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

July 14, 2017

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

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

SUBJECT: ARKANSAS NUCLEAR ONE – NRC CONFIRMATORY ACTION LETTER (EA-16-124) FOLLOW-UP INSPECTION REPORT 05000313/2017011 AND 05000368/2017011

Dear Mr. Anderson:

On June 5, 2017, the U.S. Nuclear Regulatory Commission (NRC) inspection team reviewed your progress in implementing the specific actions from the 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 Mr. Terry Evans, General Manager Plant Operations, and other members of your staff. The team documented the results of this inspection in the enclosed inspection report.

The team reviewed Arkansas Nuclear One's (ANO) progress in implementing the ANO Comprehensive Recovery Plan, focusing on 28 actions that ANO management had concluded were complete and had been determined to be effective. 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 27 of the 28 CAL actions inspected, as well as observations related to the station's progress in addressing the action that was not sufficiently complete and effective to close at this time. The NRC will further review your development and implementation of corrective actions for these risk-significant findings during future inspections.

The NRC inspectors 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, Chief
Project Branch E
Division of Reactor Projects

Docket Nos.: 05000313, 05000368
License Nos.: DPR-51, NPF-6

Enclosure:
Inspection Report 05000313/2017011 and
05000368/2017011
w/ Attachments:
1. Supplemental Information
2. Confirmatory Action Letter Item Status

cc: Electronic Distribution

U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket(s):	05000313; 05000368
License:	DPR-51; NPF-6
Report:	05000313/2017011; 05000368/2017011
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:	May 22 through June 5, 2017
Team Lead:	C. Young, Senior Project Engineer
Inspectors:	C. Alldredge, Enforcement Specialist C. Jewett, Project Engineer C. Henderson, Resident Inspector M. Tobin, Resident Inspector
Approved By:	N. O'Keefe Chief, Project Branch E Division of Reactor Projects

SUMMARY

IR 05000313/2017011; 05000368/2017011; 05/22/2017 – 06/05/2017; Arkansas Nuclear One, Units 1 and 2; Confirmatory Action Letter Follow-up Inspection.

The inspection activities described in this report were performed between May 22, 2017, and June 5, 2017, by inspectors from the NRC's Region IV office, the resident inspector at Cooper Nuclear Station, and the resident inspector at Arkansas Nuclear One (ANO). 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 28 actions from the ANO Comprehensive Recovery Plan involving commitments made in a Confirmatory Action Letter (EA-16-124). The team concluded that 27 of the actions reviewed were complete and were effective in achieving the associated performance improvement objectives. The team also concluded that one action was not sufficiently complete and effective to close at this time.

No findings were identified.

REPORT DETAILS

4. OTHER ACTIVITIES (OA)

4OA5 Other Activities

Confirmatory Action Letter Follow-up (IP 92702)

.1 Actions to Address Significant Performance Deficiencies

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. (CR-ANO-C-2014-02318 CA-14)

During the 95003 supplemental inspection, the NRC team noted that ANO's extent of cause review for the RCE associated with the stator drop event focused on the identification of site-wide weaknesses similar to the causes of the stator drop event, including assessing whether technical/administrative procedures provided insufficient guidance to identify and address items with potentially high consequences. ANO's extent of cause review concluded that procedure changes were needed to improve guidance to ensure the identification and management of risk items with potentially high consequences. The NRC 95003 team identified issues that were indicative of continued deficiencies in risk knowledge and recognition at the station, and 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 (FPA). In response, ANO revised the Decision Making and Risk Management Area Action Plan (AAP) to add actions DM-5 through DM-11, including DM-10, which included a previously identified extent of cause corrective action from the RCE. Additionally, the NRC 95003 team noted examples of placing undue confidence in vendor expertise, such as during the Unit 1 reactor bottom-mounted instrument nozzle peening project, that were similar to those that contributed to the stator drop event.

To evaluate the licensee's corrective action effectiveness, the team reviewed CR-ANO-C-2014-02318 CA-14 and the corresponding revisions to Procedure EN-WM-104, "On-Line Risk Assessment." The team performed interviews with the owners of this action as well as personnel responsible for implementing the procedures. Overall, the team concluded that the procedure revisions were effective. However, the team noted that the format of added requirements in Attachment 9.3, including terminology for the criteria of consequences and probability, was inconsistent with that of the other existing categories. The team observed that this had the potential to result in inconsistent application of the new guidance. The licensee initiated CR-ANO-C-2017-02305 and CR-HQN-2017-00790 to address this concern and evaluate further enhancement to the revised 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 DM-10 were effective. Therefore, DM-10 is closed.

FP-2 Develop internal flooding [i.e., protection from flooding sources inside the plant] design basis documentation so configuration control is defined and maintained. (CR-ANO-C-2014-00259, CA-248)

- Develop an engineering report and flood protection drawings similar to the fire protection drawings to clearly document the flooding design basis and credited flood protection features (credited internal flood protection features and credited operator actions).
- Update the design requirement in the Flooding Upper Level Document.
- Assign unique equipment identification to each flood protection feature and boundary.

During the 95003 supplemental inspection, the NRC team concluded that the licensee used appropriate processes in the development of the root causes for the Yellow flood protection findings, including not having detailed design requirements of flooding features. The corrective action associated with FP-2 was developed to address the internal flooding aspect of this root cause.

During the NRC's first review of FP-2 in Inspection Report 05000313/2016008 and 05000368/2016008 (ADAMS Accession No. ML17059D000), the team found that the licensee had developed an effective process for clearly identifying and documenting internal flood protection features. The team found that related corrective actions CA-230, 231, 232, 233, 234, 235, 236, 237, and 238 were scheduled to be completed on or after the end of that inspection. These actions were associated with standards performance deficiencies identified during a focused self-assessment of ANO's treatment of high energy line breaks (HELB) and medium energy line breaks (MELB) as documented in CR-ANO-C-2015-2309. The team had concluded that corrective actions to address these deficiencies could potentially impact the internal flood protections features and that action FP-2 should remain open.

The licensee noted that the above referenced corrective actions overlapped with actions being taken to address CAL item DB-11. Since the remaining FP-2 actions did not directly involve flood protection, but were related to the implementation of the engineering programs for HELB/MELB protection, the licensee recommended reviewing completion of the remaining element of FP-2 under DB-11. The NRC agreed and plans review ANO performance of HELB/MELB protection under DB-11 during a future inspection. Based on the actions taken by the licensee, information previously evaluated by the NRC, and observations performed on site, the team concluded that the actions taken to address FP-2 were effective. Therefore, FP-2 is closed.

FP-7 Perform walkdowns of all credited internal flood protection features, and document the results in an engineering report. (CR-ANO-C-2014-00259, CA-82)

During the 95003 supplemental inspection, the NRC team acknowledged that

one of the contributing causes associated with the Yellow flood protection findings was that Entergy personnel provided inadequate oversight of outside design agency activities related to Fukushima walkdowns, and as a result, failed to identify the missing and degraded flood protection features that were part of those findings. The licensee initiated the corrective action included in item FP-7 to walk down the credited internal flood protection features to ensure adequate protection from internally generated flood events.

During the NRC's first review of FP-7 in Inspection Report 05000313/2016008 and 05000368/2016008 (ADAMS Accession No. ML17059D000), the team determined that the licensee had completed walkdowns of all accessible areas that contained internal flood protection features and had initiated a corrective action to track one area that was inaccessible at power to be completed during an outage. The team also found that the licensee provided adequate oversight of the follow-up walkdowns to ensure that the Fukushima Near-Term Task Force Recommendation 2.3 was properly implemented and all identified comments were addressed. However, the team found that the justification documented in a due date extension for corrective action CA-112 (which called for verification that silicone foam internal flood seals have been upgraded or modified to watertight seals) left it unclear whether the walkdowns of all credited internal flood protection features had been performed and whether all deficiencies had been identified, documented, and evaluated in the corrective action process. The team concluded that action FP-7 should remain open and that this action will be reviewed in a future inspection.

To evaluate the licensee's corrective action effectiveness, the team reviewed CR-ANO-C-2014-00259 CA-82, 18, and 112. The team noted that the CA-112 due date extension request referenced by the previous inspection team stated that "the full scope of the seals/locations that require upgrade or modification are not yet known…" The team determined that this request had been documented in April 2016, at which time CA-82 (which tracked the completion of the action to perform walkdowns of all credited internal flood protection features and document the results in an engineering report) had not been completed. The team verified that all credited internal flood protection features were examined and that CA-82 was subsequently completed in June 2016. In addition, the team reviewed CR-ANO-C-2015-01929, which was initiated in June 2015 as a roll-up for internal flood mitigation issues identified as part of the Flood Mitigation Project. The team determined that a list of all internal flood barriers, including identification of which ones need improved flood seals, was developed under corrective action CA-15. The team verified that this action was completed in December 2016.

