



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION IV
1600 E. LAMAR BLVD.
ARLINGTON, TX 76011-4511

November 10, 2015

EA-2015-057

Louis P. Cortopassi, Site Vice President
Omaha Public Power District
Fort Calhoun Station
P.O. Box 550
Fort Calhoun, NE 68023-0550

Subject: FORT CALHOUN - NRC INTEGRATED INSPECTION REPORT
NUMBER 05000285/2015003 AND INVESTIGATION REPORT 4-2014-032

Dear Mr. Cortopassi:

On September 30, 2015, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Fort Calhoun Station (FCS). On October 19, 2015, the NRC inspectors discussed the results of this inspection with you and other members of your staff. Inspectors documented the results of this inspection in the enclosed inspection report.

NRC inspectors documented two findings of very low safety significance (Green) in this report. These findings involved violations of NRC requirements.

If you contest these violations or significance of the NCVs, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region IV; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC resident inspector at the Fort Calhoun Station.

If you disagree with a cross-cutting aspect assignment in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region IV; and the NRC resident inspector at the Fort Calhoun Station.

In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 2.390, "Public Inspections, Exemptions, Requests for Withholding," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC's Public Document Room or from the Publicly Available Records (PARS) component of the NRC's

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Sincerely,

/RA BHagar for/

Geoffrey B. Miller
Chief, Project Branch D
Division of Reactor Projects

Docket: 50-285
License: DPR-40

Enclosure:
NRC Inspection Report 05000285/2015003
and Investigative Report 4-2014-032
w/Attachment: Supplemental Information

L. Cortopassi

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Letter to L. Cortopassi from Geoffrey B. Miller dated November 10, 2015

Subject: FORT CALHOUN - NRC INTEGRATED INSPECTION REPORT
NUMBER 05000285/2015003 AND INVESTIGATION REPORT 4-2014-032

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U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket: 50-285

License: DPR-40

Report: 05000285/2015003

Licensee: Omaha Public Power District

Facility: Fort Calhoun Station

Location: 9610 Power Lane
Blair, NE 68008

Dates: July 1 through September 30, 2015

Inspectors: S. Schneider, Senior Resident Inspector
B. Cummings, Resident Inspector
B. Baca, Project Engineer
M. Brooks, Physical Security Inspector
J. Drake, Senior Reactor Inspector
P. Elkmann, Senior Emergency Preparedness Inspector
G. Guerra, CHP, Emergency Preparedness Inspector
B. Hagar, Senior Project Engineer
C. Peabody, Senior Resident Inspector
F. Ramirez, Senior Resident Inspector
D. You, Resident Inspector
S. Makor, Reactor Inspector

Approved By: Geoffrey B. Miller, Chief, Project Branch D
Division of Reactor Projects

SUMMARY

IR 05000285/2015003; 7/01/2015 – 9/30/2015; Fort Calhoun Station, Operability Determinations, Other Activities.

The inspection activities described in this report were performed between July 1 and September 30, 2015, by the resident inspectors and inspectors from the Nuclear Regulatory Commission's Region IV office. Two findings of very low safety significance (Green) are documented in this report. These findings involved violations of NRC requirements; the significance of inspection findings is indicated by their color (Green, White, Yellow, or Red), which is determined using Inspection Manual Chapter 0609, "Significance Determination Process." Their cross-cutting aspects are determined using Inspection Manual Chapter 0310, "Aspects within the Cross-Cutting Areas." Violations of NRC requirements are dispositioned in accordance with the NRC Enforcement Policy. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process."

Cornerstone: Mitigating Systems

Green. A Green, self-revealing, non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI "Corrective Action" was identified because the licensee failed to identify and evaluate an adverse trend related to boron concentration in Safety Injection Tank (SIT) SI-6A and to take corrective actions to prevent boron concentration from going below the minimum concentration required by Technical Specifications. The licensee's immediate corrective actions included documenting this condition in their corrective action program in Condition Report (CR) 2015-10181, declared SI-6A inoperable, and raised SI-6A boron concentration.

The finding is more than minor because it adversely affected the equipment performance attribute of the mitigating systems cornerstone, in that this finding resulted in the SIT becoming inoperable when boron concentration fell below TS limits for approximately 8.5 days prior to August 20, 2015. Analysis conducted by a Senior Reactor Analyst determined the finding to be of very low safety significance (Green), primarily because the SIT function is needed only for mitigation of a postulated large-break loss of coolant accident, and the initiating-event frequency for such accidents is 2.5×10^{-6} /year. The finding has a cross-cutting aspect in the area of Problem Identification and Resolution and the Evaluation aspect, because the licensee did not thoroughly evaluate the issue and ensure that resolutions addressed causes and extent of conditions commensurate with their safety significance [P.2]. (Section 1R15)

Green. Inspectors identified a Green, Severity Level IV, non-cited violation of 10 CFR 50.9(a), "Completeness and Accuracy of Information," for the licensee's failure to maintain the required fire watch logs complete and accurate in all material respects. The licensee entered this into their corrective action program as Condition Reports (CR) 2014-06416 and 2014-06680.

This finding is more than minor because it adversely affected the human performance attribute of the Mitigating Systems cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. This finding has very low safety significance (Green) because it did not impact the ability to achieve safe shutdown. This finding's severity level is based on an example in the Enforcement Policy, Section 6.1.d.2, which states, in part, that Severity Level IV violations involve violations of 10 CFR 50.59 [which] result in conditions evaluated as having very low safety significance

(i.e., Green) by the Significance Determination Process. That example applies because a violation of 10 CFR 50.9 is similar to a violation of 10 CFR 50.59, and because this finding has very low safety significance. This finding has a cross-cutting aspect in the resources component of human performance cross-cutting area because the licensee's process did not allow enough time for the fire watch personnel to obtain their radiation work permit at the start of their shift before they performed their rounds [H.1]. (Section 4OA5)

PLANT STATUS

The unit began the inspection period at approximately 100 percent power. On July 20, 2015 the unit was taken offline to repair a failed seal on a reactor coolant pump. On July 29, 2015 the unit returned online, reached 100 percent power on August 1, 2015, and operated at 100 percent power for the remainder of the inspection period.

REPORT DETAILS

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01)

.1 Summer Readiness for Offsite and Alternate AC Power Systems

a. Inspection Scope

On August 13, 2015, the inspectors completed an inspection of the station's off-site and alternate-ac power systems. The inspectors inspected the material condition of these systems, including transformers and other switchyard equipment to verify that plant features and procedures were appropriate for operation and continued availability of off-site and alternate-ac power systems. The inspectors reviewed outstanding work orders and open condition reports for these systems. The inspectors walked down the switchyard to observe the material condition of equipment providing off-site power sources. The inspectors verified that the licensee's procedures included appropriate measures to monitor and maintain availability and reliability of the off-site and alternate-ac power systems.

This activity constituted one sample of summer readiness of off-site and alternate-ac power systems, as defined in Inspection Procedure 71111.01.

a. Findings

No findings were identified.

.2 Readiness for Seasonal Extreme Weather Conditions

a. Inspection Scope

On August 26, 2015, the inspectors completed an inspection of the station's readiness for seasonal extreme weather conditions. The inspectors reviewed the licensee's adverse weather procedures for seasonal high temperatures, and evaluated the licensee's implementation of these procedures.

The inspectors selected two risk-significant systems that were required to be protected from seasonal high temperatures:

- switchgear room supplemental cooling
- raw water system (intake structure)

The inspectors reviewed the licensee's procedures and design information to ensure the systems would remain functional when challenged by adverse weather. The inspectors verified that operator actions described in the licensee's procedures were adequate to maintain readiness of these systems. The inspectors walked down portions of these systems to verify the physical condition of the systems.

This activity constituted one sample of readiness for seasonal adverse weather, as defined in Inspection Procedure 71111.01.

b. Findings

No findings were identified.

1R04 Equipment Alignment (71111.04)

.1 Partial Walkdown

a. Inspection Scope

The inspectors performed three partial system walk-downs of the following risk-significant systems:

- July 23, 2015, standby decay heat removal path while in mid-loop
- July 27, 2015, engineered safety features lineup
- August 14, 2015, motor driven auxiliary feed water pump following maintenance

The inspectors reviewed the licensee's procedures and system design information to determine the correct lineup for the systems. They visually verified that critical portions of the systems were correctly aligned for the existing plant configuration.

These activities constituted three partial system walk-down samples as defined in Inspection Procedure 71111.04.

b. Findings

No findings were identified.

.2 Complete Walkdown

a. Inspection Scope

On August 14, 2015, the inspectors performed a complete system walk-down inspection of the auxiliary feed water system. The inspectors reviewed the licensee's procedures and system design information to determine the correct auxiliary feed water system lineup for the existing plant configuration. The inspectors also reviewed system health tracking, outstanding work orders, open condition reports, and other open items tracked by the licensee's operations and engineering departments. The inspectors visually verified that the system was correctly aligned for the existing plant configuration.

