



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
1600 EAST LAMAR BLVD
ARLINGTON, TEXAS 76011-4511

November 7, 2013

Mr. Adam C. Heflin, Senior Vice
President and Chief Nuclear Officer
Union Electric Company
P.O. Box 620
Fulton, MO 65251

SUBJECT: CALLAWAY PLANT – NRC INTEGRATED INSPECTION
REPORT 05000483/2013004

Dear Mr. Heflin:

On September 27, 2013, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Callaway Plant. On October 10, 2013, the NRC inspectors discussed the results of this inspection with Mr. B. Cox, Senior Director Nuclear Operations, and other members of your staff. Inspectors documented the results of this inspection in the enclosed inspection report.

NRC inspectors documented one finding of very low safety significance (Green) in this report. Further, inspectors documented licensee-identified violations which were determined to be of very low safety significance. The NRC is treating these violations as a non-cited violation consistent with Section 2.3.2.a of the Enforcement Policy.

If you contest the violations or significance of these non-cited violations, 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 Callaway Plant.

If you disagree with a cross-cutting aspect assignment or a finding not associated with a regulatory requirement 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 Callaway Plant.

In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 2.390, "Public Inspections, Exemptions, Requests for Withholding," of the NRC's "Rules of Practice," 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 Agencywide Documents Access and Management System (ADAMS).

A. Heflin

- 2 -

ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

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

Docket Number: 50-483
License Number: NPF-30

Enclosure: Inspection Report 05000483/2013004
w/ Attachment: Supplemental Information

cc w/ encl: Electronic Distribution

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SRI:DRP/B	RI:DRP/B	RI:DRP/B	C:DRS/EB1	C:DRS/EB2	C:DRS/OB
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U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket: 05000483

License: NPF-30

Report: 05000483/2013004

Licensee: Union Electric Company

Facility: Callaway Plant

Location: Junction Highway CC and Highway O
Steedman, MO

Dates: July 1 through September 27, 2013

Inspectors: T. Hartman, Senior Resident Inspector
Z. Hollcraft, Resident Inspector
P. Smagacz, Acting Resident Inspector
K. Clayton, Senior Operations Engineer
P. Elkmann, Senior Emergency Preparedness Inspector
T. Farina, Operations Engineer
G. Guerra, CHP, Emergency Preparedness Inspector
C. Henderson, Resident Inspector
R. Kumana, Resident Inspector
E. Schrader, Emergency Preparedness Specialist, NSIR
C. Steely, Operations Engineer

Approved By: N. O'Keefe, Chief, Project Branch B
Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000483/2013004; 07/01/2013 - 09/27/2013; Callaway Plant, Integrated Resident and Regional Report; Licensed Operator Requalification Program and Licensed Operator Performance

The report covered a 3-month period of inspection by resident inspectors and announced baseline inspections by region-based inspectors. One Green non-cited violation of significance was identified. The significance of most findings is indicated by their color (Green, White, Yellow, or Red) using Inspection Manual Chapter 0609, "Significance Determination Process." The cross-cutting aspect is determined using Inspection Manual Chapter 0310, "Components Within the Cross-Cutting Areas." Findings for which the significance determination process does not apply may be Green or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated December 2006.

A. NRC-Identified Findings and Self-Revealing Findings

Cornerstone: Mitigating Systems

- Green. The inspectors identified a non-cited violation of 10 CFR 55.59, "Requalification," for failure to administer a comprehensive annual requalification operating test to one crew. After a quality review by NRC inspectors, it was determined that the job performance measure set administered in Week 2 of the testing cycle did not contain at least 40 percent alternate path job performance measures, as required by Procedure CTM-OPS, "Callaway Training Manual: Operations Programs," Section 6.5.3.g.1.c. One of the job performance measures which the licensee had credited as an alternate path did not meet the criteria to be considered an alternate path, thereby leaving only one actual alternate path job performance measure in the set (20 percent). As an immediate corrective action, the licensee replaced one of the job performance measures from the Week 2 set with a new alternate path job performance measure which was administered to the affected operators, thereby ensuring that the 40 percent requirement was met prior to the completion of the 2-year requalification cycle. This issue was entered into the licensee's corrective action program as Callaway Action Request 201306740.

Failure to administer a comprehensive annual operating test containing at least 40 percent alternate path job performance measures to one crew is a performance deficiency. This performance deficiency is more than minor, and therefore a finding, because it adversely impacted 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. Additionally, if left uncorrected, the finding could have become more significant in that allowing licensed operators to return to the control room without a valid demonstration of appropriate knowledge on the annual operating test could be a precursor to a more significant event if latent

knowledge deficiencies went unidentified. Using NRC Manual Chapter 0609, "Significance Determination Process," Phase 1 worksheets, and the corresponding Appendix I, "Licensed Operator Requalification Significance Determination Process," the finding was determined to have very low safety significance (Green) because, while it was related to annual operating test quality, less than 40 percent of the reviewed job performance measures and simulator scenarios were flawed (Manual Chapter 0609, Appendix I, Flowchart, Blocks 6, 7, and 8). This finding has a cross-cutting aspect in the area of resources associated with ensuring that work packages (in this case exam packages) are complete, accurate, and up-to-date such that industry standards for exam quality are met [H.2(c)]. (Section 1R11).

B. Licensee-Identified Violations

Violations of very low safety significance were identified by the licensee and have been reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program. These violations and associated corrective action tracking numbers are listed in Section 4OA7 of this report.