The team also determined that the action being performed by the licensee under CR-ANO-C-2014-00259 CA-112 as noted above is being included in the licensee's actions to address CAL item FP-8, which will be reviewed by the NRC during a future inspection.

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 FP-7 were effective. Therefore, FP-7 is closed.

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. (CR-ANO-C-2014-00259, CA-210)

Following the stator drop event, ANO performed two RCEs using a cross-functional team with both internal and external team members that had experience in various subjects. From these RCEs, the 95003 NRC inspection team determined that 388 corrective actions were initiated as part of the station's flood protection recovery efforts. To provide sustainability of the corrective actions, ANO established the new External and Internal Flood Protection Program that included quarterly Program Health Reports and Plant Health Committee oversight.

To evaluate the licensee's corrective action effectiveness, the team reviewed the following information:

- CR-ANO-C-2014-00259, corrective action CA-210
- Procedure EN-DC-329-ANO-RC, "Engineering Programs Control and Oversight," Revision 2
- Procedure EN-DC-143, "Engineering Health Reports," Revision 19
- Program Health Report, Passive Barriers Program, 2017Q1
- LO-ALO-2016-49, "Flood Protection Program Focused Self-Assessment"

The team performed interviews with the owners of this action as well as personnel responsible for implementing the program. The team determined that the licensee has established the program notebook, program health reports, and action plan for the Passive Barriers Program in accordance with station procedures. The team further determined that this program was being implemented according to station procedures, which included identifying, communicating, prioritizing, and resolving flood protection related issues, as well as consideration of the impact of planned modifications on flood protection features.

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 FP-9 were effective. Therefore, FP-9 is closed.

VO-5 Develop and implement a process for monitoring of supplemental oversight plan compliance. (CR-ANO-C-2014-02318, CA-13)

During the 95003 supplemental inspection, the NRC team noted several issues involving the oversight of supplemental personnel. Procedure EN-OM-126, "Management and Oversight of Supplemental Personnel," required the

development of a supplemental oversight plan using the checklist in Attachment 9.3. The NRC team noted that their sample of oversight plans approved by ANO for four Unit 2 outage projects were vague and did not meet the intent of the procedure.

To evaluate the licensee's corrective action effectiveness, the team reviewed CR-ANO-C-2015-02838 CA-013 and Procedure EN-OM-126-ANO-RC, "Management and Oversight of Supplemental Personnel," Revision 4, Attachment 9.3, "Vendor Oversight Plan," Attachment 9.7, "Oversight Plan Scorecard," and Attachment 9.8, "Oversight Plan Field Verification Scorecard." The team performed interviews with the owners of this action item as well as personnel responsible for implementing the procedure. The team reviewed five recent vendor oversight plans and their associated verification scorecards. The team also observed a maintenance supervisor performing the field verification process for four ongoing projects at the site.

The team concluded that actions to develop and implement a process for the monitoring of supplemental oversight plan compliance were effective because Procedure EN-OM-126-ANO-RC, Revision 4, Attachments 9.7 and 9.8 were being effectively implemented to ensure vendor oversight plans are established in accordance with the licensee's standard. The Vendor Oversight Trend Data Metric and the Oversight Plan Field Verification Scorecards show that positive performance results were being demonstrated based on observations made as part of the rapid trending process and human performance error rate data.

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

VO-6 Establish specific templates/guidance/examples to support consistent development of supplemental oversight plans. (CR-ANO-C-2014-02318, CA-168)

During the 95003 supplemental inspection, the NRC team noted several issues involving the oversight of supplemental personnel. Procedure EN-OM-126, "Management and Oversight of Supplemental Personnel," required the development of a supplemental oversight plan using the checklist in Attachment 9.3. The checklist appropriately required the identification of specific areas of concern and required a plan to address each of those areas. However, there was insufficient guidance to develop an adequate oversight plan or to specify how oversight should be adjusted when areas of concern were present.

To evaluate the licensee's corrective action effectiveness, the team reviewed CR-ANO-C-2014-02318 CA-168 and Procedure EN-OM-126-ANO-RC, "Management and Oversight of Supplemental Personnel," Revision 4, Attachment 9.3, "Vendor Oversight Plan," Attachment 9.7, "Oversight Plan Scorecard," and Attachment 9.8, "Oversight Plan Field Verification Scorecard." The team performed interviews with the owners of this action item as well as personnel responsible for implementing the procedure. The team reviewed five recent vendor oversight plans and their associated verification scorecards. The team also followed a maintenance supervisor performing the field verification process for four ongoing projects at the site.

The team concluded that actions to establish specific templates, guidance, and examples to support consistent development of supplemental oversight plans were effective. Specifically, Procedure EN-OM-126-ANO-RC, Revision 4, Attachment 9.3 was successfully implemented to ensure vendor oversight plans were written to the new standard, modeled directly from the template, and contained adequate guidance and detail to develop the vendor oversight plan and address areas of concerns. The Vendor Oversight Plans reviewed by the team were found to have followed the template provided in Attachment 9.3 and contained the scope and detail to provide adequate vendor oversight for the tasks assigned.

Based on the actions taken by the licensee, data evaluated by the team, and observations performed on site, the team concluded that the actions taken to address VO-6 were effective. Therefore, VO-6 is 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. (CR-ANO-C-2015-02829, CA-28)

During the 95003 supplemental inspection, the NRC team noted several issues involving the oversight of supplemental personnel. Procedure EN-OM-126 specified that the required reading list in Attachment 9.2 be filled out and assigned to each supplemental worker. The responsible manager was required to decide whether the workers needed to read and understand each policy or program, or simply acknowledge awareness that a program or policy existed. The NRC team concluded that the program did not establish a minimum standard, nor was there a connection between this decision and the oversight plan.

To evaluate the licensee's corrective action effectiveness, the team reviewed CR-ANO-C-2015-02829 CA-28; Procedure EN-OM-126-ANO-RC, "Management and Oversight of Supplemental Personnel," Revision 4, Attachment 9.1, "Supplemental Personnel Expectations Brief Checklist," and Attachment 9.2, "Supplemental Personnel Required Reading;" ANO Standards and Expectations Handbook; and Procedure EN-PL-100, "Nuclear Excellence Model," Revision 8. The team performed interviews with the owners of this action item as well as personnel responsible for implementing the procedure and providing the briefs to incoming supplemental employees. The team reviewed five recently completed Supplemental Personnel Expectations Brief Checklists and performed observations of the checklist brief as well as a brief regarding expectation for use of the Employee Handbook.

The team concluded that actions to 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 were effective. Specifically, Procedure EN-OM-126-ANO-RC, Revision 4, Attachment 9.1 was successfully implemented to ensure all incoming supplemental employees received a site employee handbook and a discussion on expectations for use. Supplemental

Personnel Expectations Brief Checklists reviewed by the team were found to have followed the template provided in Attachment 9.1 and contained a section that included a brief by the employee's responsible manager on expectations for use of the site employee handbook. Attachment 9.2 included the handbook as a required reading item for all supplemental personnel.

During the review of this item, the team noted through observations and interviews that the individual supplemental employee's responsible manager was usually not the person providing the employee handbook expectations for use brief. The licensee initiated CR-ANO-C-2017-2204 and CR-ANO-C-2017-2207 to address this issue. The team reviewed corrective actions to address this concern in draft Revision 5 to Procedure EN-OM-126-ANO-RC. These changes included mandatory topics within the ANO Standards and Expectations handbook to be included in a brief for all supplemental employees, and the brief must be performed by either the responsible manager or their designee.

The team concluded that the desired behaviors and outcomes to reduce human performance related errors within the supplemental employee group and ensure performance standards and expectations for supplemental personnel are the same as the high performance standards expected of the station staff were achieved. Further, the team concluded that a standard template for specific content of the brief, as provided in the proposed procedure revision, would ensure the objectives of the brief continue to be met when a non-responsible manager is providing the brief to supplemental employees.

Based on the actions taken by the licensee, data evaluated by the team, and observations performed on site, the team concluded that the actions taken to address VO-11 were effective. Therefore, VO-11 is closed.