These activities constituted one complete system walk-down sample, as defined in Inspection Procedure 71111.04.

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05)

.1 Quarterly Inspection

a. Inspection Scope

The inspectors evaluated the licensee's fire protection program for operational status and material condition. The inspectors focused their inspection on six plant areas important to safety:

- August 10, 2015, battery room 2, fire area 38
- August 10, 2015, battery room 1, fire area 37
- August 10, 2015, start-up pump FW-54 enclosure, fire area 46.3
- August 21, 2015, mechanical penetration room, fire area 13
- August 21, 2015, safety injection and containment spray pump room 22, fire area 2
- August 21, 2015, component cooling water heat exchanger room 18, fire area 33

For each area, the inspectors evaluated the fire plan against defined hazards and defense-in-depth features in the licensee's fire protection program. The inspectors evaluated control of transient combustibles and ignition sources, fire detection and suppression systems, manual firefighting equipment and capability, passive fire protection features, and compensatory measures for degraded conditions.

These activities constituted six quarterly inspection samples, as defined in Inspection Procedure 71111.05.

b. Findings

No findings were identified.

.2 Annual Inspection

a. Inspection Scope

On August 12, 2015, the inspectors completed their annual evaluation of the licensee's fire brigade performance. This evaluation included observation of an announced fire drill on August 12, 2015. During this drill, the inspectors evaluated the capability of the fire brigade members, the leadership ability of the brigade leader, the brigade's use of turnout gear and fire-fighting equipment, and the effectiveness of the fire brigade's team operation. The inspectors also reviewed whether the licensee's fire brigade met NRC requirements for training, dedicated size and membership, and equipment.

This activity constituted one annual inspection sample, as defined in Inspection Procedure 71111.05.

b. Findings

No findings were identified.

1R06 Flood Protection Measures (71111.06)

a. Inspection Scope

On August 12, 2015, the inspectors completed an inspection of the station's ability to mitigate flooding due to internal causes. After reviewing the licensee's flooding analysis, the inspectors chose one plant area containing risk-significant structures, systems, and components that were susceptible to flooding:

- Room 18, component cooling water heat exchangers

The inspectors reviewed plant design features and licensee procedures for coping with internal flooding. The inspectors walked down the selected areas to inspect the design features, including the material condition of seals, drains, and flood barriers. The inspectors evaluated whether operator actions credited for flood mitigation could be successfully accomplished.

These activities constitute completion of one flood protection measures sample, as defined in Inspection Procedure 71111.06.

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program and Licensed Operator Performance (71111.11)

.1 Review of Licensed Operator Requalification

a. Inspection Scope

The inspectors assessed the performance of the operators and the evaluators' critique of their performance. The inspectors also assessed the modeling and performance of the simulator during the training.

- July 22, 2015, the inspectors observed simulator training for an operating crew in preparation for mid-loop operations
- August 25, 2015, the inspectors observed an evaluated simulator scenario performed by an operating crew

These activities constitute completion of two quarterly licensed operator requalification program samples, as defined in Inspection Procedure 71111.11.

b. Findings

No findings were identified.

.2 Review of Licensed Operator Performance

a. Inspection Scope

The inspectors observed the performance of on-shift licensed operators in the plant's main control room. At the time of the observations, the plant was in a period of heightened activity or risk. The inspectors observed the operators' performance of the following activities:

- July 6, 2015, operations response following indications of a reactor coolant pump malfunction coincident with a minor reactor coolant leak. The inspectors observed the operators' performance related to adherence to abnormal operating procedures, assessment of Technical Specification applicability, evaluation of plant risk, and assessment of Emergency Action Level criteria.
- July 27, 2015, operations response following the closure of main steam isolation valves and the resultant lift of one or more main steam safety valves. The inspectors observed the operators' performance related to the assessment of plant risk, abnormal operating procedure entry, and assessment of Emergency Action level criteria.
- September 17, 2015, operations response to a failure of an undervoltage relay that affected a vital 4160VAC bus.

In addition, the inspectors assessed the operators' adherence to plant procedures and other operations department policies.

These activities constitute completion of three quarterly licensed operator performance samples, as defined in Inspection Procedure 71111.11.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12)

a. Inspection Scope

The inspectors reviewed two instances of degraded performance or condition of safety-related structures, systems, and components (SSCs):

- September 9, 2015, pressurizer safety valve leak during plant heat-up
- September 16, 2015, control room air conditioning refrigerant leak

The inspectors reviewed the extent of condition of possible common cause SSC failures and evaluated the adequacy of the licensee's corrective actions. The inspectors

reviewed the licensee's work practices to evaluate whether these may have played a role in the degradation of the SSCs. The inspectors assessed the licensee's characterization of the degradation in accordance with 10 CFR 50.65 (the Maintenance Rule), and verified that the licensee was appropriately tracking degraded performance and conditions in accordance with the Maintenance Rule.

These activities constituted completion of two maintenance effectiveness samples, as defined in Inspection Procedure 71111.12.

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13)

a. Inspection Scope

The inspectors reviewed four risk assessments performed by the licensee prior to changes in plant configuration and the risk management actions taken by the licensee in response to elevated risk:

- July, 8, 2015, planned yellow risk during channel "B" testing of safety injection, containment spray, and recirculation actuation signals
- July 23, 2015, planned yellow risk during mid-loop operations
- August 28, 2015, planned yellow risk during #2 emergency diesel generator maintenance
- September 10, 2015, planned yellow risk during diesel driven auxiliary feed water pump operability verification

The inspectors verified that these risk assessments were performed timely and in accordance with the requirements of 10 CFR 50.65 (the Maintenance Rule) and plant procedures. The inspectors reviewed the accuracy and completeness of the licensee's risk assessments and verified that the licensee implemented appropriate risk management actions based on the result of the assessments.

These activities constitute completion of four maintenance risk assessments and emergent work control inspection samples, as defined in Inspection Procedure 71111.13.

b. Findings

No findings were identified.

1R15 Operability Determinations and Functionality Assessments (71111.15)

a. Inspection Scope

The inspectors reviewed four operability determinations and functionality assessments that the licensee performed for degraded or nonconforming structures, systems, or components (SSCs):

- July 16, 2015, operability assessment of a reactor coolant system leak from reactor coolant pump 3A
- August 7, 2015, reactor coolant pump RC-3A, adverse condition monitoring and contingency plan due to high RC-3A shaft displacement vibration levels
- August 19, 2015, functionality assessment of battery room ventilation
- August 21, 2015, operability assessment of safety injection tank boron concentration

The inspectors reviewed the timeliness and technical adequacy of the licensee's evaluations. Where the licensee determined the degraded SSC to be operable or functional, the inspectors verified that the licensee's compensatory measures were appropriate to provide reasonable assurance of operability or functionality. The inspectors verified that the licensee had considered the effect of other degraded conditions on the operability or functionality of the degraded SSC.

These activities constitute completion of four operability and functionality review samples, as defined in Inspection Procedure 71111.15.

b. Findings

Failure to Maintain Safety Injection Tank Boron Concentration within Technical Specifications

Introduction. The inspectors reviewed a self-revealing, non-cited violation of very low safety significance of 10 CFR Part 50, Appendix B, Criterion XVI "Corrective Action" because the licensee failed to identify an adverse trend related to boron concentration in Safety Injection Tank (SIT) SI-6A and to take corrective actions to prevent boron concentration from falling below the minimum concentration required by Technical Specifications (TS).

Description. On June 25, 2015, during performance of monthly surveillance test CH ST SI-0002, "Safety Injection Tank Boron Sampling and Analysis", the licensee identified that boron concentration in all four SITs was below the administrative limit of 2260 parts per million (ppm). CH-ST-SI-0002 requires the licensee to take corrective actions when boron is measured below administrative limits, to ensure that the SITs remain operable and meet the minimum TS requirement of 2160 ppm, as specified in the licensee's Core Operating Limits Report. The licensee documented this condition in their corrective action program in Condition Report (CR) 2015-8252, adjusted sample frequency to a two-week interval, and assigned an action item to monitor for an adverse trend.

On July 7, 2015, the licensee sampled the SITs at the two-week interval, as described in CR 2015-8252. The licensee did not identify either an appreciable change in boron concentration or an adverse trend. The licensee then closed the action item to increase sample frequency and monitor for adverse trending, even though boron concentration remained below administrative levels. The justification for closing this action item was that no adverse trend had been identified, regular scheduled samples would be taken in two weeks, and any adverse trend would be identified during the next scheduled sample.

On July 25, 2015, the licensee sampled the SITs again and noted a significant decrease in boron concentration in all four SITs. The tank most affected was tank SI-6A, which experienced a change in boron concentration from 2248 ppm on 7/7/15 to 2216 ppm on 7/25/15. The licensee should have identified this significant boron concentration change as a negative trend, and should have taken corrective actions to address that trend. Remarks associated with the surveillance test indicated that boron concentration was below administrative limits and referenced corrective actions associated with CR 2015-8252. However, as noted above, the licensee had already closed the referenced corrective actions, and had not specified additional actions.