PLANT STATUS

Callaway began the inspection period at 100 percent power. On July 26, 2013, the plant tripped automatically due to an electrical fault experienced on the output of the main generator. Callaway remained shut down until August 16, 2013, when the reactor was restarted. The plant returned to 100 percent power on August 22, 2013. Callaway operated at full power for the remainder of the inspection period.

REPORT DETAILS

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R04 Equipment Alignment (71111.04)

Partial Walkdown

a. Inspection Scope

The inspectors performed partial system walkdowns of the following risk-significant systems:

- July 24, 2013, train A safety injection during train B inservice testing surveillance
- August 27, 2013, train A control room air conditioning system while train B was out of service for maintenance
- September 26, 2013, centrifugal charging pump A while train B was out of service for maintenance

The inspectors selected these systems based on their risk significance relative to the reactor safety cornerstones at the time they were inspected, while considering out of service time, inoperable or degraded conditions, recent system outages, and maintenance, modification, and testing. The inspectors attempted to identify any discrepancies that could affect the function of the system, and, therefore, potentially increase risk. The inspectors reviewed applicable operating procedures, system diagrams, Final Safety Analysis Report, technical specification requirements, administrative technical specifications, outstanding work orders, condition reports, and the impact of ongoing work activities on redundant trains of equipment in order to identify conditions that could have rendered the systems incapable of performing their intended functions. The inspectors also inspected accessible portions of the systems to verify system components and support equipment were aligned correctly and operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no obvious deficiencies. The inspectors also verified that the licensee had properly identified and resolved equipment alignment problems that could cause initiating events or impact the capability of mitigating systems or barriers and entered them into the corrective action program with

the appropriate significance characterization. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of three partial system walkdown samples as defined in Inspection Procedure 71111.04-05.

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05)

Quarterly Fire Inspection Tours

a. Inspection Scope

The inspectors conducted fire protection walkdowns that were focused on availability, accessibility, and the condition of firefighting equipment in the following risk-significant plant areas:

- July 16, 2013, train A class 1E switchgear room and north electrical cable chase, fire areas C-9 and C-12
- August 7, 2013, train A and B boric acid tank rooms and boric acid batching tank room, fire area A-3
- September 10, 2013, train B pipe penetration room, fire area A-25
- September 11, 2013, auxiliary building 1974' level, fire area A-1G

The inspectors reviewed areas to assess if licensee personnel had implemented a fire protection program that adequately controlled combustibles and ignition sources within the plant; effectively maintained fire detection and suppression capability; maintained passive fire protection features in good material condition; and had implemented adequate compensatory measures for out of service, degraded or inoperable fire protection equipment, systems, or features, in accordance with the licensee's fire plan. The inspectors selected fire areas based on their overall contribution to internal fire risk as documented in the plant's Individual Plant Examination of External Events with later additional insights, their potential to affect equipment that could initiate or mitigate a plant transient, or their impact on the plant's ability to respond to a security event. Using the documents listed in the attachment, the inspectors verified that fire hoses and extinguishers were in their designated locations and available for immediate use; that fire detectors and sprinklers were unobstructed; that transient material loading was within the analyzed limits; and fire doors, dampers, and penetration seals appeared to be in satisfactory condition and verified that adequate compensatory measures were put in place by the licensee for out of service, degraded, or inoperable fire protection equipment systems or features. The inspectors also verified that minor issues identified

during the inspection were entered into the licensee's corrective action program. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of four quarterly fire-protection inspection samples, as defined in Inspection Procedure 71111.05-05.

b. Findings

No findings were identified.

1R07 Heat Sink Performance (71111.07)

a. Inspection Scope

The inspectors reviewed licensee programs, verified performance against industry standards, and reviewed critical operating parameters and maintenance records for SGL11A, component cooling water train A room cooler, Job 10515845. The inspectors verified that performance tests were satisfactorily conducted for heat exchangers/heat sinks and reviewed for problems or errors; the licensee utilized the periodic maintenance method outlined in EPRI Report NP 7552, "Heat Exchanger Performance Monitoring Guidelines;" the licensee properly utilized biofouling controls; the licensee's heat exchanger inspections adequately assessed the state of cleanliness of their tubes; and the heat exchanger was correctly categorized under 10 CFR 50.65, "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants." Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of one annual heat sink inspection sample, as defined in Inspection Procedure 71111.07-05.

b. Findings

No findings were identified.

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

.1 Quarterly Review of Licensed Operator Requalification Program

a. Inspection Scope

On August 14, 2013, the inspectors observed a crew of licensed operators in the plant's simulator during requalification testing. The inspectors assessed the following areas:

- Licensed operator performance
- The ability of the licensee to administer the evaluations
- The modeling and performance of the control room simulator

- The quality of post-scenario critiques
- Follow-up actions taken by the licensee for identified discrepancies

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

b. Findings

No findings were identified.

.2 Quarterly Observation of Licensed Operator Performance

a. Inspection Scope

On the dates listed below, 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 risk due to the evolutions listed below. The inspectors observed the operators' performance of the following activities:

- July 3, 2013, removing pressurizer pressure transmitter BBPT0457 from service for replacement
- August 16, 2013, reactor startup after unplanned outage

The inspectors assessed the operators' adherence to plant procedures, including Procedure ODP-ZZ-00001, "Operations Department – Code of Conduct," and other operations department policies. Specific documents reviewed during this inspection are listed in the attachment.

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

b. Findings

No findings were identified.

.3 Biennial Inspection

The licensed operator requalification program involves two training cycles that are conducted over a 2-year period. In the first cycle, the annual cycle, the operators are administered an operating test consisting of job performance measures and simulator scenarios. In the second part of the training cycle, the biennial cycle, operators are administered an operating test and a comprehensive written examination.

a. Inspection Scope

To assess the performance effectiveness of the licensed operator requalification program, the inspectors interviewed training staff, reviewed both the operating tests and written examinations, and observed ongoing operating test activities.