VO-21 DM-9 Develop and implement recurring training for project management personnel on risk recognition and conservative decision making. (CR-ANO-C-2014-02318, CA-60)

ANO found during their second Root Cause Evaluation for the stator drop event that the corrective action plan developed and implemented for CR-ANO-C-2012-0596, "Conservative Assumptions in Decision Making (H.1.b) Substantive Cross-Cutting Issue," was not effective in changing behaviors of personnel involved in high risk decisions (including project management). During the 95003 supplemental inspection, the NRC team noted multiple indications of deficient risk management practices and concluded that ANO had failed to recognize the need to develop and implement corrective actions to improve knowledge and recognition of risk.

To evaluate the licensee's corrective action effectiveness, the team reviewed CR-ANO-C-2014-02318 CA-060; Procedure EN-OM-126-ANO-RC, Revision 4, Attachment 9.3, "Vendor Oversight Plan;" training module ASCBT-ADM-RISKMGMT, "Risk Management Fundamentals and Conservative Decision Making for Project Management;" and Procedure EN-TQ-130, "Project Management Training Program," Revision 0. The team performed interviews with the owners of this action item as well as project managers who have completed this course and the subsequent refresher training. The team reviewed

the risk management course against the requirements of EN-TQ-130 to ensure the computer-based training program was consistent with procedure requirements and was appropriate to address previously-identified shortcomings. The NRC team also reviewed all current ANO project manager qualifications to ensure they completed and were up-to-date with the computer-based training course.

The NRC team concluded that actions to develop and implement recurring training for project management personnel on risk recognition and conservative decision making were effective because computer-based training ASCBT-ADM-RISKMGMT, "Risk Management Fundamentals and conservative Decision Making for Project Management," was successfully implemented to ensure project managers use appropriate knowledge and recognition of risk when planning and implementing projects. The team identified that Procedure EN-TQ-130, Revision 0, allowed the continued training of the project managers to be fulfilled via avenues other than the computer-based training. The licensee initiated CR-HQN-2017-00744 to track corrective actions to ensure the procedure reflects the intent to have the project managers complete the computer-based training as the minimum standard.

Based on the actions taken by the licensee, data evaluated by the team, and observations performed on site, the team concluded that the actions taken to address VO-21/DM-9 were effective. Therefore, VO-21 and DM-9 are closed.

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

CA-1 Establish Corrective Action Program (CAP) content in the ANO Employee Handbook to include behaviors for prompt identification of conditions into CAP. (CR-ANO-C-2015-01240, CA-64)

ANO found during their initial Root Cause Evaluation for the stator drop event that key CAP values and behaviors were not in a handbook to support daily reference by employees and reinforcement by leaders. During the 95003 supplemental inspection, the NRC team noted all ANO personnel and contractors expressed a willingness to identify and enter issues into the CAP by writing CRs and that there was widespread familiarity with how to write a CR. However, some personnel expressed skepticism regarding whether CRs were appropriately prioritized and resolved in a timely manner.

To evaluate the licensee's corrective action effectiveness, the team reviewed:

- CR-ANO-C-2015-01240, CA-64
- CR-ANO-C-2015-02829, CA-27
- EN-PL-100, "Nuclear Excellence Model," Revision 8
- ANO Standards and Expectations Handbook, Revisions 0 and 1
- Draft Entergy Nuclear Excellence Model Handbook

The team determined that the ANO Standards and Expectations Handbook included sufficient information to include behaviors for prompt identification of conditions into the CAP. At the time of this inspection, Entergy was in the

process of creating a corporate-level employee handbook (called the Nuclear Excellence Model) that would be distributed throughout the fleet. The team evaluated whether the same level of detail was integrated into the Entergy corporate handbook. The team determined that the new handbook was written at a higher level, but that it still contained an adequate level of detail regarding the expectations of CAP behaviors for identifying issues.

The team evaluated CAP data since the inception of the ANO handbook and determined that the number of condition reports written was showing an increasing trend, including department level upward trends from line organizations such as Operations, Engineering, and Maintenance. The team noted that a perceived strength reported by respondents to the ANO 2017 Nuclear Safety Culture Survey was the willingness to report problems to supervision and use the CAP/CR process. The team also reviewed Nuclear Professional "what it looks like" (WILL) sheet observation data, which also showed that personnel demonstrate a low threshold for reporting problems.

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

CA-4 Develop and implement initial and continuing CAP training for station employees, apparent and root cause evaluators (ACE/RCE), responsible managers (including corrective action review board (CARB) and condition review group (CRG) members), department performance improvement coordinators (DPICs), operating experience (OE) specialists and points of contact, and performance improvement personnel. (CR-ANO-C-2015-01240 CA-74 through CA-81)

During the 95003 supplemental inspection, the NRC team noted a lack of understanding regarding how the CAP process works once a CR is initiated among many workers at ANO. Existing station-wide training focused on how to use the station's software to initiate a CR, but did not fully address the rest of the CAP processes. Although all personnel reported receiving feedback when a CR they wrote was closed, the feedback was typically an automated email indicating the CR had been closed without providing details regarding what was done in response to the problem.

To evaluate the licensee's corrective action effectiveness, the team reviewed:

- CR-ANO-C-2015-01240, CAs-74 through 81
- CR-ANO-C-2014-02698, CAs-10, 15, 18, 20, 26, 28, and 29
- CR-HQN-E-2014-00291, CAs-09 through 11, 13 and 14

The team reviewed the initial and continuing CAP training that was developed and implemented for station employees, ACE/RCE evaluators, responsible managers (including CARB and CRG members), DPICs, OE specialists and points of contact, and performance improvement personnel. The team reviewed lesson plans and class rosters and determined that the training addressed the lack of understanding regarding how the CAP process works.

The team noted that the licensee documented that 100 percent of the population of station personnel received CAP training. The team noted that the number of condition reports written per year was increasing, and that willingness to report problems to supervision and willingness to identify and pursue resolution of problems were perceived by respondents as strengths in the licensee's 2017 Safety Culture Survey. The team verified that all DPICs, responsible managers, performance improvement personnel, OE Specialists and Points of Contact successfully completed this training completed the training The team noted that since November 2016, the number of CRs being upgraded from non-adverse to adverse was trending down. The Recovery Performance Indicator, a metric that monitors effectiveness review failures, average grade for OE evaluations, OE responses within a due date, missed opportunities, and industry consolidated event system (ICES) reporting grade, has been consistently green since August 2016. The team also found that all of the target population of cause evaluators also received training, and that cause evaluation quality improved since there has not been a cause evaluation rejected by the CARB since July 2016.

Based on the actions taken by the licensee, data evaluated by the team, and observations performed on site, the team concluded that the actions taken to address CA-4 were effective. Therefore, CA-4 is 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. (CR-ANO-C-2015-01240, CA-14, CA-20, and CA-28)

ANO noted during their initial RCE for the stator drop event that rigor and attention to detail were not always evident in the documentation associated with operability determinations and functionality assessments. During the 95003 supplemental inspection, the NRC team determined that while the CRG ensured operability/functionality reviews were performed, they did not always ensure the reviews were performed in a timely manner as required by procedure EN-LI-102-ANO-RC, "Corrective Action Program."

To evaluate the licensee's corrective action effectiveness, the team reviewed:

- CR-ANO-C-2015-01284, CAs-13, 14, 20 and 28
- COPD-28, "Operations Performance Tracking Program," Revisions 16 and 17
- A sample of 11 graded operability evaluations

The team evaluated the corrective actions and effectiveness criteria established by the licensee for implementing benchmarking, process improvements, and monitoring/feedback to improve the rigor, attention to detail, and overall quality of operability determinations and functionality assessments. The effectiveness criteria was based on the results of operability and functionality evaluation sample grading methods originally established by industry experts and later refined by licensee monitoring. The grading failure criteria was based on weak justification of an operability evaluation, an incorrect operability call (i.e. an evaluation result of operable/functional when the correct result should have been inoperable/non-functional), or an accumulation of failures to meet other

administrative requirements. This effectiveness criteria that was developed for this action was also used to determine the effectiveness of corrective actions to ensure CRs that bypassed the control room received operability/functionality reviews.

The team performed interviews with the owners of this action item as well as personnel responsible for implementing the procedures, observed the sampling process for operability/functionality grading, and reviewed a sample 11 graded operability/functionality evaluations. The team identified the following:

- The licensee's process did not include verification as to whether appropriate actions were completed in response to grading feedback in cases where a revision to the operability/functionality evaluation was needed. The team identified that, in CR-ANO-1-2017-00729, the licensee failed to re-evaluate the operability of equipment impacted by a non-functional flood barrier after the initial operability evaluation had been graded as a failure. The licensee entered this deficiency into their corrective action program as CR-ANO-1-2017-01717, CR-ANO-C-2017-02181, and CR-ANO-C-2017-02234. The licensee updated station procedure COPD-028 to ensure that when a new version of an operability/functionality evaluation is required by the grading process, the resulting revision(s) are completed and re-graded. The licensee also completed a re-evaluation for the example identified by the team.