On August 20, 2015, when the licensee sampled the SITs, boron concentration in SIT SI 6A was 2132 ppm, well below the minimum concentration of 2160 ppm required by Technical Specification. The licensee subsequently declared SIT SI-6A inoperable and entered Technical Specification 2.3, Emergency Core Cooling System, which requires the licensee to either restore SIT boron concentration within 72 hours or shut down the plant. The licensee then took action to raise the boron concentration of SIT SI-6A above TS limits, and exited the requirement to shut down within the 72 hour timeframe.

Following the event, the licensee determined that the combination of check-valve leakage from the reactor coolant system to the SITs and periodic draining activities to maintain the required volume in the SITs had diluted the boron in the tanks. Although the licensee had previously identified and documented check valve leakage in Condition Report 2015-8668, they had not assessed the effects on boron concentration in the SITs. The inspectors determined that the primary cause of this finding was that the licensee did not evaluate either the back leakage condition that was originally described in CR 2015-8668, or the SIT trending data. If they had, the inspectors considered that they would have initiated additional monitoring and corrective actions before boron concentration lowered to below the TS limit.

Analysis. The licensee's failure to identify an adverse trend in boron concentration in SIT SI-6A and to take action to prevent an out-of-specification condition was a performance deficiency within the licensee's ability to foresee and correct and therefore should have been prevented. The finding is more than minor because it adversely affected the equipment performance attribute of the mitigating systems cornerstone. Specifically, the failure to identify an adverse trend in SIT SI-6A boron concentration and to take corrective actions to arrest the trend resulted in the SIT becoming inoperable when boron concentration fell below TS limits.

Using NRC Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," Exhibit 2 "Mitigating System Screening Questions" Part A, dated July 1, 2012, and through linear trending of the SIT

boron concentration from the July 25, 2015 known concentration through the August 20, 2015 known concentration, the inspectors determined the finding represented an actual inoperability of SIT SI-6A for greater than its TS-allowed outage time (AOT). That is, assuming that boron concentration decreased in an approximately linear manner with time, the SIT SI-6A boron concentration would have been below the TS requirement for approximately 8.5 days prior to the August 20, 2015 confirmation sample. That duration exceeds the TS AOT for SIT boron concentration below the TS limit of 3 days. As a result, a more detailed analysis was conducted by a Senior Reactor Analyst using the plant-specific standardized plant analysis risk model. That analysis determined the finding to be of very low safety significance (Green), primarily because the SIT function is needed only for mitigation of a postulated large-break loss of coolant accident, and because the initiating event frequency for such accidents is 2.5×10^{-6} /year. Given the 8.5-day exposure period, the likelihood of having a large-break loss of coolant accident during this time was 5.8×10^{-8} . This incremental probability is well below the 1×10^{-6} threshold for a significant change in core damage frequency.

Because the primary cause of this finding was that the licensee did not evaluate either the back leakage condition that was originally described in CR 2015-8668, or the SIT trending data, the finding has a cross-cutting aspect in the area of Problem Identification and Resolution, the Evaluation aspect, because the licensee did not thoroughly evaluate the issue and ensure that resolutions addressed causes and extent of conditions commensurate with their safety significance (P.2).

Enforcement. Title 10 CFR Part 50 Appendix B, Criterion XVI requires, in part, that measures shall be established to assure that conditions adverse to quality are promptly identified and corrected. Contrary to the above, between June 25 and August 20, 2015, measures established by the licensee did not assure that conditions adverse to quality were promptly identified and corrected. Specifically, measures established by the licensee did not identify an adverse trend related to boron concentration in SIT SI-6A and therefore did not correct that trend to prevent boron concentration from going below the minimum concentration required by TS. Corrective actions to address this violation include implementing procedural revisions to CH-ST-SI-0002 that include trending methods and additional guidance when boron concentrations are discovered below administrative limits. In addition, the licensee developed an adverse condition monitoring plan to ensure that reactor coolant system leakage into the safety injection tanks is adequately monitored and the effects of boron dilution are anticipated to prevent an out-of-specification condition. Because this violation was of very low safety significance and was entered into the licensee's corrective action program as Condition Report 2015-10181, this violation is being treated as an NCV, consistent with Section 2.3.2.a of the NRC's Enforcement Policy: NCV 05000285/2015003-001, "Failure to Maintain Safety Injection Tank Boron Concentration within Technical Specification Limits".

1R18 Plant Modifications (71111.18)

a. Inspection Scope

The inspectors reviewed two temporary plant modifications that affected risk-significant structures, systems, and components (SSCs):

- August 21, 2015, "A" qualified safety parameter display system

- September 17, 2015, temporary cap on refrigerant line for the “A” control room air conditioner

The inspectors verified that the licensee had installed these temporary modifications in accordance with technically adequate design documents. The inspectors verified that these modifications did not adversely impact the operability or availability of affected SSCs. The inspectors reviewed design documentation and plant procedures affected by the modifications to verify the licensee maintained configuration control.

These activities constitute completion of two samples of plant modifications, as defined in Inspection Procedure 71111.18.

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope

The inspectors reviewed seven post-maintenance testing activities that affected risk-significant structures, systems, or components (SSCs):

- August 18, 2015, diesel driven auxiliary feed water pump bearing replacement and shaft seal replacement
- August 20, 2015, “A” qualified safety parameter display system troubleshooting
- August 28, 2015, control room air conditioning maintenance
- September 9, 2015, charging pump replacement of top caps and drip rings
- September 17, 2015, component cooling water pump following installation of accumulator tank
- September 21, 2015, 4160VAC breaker 1A2 replacement
- September 29, 2015, component cooling water heat exchanger AC-1D inlet valve maintenance

The inspectors reviewed licensing and design-basis documents for the SSCs and the maintenance and post-maintenance test procedures. The inspectors observed the performance of the post-maintenance tests or reviewed the test results to verify that the licensee performed the tests in accordance with approved procedures, satisfied the established acceptance criteria, and restored the operability of the affected SSCs.

These activities constitute completion of seven post-maintenance testing inspection samples, as defined in Inspection Procedure 71111.19.

b. Findings

No findings were identified.

1R20 Refueling and Other Outage Activities (71111.20)

a. Inspection Scope

During the station's forced outage due to a failed reactor coolant pump seal that concluded on July 30, 2015, the inspectors evaluated the licensee's outage activities. The inspectors verified that the licensee considered risk in developing and implementing the outage plan, appropriately managed personnel fatigue, and developed mitigation strategies for losses of key safety functions. This verification included the following:

- Review of the licensee's outage schedule
- Review and verification of the licensee's fatigue management activities
- Monitoring of shut-down and cool-down activities
- Verification that the licensee maintained defense-in-depth during outage activities
- Observation and review of reduced-inventory
- Monitoring of heat-up and startup activities

These activities constitute completion of one outage sample as defined in Inspection Procedure 71111.20.

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors observed four risk-significant surveillance tests and reviewed test results to verify that these tests adequately demonstrated that the structures, systems, and components (SSCs) were capable of performing their safety functions. In addition, the inspectors reviewed one reactor coolant system leak rate test:

In-service tests:

- September 1, 2015, raw water pump AC-10B quarterly in-service test

Reactor coolant system leak detection tests:

- September 10, 2015, reactor coolant system daily leak rate test

Other surveillance tests:

- August 3, 2015, motor driven auxiliary feed water pump operability test
- August 20, 2015, third auxiliary feed water pump operability test
- September 30, 2015, quarterly functional test of reactor protective system trip logic

The inspectors verified that these tests met technical specification requirements, that the licensee performed the tests in accordance with their procedures, and that the results of the tests satisfied appropriate acceptance criteria. The inspectors verified that the licensee restored the operability of the affected SSCs following testing.

These activities constitute completion of five surveillance testing inspection samples, as defined in Inspection Procedure 71111.22.

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness

1EP4 Emergency Action Level and Emergency Plan Changes (71114.04)

a. Inspection Scope

The inspector performed an in-office review of Radiological Emergency Response Plan, Section E, Revision 30, and Section P, Revision 14, implemented July 7, 2015. This revision,

- Required the automatic callout system for the emergency response organization to be capable of activating telephones, sending emails, and sending text messages to the response organization; and,
- Updated titles and references in the emergency plan.

This revision was compared to its previous revision, to the criteria of NUREG-0654, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," Revision 1, and to the standards in 10 CFR 50.47(b) to determine if the revision adequately implemented the requirements of 10 CFR 50.54(q)(3) and 50.54(q)(4). The inspector verified that the revision did not decrease the effectiveness of the emergency plan. This review was not documented in a safety evaluation report and did not constitute approval of licensee-generated changes; therefore, this revision is subject to future inspection.

These activities constitute completion of one emergency action level and emergency plan changes sample as defined in Inspection Procedure 71114.04.

b. Findings

No findings were identified.