The inspectors reviewed operator performance on the written exams and operating tests. These reviews included observations of portions of the operating tests by the inspectors, as well as observing exam security measures. The operating tests observed included five job performance measures and two scenarios that were used in the current biennial requalification cycle, administered to multiple operators. These observations allowed the inspectors to assess the licensee's effectiveness in conducting the operating test to ensure operator mastery of the training program content. The inspectors also reviewed medical records for approximately 10 percent of the licensed operators for conformance to license conditions and the licensee's system for tracking qualifications and records of license reactivation.

The results of these examinations were reviewed to determine the effectiveness of the licensee's appraisal of operator performance and to determine if feedback of performance analyses into the requalification training program was being accomplished. The inspectors interviewed licensed operators and training staff and reviewed corrective actions related to operator errors to assess the responsiveness of the licensed operator requalification program to incorporate the lessons learned from both plant and industry events. Examination results were also assessed to determine if they were consistent with the guidance contained in NUREG 1021, "Operator Licensing Examination Standards for Power Reactors," Revision 9, Supplement 1, and NRC Manual Chapter 0609, Appendix I, "Operator Requalification Human Performance Significance Determination Process."

In addition to the above, the inspectors reviewed examination security measures, simulator fidelity, existing logs of simulator deficiencies, and problem identification and resolution records related to training. The inspectors conducted a detailed review for quality of five full weeks of operating tests and two full written exams.

On August 30, 2013, the licensee informed the lead inspector of the results of the written examinations and operating tests for the Licensed Operator Requalification Program. The inspectors compared these results to the Appendix I, "Licensed Operator Requalification Significance Determination Process," values and determined that there were no findings based on these results and because the individuals that failed the applicable portions of their exams and/or operating tests were remediated, retested, and passed their retake exams prior to returning to shift.

The inspectors completed one inspection sample of the biennial licensed operator requalification program as defined in 71111.11.

b. Findings

Failure to Administer a Comprehensive Requalification Operating Test

Introduction. The inspectors identified a Green non-cited violation (NCV) of 10 CFR 55.59, "Requalification," for the failure to administer a comprehensive annual requalification operating test to one crew. After a quality review by NRC inspectors it was determined that the job performance measures set administered in Week 2 of the testing cycle did not contain at least 40 percent alternate path job performance measures, as required by Procedure CTM-OPS, "Callaway Training Manual: Operations Programs," Section 6.5.3.g.1.c.

Description. On August 29, 2013, while performing a biennial requalification inspection in accordance with Inspection Procedure 71111.11, "Licensed Operator Requalification Program," the inspectors discovered that the job performance measures set administered to licensed operators during the week of July 29, 2013, did not contain at least 40 percent alternate path job performance measures as required by Procedure CTM-OPS, "Callaway Training Manual: Operations Programs," Revision 42, Section 6.5.3.g.1.c. This set consisted of five job performance measures; two of the job performance measures in this set were labeled as alternate path, which, if accurate, would have satisfied the 40 percent requirement. However, when NRC inspectors evaluated this set for quality, it was determined that one of the credited alternate path job performance measures did not meet the criteria to be considered alternate path, thereby leaving only one in the set (20 percent). Specifically, the cue sheet of this job performance measure (URO-AE005P045J(A)) directed the operator to "locally close Containment Isolation Phase B (CISB) valve(s) outside containment, as necessary, per Step 22 Response Not Obtained (RNO) B," of ECA-0.0, "Loss of All AC Power," following a station blackout and subsequent containment spray actuation signal. The operator did not have to identify and transition to any alternative paths within the procedure since the initiating cue placed him in the alternative path from the start and the operator expected to have to reposition valves based on the cue. This job performance measure was therefore considered to be a normal path job performance measure for the given conditions. As an immediate corrective action, the licensee replaced one of the job performance measures from the Week 2 set with a new alternate path job performance measure which was administered to the affected operators, thereby ensuring that the 40 percent requirement was met prior to the completion of the 2-year requalification cycle. The licensee documented this issue in Callaway Action Request 201306740.

Analysis. Failure of the licensee to administer a comprehensive annual operating test containing at least 40 percent alternate path job performance measures to one crew is a performance deficiency. The performance deficiency is more than minor, and therefore a finding, because it adversely impacted 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. Additionally, if left uncorrected, the finding could have become more significant in that allowing licensed operators to return to the control room without a valid demonstration of appropriate knowledge on the annual operating test could be a

precursor to a more significant event if latent knowledge deficiencies went unidentified. Using NRC Manual Chapter 0609, "Significance Determination Process," Phase 1 worksheets, and the corresponding Appendix I, "Licensed Operator Requalification Significance Determination Process," the finding was determined to have very low safety significance (Green) because while it was related to annual operating test quality, less than 40 percent of the reviewed job performance measures and simulator scenarios were flawed (Manual Chapter 0609 Appendix I, Flowchart Blocks 6, 7, and 8). This finding has a cross-cutting aspect in the area of resources associated with ensuring that work packages (in this case exam packages) are complete, accurate, and up-to-date such that industry standards for exam quality are met [H.2(c)].

