2017013, 05000368/2017013	Closed
PQ-5	Risk rank station procedures as safety significant, important, or normal to facilitate procedure upgrade project scoping.	8/29/16 – 9/16/16	05000313/2016010, 05000368/2016010	Closed
PQ-6	Upgrade “safety significant” procedures.	5/22/17 – 5/26/17	05000313/2017011, 05000368/2017011	Closed
PQ-7	Upgrade procedures classified as “important.”	8/28/17 – 9/1/17	05000313/2017012, 05000368/2017012	Closed
PQ-10	Review and correct station procedures with respect to gaps in use of notes and cautions, and ensure needed corrections are entered into the appropriate station processes for completion.	5/22/17 – 5/26/17	05000313/2017011, 05000368/2017011	Closed
PQ-11	Establish a periodic review and validation of station procedures. This will also support a systematic approach to revising the station procedures not included in other actions to the standards contained in the new writers’ guide.	5/22/17 – 5/26/17	05000313/2017011, 05000368/2017011	Closed

Equipment Reliability and Engineering Programs

Area Action Plan	Description	Inspection Dates	Inspection Report Number	Status
DB-12	Training and industry exposure will be used to build the knowledge, proficiency and standards within the program and component areas as the owners of each program listed in DB-11 will participate in at least one industry meeting or specialized training course focused in their program area between March 1, 2016 and March 1, 2020.	11/27/17 – 12/1/17	05000313/2017013, 05000368/2017013	Closed

Area Action Plan	Description	Inspection Dates	Inspection Report Number	Status
DM-20	Develop and implement a supply vs. demand model and metrics to determine and monitor resource needs to meet work load demand. The metrics will be used to measure resource demand and supply so that scheduled work has the correct resources assigned to complete the work scope.	8/29/16 – 9/16/16	05000313/2016010, 05000368/2016010	Discussed, awaiting licensee action
PH-1	For open Site Integrated Plant Database (SIPD) items, ensure management sponsors and project managers are assigned to verify database content is updated. This action supports effective decision making by ensuring the accuracy and completeness of existing SIPD records.	5/22/17 – 5/26/17	05000313/2017011, 05000368/2017011	Closed
PH-2	Perform a review of the Site Integrated Plant Database (SIPD) database from 2007 to present to identify PM or equipment reliability projects related to critical equipment that have been cancelled without mitigation strategies.	5/22/17 – 5/26/17	05000313/2017011, 05000368/2017011	Closed
PH-3	Review and update the current Aging/Obsolescence List, Critical Spares List, and Equipment Reliability Issues List to identify items that should be included in the 2017 and 2018 business cycles.	11/27/17 – 12/1/17	05000313/2017013, 05000368/2017013	Closed
PH-4	Review and update the current site Unit Commitment List to identify operations and maintenance and capital projects which are required to be resolved by completion of refueling outages 1R27 and 2R26.	11/27/17 – 12/1/17	05000313/2017013, 05000368/2017013	Closed

Area Action Plan	Description	Inspection Dates	Inspection Report Number	Status
PH-5	Develop and implement a comprehensive site plan for equipment reliability that identifies the implementing resources (people, materials, funding, and time) needed to support on-line and outage Unit Commitment List items that require resolution by completion of 1R27 and 2R26.	11/27/17 – 12/1/17	05000313/2017013, 05000368/2017013	Closed
PH-6	Obtain an independent third party review of the selection of Site Integrated Planning Database (SIPD) items that are targeted on the comprehensive site plan for equipment reliability to ensure the decisions for inclusion and exclusion are aligned with industry standards and expectations associated with timely resolution of degraded equipment and design margins.	11/27/17 – 12/1/17	05000313/2017013, 05000368/2017013	Closed
PH-10	Develop educational materials for the plant heath process including SIPD processing. Include a detailed flowchart, workbook, and detailed presentation materials. Deliver the presentation to system, component, and program engineers and to selected supervisory personnel. Have the workbook completed by personnel following the presentation.	5/22/17 – 5/26/17	05000313/2017011, 05000368/2017011	Closed
PH-11	Develop a job familiarization guide for Plant Health Working Group and Plant Health Committee members and alternates. Have all members and alternates complete the guide.	2/27/17 – 3/3/17	05000313/2017010, 05000368/2017010	Closed
PH-12	The following list contains equipment reliability issues in systems or components necessary for the safe and reliable operation of the unit(s) that will be resolved	8/25/17 – 9/1/17	05000313/2017012, 05000368/2017012	Additional information added