1EP6 Drill Evaluation (71114.06)

.1 Emergency Preparedness Drill Observation

a. Inspection Scope

The inspectors observed an emergency preparedness drill on September 22, 2015, to verify the adequacy and capability of the licensee's assessment of drill performance. The inspectors reviewed the drill scenario, observed the drill from the simulator, and attended the post-drill critique. The inspectors verified that the licensee's emergency classifications, off-site notifications, and protective action recommendations were appropriate and timely. The inspectors verified that any emergency preparedness weaknesses were appropriately identified by the licensee in the post-drill critique and entered into the corrective action program for resolution.

These activities constitute completion of one emergency preparedness drill observation sample, as defined in Inspection Procedure 71114.06.

b. Findings

No findings were identified.

.2 Training Evolution Observation

a. Inspection Scope

On August 25, 2015, the inspectors observed simulator-based licensed operator requalification training that included implementation of the licensee's emergency plan. The inspectors verified that the licensee's emergency classifications and off-site notifications, were appropriate and timely. The inspectors verified that any emergency preparedness weaknesses were appropriately identified by the evaluators and entered into the corrective action program for resolution.

These activities constitute completion of one training evolution observation sample as defined in Inspection Procedure 71114.06.

b. Findings

No findings were identified.

1EP7 Exercise Evaluation – Hostile Action Event (71114.07)

a. Inspection Scope

The inspectors observed the August 4, 2015, biennial emergency plan exercise to verify the exercise acceptably tested the major elements of the emergency plan, provided opportunities for the emergency response organization to demonstrate key skills and functions, and demonstrated the licensee's ability to coordinate with offsite emergency responders. The scenario simulated,

- a partial loss of offsite power escalating to a complete loss of offsite power;
- land and water-based attacks against the licensee;
- unexploded ordinance;
- damage to a reactor feed water pump;
- a loss of the service water system (plant cooling water supply); and,
- injured plant employees;

to demonstrate the licensee's capability to implement its emergency plan under conditions of uncertain physical security. During the exercise the inspectors observed activities in the control room simulator and the following emergency response facilities:

- Technical Support Center;
- Operations Support Center;
- Emergency Operations Facility;
- Central and Secondary Alarm Stations; and,
- Incident Command Post.

The inspectors focused their evaluation of the licensee's performance on event classification, offsite notification, recognition of offsite dose consequences, development of protective action recommendations, staffing of alternate emergency response facilities, and the coordination between the licensee and offsite agencies to ensure reactor safety under conditions of uncertain physical security.

The inspectors also assessed recognition of, and response to, abnormal and emergency plant conditions, the transfer of decision-making authority and emergency function responsibilities between facilities, on-site and offsite communications, protection of plant employees and emergency workers in an uncertain physical security environment, emergency repair evaluation and capability, and the overall implementation of the emergency plan to protect public health and safety and the environment. The inspectors reviewed the current revision of the facility emergency plan, emergency plan implementing procedures associated with operation of the licensee's primary and alternate emergency response facilities, and procedures for the performance of associated emergency and security functions.

The inspectors attended the post-exercise critiques in each emergency response facility to evaluate the initial licensee self-assessment of exercise performance. The inspectors also attended a subsequent formal presentation of critique items to plant management.

The inspectors reviewed the scenario of previous biennial exercises and licensee drills conducted between August 2013 and July 2015, to determine whether the

August 4, 2015, exercise was independent and avoided participant preconditioning, in accordance with the requirements of 10 CFR 50, Appendix E, IV.F(2)(g). The inspectors also compared observed exercise performance with corrective action program entries and after-action reports for drills and exercises conducted between January 2014 and July 2015 to determine whether identified weaknesses had been corrected in accordance with the requirements of 10 CFR 50.47(b)(14), and 10 CFR 50, Appendix E, IV.F. The specific documents reviewed during this inspection are listed in the attachment.

These activities constituted completion of one exercise evaluation sample as defined in Inspection Procedure 71114.07.

b. Findings

No findings were identified.

1EP8 Exercise Evaluation – Scenario Review (71114.08)

a. Inspection Scope

The licensee submitted the preliminary exercise scenario for the August 4, 2015, biennial exercise to the NRC on June 3, 2015, in accordance with the requirements of 10 CFR 50, Appendix E, IV.F(2)(b). The inspectors performed an in-office review of the proposed scenario to determine whether it would acceptably test the major elements of the licensee's emergency plan and provide opportunities for the emergency response organization to demonstrate key skills and functions.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

Cornerstones: Mitigating Systems, Emergency Preparedness

4OA1 Performance Indicator Verification (71151)

.1 Drill/Exercise Performance (EP01)

a. Inspection Scope

The inspectors reviewed the licensee's evaluated exercises and selected drill and training evolutions that occurred between October 2014 and June 2015 to verify the accuracy of the licensee's data for classification, notification, and protective action recommendation (PAR) opportunities. The inspectors reviewed a sample of the licensee's completed classifications, notifications, and PARs to verify their timeliness and accuracy. The inspectors used Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, to determine the accuracy of the reported data. The specific documents reviewed are described in the attachment to this report.

These activities constituted verification of the drill/exercise performance indicator as defined in Inspection Procedure 71151.

b. Findings

No findings were identified.

.2 Emergency Response Organization Drill Participation (EP02)

a. Inspection Scope

The inspectors reviewed the licensee's records for participation in drill and training evolutions between October 2014 and June 2015 to verify the accuracy of the licensee's data for drill participation opportunities. The inspectors verified that all members of the licensee's emergency response organization (ERO) in the identified key positions had been counted in the reported performance indicator data. The inspectors reviewed the licensee's basis for reporting the percentage of ERO members who participated in a drill. The inspectors reviewed drill attendance records and verified a sample of those reported as participating. The inspectors used Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, to determine the accuracy of the reported data. The specific documents reviewed are described in the attachment to this report.

These activities constituted verification of the emergency response organization drill participation performance indicator as defined in Inspection Procedure 71151.

b. Findings

No findings were identified.

.3 Alert and Notification System Reliability (EP03)

a. Inspection Scope

The inspectors reviewed the licensee's records of alert and notification system tests conducted between October 2014 and June 2015 to verify the accuracy of the licensee's data for siren system testing opportunities. The inspectors reviewed procedural guidance on assessing alert and notification system opportunities and the results of periodic alert and notification system operability tests. The inspectors used Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, to determine the accuracy of the reported data. The specific documents reviewed are described in the attachment to this report.

These activities constituted verification of the alert and notification system reliability performance indicator as defined in Inspection Procedure 71151.

b. Findings

No findings were identified.

.4 Mitigating Systems Performance Index: High Pressure Injection Systems (MS07)

a. Inspection Scope

The inspectors reviewed the licensee's mitigating system performance index data for the period of July 1, 2014 through June 30, 2015 to verify the accuracy and completeness of the reported data. The inspectors used definitions and guidance contained in Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, to determine the accuracy of the reported data.

These activities constituted verification of the mitigating system performance index for high pressure injection systems as defined in Inspection Procedure 71151.

b. Findings

No findings were identified.

.5 Mitigating Systems Performance Index: Heat Removal Systems (MS08)

a. Inspection Scope

The inspectors reviewed the licensee's mitigating system performance index data for the period of July 1, 2014 through June 30, 2015 to verify the accuracy and completeness of the reported data. The inspectors used definitions and guidance contained in Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, to determine the accuracy of the reported data.

This activity constituted verification of the mitigating system performance index for heat removal systems as defined in Inspection Procedure 71151.

b. Findings

No findings were identified.

.6 Mitigating Systems Performance Index: Cooling Water Support Systems (MS10)

a. Inspection Scope

The inspectors reviewed the licensee's mitigating system performance index data for the period of July 1, 2014 through June 30, 2015 to verify the accuracy and completeness of the reported data. The inspectors used definitions and guidance contained in Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, to determine the accuracy of the reported data.

These activities constituted verification of the mitigating system performance index for cooling water support systems, as defined in Inspection Procedure 71151.

b. Findings

No findings were identified.

4OA2 Problem Identification and Resolution (71152)

.1 Routine Review

a. Inspection Scope

Throughout the inspection period, the inspectors performed daily reviews of items entered into the licensee's corrective action program and periodically attended the licensee's condition report screening meetings. The inspectors verified that licensee personnel were identifying problems at an appropriate threshold and entering these problems into the corrective action program for resolution. The inspectors verified that the licensee developed and implemented corrective actions commensurate with the significance of the problems identified. The inspectors also reviewed the licensee's problem identification and resolution activities during the performance of the other inspection activities documented in this report.

b. Findings

No findings were identified.

.2 Annual Follow-up of Selected Issues

a. Inspection Scope

The inspectors selected two issues for an in-depth follow-up:

- On July 21, 2015, in-service testing program classification of auxiliary feed water system valves

The inspectors assessed the licensee's design reviews and extent of condition associated with a condition report generated during an NRC component design basis inspection in February, 2015, that potentially identified valves in the auxiliary feed water system that may have been misclassified under the in-service testing program. The inspectors verified that the licensee appropriately prioritized corrective actions and that these actions were adequate to address any discrepancies.