Enforcement. Title 10 of the *Code of Federal Regulations*, Section 55.59(c)(4)(i), requires that, "The requalification program must include – Comprehensive requalification written examinations and annual operating tests which determine areas in which retraining is needed to upgrade licensed operator and senior operator knowledge." A comprehensive annual operating test must contain a minimum of 40 percent alternate path job performance measures as specified in industry standards and Callaway Plant Procedure CTM-OPS, Section 6.5.3.g.1.c. Contrary to the above, during the week of July 29, 2013, a comprehensive requalification annual operating test was not administered in that a licensed operator crew was administered an annual operating test that contained only 20 percent alternate path job performance measures, as determined by an NRC-conducted quality review. As an immediate corrective action, the licensee replaced one of the job performance measures from the Week 2 set with a new alternate path job performance measure which was administered to the affected operators, thereby ensuring that the 40 percent requirement was met prior to the completion of the 2-year requalification cycle. This violation is being treated as an NCV, consistent with Section 2.3.2.a of the Enforcement Policy. The violation was entered into the licensee's corrective action program as Callaway Action Request 201306740. (NCV 05000483/2013004-01, "Failure to Administer a Comprehensive Requalification Test")

1R12 Maintenance Effectiveness (71111.12)

a. Inspection Scope

The inspectors evaluated degraded performance issues involving the following risk significant systems:

- June 18, 2013, essential service water exceeded performance criteria, Callaway Action Request 201304858
- July 26, 2013, unit trip due to failure of unit auxiliary transformer, Callaway Action Request 201305943

The inspectors reviewed events such as where ineffective equipment maintenance has resulted in valid or invalid automatic actuations of engineered safeguards systems and independently verified the licensee's actions to address system performance or condition problems in terms of the following:

- Implementing appropriate work practices
- Identifying and addressing common cause failures
- Scoping of systems in accordance with 10 CFR 50.65(b)
- Characterizing system reliability issues for performance monitoring
- Charging unavailability for performance monitoring
- Trending key parameters for condition monitoring
- Ensuring proper classification in accordance with 10 CFR 50.65(a)(1) or -(a)(2)
- Verifying appropriate performance criteria for structures, systems, and components classified as having an adequate demonstration of performance through preventive maintenance, as described in 10 CFR 50.65(a)(2), or as requiring the establishment of appropriate and adequate goals and corrective actions for systems classified as not having adequate performance, as described in 10 CFR 50.65(a)(1).

The inspectors assessed performance issues with respect to the reliability, availability, and condition monitoring of the system. In addition, the inspectors verified maintenance effectiveness issues were appropriately handled by a screening and identification process and that issues were entered into the corrective action program with the appropriate significance characterization. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of two maintenance effectiveness samples, as defined in Inspection Procedure 71111.12-05.

b. Findings

No findings were identified.

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

a. Inspection Scope

The inspectors reviewed licensee personnel's evaluation and management of plant risk for the maintenance and emergent work activities affecting risk-significant and safety-related equipment listed below to verify that the appropriate risk assessments were performed prior to removing equipment for work:

- July 16, 2013, train A component cooling water room cooler out of service, Job 10515845

- August 19, 2013, component cooling water pumps A, B, and D have bearing isolator issues, Job 13005226
- September 25, 2013, train B component cooling water out of service, Job 08501961

The inspectors selected these activities based on potential risk significance relative to the reactor safety cornerstones. As applicable for each activity, the inspectors verified that licensee personnel performed risk assessments as required by 10 CFR 50.65(a)(4) and that the assessments were accurate and complete. When licensee personnel performed emergent work, the inspectors verified that the licensee personnel promptly assessed and managed plant risk. The inspectors reviewed the scope of maintenance work, discussed the results of the assessment with the licensee's probabilistic risk analyst or shift technical advisor, and verified plant conditions were consistent with the risk assessment. The inspectors also reviewed the technical specification requirements and inspected portions of redundant safety systems, when applicable, to verify risk analysis assumptions were valid and applicable requirements were met. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of three maintenance risk assessments and emergent work control inspection samples, as defined in Inspection Procedure 71111.13-05.

b. Findings

No findings were identified.

1R15 Operability Evaluations and Functionality Assessments (71111.15)

a. Inspection Scope

The inspectors reviewed the following assessments:

- June 28, 2013, essential service water train B pump oil contained excessive particulate, Callaway Action Request 201304307
- July 18, 2013, load shedding emergency load sequencing automatic test injection not functioning properly, Callaway Action Request 201305680
- September 19, 2013, voids identified in safety injection pump B suction piping, Callaway Action Request 201307271
- September 20, 2013, pitting identified on essential service water train B 6-inch pipe, Callaway Action Request 201307265

The inspectors selected these operability and functionality assessments based on the risk significance of the associated components and systems along with other factors, such as engineering analysis and judgment, operating experience, and performance

history. The inspectors evaluated the technical adequacy of the evaluations to ensure technical specification operability was properly justified and to verify the subject component or system remained available such that no unrecognized increase in risk occurred. The inspectors compared the operability and design criteria in the appropriate sections of the technical specifications and Final Safety Analysis Report to the licensee's evaluations to determine whether the components or systems were operable. Where compensatory measures were required to maintain operability, the inspectors determined whether the measures in place would function as intended and were properly controlled. Additionally, the inspectors reviewed a sampling of corrective action documents to verify that the licensee was identifying and correcting any deficiencies associated with operability evaluations. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of four operability evaluations inspection samples, as defined in Inspection Procedure 71111.15-05.

b. Findings

No findings were identified.

1R18 Plant Modifications (71111.18)

Permanent Modifications

a. Inspection Scope

The inspectors reviewed key affected parameters associated with energy needs, materials, replacement components, timing, heat removal, control signals, equipment protection from hazards, operations, flow paths, pressure boundary, ventilation boundary, structural, process medium properties, licensing basis, and failure modes for the permanent modification listed below.