- The majority of operability evaluations sampled by the licensee's process to ensure quality included evaluations where only an immediate operability determination was warranted. This type of evaluation is all that is performed for issues that are straightforward. The licensee's process did not focus their samples of operability evaluations on issues that required a more complex review (i.e., prompt operability determinations). The team performed an independent review of an additional sample of five prompt operability evaluations. One of these, which had previously been graded as satisfactory, was found to meet the licensee's criteria for grading as a failure. The licensee entered these issues into their CAP as CR-ANO-C-2017-02181, CR-ANO-C-2017-02234, and CR-ANO-C-2017-02278. In response, the licensee conducted a self-assessment in which all 2017 year-to-date prompt operability evaluations were reviewed. This review resulted in the identification of an additional three operability evaluations graded as failures by the licensee. As corrective action, the licensee revised procedure COPD-028 to ensure that on a weekly (preferred) or biweekly basis all operability evaluations and engineering input associated with prompt determinations are reviewed.

- The team noted that the grading process was subject to subjectivity, and the team identified inconsistencies in grading results. The team identified an additional example of an operability evaluation that met the criteria to have been graded as failure instead of satisfactory. The licensee entered these issues into their CAP as CR-ANO-1-2017-01737, CR-ANO-C-2017-02181, and CR-ANO-C-2017-02234. The licensee updated Procedure COPD-028 to ensure that on a monthly basis the operability program

owner or individuals designated by operations management review metrics and grading feedback to identify common issues and ensure grading consistency.

- The team concluded that the licensee did not have adequate criteria to demonstrate the effectiveness of corrective actions to ensure CRs that bypassed the control room received an operability/functionality assessment. When the 95003 inspection team identified examples where CRs requiring operability or functionality reviews were bypassing the control room review, ANO implemented an action that modified their program software to prevent any CRs from bypassing the control room. This action was subsequently replaced with the station procedure EN-OP-115-03, "Shift Turnover and Relief," Revision 2 section 5.0 step 11. This step requires that, "The off-going shift manager (or designated senior reactor operator (SRO) will review all CRs written on their watch to ensure no operability issues are missed." In response, the licensee performed a self-assessment, which sampled approximately 127 CRs from a total of 769 CRs that had bypassed the control room. This self-assessment identified one example, CR-ANO-1-2017-01073, that did not receive an operability/functionality assessment as required, and operability was immediately assessed for the condition. The licensee entered this deficiency into their CAP as CR-ANO-C-2017-02265.

Based on the actions taken by the licensee, data evaluated by the team, and observations performed on site, the team concluded that action CA-6 should remain open. This action will be reviewed in a future inspection after the licensee: completes corrective action to address the team's concerns described above; determines that sufficient additional monitoring has been conducted to effectively monitor performance; and concludes that sustained improvement has been demonstrated for each of the elements of the expected outcome for operability determinations and functionality assessments from the CAP Area Action Plan.

CA-13 Establish an Operating Experience (OE) mentor to review OE responses and provide critical feedback. (CR-ANO-C-2015-02832, CA-26)

During the 95003 supplemental inspection, the NRC team found that the OE screening process identified OE reports that were applicable to the site for which corrective actions were required to be implemented (i.e., Level A1) and OE that was applicable to the site with adequate barriers already in place (i.e., Level 2). The NRC team identified several examples in which barriers were credited that had not effectively been verified or validated in the OE responses or by the Condition Review Group. When the NRC team checked, some credited barriers would not have been effective.

To evaluate the licensee's corrective action effectiveness, the team reviewed:

- CR-ANO-C-2015-02832, CA-26
- EN-OE-100, "Operating Experience Program," Revision 27
- PI-003, "Operating Experience Desk Guide," Revision 0

- OE program health recovery metric data
- A sample of nine OE evaluations that received management review

The team found that the licensee assigned an OE mentor for the OE program for a period of six months. The critical functions of the OE mentor included:

1. reviews of OE evaluations at the station;
2. provided critical feedback to OE evaluators;
3. monitor OE program metrics and provide recommendations for actions to improve OE program effectiveness; and
4. provided critical feedback to licensee management on the OE program implementation.

The team performed interviews with the owners of this action item as well as personnel responsible for implementing the procedures. The team noted that the OE program health recovery metric consisted of effectiveness review failures for the previous three month period, percent of OE responses that pass Event Report Review Board for the month, percent of OE responses performed within their due date for the previous three months, number of missed opportunities identified for the previous three months, and Consolidated Event System reporting criteria as determined by an industry performance monitoring group. Additionally, the team sampled seven OE evaluations that had received management review and were identified as not applicable to ANO, as well as two OE evaluations of NRC Information Notices. The team did not identify any issues of concern with the OE evaluations sampled.

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

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. (CR-ANO-C-2015-02836, CA-20)

ANO identified in their Root Cause Evaluation report CR-ANO-C-2015-2829, "Leadership Fundamentals," that leaders focused on day-to-day business without having a clear long-term strategy for performance review and problem identification and resolution. One of the licensee's corrective actions was to establish an external nuclear safety culture (NSC) observer role to monitor behaviors during performance meetings and provide constructive feedback. During the 95003 supplemental inspection, the NRC team concluded that the feedback provided by the external NSC observer added value. However, the inspectors identified two cases where meeting members were unaware of the NSC observer's role or the NSC observer failed to address an ambiguous safety culture message delivered to the ANO staff by a senior ANO manager.

To evaluate the licensee's corrective action effectiveness, the team reviewed:

- CR-ANO-C-2015-02836, CAs-20 and 21

- Procedure EN-FAP-OM-002, “Management Review Meetings”
- March 2016 Management Review Meeting Presentation

The team noted that Procedure EN-FAP-OM-002 was revised to require that nuclear safety culture status and regulatory performance be a topic at the Operational Excellence Management Review Meeting, which is a senior management meeting that includes station and corporate-level personnel with the purpose of gaining alignment around gaps in site performance and actions to improve performance. The operational excellence management review meeting agenda is provided as a template document. Regulatory slides were relocated to earlier in the template presentation, and revised slides were added that focus on nuclear safety culture status and regulatory performance.

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

PM-10 Reestablish the Preventive Maintenance (PM) Program health report for a period of at least 12 months. (CR-ANO-C-2015-02834, CA-127)

The Predictive Maintenance and the Component System Monitoring Programs at ANO provide feedback to the PM Program. During the 95003 supplemental inspection, the NRC team found trend data from these programs to be missing or incorrect and determined that the Predictive Maintenance and Component and System Monitoring Programs failed to inform the station of ineffective aspects of the PM Program. Adverse conditions identified by the NRC 95003 team indicated weaknesses in implementation of performance monitoring and the PM Programs.

To evaluate the licensee’s corrective action effectiveness, the team reviewed:

- CR-ANO-C-2015-02834, CA-127
- Quarterly PM program health reports for a 12-month period
- PM program performance indicators

The team performed interviews with the owners of this action item as well as personnel responsible for implementing the procedures. The NRC team also reviewed PM health reports generated during a 12-month period and metric data and indicators monitoring PM program health. The PM program health report included indicators grouped in four major categories: program personnel, program infrastructure, program implementation, and equipment related to plant performance. Examples of these indicators were: equipment reliability indicators, critical component failures, critical preventive maintenance, timeliness of first-time high critical PM performance, preventive maintenance feedback, and preventive maintenance change requests greater than 60 days. Additionally, each metric had appropriate thresholds and associated actions to be taken when thresholds were exceeded. The team concluded that the licensee implemented appropriate methods to monitor the health of PM program implementation.

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

.3 Actions to Address Human Performance Issues

DB-18 Re-baseline expectations for supporting information for NRC license amendment requests or relief requests based on past requests for additional information. (CR-ANO-C-2016-00203, CA-6 and CA-15)

During the 95003 supplemental inspection, the NRC team assessed ANO's performance in the area of license submittal quality, with a focus on the station's efforts to identify the extent of the problem and develop corrective actions. While corrective actions to improve the licensing action submittal process were established in the licensee's Comprehensive Recovery Plan, those actions to improve the regulatory assurance department's internal processes were not yet complete. ANO acknowledged that the level of supporting information in years past may not be sufficient to support current licensing actions. ANO initiated corrective actions to re-baseline expectations for the level of detail in licensing action submittals.