- August 15, 2015, issues related to diesel generator damper performance

The inspectors assessed the licensee's problem identification threshold, cause analyses, extent of condition reviews and corrective actions from a condition report documenting failures to close or long closure times associated with emergency diesel generators inlet dampers since 2012. The inspectors identified that the licensee had corrective actions to ensure that the dampers were in an appropriate preventive maintenance program and that the dampers were opening to the correct position. The inspectors verified that the licensee appropriately prioritized corrective actions and that these actions were adequate to ensure that

the dampers were opening and would not challenge operability of the diesel generators.

These activities constitute completion of two annual follow-up samples as defined in Inspection Procedure 71152.

b. Findings

No findings were identified.

4OA3 Follow-up of Events and Notices of Enforcement Discretion (71153)

Plant Events

a. Inspection Scope

For the plant events listed below, the inspectors reviewed and observed plant parameters, reviewed personnel performance, and evaluated performance of mitigating systems as applicable. The inspectors communicated the plant events to appropriate regional personnel, and compared the event details with criteria contained in Inspection Manual Chapter 0309, "Reactive Inspection Decision Basis for Reactors," for consideration of potential reactive inspection activities. As applicable, the inspectors verified that the licensee made appropriate emergency classification assessments and properly reported the event in accordance with 10 CFR Parts 50.72 and 50.73. The inspectors reviewed the licensee's follow-up actions related to the event to assure that the licensee implemented appropriate corrective actions commensurate with their safety significance.

- Operator response to a leak from a reactor coolant pump instrumentation line on July 6, 2015
- Operator response to a closure of main steam isolation valves while in mode 3 and the resultant lift of one or more main steam safety valves on July 27, 2015
- Operator response to a failed undervoltage relay affecting electrical bus transfer capability on September 17, 2015

These activities constitutes completion of three event follow-up samples, as defined in Inspection Procedure 71153.

b. Findings

No findings were identified.

40A5 Other Activities

.1 Institute of Nuclear Power Operations (INPO) Plant Assessment Report Review

a. Inspection Scope

The inspectors reviewed the report for an INPO special focus visit conducted at Fort Calhoun Station on March 16-20, 2015. The inspectors reviewed the report to ensure that issues identified were consistent with the NRC perspectives of licensee performance and to verify if any significant safety issues were identified that required further NRC follow-up.

b. Findings

No findings were identified.

.2 Failure to Maintain Fire Watch and Fire Watch Logs

a. Inspection Scope

On June 11, 2014, the Office of Investigations initiated an investigation to look at the possible falsification of fire watches and fire watch records. Based on the evidence developed during the Office of Investigations Investigation 4-2014-032, the NRC determined that three individuals deliberately failed to conduct fire watch rounds and falsified fire watch records showing that they had actually completed the required inspection of the fire watch areas. As part of their review, the inspectors reviewed the investigation report, licensee procedures, fire watch records, other licensee records, and associated corrective action documents.

b. Findings

Introduction. Inspectors identified a Green, Severity Level IV, non-cited violation of 10 CFR 50.9(a), "Completeness and Accuracy of Information," for the licensee's failure to maintain required fire watch logs complete and accurate in all material respects. On May 24, 2014, the fire marshal observed a fire watch contractor not performing a required hourly fire watch and upon initiating an investigation, the licensee determined that other contractors did not perform required fire watches and falsified fire watch logs. The licensee entered this into their corrective action program as Condition Reports (CR) 2014-06416 and 2014-06680.

Description. Licensee Procedure OP-MW-201-007, "Fire Protection System Impairment Control," Revision 7, Section 4.6.1, requires, in part, that the individual assigned the fire watch duty shall perform the assigned fire watch and continuously complete Section IV (Attachment 2) and record the actual time and date each time the fire watch inspection is performed. On May 24, 2014, the fire marshal observed one of the fire watch contract personnel at a computer during the time that they should have been performing hourly fire watches. The fire marshal observed that the fire watch logs had been predated and identified that a contractor had failed to perform hourly fire watch inspections and falsified fire watch inspection log records. The individual admitted to not performing the hourly fire watch on May 24, 2014, and falsifying the fire watch log by predating the log during the previous hourly fire watch.

As a result of this observation, the licensee notified the NRC and initiated an investigation to identify the extent of condition. The licensee identified from their investigation, additional instances of incomplete and inaccurate fire watch logs by three additional contract fire watch personnel. Specifically, the actions by the individuals to not perform all of the required fire watches was of a limited extent as compared to the numerous fire watches that were performed over the same period of time. Based on the details provided by both the licensee and the Office of Investigations, it appeared that the reason one of the fire watch locations (Room 66) was missed was because the room was located in the radiologically controlled area, and based on the start time of the fire watch shifts (12 hours) there was not enough time to obtain a radiological work permit and get entry into the area during the first hour of the fire watch shift and complete all of the required fire watch locations within the hour. In another case, an individual deliberately skipped an entire hourly fire watch on three different occasions to apparently utilize that time for personal activities.

Also, the Region IV office initiated an investigation to determine whether contract personnel willfully failed to perform hourly fire watch inspections and willfully falsified fire watch inspection log records to indicate that the fire watches were completed. Based on the evidence, the NRC determined that three contract personnel willfully failed to perform hourly fire watch inspections and then willfully falsified fire watch inspection log records.

The inspectors noted that (1) the apparent violation was licensee-identified; (2) the licensee promptly notified the NRC regarding the violation and the licensee's investigation; (3) the violation involved acts by individuals who were not considered to be licensee officials; (4) the apparent violation was limited acts by the individuals; and (5) the licensee took prompt and comprehensive corrective actions that were commensurate with the circumstances, thereby creating a deterrent effect within the licensee's organization.

The inspectors determined that the primary cause of the failure to perform hourly fire watch inspections and to willfully falsify fire watch inspection log records was that the licensee's process for dispatching fire watch personnel did not allow enough time for the fire watch personnel to obtain their radiation work permit at the start of their shift before they performed their rounds.

Analysis. The failure of the licensee to perform the required fire watches and maintain complete and accurate fire watch logs in all material respects was a performance deficiency. The failure constitutes a violation of 10 CFR 50.9(a), which was evaluated through the traditional enforcement process. The significance determination process, which was used to evaluate this performance deficiency, does not specifically consider a performance deficiency's impact on the regulatory process. This violation is associated with a finding that has been evaluated by the Significance Determination Process and communicated with a Significance Determination Process color reflective of the safety impact of the deficient licensee performance. The Significance Determination Process, however, does not specifically consider willfulness. Thus, although related to a common regulatory concern, it is necessary to address the violation and finding using different processes to correctly reflect both the regulatory importance of the violation and the safety significance of the associated finding.

The performance deficiency was determined to be more than minor and therefore is a finding because it adversely affected the human performance attribute of the Mitigating Systems cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors used Inspection Manual Chapter 0609, Appendix F, Attachment 1, and characterized the finding in the "Fire Prevention and Administrative Controls" category to determine that the finding has very low safety significance (Green) because it did not impact the ability to achieve safe shutdown. The severity level IV finding is based on a similar example in the Enforcement Policy, Section 6.1.d.2, which states, in part, "violations of 10 CFR 50.59 result in conditions evaluated as having very low safety significance (i.e., Green) by the Significance Determination Process." This example applies because this violation of 10 CFR 50.9 is similar to a violation of 10 CFR 50.59 and because this violation also has very low safety significance.

Because licensee's process for dispatching fire watch personnel did not allow enough time for the fire watch personnel to obtain their radiation work permit at the start of their shift before they performed their rounds, this finding has a cross-cutting aspect in the resources component of human performance cross-cutting area because the licensee failed to ensure that processes and procedures are adequate to ensure nuclear safety (H.1).

Enforcement. Title 10 of the Code of Federal Regulations, Section 50.9(a) "Completeness and Accuracy of Information," requires, in part, that information required by statute or by the Commission's regulations, orders, or license conditions to be maintained by the licensee shall be complete and accurate in all material respects.

Technical Specification 5.8.1.c states, in part, that written procedures shall be established, implemented, and maintained covering fire protection program implementation.

Licensee Procedure OP-MW-201-007, "Fire Protection System Impairment Control," Revision 7, Section 4.6.1, requires, in part, that the individual assigned the fire watch duty shall perform the assigned fire watch and continuously complete Section IV (Attachment 2) and record the actual time and date each time the fire watch inspection is performed.