- Permanent Modification 08-0054, pressurizer pressure transmitter BBPT0457 replacement

The inspectors reviewed key parameters associated with materials, replacement components, timing, control signals, operations, flow paths, pressure boundary, licensing basis, and failure modes for the permanent modification identified for BBPT0457.

The inspectors verified that modification preparation, staging, and implementation did not impair emergency/abnormal operating procedure actions, key safety functions, or operator response to loss of key safety functions; post-modification testing will maintain the plant in a safe configuration during testing by verifying that unintended system interactions will not occur; systems, structures and components' performance characteristics still meet the design basis; the modification design assumptions were appropriate; the modification test acceptance criteria will be met; and licensee personnel identified and implemented appropriate corrective actions associated with permanent

plant modifications. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of one sample for permanent plant modifications, as defined in Inspection Procedure 71111.18-05.

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope

The inspectors reviewed the following post-maintenance activities to verify that procedures and test activities were adequate to ensure system operability and functional capability:

- July 25, 2013, ultimate heat sink electrical room B damper actuator replacement, Job 07512514
- August 1, 2013, component cooling water pump B bearing modification, Job 12500481
- September 17, 2013, spent fuel pool heat exchanger B component cooling water outlet isolation valve motor operator service, Job 07509892
- September 17, 2013, spent fuel pool cooling pump B lubricating oil preventative maintenance, Job 12508196
- September 19, 2013, safety injection pump B lubricating oil preventative maintenance, Job 12502863

The inspectors selected these activities based upon the structure, system, or component's ability to affect risk. The inspectors evaluated these activities for the following:

- The effect of testing on the plant had been adequately addressed; testing was adequate for the maintenance performed
- Acceptance criteria were clear and demonstrated operational readiness; test instrumentation was appropriate

The inspectors evaluated the activities against the technical specifications, the Final Safety Analysis Report, 10 CFR Part 50 requirements, licensee procedures, and various NRC generic communications to ensure that the test results adequately ensured that the equipment met the licensing basis and design requirements. In addition, the inspectors reviewed corrective action documents associated with post-maintenance tests to

determine whether the licensee was identifying problems and entering them in the corrective action program and that the problems were being corrected commensurate with their importance to safety. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of five post-maintenance testing inspection samples, as defined in Inspection Procedure 71111.19-05.

b. Findings

No findings were identified.

1R20 Refueling and Other Outage Activities (71111.20)

a. Inspection Scope

The inspectors evaluated outage activities for an unplanned outage that began on July 26, 2013, and continued through August 18, 2013. The inspectors reviewed activities to ensure that the licensee considered risk in developing, planning, and implementing the outage schedule. The inspectors also confirmed that the licensee scheduled covered workers such that the minimum days off for individuals working on outage activities were in compliance with 10 CFR 26.205(d)(4) and (5).

The outage was caused when a fault occurred on phase B of the isophase bus near the unit auxiliary transformer and a subsequent failure and fire of the phase A neutral bushing near the main generator. This resulted in a trip of the main generator and a trip of the main turbine which resulted in an automatic trip of the reactor.

During the outage, the inspectors observed portions of the shutdown and monitored licensee controls over the outage activities listed below.

- Clearance activities, including confirmation that tags were properly hung and equipment appropriately configured to safely support the work or testing.
- Status and configuration of electrical systems to ensure that technical specifications were met.
- Monitoring of decay heat removal processes, systems, and components.
- Reactor water inventory controls, including flow paths, configurations, and alternative means for inventory addition, and controls to prevent inventory loss.
- Startup and ascension to full power operation and tracking of startup prerequisites.
- Management of fatigue

- Licensee identification and resolution of problems related to outage activities.

Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of one outage inspection sample, as defined in Inspection Procedure 71111.20-05.

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors selected risk-significant surveillance activities based on risk information and reviewed the Final Safety Analysis Report, procedure requirements, and technical specifications to ensure that the surveillance activities listed below demonstrated that the systems, structures, and/or components tested were capable of performing their intended safety functions. The inspectors either witnessed or reviewed test data to verify that the significant surveillance test attributes were adequate to address the following:

- Preconditioning
- Evaluation of testing impact on the plant
- Acceptance criteria
- Test equipment
- Procedures
- Test data
- Testing frequency and method demonstrated technical specification operability
- Test equipment removal
- Restoration of plant systems
- Fulfillment of ASME Code requirements
- Reference setting data
- Annunciators and alarms setpoints

The inspectors also verified that licensee personnel identified and implemented any needed corrective actions associated with the surveillance testing.

- July 24, 2013, centrifugal charging pump B inservice testing, Job 13506617
- August 7, 2013, train A component cooling water pump and valve routine testing, Job 13507410
- August 13, 2013, train A residual heat removal pump and valve routine testing, Job 13507495
- August 14, 2013, train A emergency diesel generator slow start routine testing, Job 13509081
- September 3, 2013, containment spray pump A comprehensive routine testing, Job 11509044

Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of four routine and one inservice surveillance testing inspection samples as defined in Inspection Procedure 71111.22-05.

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness

1EP1 Exercise Evaluation (71114.01)

a. Inspection Scope

The inspectors observed the biennial emergency preparedness exercise conducted September 24, 2013, to determine if the exercise acceptably tested major elements of the emergency plan, and provided opportunities for the emergency response organization to demonstrate key skills. The scenario simulated,

- An earthquake with several aftershocks;
- A loss of offsite power with main turbine trip;
- An automatic reactor trip;
- Fuel damage created by seismic shocks;
- A station blackout caused by damage to vital electrical buses and one emergency diesel generator; and,

- A reactor coolant system leak into containment with a pathway to the environment created by damage to a containment building exterior equipment hatch;

to demonstrate the licensee personnel's capability to implement their emergency plan.