To evaluate the licensee's corrective action effectiveness, the team reviewed training provided to re-baseline expectations for NRC license amendment requests based on past requests for additional information (RAIs). The team noted that this training discussed the historical types of RAIs received and addressed how to answer these questions in the original submittal, negating the need for the RAI. The number of NRC RAIs per license amendment request has gone down since implementation of the training, indicating that the licensee was providing more complete initial submittals. The team also reviewed the procedure that directs a project manager to inform the regulatory assurance department early in the project when a licensing action may be necessary and determine the timeline for getting an amendment approved. The team determined that this procedural guidance will aid in planning to ensure that requests are submitted with enough lead time for NRC review prior to the need for implementation of the amendment.

The team discussed the quality and timeliness of licensing actions with the NRC's Project Manager for ANO and confirmed that performance were meeting the objectives established for this item.

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

DB-19 Provide Regulatory Assurance departmental training on development of NRC license amendment requests. (CR-ANO-C-2016-00203, CA-8)

During the 95003 supplemental inspection, the NRC team assessed ANO's performance in the area of license submittal quality, with a focus on the station's efforts to identify the extent of the problem and develop corrective actions. ANO identified a need to conduct training of personnel involved in licensing action

submittals in order to ensure adequate quality and completeness of the submittals.

The team reviewed the regulatory assurance departmental training on development of NRC license amendment requests. This training discussed the background of license amendments, technical specifications, and design basis. It also discussed how to write successful license amendment requests using past license amendment requests and operating experience. The team noted that this training was given by a contractor with substantive experience in this field. The team noted that ANO has also joined the Utilities Service Alliance Agreement for the Regulatory Affairs Training and Qualification Program (US RAT&Q) in 2017. The USA RAT&Q Program was developed to provide participants a shared, common program to train and qualify regulatory affairs employees. The team determined that this program will help to ensure that license amendment requests are consistent with applicable standards.

The team discussed the quality and timeliness of licensing actions with the NRC's Project Manager, and confirmed that performance were meeting the objectives established for this item.

Based on the actions taken by the licensee the team concluded that the actions taken to address DB-19 were effective. Therefore, DB-19 is closed.

NF-6 Revise procedure EN-OM-126, "Management and Oversight of Supplemental Personnel," to ensure that supplemental employees receive the ANO Employee Handbook and are provided expectations for its use in a discussion by their manager. (CR-ANO-C-2015-02829, CA-28)

During the 95003 supplemental inspection, the NRC team noted several issues involving the oversight of supplemental personnel. Procedure EN-OM-126, "Management and Oversight of Supplemental Personnel," specified that the required reading list in Attachment 9.2 be filled out and assigned to each supplemental worker. The responsible manager decided whether the workers needed to read and understand each policy or program, or simply acknowledge awareness that a program or policy existed. The NRC team concluded that the program did not establish a minimum standard, nor was there a connection between this decision and the oversight plan.

To evaluate the licensee's corrective action effectiveness, the team reviewed CR-ANO-C-2015-02829 CA-28; Procedure EN-OM-126-ANO-RC Revision 4; Attachment 9.1, "Supplemental Personnel Expectations Brief Checklist," and Attachment 9.2, "Supplemental Personnel Required Reading;" the ANO Standards and Expectations Handbook, and Procedure EN-PL-100, "Nuclear Excellence Model," Revision 8. The team performed interviews with the owners of this action item as well as personnel responsible for implementing the procedure and providing the briefs to incoming supplemental employees. The team reviewed five recently-completed Supplemental Personnel Expectations Brief Checklists and performed observations of the checklist brief as well as a brief regarding expectation for use of the Employee Handbook.

The team concluded that actions to revise the Supplemental Personnel Expectations Brief Checklist to include supplemental personnel receiving an ANO Employee Handbook and a discussion by responsible management on the contents of the ANO Employee Handbook and expectations for use were effective. Specifically, the team concluded that Procedure EN-OM-126-ANO-RC, Revision 4, Attachment 9.1 was successfully implemented to ensure all incoming supplemental employees received an ANO Employee Handbook and a discussion on expectations for use. Supplemental Personnel Expectations Brief Checklists reviewed by the team were found to have followed the template provided in Attachment 9.1 and contained a section that included a brief by the employee's responsible manager on expectations for use of the ANO Employee Handbook.

Attachment 9.2 included the handbook was a required reading item for all supplemental personnel. During the review of this item, the team noted through observations and interviews that the individual supplemental employee's responsible manager (an Entergy employee) was usually not the person providing the ANO Employee Handbook expectations for use brief. Instead, a single supplemental employee gave most of the briefs, and these briefs were observed to be consistent and reasonably representative of ANO expectations. The team was concerned that if actual Entergy managers were not giving the expectations brief, the briefer might be someone who was not knowledgeable of station management expectations. The minimum content of the briefings was also not provided in the procedure to ensure consistency. The licensee initiated CR-ANO-C-2017-2204 and CR-ANO-C-2017-2207 to address this issue. The team reviewed a draft Revision 5 to Procedure EN-OM-126-ANO-RC intended to address the team's concerns, which included changes to Attachment 9.1. These changes included a list of topics within the ANO Employee Handbook that must be briefed to all supplemental employees by either the responsible manager or their designee.

The team concluded that the desired behaviors and outcomes, to reduce human performance related errors within the supplemental employee group and ensure performance standards and expectations for supplemental personnel were the same as the performance standards expected of the station staff, were achieved. The team also concluded that a standard template for specific content of the brief, as provided in the proposed procedure revision, would ensure the objectives of the brief continue to be met when a non-responsible manager is providing the brief to supplemental employees.

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

PQ-6 Upgrade procedures classified as "Safety Significant". (CR-ANO-C-2015-03033, CA-23)

During the 95003 supplemental inspection, the NRC team agreed with ANO's assessment that the leadership team had not consistently provided the organizational structure, staff priorities, or dedicated resources to support high

quality procedures and work instructions, and had not consistently applied current industry guidance for procedure content, structure, and human factoring.

To evaluate the licensee's corrective action effectiveness, the team verified that all safety significant procedures were updated to ANO's improved procedure quality standards, then graded against a checklist developed in part based on applicable industry standards for procedure writing. The team noted that the average grade after upgrading was above a 99 percent. For any procedures that did not score 100 percent, corrections were implemented before the upgrade was accepted. As part of the review, the team used the same checklist and independently performed grading of several current/issued licensee procedures. No significant issues were identified.

The team also noted that ANO created a new, permanent organizational structure, consisting of one manager and 16 procedure writers, to maintain station procedures. The team determined that this new group provided a sufficient number of resources to maintain accurate, up-to-date procedures.

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

PQ-10 Review and/or validate 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. (CR-ANO-2-2014-03507 CA-5, CA 8, CA-21, and CA-24; CR-ANO-C-2015-01566 CA-7 through CA-10)

During the 95003 supplemental inspection, the NRC team noted that procedure adherence problems had been identified in the root cause evaluations for the White unplanned scrams performance indicator and the two Yellow findings, but ANO did not perform any cause evaluation for procedure adherence problems. Corrective actions developed by ANO to improve procedure adherence were focused on establishing clear standards and improving procedure quality and human factoring.

To evaluate the licensee's corrective action effectiveness, the team independently reviewed a sample of station procedures that had been upgraded to the new procedure quality standard to ensure that gaps in notes and cautions were corrected where necessary. As part of the review, the team verified that the use of notes and cautions was appropriate, that notes and cautions did not contain action steps, and that notes and cautions appeared in the appropriate locations in the procedures to support understanding relative to the step to be performed. The team determined that for the sample reviewed, all notes and cautions reviewed has been addressed appropriately.

Based on the actions taken by the licensee, data evaluated by the team, and observations performed on site, the team concluded that the actions taken to address PQ-10 were effective. Therefore, PQ-10 is 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. (CR-ANO-C-2015-00850, CA-55)

During the 95003 supplemental inspection, the NRC team identified that several condition reports associated with the licensee's initial procedure quality evaluation were closed without addressing the procedural deficiencies identified by the assessment teams. The NRC team also noted examples from field observations where an operator experienced difficulty with an unclear step in a procedure, and where maintenance technicians continued to use procedures that required the use of drawings that were no longer available.