Contrary to the above, from March 1 to May 24, 2014, individuals assigned the fire watch duty failed to perform the assigned fire watch and continuously complete Section IV (Attachment 2) and record the actual time and date each time the fire watch inspection is performed. Specifically, three contract fire watch employees did not perform certain assigned fire watches and falsified fire watch logs by submitting documentation to the licensee that indicated the respective hourly fire watch rounds had been performed. This is material to the NRC because the review of fire watch documents is performed as part of NRC's inspection of the licensee's fire protection program (NRC Inspection Procedure 71111.05AQ, "Fire Protection Annual/Quarterly"). Additionally, because the licensee was not aware of the deliberate actions of three contract employees, the licensee failed to implement Procedure OP-MW-201-007 as required by Technical Specification 5.8.1.c.

The inspectors determined that the falsification of fire watch logs did not result in an actual consequence. Because this finding is of very low safety significance and the licensee (1) entered the issue into its corrective action program as CR 2014-06416

and CR 2014-06680 and took a number of corrective actions including taking disciplinary actions against the individuals; changing the start times of the fire watch rounds; and, providing additional fire watch training; (2) compliance was promptly restored after identification of the issue; and (3) the violation was not repetitive as a result of inadequate corrective action. Additionally, although the violation was willful, (1) the violation was identified by the licensee and reported to appropriate NRC personnel; (2) the violation involved the act of an individual in a low-level position; (3) the violation did not involve a lack of management oversight and was the isolated action of the former employees; and (4) significant remedial action commensurate with the circumstances was taken by the licensee. Therefore, this violation is being treated as a non-cited violation consistent with Section 2.3.2.a of the Enforcement Policy: NCV 05000285/2015003-002, "Failure to Maintain Fire Watch and Fire Watch Logs."

4OA6 Meetings

Exit Meeting Summary

On July 7, 2015, the inspectors discussed the in-office review of the preliminary scenario for the 2015 biennial exercise, submitted June 3, 2015, with Mr. E. Plautz, Manager, Emergency Planning, and other members of the licensee staff. The licensee acknowledged the issues presented.

On August 6, 2015, the inspectors presented the results of the onsite inspection of the biennial emergency preparedness exercise conducted August 4, 2015, to Mr. L. Cortopassi, Site Vice President, 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.

On October 19, 2015, the inspectors presented the inspection results to Mr. L. Cortopassi, 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

D. Bakalar, Manager, Security
R. Beck, Manager, Chemistry, Environmental, and Radwaste
B. Blome, Manager, Regulatory Assurance
C. Cameron, Principle, Regulatory Specialist
L. Cortopassi, Site Vice President
S. Dean, Plant Manager
S. Fatora, Director, Site Work Management
M. Frans, Manager, Design and Licensing Basis Reconstitution
H. Goodman, Director, Site Engineering
R. Hugenroth, Manager, Nuclear Oversight
E. Matzke, Senior Licensing Engineer
T. Parent, Engineering
E. Plautz, Manager, Emergency Planning
S. Swanson, Director, Operations
T. Uehling, Manager, Training

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000285/2015003-001	NCV	Failure to Maintain Safety Injection Tank Boron Concentration within Technical Specification Limits (Section 1R15)
05000285/2015003-002	NCV	Failure to Maintain Fire Watch and Fire Watch Logs (Section 4OA5)

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
AOP-31	161 KV Grid Malfunctions	14
NM 8.06	Nuclear Plant Interface Coordination	3
NOD-QP-36	Grid Operations and Control of Switchyard at FCS	24
OI-EW-1	Extreme Weather	33
WC-AA-107	Seasonal Readiness	15

Condition Reports (CRs)

2015-10488

Miscellaneous Documents

<u>Number</u>	<u>Title</u>	<u>Date</u>
	Site Certification Letter for Summer Readiness	May 5, 2015

Work Orders

535819

Section 1R04: Equipment Alignment

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
OI-AFW-1	Auxiliary Feedwater Actuation System- Normal Operation	85
OI-ES-2	ESF Controls-Shutdown Operations	13
OI-RC-2A	RCS Fill and Drain Operations	90
OI-SC-2	Shutdown Cooling Operation and Termination	31
SO-O-21	Shutdown Operations Protection Plan	54

Miscellaneous Documents

<u>Number</u>	<u>Title</u>	<u>Revision</u>
10479	Safety Injection and Containment Spray System Drawing	
USAR 6.1	Engineered Safeguards	9
USAR 7.3	Engineered Safeguards Controls	
USAR 9.4	Auxiliary Systems-Auxiliary Feedwater System	21
System Training Manual Vol. 4	Auxiliary Feedwater	51

Drawings

<u>Number</u>	<u>Title</u>	<u>Revision</u>
11405-M-253	Composite Flow Diagram Steam Generator, Feedwater, and Blowdown	53

Drawings

<u>Number</u>	<u>Title</u>	<u>Revision</u>
11405-M-253, Sh.4	Flow Diagram Steam Generator, Feedwater, and Blowdown	42

Condition Reports (CRs)

2014-0731	2015-0510	2015-0708	2015-0720	2015-01028
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Section 1R05: Fire Protection

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
AOP-06-02	Fire Emergency Uncontrolled Areas of Auxiliary Building	6
AOP-06-03	Fire Emergency Miscellaneous Areas	4
SO-G-28	Station Fire Plan	89

Condition Reports (CRs)

2015-9758

Miscellaneous Documents

<u>Number</u>	<u>Title</u>	<u>Revision</u>
	Fire Hazards Analysis	18
Evaluation R2008-004-004	Attachment 3, Emergency Lighting Assessment	2
USAR 9.11	Fire Protection System	25
Surveillance GM- ST-FP-0006	Fire Damper Eighteen Month Inspection	6

Section 1R06: Flood Protection Measures

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
FC06245	Flooding Consequences of Raw Water Direct Cooling to Shutdown Cooling Heat Exchangers	1

Condition Reports (CRs)

2005-03271	2005-03272	2006-01738	2008-0128	2008-3492
2010-0082	2010-6509	2013-14943	2014-02198	2015-08471
2015-08474	2015-09885	2015-09886	2015-09888	

Drawings

<u>Number</u>	<u>Title</u>	<u>Revision</u>
11405-M-025	Auxiliary Building Embedded Piping Plan	15

Miscellaneous

<u>Number</u>	<u>Title</u>	<u>Revision</u>
EA 92-057	Fort Calhoun Station Unit 1 Internal Flood Analysis Report	1
EA 08-010	Engineering Analysis: Document FCS Design/Licensing Requirements Relative to Internal Flooding	0

Section 1R11: Licensed Operator Requalification Program and Licensed Operator Performance

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
AOP-19	Loss of Shutdown Cooling	18
AOP-22	Reactor Coolant Leak	35
AOP-32	Loss of 4160V Bus Power	21
AOP-35	Reactor Coolant Pump Malfunctions	7
EM-ST-ESF-0001	Quarterly Engineered Safety Features Offsite Power Low Signal Sensor Check	12
EPIP-OSC-1	Emergency Classification	48a
OI-SC-3	Alternate Shutdown Cooling Using Containment Spray Pumps	29
SO-O-21	Shutdown Operations Protection Plan	55
TQ-AA-155-F09	Temporary Simulator Configuration Control	0

Condition Reports (CRs)

2015-8372 2015-8589 2015-9122 2015-09308 2015-10360
 2015-10996

Miscellaneous Documents

<u>Number</u>	<u>Title</u>	<u>Revision Date</u>
218521	Instrumentation for 28X28X34 DFSS RCP	6
11405-E-3	4.16 kV Aux Power One Line Diagram P&ID	30
D-23866-210-111	Sh. 3, Reactor Coolant Pump RC-3C P&ID	24
TS 2.1.4	Reactor Coolant System Leakage Limits	246
FCS-1-2015-762	Risk Assessment for Leak Downstream of RC-306	0
	Operating Logs	July 6, 2015
82112d	Simulator Scenario Guide-Loss of Shutdown Cooling	4
	Emergency Action Level Criteria	
84202g	Simulator Evaluation Guide	July 6, 2015
	Simulator Fidelity List for Cycle 2015-03	
8.1-1	Simplified One Line Diagram Plant Electrical System	147

Section 1R12: Maintenance Effectiveness

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
ER-AA-310	Implementation of the Maintenance Rule	9
ER-AA-310-1001	Maintenance Rule-Scoping	4
ER-AA-310-1002	Maintenance Rule Functions-Safety Significance Classification	3
ER-AA-310-1003	Maintenance Rule-Performance Criteria Selection	4
ER-AA-310-1004	Maintenance Rule-Performance Monitoring	13
ER-AA-310-1005	Maintenance Rule-Dispositioning Between (a)(1) and (a)(2)	7
ER-AA-310-1006	Maintenance Rule-Expert Panel Roles and Responsibilities	5

Condition Reports (CRs)

2013-19563 2014-01832 2014-03201 2014-03977 2014-04351
 2014-04620 2014-04797 2014-09730 2014-14588 2015-07328