The inspectors evaluated exercise performance by focusing on the risk-significant activities of event classification, offsite notification, recognition of offsite dose consequences, and development of protective action recommendations, in the control room simulator and the following dedicated emergency response facilities:

- Technical Support Center
- Operations Support Center
- Emergency Operations Facility

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, onsite and offsite communications, protection of emergency workers, 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 emergency response facilities, procedures for the performance of associated emergency functions, and other documents as listed in the attachment to this report.

The inspectors compared the observed exercise performance with the requirements in the facility emergency plan, 10 CFR 50.47(b), 10 CFR Part 50, Appendix E, and with the guidance in the emergency plan implementing procedures and other federal guidance.

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 specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of one sample as defined in Inspection Procedure 71114.01-06.

b. Findings

No findings were identified.

1EP6 Drill Evaluation (71114.06)

Emergency Preparedness Drill Observation

a. Inspection Scope

The inspectors evaluated the conduct of a routine licensee emergency drill on August 13, 2013, to identify any weaknesses and deficiencies in classification, notification, and protective action recommendation development activities. The inspectors observed emergency response operations in the main control room and the technical support center to determine whether the event classification, notifications, and protective action recommendations were performed in accordance with procedures. The inspectors also attended the licensee drill critique to compare any inspector-observed weakness with those identified by the licensee staff in order to evaluate the critique and to verify whether the licensee staff was properly identifying weaknesses and entering them into the corrective action program. As part of the inspection, the inspectors reviewed the drill package and other documents listed in the attachment.

These activities constitute completion of one emergency preparedness drill observation sample, as defined in Inspection Procedure 71114.06-05.

b. Findings

No findings were identified.

1EP8 Exercise Evaluation (71114.08)

a. Inspection Scope

The licensee submitted the preliminary exercise scenario to the NRC on July 24, 2013, in accordance with the requirements of Appendix E to 10 CFR 50, Part IV.F(2)(b). The inspectors performed an in-office review of the preliminary exercise scenario and evaluation objectives to determine whether the proposed scenario acceptably tested the major elements of the licensee's emergency plan, provided opportunities for emergency response organization members to demonstrate key skills, and avoided preconditioning the exercise participants.

These activities constitute completion of one sample as defined in Inspection Procedure 71114.08-06.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, Emergency Preparedness, Public Radiation Safety, Occupational Radiation Safety, and Security

4OA1 Performance Indicator Verification (71151)

.1 Data Submission Issue

a. Inspection Scope

The inspectors performed a review of the performance indicator data submitted by the licensee for the second quarter 2013 performance indicators for any obvious inconsistencies prior to its public release in accordance with Inspection Manual Chapter 0608, "Performance Indicator Program."

This review was performed as part of the inspectors' normal plant status activities and, as such, did not constitute a separate inspection sample.

b. Findings

No findings were identified.

.2 Unplanned Scrams per 7000 Critical Hours (IE01)

a. Inspection Scope

The inspectors sampled licensee submittals for the unplanned scrams per 7000 critical hours performance indicator for the period from the third quarter 2012 through the second quarter 2013. To determine the accuracy of the performance indicator data reported during those periods, the inspectors used definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6. The inspectors reviewed the licensee's operator narrative logs, issue reports, event reports, and NRC integrated inspection reports for the period of July 2012 through June 2013 to validate the accuracy of the submittals. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the performance indicator data collected or transmitted for this indicator and none were identified. Specific documents reviewed are described in the attachment.

These activities constitute completion of one unplanned scrams per 7000 critical hours sample, as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

.3 Unplanned Power Changes per 7000 Critical Hours (IE03)

a. Inspection Scope

The inspectors sampled licensee submittals for the unplanned power changes per 7000 critical hours performance indicator for the period from the third quarter 2012 through the second quarter 2013. To determine the accuracy of the performance indicator data reported during those periods, the inspectors used definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6. The inspectors reviewed the licensee's operator narrative logs, issue reports, maintenance rule records, event reports, and NRC integrated inspection reports for the period of July 2012 through June 2013 to validate the accuracy of the submittals. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the performance indicator data collected or transmitted for this indicator and none were identified. Specific documents reviewed are described in the attachment.

These activities constitute completion of one unplanned transients per 7000 critical hours sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

.4 Unplanned Scrams with Complications (IE04)

a. Inspection Scope

The inspectors sampled licensee submittals for the unplanned scrams with complications performance indicator the period from the third quarter 2012 through the second quarter 2013. To determine the accuracy of the performance indicator data reported during those periods, the inspectors used definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6. The inspectors reviewed the licensee's operator narrative logs, issue reports, event reports, and NRC integrated inspection reports for the period of July 2012 through June 2013 to validate the accuracy of the submittals. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the performance indicator data collected or transmitted for this indicator and none were identified. Specific documents reviewed are described in the attachment.

These activities constitute completion of one unplanned scrams with complications sample, as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

.5 Drill/Exercise Performance (EP01)

a. Inspection Scope

The inspectors sampled licensee submittals for the drill and exercise performance, performance indicator for the period from the third quarter 2012 through the second quarter 2013. The definitions and guidance contained of Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, were used to determine the accuracy of the performance indicator data reported to the NRC. The inspectors reviewed the licensee's records associated with the performance indicator to verify that the licensee accurately reported the indicator in accordance with relevant procedures and the Nuclear Energy Institute guidance. Specifically, the inspectors reviewed licensee records and processes including procedural guidance on assessing opportunities for the performance indicator; assessments of performance indicator opportunities during predesignated control room simulator training sessions, performance during the 2013 biennial exercise, and performance during other drills. The specific documents reviewed are described in the attachment to this report.