To evaluate the licensee's corrective action effectiveness, the team reviewed the version of Procedure 1000.006, "Procedure Control," that had been approved by the licensee's Closure Review Challenge Board process (Revision 69). The team also reviewed the current version of this procedure (Revision 70). The team noted that the current procedure revision included important improvements. The procedure required all operating procedures and beyond design basis guidelines, with the exception of emergency operating procedures (which are validated under different requirements), to be validated every 5 revisions, with some minor exceptions. Exceptions are recorded into the corrective action program with actions to either perform the validation as soon as possible, or document the reasoning for exemption. In addition, the current procedure revision also requires an update/validation every 5 years regardless of revision number. These procedure validations will be performed by the newly established procedure quality group discussed in item PQ-6 above.

Based on the actions taken by the licensee, data evaluated by the team, and observations performed on site, the team concluded that the actions taken to address PQ-11 were effective. Therefore, PQ-11 is closed.

.4 Actions to Address Equipment Reliability and Engineering Program Deficiencies

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. (CR-ANO-C-2015-02831, CA-26 and CA-27)

During the 95003 supplemental inspection, the NRC team determined 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 identified that there was no mechanism to assure that issues which had not been fully approved were addressed in a timely manner. ANO had 1745 issues in the process, and a recovery team reconciliation subsequently closed 1350 as being already complete or no longer needed. Many items lacked management sponsors or project leads, or lacked information needed to proceed through the process.

To evaluate the licensee's corrective action effectiveness, the team reviewed:

- CR-ANO-C-2015-02831, CAs-26 and 27

- Procedure EN-FAP-PM-001, “Asset Management Plan Development and Control,” Revision 2
- Procedure EN-FAP-PM-002, “Project Initiation, Segmentation and Funding,” Revision 1

The team reviewed CR-ANO-2015-02831 CA-26 and CA-27 and verified the above actions where completed. The team noted that the licensee took actions to ensure that for open Unit Reliability Team (URT) and non-URT category site integrated planning database (SIPD) items that are left open, management sponsors and project managers are assigned to each project to ensure specific assigned oversight for every project. Each management sponsor was assigned action items to review assigned SIPD entries and make revisions as necessary to ensure requirements of EN-FAP-PM-002 were met. Additionally, management sponsors were assigned to ensure that URT items are presented to the Engineering Change Review Group (ECRG) for approval.

Based on the actions taken by the licensee, data evaluated by the team, and observations performed on site, the team concluded that the actions taken to address PH-1 were effective. Therefore, PH-1 is 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. (CR-ANO-C-2015-02834 CA-138)

During the 95003 supplemental inspection, the NRC team identified that the SIPD process for making capital improvements was ineffective. Only work needing approval and funding for the next outage was addressed. This contributed to the relatively low outage expenditures, and was a contributing factor to equipment reliability challenges.

To evaluate the licensee’s corrective action effectiveness, the team reviewed:

- CR-ANO-C-2015-02834, CA-138
- Procedure EN-FAP-PM-001, “Asset Management Plan Development and Control,” Revision 2
- Procedure EN-FAP-PM-002, “Project Initiation, Segmentation and Funding,” Revision 1

The team noted that the licensee performed a review of the SIPD database from 2007 to the present to identify preventive maintenance or equipment reliability projects related to critical equipment that have been cancelled without mitigation strategies. Additionally, the licensee generated conditions reports for any conditions identified from this review, which included the following condition reports for SIPD for non-critical systems. The team verified that each of these items was re-entered into the SIPD system to address the equipment reliability issue.

- CR-ANO-C-2016-05303, ANO-1 circulating water internal pipe recoat (new SIPD 502)

- CR-ANO-C-2016-05304, replace eight molded (new SIPD 3769)

- CR-ANO-C-2016-05305, remove 2BS-3A and 2BS-3B check valve internals (new SIPD 6075)

Based on the actions taken by the licensee and data evaluated by the team, the team concluded that the actions taken to address PH-2 were effective. Therefore, PH-2 is 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. (CR-ANO-C-2015-03029, CA-11)

During the licensee's recovery project evaluations, ANO 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. ANO determined that employees did not understand how to process an issue through the SIPD process from initial identification to implementation of a modification. During the 95003 supplemental inspection, the NRC team concluded the SIPD processes were complex and burdensome, and did not produce an overall plan that considered risk in the prioritization of activities.

To evaluate the licensee's corrective action effectiveness, the team reviewed:

- CR-ANO-C-2015-03029, CA-11
- Procedure EN-DC-336-ANO-RC, "Plant Health Committee," Rev. 2
- Plant health program training material

The team noted that the licensee developed educational materials for the plant health process, including SIPD processing. The training material included a detailed flowchart, workbook, and detailed presentation materials. The team confirmed that the training material was presented to systems, components, and program engineers and to selected supervisory personnel, and that attendees completed the workbook following the training. The licensee considered that 80 percent of the selected population completing the training was a success criteria.

The team reviewed the plant health program training material and the results of the licensee's effectiveness review for CR-ANO-C-2015-03029 CA-11. The team noted that the training material was presented to approximately 140 preselected individuals in systems, components, programs, and design engineering, as well as maintenance supervisors and staff, ANO superintendents, and ALARA personnel, with 90 percent of the individuals returning completed workbooks.

Based on the actions taken by the licensee data evaluated by the team, and observation performed onsite the team concluded that the actions taken to address PH-10 were effective. Therefore, PH-10 is closed.

.5 Actions to Address Safety Culture Issues

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. (CR-ANO-C-2015-02836, CA-18 and CA-19)

During the recovery project evaluations, the licensee determined that some specific safety performance and regulatory information was not provided to corporate leaders through their performance monitoring processes. In addition, the communication of safety performance challenges between corporate and site leaders were ineffective at arresting the decline. During the 95003 supplemental inspection, the NRC team determined that, while nuclear safety remained a priority, actions to balance competing priorities, manage problems, and prioritize workload had resulted in reduced safety margins.

To evaluate the licensee's corrective action effectiveness, the team reviewed:

- CR-ANO-C-2015-02836, CAs-18 and 19
- Procedure EN-FAP-OM-011 "Corporate Oversight Model," Revision 15
- Procedure EN-FAP-OM-002 "Management Review Meetings," Revision 6

The team verified that Revision 18 to Procedure EN-FAP-OM-011 included requirements to ensure that Nuclear Safety Culture Monitoring Panel output and performance indicators were included in the discussions that take place in the Oversight Analysis Meeting (OAM), which is a corporate level meeting that takes place once per trimester. The procedure also specifies that the Performance Manager will brief the senior corporate leadership team on OAM conclusions. It is required that this brief will include a summary of the output from the station's Nuclear Safety Culture Monitoring Panel meeting minutes and report. This brief is conducted in preparation for the Oversight Review Board, which is a corporate level meeting that addresses plant performance and determines the corporate oversight categorization.

Based on the actions taken by the licensee and data evaluated by the team, the team concluded that the actions taken to address CO-1 were effective. Therefore, CO-1 is closed.

LF-5 Provide supervisory training on nuclear safety culture (NSC) and safety conscious work environment. (CR-ANO-C-2015-02829, CA-29)

During the 95003 supplemental inspection, the NRC team identified that the NSCMP did not identify weaknesses or a declining trend in NSC until receiving the results of the external safety culture assessments (i.e., 2014 Synergy Safety Culture Survey and 2015 Third Party Nuclear Safety Culture Assessment). The

NRC team concluded that prior to spring 2015, the NSCMP did not demonstrate a rigorous, consistent process for evaluating the available information concerning ANO's safety culture. The NRC team concluded that a lack of specific training for NSCMP members and guidance regarding how to assess the site's safety culture contributed to assessment results that were overly subjective.

To evaluate the licensee's corrective action effectiveness, the team reviewed CR-ANO-C-2015-02829, CA-29, and the Nuclear Safety Culture training provided by a third party for supervisors and above. It included case studies to engage leaders in examples of nuclear safety culture and safety conscious work environment. It also presented opportunities to discuss the unintended consequences of incorrect behaviors. The team concluded that the scope of the training was appropriate, the instructors were experienced in the subject matter, and the topics were delivered in a manner that created practical learning through interactive case studies. The team verified that 100 percent of the supervisors and above that were identified to take the training completed the course. The team also reviewed the annual training covering nuclear safety culture and safety conscience work environment, and noted that training on nuclear safety culture is part of the supervisor training program for initial training of new supervisors.

Based on the actions taken by the licensee and data evaluated by the team, the team concluded that the actions taken to address LF-5 were effective. Therefore, LF-5 is closed.