2015-09250 2015-10513 2015-17330

Miscellaneous

<u>Number</u>	<u>Title</u>	<u>Revision</u> <u>Date</u>
RG 1.160	Monitoring the Effectiveness of Maintenance at Nuclear Power Plants Fort Calhoun Maintenance Rule: Scoping Data Sheet Fort Calhoun Maintenance Rule Database	3 August 14, 2014
NUMARC 93-01	Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants A1 Determination Evaluation for RC-141 Maintenance Rule Expert Panel Agenda	2 September 8, 2015 September 8, 2015
TD C711.0020	Installation, Operating and Maintenance Instruction I-1105-2 for Crosby Style Safety-Relief Valves	0

Section 1R13: Maintenance Risk Assessments and Emergent Work Control

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
ER-AA-600	Risk Management	7
ER-AA-600-1011	Risk Management Administrative Guidance	14
ER-AA-600-1042	On-line Risk Management	9
FCSG-19	Performing Risk Assessments	17
OP-ST-ESF-0010	Channel "A" Safety Injection, Containment Spray and Recirculation Actuation Signal Test Fort Calhoun Nuclear Station 2015 RC-3A Forced Outage	59a 0
OU-AA-103	Shutdown Safety Management	15
SO-G-96	Planned LCO Entry Criteria and Equipment Reliability Control	15
SO-G-123	Protected Equipment Program	8
SO-O-21	Shutdown Operations Protection Plan	54
SO-G-92	Conduct of Infrequently Performed Procedures	17

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<u>Number</u>	<u>Title</u>	<u>Revision</u>
WC-AA-101	On-Line Work Control Process	23
WC-AA-104	Integrated Risk Management	21

Condition Reports (CRs)

2014-12812 2015-10502 2015-11233

Miscellaneous Documents

<u>Number</u>	<u>Title</u>	<u>Revision/Date</u>
	Equipment Out of Service Quantitative Risk Assessment Tool	
	Work schedule of Week commencing	July 6, 2015
RG 1.160	Monitoring the Effectiveness of Maintenance at Nuclear Power Plants	39
NUMARC 93-01	Evaluation of Systems to be Removed from Service	2
	Operating Logs 5	July 8, 2015
	Use of EOOS software	40

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538395

Section 1R15: Operability Determinations and Functionality Assessments

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
AOP-35	Reactor Coolant Pump Malfunctions	7
OI-RC-9	Reactor Coolant Pump Operation	77
OP-FC-108-115	Operability Determinations	2

Condition Reports (CRs)

2015-8671	2015-8763	2015-8766	2015-8774	2015-8925
2015-09405	2015-09313	2015-09319	2015-009943	2015-09984
2015-10111	2015-10136	2015-8252	2015-09314	2015-09329

Miscellaneous Documents

<u>Number</u>	<u>Title</u>	<u>Revision/Date</u> <u>Date</u>
FCS-1-2015-0762	Operational Decision Making Assessment for RCS Leak	0
EC 66856	Engineering Technical Evaluation, RC-3A High Vibration on Pump Half Coupling	
NFPA 805	Fire Protection for Light Water Reactor Electric Generating Plants	2015
TS 2.1.4	Reactor Coolant System Leakage Limits	246
TS 2.3	Emergency Core Cooling System	17
TS 3.2	Equipment and Sampling Surveillance Requirements	257
USAR 4.2	Reactor Coolant System Design Basis	13
USAR 8.4	Emergency Power Sources	16
	Reactor Coolant Pump Operating Logs	July 11-16, 2015
	Adverse Condition Monitoring Plan for RC-3A Seal	July 8, 2015
	Reactor Operations Logs	July 20-August 8, 2015
	Chemistry Logs related to SIT Boron Analysis	June 25-August 20, 2015
	Adverse Condition Monitoring and Contingency Plan for High RC-3A Shaft Displacement Vibration Levels	
	Control Room Log Entries for RCP-3AACMP	May 29-August 11, 2015

Section 1R18: Plant Modifications

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
LS-AA-104	Exelon 50.59 Review Process	9
OI-QSP-1	QSPDS Operating Instruction	8

Condition Reports (CRs)

2013-19563	2014-01832	2014-03201	2014-03977	2014-04351
2014-04620	2014-04797	2014-14588	2015-09730	2015-9785
2015-9730	2015-9839	2015-9957	2015-9996	2015-10009
2015-10513	2015-9956			

Miscellaneous Documents

<u>Number</u>	<u>Title</u>	<u>Revision Date</u>
0000067053	Engineering Change: Temporary Cap Refrigerant Line for VA-46A	9/1/15
EC 66962	Temporary Change to Remove Negative Voltage Rail Jumper in QSPDS	9/17/15
FC06311	Control Room Heat Gain without Air Conditioner VA-46A or B	5/7/15
SDBD-VA-CR-140	Control Room Habitability	25a
TS 2.21	Post-Accident Monitoring Instrumentation	110
USAR 7.5	Instrumentation Systems	27
	USAR	30
	Fort Calhoun Technical Specifications	257

Section 1R19: Post-Maintenance Testing

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
EM-FT-EX-1045	Fast Transfer Functional Test	1a
IC-ST-QSP-0002	Channel Calibration of QSPDS Channel "A"	12

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
MM-PM-AFW-0003	Speed Increaser FW-55 and Coupling Replacement	9
MM-PM-AFW-0006	Speed Increaser FW-55 Bearing Replacement	2
OP-PM-AFW-0004	Third Auxiliary Feedwater Pump Operability Verification	39
OP-ST-CCW-3022	AC-3C Component Cooling Water Pump Inservice Test	
OP-ST-CH-3003B	CVCS Pump/Check Valve Inservice Test for B Train	
HU-AA-104-101	Procedure Use and Adherence	5
MA-AA-716-012	Post Maintenance Testing	20
OP-ST-VX-3017A	Raw Water System Remote Positioner Indicator Verification Surveillance Test	5
OP-ST-RW-3002A	Raw Water System Category A and B Valve Exercise Test	19

Condition Reports (CRs)

2015-7806	2015-9839	2015-9957	2015-09980	2015-04191
2015-08381	2015-10288	2015-10633		

Work Orders (WOs)

555941	556494	535150	525703	541409
506899	506895	539937	542426	544989
539937	546866	555307	522656	539041
516404				

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E-4049	Sheet 2, Control Room Air Conditioning VA-46A and B Controls	20

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<u>Number</u>	<u>Title</u>	<u>Revision</u>
11405-M-97	Sheet 1, Misc. Heating, Ventilating and Air Conditioning Flow Diagram	66
CP 37-13-72	Butterfly Valve 12" 37,000 series Model 33 Actuator with Handwheel Position 1	
11405-M-100	Raw Water Flow Diagram	105
EM-2883, Sheet 1	Instrument and Control Equipment List	6
037002-920	Butterfly Valve 37,000 Series, 150-300 LB ANSI, 125-200 LB ANSI	

Miscellaneous Documents

<u>Number</u>	<u>Title</u>	<u>Revision</u>
525703-01	FW-55: Bearing Replacement per MM-PM-AFW-0006	
541409-01	FW-54, FW-55, FW-56 Sample Oil for Analysis	
506899-01	FW-56 Replace Rear Shaft Seal	
EC 64942	Install Drip Rings on Charging Pump CH-1A, CH-1B, and CH-1C Plungers	12
USAR 9.10.2.4	Control Room Air Conditioning System	37

Section 1R20: Refueling and Other Outage Activities

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
HU-AA-1211	Pre job Briefings	10
OP-3A	Plant Shutdown	86
OJ-RC-4A	Pressurizer Cooldown and Venting	27
OI-SC-5	Shutdown Cooling Purification	32
OI-RPS-1	Reactor Protection System	12
OI-CH-3	Chemical and Volume Control System Normal Operations of Volume Control Tank	34
OP-1	Master Checklist for Plant Start-up	118
OP-2A	Plant Start-up	124

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<u>Number</u>	<u>Title</u>	<u>Revision</u>
OI-RC-9	Reactor Coolant Pump Operation	77
OI-FW-5	Steam Generator Blowdown Normal Operation	35
OI-AFW-4	Auxiliary Feedwater Startup and System Operations	
AOP-35	Reactor Coolant Pump Malfunctions	7
AOP-6	Attachment O, Acrid Odor	29
ARP-CB-1,2,3/A6	Annunciator Response Procedure A6 Control Room Annunciator A6	48
OI-RC-13	Operation of RCP Vibrations Monitoring System	8
AOP-40	Overcooling/Excessive Steam Demand	2
OI-RC-2A	RCS Fill and Drain Operations	90
OU-AA-103	Shutdown Safety Management Program	15
SO-G-92	Conduct of Infrequently Performed Procedures	17
SO-O-21	Shutdown Operations Protection Plan	54
OP-ST-RC-0008	Table 1, RCS Heatup/Cooldown Rate Information Sheet	3

Condition Reports (CRs)

2015-09211	2015-09279	2015-09200	2015-09182	2015-09185
2015-09357	2015-09319	2015-09308	2015-09325	2015-09303
2015-09313	2015-09356	2015-09278	2015-09294	2015-09319
2015-09316	2015-09321	2015-09314	2015-09322	2015-09317
2015-09283				