These activities constitute completion of the drill/exercise performance sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

.6 Emergency Response Organization Drill Participation (EP02)

a. Inspection Scope

The inspectors sampled licensee submittals for the emergency response organization drill participation performance indicator for the period from the third quarter 2012 through the second quarter 2013. The definitions and guidance contained of Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, were used to determine the accuracy of the performance indicator data reported to the NRC. The inspectors reviewed the licensee's records associated with the performance indicator to verify that the licensee accurately reported the indicator in accordance with relevant procedures and the Nuclear Energy Institute guidance. Specifically, the inspectors reviewed licensee records and processes including procedural guidance on assessing opportunities for the performance indicator, rosters of personnel assigned to key emergency response organization positions, and exercise participation records.

The specific documents reviewed are described in the attachment to this report.

These activities constitute completion of the emergency response organization drill participation sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

.7 Alert and Notification System (EP03)

a. Inspection Scope

The inspectors sampled licensee submittals for the alert and notification system performance indicator for the period from the third quarter 2012 through the second quarter 2013. The definitions and guidance contained of Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, were used to determine the accuracy of the performance indicator data reported to the NRC. The inspectors reviewed the licensee's records associated with the performance indicator to verify that the licensee accurately reported the indicator in accordance with relevant procedures and the Nuclear Energy Institute guidance. Specifically, the inspectors reviewed licensee records and processes including procedural guidance on assessing opportunities for the performance indicator and the results of periodic alert notification system operability tests. The specific documents reviewed are described in the attachment to this report.

These activities constitute completion of the alert and notification system sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

40A2 Problem Identification and Resolution (71152)

.1 Routine Review of Identification and Resolution of Problems

a. Inspection Scope

As part of the various baseline inspection procedures discussed in previous sections of this report, the inspectors routinely reviewed issues during baseline inspection activities and plant status reviews to verify that they were being entered into the licensee's corrective action program at an appropriate threshold, that adequate attention was being given to timely corrective actions, and that adverse trends were identified and addressed. The inspectors reviewed attributes that included the complete and accurate identification of the problem; the timely correction, commensurate with the safety significance; the evaluation and disposition of performance issues, generic implications, common causes, contributing factors, root causes, extent of condition reviews, and previous occurrences reviews; and the classification, prioritization, focus, and timeliness of corrective actions. Minor issues entered into the licensee's corrective action program because of the inspectors' observations are included in the attached list of documents reviewed.

These routine reviews for the identification and resolution of problems did not constitute any additional inspection samples. Instead, by procedure, they were considered an integral part of the inspections performed during the quarter and documented in Section 1 of this report.

b. Findings

No findings were identified.

.2 Daily Corrective Action Program Reviews

a. Inspection Scope

In order to assist with the identification of repetitive equipment failures and specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the licensee's corrective action program. The inspectors accomplished this through review of the station's daily corrective action documents.

The inspectors performed these daily reviews as part of their daily plant status monitoring activities and, as such, did not constitute any separate inspection samples.

b. Findings

No findings were identified.

.3 In-depth Review of Operator Workarounds

a. Inspection Scope

The inspectors evaluated the licensee's implementation of their process used to identify, document, track, and resolve operational challenges. Inspection activities included, but were not limited to, a review of the cumulative effects of the operator workarounds on system availability and the potential for improper operation of the system, for potential impacts on multiple systems, and on the ability of operators to respond to plant transients or accidents.

The inspectors performed a review of the cumulative effects of operator workarounds. The documents listed in the attachment were reviewed to accomplish the objectives of the inspection procedure. The inspectors reviewed both current and historical operational challenge records to determine whether the licensee was identifying operator challenges at an appropriate threshold, had entered them into their corrective action program, and proposed or implemented appropriate and timely corrective actions that addressed each issue. Reviews were conducted to determine if any operator challenge could increase the possibility of an initiating event, if the challenge was contrary to training, required a change from long-standing operational practices, or created the potential for inappropriate compensatory actions. Additionally, all temporary modifications were reviewed to identify any potential effect on the functionality of mitigating systems, impaired access to equipment, or required equipment uses for which

the equipment was not designed. Daily plant and equipment status logs, degraded instrument logs, and operator aids or tools being used to compensate for material deficiencies were also assessed to identify any potential sources of unidentified operator workarounds.

This activity constitutes completion of one operator workaround inspection sample as part of the annual in-depth problem identification and resolution samples defined in Inspection Procedure 71152-05.

b. Findings

No findings were identified.

40A3 Followup of Events and Notices of Enforcement Discretion (71153)

.1 Notice of Unusual Event Declared for Release of Toxic Gases

a. Inspection Scope

On July 26, 2013, at 11:33 p.m., Callaway Plant responded to a fire located in the isophase bus ducting under the main generator in the turbine building. The fire resulted in heavy black smoke filling the turbine building. Emergency Action Level HU2.1 for a fire not extinguished within 15 minutes of control room notification was declared at 11:49 p.m. This declaration was later revised to HU 3.1 for a release of toxic gases deemed detrimental to normal operation of the plant because the fire was determined to not be in the vicinity of safety related equipment. After the fire was extinguished, ventilation was restored, and the turbine building was cleared of smoke, the Unusual Event was terminated at 1:01 a.m.

The NRC resident inspectors responded to the plant to review plant status, communicate the event to supervision, evaluate performance of mitigating systems and ensure proper licensee actions, event classification, and notifications to the NRC and state/county governments. These actions were to ensure appropriate agency response.

b. Findings

No findings were identified.