SC-15 Raise the priority and visibility of nuclear safety culture at the fleet level by revising the Corporate Oversight Model to include station NSC output from the Nuclear Safety Culture Monitoring Panel as input to fleet oversight analysis meetings and oversight review boards. (CR-ANO-C-2015-02836, CA-18 and CA-20)

During the licensee's recovery project evaluations, the licensee determined that some specific safety performance and regulatory information was not provided to corporate leaders through their performance monitoring processes. In addition, the communication of safety performance challenges between corporate and site leaders were ineffective at arresting the decline. During the 95003 supplemental inspection, the NRC team determined that, while nuclear safety remained a priority, actions to balance competing priorities, manage problems, and prioritize workload resulted in reduced safety margins.

To evaluate the licensee's corrective action effectiveness, the team reviewed CR-ANO-C-2015-02836, CAs-18 and 20. The team verified that Procedure EN-FAP-OM-011 was revised to ensure that Nuclear Safety Culture Monitoring Panel output and performance indicators are included in the discussions that take place in the Oversight Analysis Meeting OAM), which is a corporate level meeting that takes place once per trimester. The procedure also specifies that the Performance Manager will brief the senior corporate leadership team on OAM conclusions. It is required that this brief include a summary of the output from the station's Nuclear Safety Culture Meeting Minutes and Report. This brief is in preparation for the Oversight Review Board, which is a corporate level meeting that addresses plant performance and determines the corporate oversight categorization.

The team also verified that Procedure EN-FAP-OM-002 was revised to require that nuclear safety culture status and regulatory performance be a topic at the Operational Excellence Management Review Meeting, which is a site level meeting with the purpose of gaining alignment around gaps in site performance and actions to improve performance. The operational excellence management review meeting agenda is provided as a template document. Regulatory slides were relocated to earlier in the template presentation, and revised slides were added that focus on nuclear safety culture status and regulatory performance.

Based on the actions taken by the licensee, data evaluated by the team, and observations performed on site, the team concluded that the actions taken to address SC-15 were effective. Therefore, SC-15 is closed.

.6 Service Water System Self-Assessment

SW-1 To ensure conditions adverse to quality are identified and resolved, ANO will conduct a focused self-assessment of the Units 1 and 2 service water (SW) systems in accordance with station procedures and NRC Inspection Procedure 93810, "Service Water System Operational Performance Inspection." (CR-ANO-C-2016-00614, CA-23)

During the 95003 supplemental inspection, the NRC team identified several issues with the SW system, including that ANO was not monitoring and correcting biofouling-induced flow blockages in the SW system, had limited monitoring points for microbiologically-induced corrosion, and had errors in the process for monitoring SW system piping corrosion loss. The NRC team determined that ANO did not have an adequate assessment of system performance problems or a holistic plan to correct the problems and causes.

The licensee's progress in implementing action SW-1 was previously reviewed in November and December 2016 in NRC inspection report 05000313/2016008 and 05000368/2016009 (ADAMS Accession No. ML17059D000) to assess how the focused self-assessment of the service water system was being performed while the assessment was in progress. This action was not closed pending completion of the assessment, review of the assessment report, and the development of a plan to address the findings and recommendations from the final report.

The team reviewed the focused self-assessment report "Service Water System Operational Performance Inspection," documented in LO-ALO-2016-00078 and NUENERGY report NUI-EOI-ANO SWS SA 2016-01; the Service Water System Improvement Plan; Condition Reports CR-ANO-C-2016-00614; Work Tracker WT-WTANO-2017-00198; and the CRP Action Effectiveness Summary for SW-1. The team compared the recommendations and problems identified in the self-assessment to the actions in the Service Water System Improvement Plan to verify that the actions needed to address material condition challenges and equipment reliability were included in the plan and were scheduled for completion in an appropriate time frame based on the current conditions and safety significance. The team also verified that design documentation issues were entered into the corrective action program for resolution.

The team concluded that the focused self-assessment was completed in a manner that was consistent with the guidance in NRC inspection procedure 93810, and the samples selected were appropriate to allow a thorough assessment of the system in each unit. The findings demonstrated that the review had adequate technical rigor, the recommendations were appropriate, and problems were appropriately entered into the corrective action program. The team of 10 reviewers included a mix of Entergy employees and external personnel with appropriate qualifications and experience to support the scope of the evaluation.

The team conducted interviews with the service water system engineer, the self-assessment team leader, and the Manager, Design and Programs Engineering, to discuss the material history of the system, degradation mechanisms, and previous actions to address those challenges. These discussions focused on pitting corrosion, piping occlusion, flow degradation, and component functionality. The licensee provided a marked-up drawing that depicted all of the piping that had previously been replaced and the pipe replacements included in the Service Water System Improvement Plan.

The team concluded that the licensee understood the degradation mechanisms for service water system piping and components, which involved a combination of microbiologically-influenced corrosion (MIC) and galvanic corrosion. As noted in the NUENERGY report, ANO's reliance on chemical treatment was insufficient alone to prevent MIC. Therefore, the licensee adopted actions to improve the non-destructive examinations of piping. Planned actions included upgrading their service water piping risk model using industry best practices and adopting new technology to allow inspecting large sections of pipe such that the scope of MIC monitoring would be larger and more risk-informed.

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

4OA6 Meetings, Including Exit

Exit Meeting Summary

On June 5, 2017, the inspectors presented the inspection results to Mr. Terry Evans, General Manager Plant Operations, and other members of the licensee staff. The licensee acknowledged the issues presented. The licensee confirmed that any proprietary information reviewed by the inspectors 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
P. Butler, Design Engineering Manager
B. Daiber, Engineering Programs and Components Manager
D. Edgell, Recovery Manager
A. Martin, Unit 2 Shift Manager
P. McCray, Senior Manager Site Projects
N. Mosher, Regulatory Assurance
E. Nicholson, Performance Improvement Manager
B. Patrick, Maintenance 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. Vogt, Operations Manager

NRC

T. Wengert, Project Manager, Division of Operating Reactor Licensing, Office of Nuclear Reactor Regulation

LIST OF CONFIRMATORY ACTION LETTER ITEMS CLOSED AND DISCUSSED

Closed

Significant Performance Deficiency

FP-2	(Section 4OA5.1)
FP-7	(Section 4OA5.1)
FP-9	(Section 4OA5.1)
VO-5	(Section 4OA5.1)
VO-6	(Section 4OA5.1)
VO-11	(Section 4OA5.1)
VO-21/DM-9	(Section 4OA5.1)
DM-10	(Section 4OA5.1)

Closed

Identifying, Assessing and Correcting Performance Deficiencies

CA-1	(Section 4OA5.2)
CA-4	(Section 4OA5.2)
CA-13	(Section 4OA5.2)
CO-2	(Section 4OA5.2)
PM-10	(Section 4OA5.2)

Human Performance

DB-18	(Section 4OA5.3)
DB-19	(Section 4OA5.3)
NF-6	(Section 4OA5.3)
PQ-6	(Section 4OA5.3)
PQ-10	(Section 4OA5.3)
PQ-11	(Section 4OA5.3)

Equipment Reliability and Engineering Programs

PH-1	(Section 4OA5.4)
PH-2	(Section 4OA5.4)
PH-10	(Section 4OA5.4)

Safety Culture

CO-1	(Section 4OA5.5)
LF-5	(Section 4OA5.5)
SC-15	(Section 4OA5.5)

Service Water System Self-Assessment

SW-1	(Section 4OA5.6)

Discussed

Identifying, Assessing and Correcting Performance Deficiencies

CA-6	(Section 4OA5.2)

LIST OF DOCUMENTS REVIEWED

Audits/Self Assessments

Number	Title	Date
LO-ALO-2016-00049	Flood Protection Program Focused Self-Assessment	February 10, 2017
CR-ANO-C-2017-02181 CA-06	Assessment of CRs that bypass the Control Room	May 31, 2017
CR-ANO-C-2017-02181 CA-02	Prompt Determinations of Operability	May 26, 2017

Condition Reports (CR-ANO-)