Miscellaneous Documents

<u>Number</u>	<u>Title</u>	<u>Revision Date</u>
TDB III.42	Requirements for ECCS and Containment Cooling Equipment Operation in Mode 3, Transition Between Modes 3 and 4 and Mode 4 and 5	4
	Outage Control Center Turnover Sheets	
	Forced Outage Schedules	
	Reactor Plant Event Notification Worksheet	7/27/15
	Plant Oversight Review Committee Meeting Minutes	7/28/15

EC-66816	50-59 Applicability Review Form for RCS Vacuum Fill	
RC-3A	Forced Outage Safety	0

Section 1R22: Surveillance Testing

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
IC-ST-RPS-0042	Quarterly Functional Test of RPS Trip Logic	9
OP-PM-AFW-0004	Third Auxiliary Feedwater Pump Operability Verification	39
OP-ST-AAW-0004	Auxiliary Feedwater Pump FW-10 Operability Test	32
OP-ST-RC-3001	Reactor Coolant System Leak Rate Test	7
OP-ST-RW-3011	AC-10B Raw Water Pump Quarterly Inservice Test	40

Condition Reports (CRs)

2015-04191	2015-09980	2015-08381	2015-10164	2015-10474
2015-10827				

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Miscellaneous Documents

<u>Number</u>	<u>Title</u>	<u>Revision</u>
TDB-III.32	AC-10B Pump Curve	
TS 2.4	Containment Cooling	
TS 3.1	Surveillance Requirements	182
TS 3.3	RCS Testing Surveillances	230
USAR 4.5.6.5	Inservice Inspection of ASME Code Class 1, Class 2, and Class 3 Components	
USAR 9.8	Raw Water System	

Section 1EP6: Drill Evaluation

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
AOP-9	High Radioactivity	11
AOP-10	Loss of Circulating Water	4
AOP-18	Loss of Raw Water	8b
EOP-00	Standard Post Trip Actions	31
EOP-03	Loss of Coolant Accident	37a
EOP-04	Steam Generator Tube Rupture	28
EOP-20	Functional Recovery Procedure	28
EPIP-EOP-7	Protective Actions Guidelines	26
EPIP-OSC-1	Emergency Classification	48a
OI-EE-1	Normal Operation of 4160V System	31

Condition Reports (CRs)

2015-11212 2015-11214 2015-11215 2015-11216 2015-11263

Miscellaneous Documents

<u>Number</u>	<u>Title</u>	<u>Revision Date</u>
	Simulator Evaluation Guide: 84202g,Cycle 2015-03 As Found Evaluation	7/815
	Fort Calhoun Station Drill Guide	9/22/15

Section 1EP7: Exercise Evaluation – Hostile Action Based (71114.07)

Procedures and Documents

<u>Number</u>	<u>Title</u>	<u>Revision Date</u>
	Fort Calhoun Station Radiological Emergency Response Plan (revision by section)	
AOP-18	Loss of Raw Water	8B
AOP-31	161 kV Grid Malfunction	64
AOP-37	Security Event	13
EOP-00	Standard Post-Trip Actions	33
EOP-01	Reactor Trip Recovery	16

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<u>Number</u>	<u>Title</u>	<u>Revision</u> <u>Date</u>
EOP-02	Loss of Offsite Power/Forced Circulation	21
EPIP-EOF-7	Protective Action Guides	27
EPIP-OSC-1	Emergency Classification	48, 48B
EPIP-OSC-2	Command Control Position Actions/Notification, April 30, 2015	
EPIP-OSC-7	Emergency Response Organization Activation at the Emergency Operations Facility	5/12/15
EPIP-OSC-15	Communicator Actions	10/17/14
EPIP-OSC-21	Activation of the Operations Support Center	5/5/11
EPIP-TSC-1	Activation of the Technical Support Center	3/18/14
EP-FC-112-700	Alternative Facility Operation	
FC-EPF-50	Habitability	
OI-CC-1	Component Cooling Water	84
	Fort Calhoun Unit 1 Operational Logs	7/21-28/15
	2015 Operator Requalification Training Schedule	0
	2015 Licensed Operator Requalification Simulator Schedule	0
RQCT-1423	Emergency Plan High Intensity Training	
4-60-1	Prevention of HELB Concerns in the Auxiliary Steam Line Break in Room 60 and Room 81	

Condition Reports (CRs)

2013-10372	2013-12408	2013-12766	2013-12767	2013-13232
2013-13272	2013-15893	2013-17083	2013-22217	2013-23000
2013-23219	2013-23222	2014-00029	2014-02824	2014-02499
2014-02573	2014-02608	2014-03621	2014-05961	2014-09027
2014-09243	2014-09248	2014-09249	2014-10543	2014-10545
2014-12247	2015-08389	2015-08390	2015-09685	2015-06939
2015-09602	2015-09635	2015-09636	2015-09684	2015-09865

Section 40A1: Performance Indicator Verification (71151)

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
EP-FC-121-AD-F-03	Alert Notification System Silent Text	0
EP-FC-121-AD-F-04	Alert Notification System Growl Text	1

Miscellaneous

<u>Number</u>	<u>Title</u>	<u>Revision</u> <u>Date</u>
NEI 99-02	Regulatory Assessment Performance Indicator Guideline	7
EC 49620	Fort Calhoun MSPI Basis Document	0
	High Pressure Injection (HPSI) MSPI Monthly Margin Reports	7/14-7/15
	Heat Removal (AFW) MSPI Monthly Margin Reports	7/14-7/15

Section 40A2: Problem Identification and Resolution

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
OP-ST-AFW-3006	Auxiliary Feedwater System Category A and B Valve Exercise Test	29
EM-RR-VX-0404A	Static and Dynamic Testing of Motor Operated Gate and Globe Valves	13
SE-EQT-FW-0015	Test Preparation for HCV-1384 per Generic Letter 89-10	10

Condition Reports (CRs)

2012-00578	2012-06894	2012-06895	2012-07228	2012-08298
2012-08613	2012-09031	2012-09032	2012-09034	2012-09037
2012-09038	2012-09040	2012-20639	2012-20641	2013-00994
2013-11433	2013-12525	2014-02197	2014-08888	2014-10894
2014-11370	2014-12115	2015-07292	2015-08633	2015-02925
2015-08633				

Miscellaneous Documents

<u>Number</u>	<u>Title</u>	<u>Revision</u>
EC 63785	EOP/AOP Attachments – Heat Removal	1
File 38402	Equipment Qualification Data Form – HCV-1384-O	
SDBD-FW-AFW-117	Auxiliary Feedwater	45
SDBD-DG-112	Emergency Diesel Generators Design Basis	31
STM-EDG Volume 16	Emergency Diesel Generator System	34
USAR Appendix N	Reclassification of Systems	9
USAR – 8.4	Electric Systems – Emergency Power Sources	12

Drawings

<u>Number</u>	<u>Title</u>	<u>Revision</u>
D-4147, Sht 1	Auxiliary Building & Containment Elevation 1036' Portable Fire Extinguisher Locations	8
D-4147, Sht 2	Auxiliary Building & Containment Elevation 1023' – 0" Portable Fire Extinguisher Locations	6
D-4147, Sht 3	Auxiliary Building & Containment Elevation 1007' – 0" Portable Fire Extinguisher Locations	11
D-4147, Sht 4	Auxiliary Building & Containment Elevation 989' 0 Portable Fire Extinguisher Locations	5
E-4049	Sheet 2, Control Room Air Conditioning VA-46A and B Controls	20
11405-M-97	Sheet 1, Misc. Heating, Ventilating and Air Conditioning Flow Diagram	66

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474849-01 508999-01 554738-01

Section 40A3: Follow-up of Events and Notices of Enforcement Discretion

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
AOP-22	Reactor Coolant Leak	35
AOP-35	Reactor Coolant Pump Malfunctions	7
EM-ST-ESF-0001	Quarterly Engineered Safety Features Offsite Power Low Signal Sensor Check	12
OP-AA-101-113-1004	Attachment 2, Human Performance Issue Verbal Report	29
CC-AA-5001	Attachment 2, System/Component Walkdown Checklist	4

Condition Reports (CRs)

2015-8372 2015-8589 2015-09294 2015-09322 2015-09339
2015-029308

Miscellaneous Documents

<u>Number</u>	<u>Title</u>	<u>Revision</u> <u>Date</u>
11405-E-3	4.16 kV Aux Power One Line Diagram P&ID	30
218521	Instrumentation for 28X28X34 DFSS RCP	6
8.1-1	Simplified One Line Diagram Plant Electrical System	147
D-23866-210-111, Sh. 3	Reactor Coolant Pump RC-3C P&ID	24
TS 2.1.4	Reactor Coolant System Leakage Limits	246
FCS-1-2015-762	Risk Assessment for Leak Downstream of RC-306	0
	Operating Logs	7/6/15
	Emergency Action Level Chart	
	Engineering Assessment of Main Steam Transient	