Area Action Plan	Description	Inspection Dates	Inspection Report Number	Status
	over the next two unit operating cycles. The intent of this action is to demonstrate improved equipment reliability by resolving long-standing equipment issues.	11/27/17 – 12/1/17	05000313/2017013, 05000368/2017013	Additional information added
PM-1	Create a site specific procedure for component classification that will ensure appropriate classification of equipment for PM based upon risk and safety.	10/31/16 – 12/2/16	05000313/2016008, 05000368/2016008	Closed
PM-2	Create a site-specific PM program procedure that includes lessons learned from the PM FPA root cause related to critical input to PM changes.	2/27/17 – 3/3/17	05000313/2017010, 05000368/2017010	Closed
PM-4	Transfer responsibility for PM evaluations of all maintenance rule components and critical system redundancy components to engineering to ensure that appropriate expertise is brought to bear on these evaluations.	2/27/17 – 3/3/17	05000313/2017010, 05000368/2017010	Closed
PM-5	The Preventive Maintenance (PM) Oversight Group will review all PM change requests for a minimum of 12 months and initiate corrective action for any that do not meet management standards for quality.	8/28/17 – 9/1/17	05000313/2017012, 05000368/2017012	Closed
PM-11	Implement a new qualification card for maintenance personnel who perform PM evaluations.	2/27/17 – 3/3/17	05000313/2017010, 05000368/2017010	Closed
PM-12	Implement training for all personnel who are qualified to establish Preventive Maintenance (PM) requirements.	8/28/17 – 9/1/17	05000313/2017012, 05000368/2017012	Closed
PM-18	Develop mitigation strategies to address cancelled projects in the Site Integrated Planning Database (SIPD) including embedded sub component projects.	8/28/17 – 9/1/17	05000313/2017012, 05000368/2017012	Closed

Safety Culture

Area Action Plan	Description	Inspection Dates	Inspection Report Number	Status
CO-1	Revise procedure EN-FAP-OM-011, "Corporate Oversight Model," to include station nuclear safety culture output from the Nuclear Safety Culture Monitoring Panel (NSCMP) as inputs to the Oversight Analysis Meeting and Oversight Review Board.	5/22/17 – 5/26/17	05000313/2017011, 05000368/2017011	Closed
CO-4	Revise procedures that govern Nuclear Oversight Performance Assessments to include NSC trend codes. Apply relevant safety culture trend code(s) during the trending process. Based on report frequency, roll up codes to provide a perspective on NSC and include in established reporting process.	2/27/17 – 3/3/17	05000313/2017010, 05000368/2017010	Closed
DM-2	Establish a decision making nuclear safety culture observation form to include the top leader behaviors to be demonstrated and reinforced at ANO meetings. The form should include decision making practices that emphasize prudent choices over those that are simply allowable.	8/29/16 – 9/16/16	05000313/2016010, 05000368/2016010	Closed
DM-3	Establish decision making and risk management content in the ANO Employee Handbook to include behaviors for making effective decisions and appropriately managing risk with the expectation for employees and leaders to use the book in communicating, demonstrating, and reinforcing appropriate behaviors.	11/27/17 – 12/1/17	05000313/2017013, 05000368/2017013	Closed
LF-5	Provide supervisory training on nuclear safety culture (NSC) and safety conscious work environment.	5/22/17 – 5/26/17	05000313/2017011, 05000368/2017011	Closed
NF-4	Develop content for the NSC observation process that addresses procedure use and adherence.	2/27/17 – 3/3/17	05000313/2017010, 05000368/2017010	Closed