C-2014-02318	C-2017-00425	2-2017-02002	2-2017-02004	C-2015-00788
C-2014-00259	C-2017-1878	C-2016-02876	C-2016-02722	C-2015-01284
C-2015-01240	C-2015-00089	1-2017-01717	C-2016-05305	C-2015-02831
C-2015-02829	2-2017-01999	1-2016-02091	1-2017-00729	C-2015-03029
C-2015-02832	2-2016-00243	C-2017-02204	C-2017-02207	C-2017-02208
C-2015-01929	2-2017-00207	2-2017-00216	2-2017-02450	2-2017-00932
1-2017-01226	1-2017-01737	2-2017-00659	2-2017-00439	2-2017-00216
C-2017-02004	C-2016-02722	1-2017-00040	C-2017-02305	C-2016-04262
2-2017-00326	2-2017-00439	C-2017-02234	C-2017-02309	C-2016-03413
C-2017-02181	C-2017-02265	C-2016-00203	C-2016-00203	C-2015-03033
C-2016-02122	2-2017-00932	C-2015-00850	C-2015-01566	2-2014-03507
2-2017-00659	C-2017-02278	C-2016-00359	C-2016-00614	1-2017-00040
C-2015-02517	C-2015-02834	C-2016-03413	C-2014-01142	2-2017-02450
1-2016-00520				

Procedures

Number	Title	Revision
COPG-001	Operations Procedure Writers Desk Guide	24
COPD-028	Operations Performance Tracking Program	16, 17
COPD-013	Operations Maintenance Interface Standards and Expectations	58

CPG-001	ANO Procedure Writers Guide	1
EN-OP-104	Operability Determination Process	11
EN-OP-100	Operating Experience Program	27, 25
EN-LI-102	Corrective Action Program	29
EN-FAP-OM-011	Corporate Oversight Model,	15
EN-FAP-OM-002	Management Review Meetings	6
EN-FAP-PM-001	Asset Management Plan Development, Tracking and Control	2
EN-FAP-PM-002	Project Initiation, Segmentation and Funding	1
EN-DC-112	Engineering Change Request Process	8
EN-DC-336-ANO-RC	Plant Health Committee	2
EN-DC-329-ANO-RC	Engineering Programs Control and Oversight	2
EN-DC-143	Engineering Health Reports	19
EN-DC-153-ANO-RC	Preventive Maintenance Component Classification	1
EN-DC-345	Critical Component Failure Determination	3
EN-FAP-OM-011	Corporate Oversight Model	18
EN-FAP-LI-002	Project Review Board Guide	4
EN-LI-104	Self-Assessment and Benchmark Process	12
EN-LI-106	NRC Correspondence	16
EN-LI-123-A6	Project Review Board Guide	3
EN-OE-100	Operating Experience Program	27
EN-OM-126	Management and Oversight of Supplemental Personnel	0, 1, 2, 3
EN-OM-126-ANO-RC	Management and Oversight of Supplemental Personnel	4
EN-OM-126-03	Qualification of Supplemental Supervisors	3
EN-OM-126-03-ANO-RC	Qualification of Supplemental Supervisors	0
EN-TQ-127	Supervisor Training Program	19
EN-TQ-130	Project Management Training Program	0
EN-QV-136-ANO-RC	Nuclear Safety Culture Monitoring	2
EN-WM-104	On Line Risk Assessment	15

OP 1000.006	Procedure Control	69, 70
OP 1015.030	Procedure Writers Guide	19
OP 1107.006	ESF Electrical Bus Outage	18
OP 2107.007	ESF Electrical Bus Outage	19
OP 1015.033	ANO Switchyard and Transformer Yard Controls	28
PI-003	Operating Experience Desk Guide	0
EN-PL-100	Nuclear Excellence Model	8

Miscellaneous

Number	Title	Revision Date
FSEM-SUPV-NSC	Nuclear Safety Culture	0
FCBT-SUPV-NSC	Nuclear Safety Culture CBT	0
OE-NOE-2016-0407 CA-10	CR-WF3-2016-04209 ACC-126A Mechanical Linkage Dislodged – Green NCV	0
OE-NOE-2016-00234 CA-15	NRC-IN-2016-09 – Recent Issues Identified when Using Reverse Engineering Techniques in the Procurement of Safety-Related Components	0
OE-NOE-2016-00213 CA-14	NRC-IN-2016-07 Operating Experience Regrading Impacts on Site Electrical Power Distribution from Inadequate Oversight of Contractor Activities	0
FLP-ESP-RISKASSMNT	Risk Assessment Training	3
OE-NOE-2016-00317 CA10	ANSI Short-Circuit Interrupting Device Evaluation for Sychronous Condenser	0
OE-NOE-2016-73 CA-15	Westinghouse InfoGram IG-16-1 Safety Related Vertical Motor Lower Bracket Welds	0
OE-NOE-2016-00406 CA10	IEC Short-Circuit Device Duty – IEC60909	0
OE-NOE-2016-00448	CR-WF3-2016-06961 NCV at the ISFSI Loading Inspection Exit on 11/3/16	0
OE-NOE-2016-0407 CA-10	CR-WF3-2016-4209 ACC-126A Mechanical Linkage Dislodged – Green NCV	0
OE-NOE-2016-390 CA-14	OE-2016-000633 The waste sludge tank room has solid waste on floor	0

Miscellaneous

Number	Title	Revision Date
ASCBT-ADM-RISKMGMT	Risk Management Fundamentals and Conservative Decision Making for Project Management	0
CALC-ANOC-CS-16-00006	Arkansas Nuclear One Passive Barrier Features List	0
CALC-ANOC-CS-16-00001	Internal Flooding Walkdown Validation	00
CALC-ANOC-CS-15-00003	ANO Flood Protection Design Basis	3

CONFIRMATORY ACTION LETTER ITEM STATUS

Significant Performance Deficiencies

Area Action Plan	Description	Inspection Dates	Inspection Report Number(s)	Status
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-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
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 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.	10/31/16 – 12/2/16	05000313/2016008, 05000368/2016008	Discussed, awaiting licensee action
		5/22/17 – 5/26/17	05000313/2017011, 05000368/2017011	Closed

Area Action Plan	Description	Inspection Dates	Inspection Report Number(s)	Status
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-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
		5/22/17 – 5/26/17	05000313/2017011, 05000368/2017011	Closed
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

Area Action Plan	Description	Inspection Dates	Inspection Report Number(s)	Status
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 *SII*	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
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
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

Area Action Plan	Description	Inspection Dates	Inspection Report Number(s)	Status
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
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
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
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	10/31/16 – 12/2/16	05000313/2016008, 05000368/2016008	Closed

Area Action Plan	Description	Inspection Dates	Inspection Report Number(s)	Status
	lifting device, any lifting device that cannot be load tested per EN-MA-119 criteria, or any lifting device without a certified load rating name plate rating affixed to it.	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-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
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

Area Action Plan	Description	Inspection Dates	Inspection Report Number	Status
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
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-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
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-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
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-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

Area Action Plan	Description	Inspection Dates	Inspection Report Number	Status
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
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

Human Performance

Area Action Plan	Description	Inspection Dates	Inspection Report Number	Status
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
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-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

Area Action Plan	Description	Inspection Dates	Inspection Report Number	Status
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
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
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
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
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-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

Area Action Plan	Description	Inspection Dates	Inspection Report Number	Status
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
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

Area Action Plan	Description	Inspection Dates	Inspection Report Number	Status
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
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-11	Implement a new qualification card for maintenance personnel who perform PM evaluations.	2/27/17 – 3/3/17	05000313/2017010, 05000368/2017010	Closed

Safety Culture

Area Action Plan	Description	Inspection Dates	Inspection Report Number	Status
CA-2	Establish a Nuclear Safety Culture Observer function and expectations to observe and provide feedback on leader	8/29/16 – 9/16/16	05000313/2016010, 05000368/2016010	Discussed, awaiting licensee action

Area Action Plan	Description	Inspection Dates	Inspection Report Number	Status
	behaviors (nuclear safety culture and safety conscience work environment) in key forums and to provide trends for review by the Nuclear Safety Culture Monitoring Panel.	2/27/17 – 3/3/17	05000313/2017010, 05000368/2017010	Closed
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
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
LF-9	Establish a Nuclear Safety Culture Observer function to observe and provide feedback on leader behaviors in key forums and to provide observation data for review by the Nuclear Safety Culture Monitoring Panel.	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
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
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-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-14	Establish and implement a Nuclear Safety Culture Observations process including elements of leader behaviors, nuclear safety	8/29/16 – 9/16/16	05000313/2016010, 05000368/2016010	Discussed, awaiting licensee action

Area Action Plan	Description	Inspection Dates	Inspection Report Number	Status
	culture, and safety conscious work environment. The observer monitors leader performance on a daily basis and provides feedback to correct adverse trends in behaviors.	2/27/17 – 3/3/17	05000313/2017010, 05000368/2017010	Closed
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 05000313/2017011 AND 05000368/2017011 –
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