Area Action Plan	Description	Inspection Dates	Inspection Report Number	Status
PM-20	Track Leadership Fundamentals RCE CR-ANO-C-2015-02829 CA-022. Improve the performance review process for leadership fundamentals supportive of long term strategic improvement.	2/27/17 – 3/3/17	05000313/2017010, 05000368/2017010	Discussed, awaiting licensee action
		11/27/17 – 12/1/17	05000313/2017013, 05000368/2017013	Closed
SC-2	Revise procedure EN-QV-136, "Nuclear Safety Culture Monitoring," to define the roles and responsibilities of the ANO NSC Manager.	2/27/17 – 3/3/17	05000313/2017010, 05000368/2017010	Closed
SC-3	Revise procedure EN-QV-136, "Nuclear Safety Culture Monitoring," to add NSC monitor orientation training for Nuclear Safety Culture Monitoring Panel (NSCMP) and Safety Culture Leadership Team members.	2/27/17 – 3/3/17	05000313/2017010, 05000368/2017010	Closed
SC-4	Conduct a structured off-site meeting among the ANO Senior Leadership Team to align on what a strategic commitment to safety looks like at ANO and the leader behaviors that will demonstrate that commitment.	2/27/17 – 3/3/17	05000313/2017010, 05000368/2017010	Closed
SC-5	Create an ANO Employee Handbook that includes nuclear safety culture, safety conscious work environment, and corrective action program (CAP) standards and expectations, and provide orientation and expectations to ANO personnel on the contents and use of this handbook as a daily tool for communicating, reinforcing, and demonstrating NSC and CAP expectations.	11/27/17 – 12/1/17	05000313/2017013, 05000368/2017013	Closed
SC-6	Conduct meetings facilitated by members of site management to familiarize personnel with the contents of the ANO Employee Handbook and expectations for its use.	11/27/17 – 12/1/17	05000313/2017013, 05000368/2017013	Closed

Area Action Plan	Description	Inspection Dates	Inspection Report Number	Status
SC-7	Establish a small group meeting schedule to facilitate face-to-face interaction between ANO senior leadership and station employees. This activity should span a minimum period through the end of 2016 and include the following attributes: 1) purpose is open dialogue on safety performance with emphasis on employee questions and feedback; and 2) schedule should be coordinated to facilitate broad exposure, with emphasis on workers on shift rotation who can't routinely participate in other communication forums.	2/27/17 – 3/3/17	05000313/2017010, 05000368/2017010	Closed
SC-10 NF-8	Develop and present training to ANO workforce to include case studies that illustrate the "right picture" of nuclear safety culture. Include what it means to be an engaged and thinking individual nuclear worker.	8/28/17 – 9/1/17	05000313/2017012, 05000368/2017012	Closed
SC-11	Implement priority group specific action plans to address safety culture issues.	8/28/17 – 9/1/17	05000313/2017012, 05000368/2017012	Closed
SC-14 LF-9 CA-2	Establish and implement a Nuclear Safety Culture Observations process including elements of leader behaviors, nuclear safety culture, and safety conscious work environment. The observer monitors leader performance on a daily basis and provides feedback to correct adverse trends in behaviors.	8/29/16 – 9/16/16	05000313/2016010, 05000368/2016010	Discussed, awaiting licensee action
		2/27/17 – 3/3/17	05000313/2017010, 05000368/2017010	Closed

Area Action Plan	Description	Inspection Dates	Inspection Report Number	Status
SC-15	Raise the priority and visibility of nuclear safety culture (NSC) at the fleet level by revising the Corporate Oversight Model to include station NSC output from the Nuclear Safety Culture Monitoring Panel (NSCMP) as input to fleet oversight analysis meetings and oversight review boards.	5/22/17 – 5/26/17	05000313/2017011, 05000368/2017011	Closed

Service Water System Self-Assessment

Description	Inspection Dates	Inspection Report Number	Status
Service Water System Operational Performance Inspection	10/31/16 – 12/2/16	05000313/2016008, 05000368/2016008	Discussed
	5/22/17 – 5/26/17	05000313/2017011, 05000368/2017011	Closed

ARKANSAS NUCLEAR ONE – NRC CONFIRMATORY ACTION LETTER (EA-16-124) FOLLOW-UP INSPECTION REPORT 05000313/2017013 AND 05000368/2017013 – DATED JANUARY 24, 2018

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