.2 (Closed) Licensee Event Reports 2013-002-00 and 2013-002-01: Degraded Bearing on B Essential Service Water Pump Motor Renders B Essential Service Water Train Inoperable

On February 13, 2013, with the unit in Mode 1 at 100 percent power, an operations technician noticed that the oil in the sight glass of the lower motor radial bearing appeared darker than normal during surveillance testing of train B of the essential service water system. Results of an oil analysis revealed increased levels of particulates indicative of degradation of the lower motor radial bearing, bearing races, and rolling elements. Subsequent investigation identified that the cause of the event was

insufficient motor shaft endplay, resulting in lower bearing failure due to excessive axial loading.

Prior to the event, ESW Pump B vibration test data was taken on October 25, 2012. This testing indicated elevated levels, but the levels were below the ASME Code of Operation and Maintenance of Nuclear Power Plants (ASME OM Code) 'Alert' limits. Corrective action taken at the time included increasing the vibration test frequency to monitor for a degrading trend. Vibration data last taken on August 1, 2012, indicated normal baseline readings. Vibrations remained elevated as evidenced by data taken on January 16, 2013, and February 13, 2013, but the data remained below the ASME OM Code 'Alert' limits.

Licensee Event Reports 2013-002-00 and 2013-002-01 were submitted pursuant to 10 CFR 50.73(a)(2)(i)(B) as a condition prohibited by technical specifications based on the period of past inoperability of train B along with periods of train A being declared inoperable for routine maintenance; as well as 10 CFR 50.73(a)(2)(v)(B) as an event or condition that could have prevented fulfillment of a safety function needed to remove residual heat, and 10 CFR 50.73(a)(2)(v)(D) as an event or condition that could have prevented a safety function needed to mitigate the consequences of an accident. The licensee initiated Callaway Action Request 201304307 to address this issue. Corrective actions include establishing new preventive maintenance overhaul requirements and establishing new motor shaft endplay settings. In addition, procedures are being revised to add timeliness guidelines for oil sample testing and in-service testing data review. The inspectors reviewed the licensee's submittal and determined that the report adequately documented the event, including the potential safety consequences and necessary corrective actions. Because vibration data was below the ASME OM Code 'Alert' limit, and the previous test on January 16, 2013, having no visible indication of degradation within the oil, and along with the licensee conservatively assuming the pump to be inoperable back to October, 25, 2012, no violations were identified during the inspectors' review. This licensee event report is closed.

.3 (Closed) Licensee Event Report 2013-004-00: Control Building Envelope Boundary Door Open During Movement of Irradiated Fuel Assemblies

On April 18, 2013, while in Mode 6 for a refueling outage, a fire occurred at the unit auxiliary transformer causing a loss of all non-vital power to the plant during core offload. At the time, an irradiated fuel assembly was suspended in the spent fuel pool due to a torn grid strap and was considered to be "in movement" and not in a safe location. Due to the fire, the licensee decided to breach the control building ventilation system envelope to run temporary power cables to the battery chargers to prevent depleting safety-related batteries NK02 and NK04. Per Procedure EDP-ZZ-04107, "HVAC Pressure Boundary Control," the licensee prepared a fire protection impairment permit and completed form CA2982, "Pressure Boundary Breach Evaluation Form," in order to perform the evolution. The procedure directed personnel to evaluate entry into Technical Specification 3.7.10 and perform necessary mitigating actions.

Without referring to Technical Specification (TS) 3.7.10, licensee personnel assumed that the mitigating actions normally taken when the unit is in Modes 1-4 were appropriate for this planned control building envelope breach. However, allowances for mitigating actions are not permitted for an inoperable boundary during the movement of irradiated fuel. The control room later identified that an irradiated fuel assembly move was in progress. The control room supervisor was notified, the temporary power cables were removed, the pressure boundary was restored, and the fuel assembly was placed in the approved storage location. Licensee Event Report 2013-004-00 was submitted pursuant to 10 CFR-50.73(a)(2)(i)(B) to report a condition prohibited by technical specifications based on not having taken the required actions of Technical Specification 3.7.10 Condition E. The licensee entered this issue into their corrective action program as Callaway Action Request 201302882. Corrective actions include adding instructions to the heating, ventilation, and air conditioning (HVAC) pressure boundary control procedure (including forms) to require checks for mode of applicability when assessing control building, control room, and fuel handling building pressure boundary breaches. Additionally, coaching was provided to the personnel involved and to operations personnel responsible for reviewing TS 3.7.10 when imminent entry into a condition of the technical specification was identified. The inspectors reviewed the licensee's submittal and determined that the report adequately documented the event, including the potential safety consequences and necessary corrective actions. Enforcement aspects associated with this licensee event report are discussed in Section 4OA7. This licensee event report is closed.

.4 (Closed) Licensee Event Report 05000483/2013-006-00: Degradation of Safety Injection Accumulator Vent Line

On May 8, 2013, during Refueling Outage 19 with the plant in Mode 6, borated water was observed leaking from a cracked vent line on safety injection piping. On May 10, 2013, a repair to the cracked socket weld was completed, fully restoring the system. The licensee determined the event was reportable in accordance with 10 CFR 50.73(a)(2)(ii)(A) due to a principle safety barrier being seriously degraded, since the leak of the pressure boundary exceeded acceptable limits of ASME Section XI, IWB-3600, "Analytical Evaluation of Flaws" and ASME Section XI, Table IWB-3410-1, "Acceptance Standards." The licensee determined that the configuration of residual heat removal train B results in vibration levels that can damage equipment. Previous piping vibration analyses were reviewed and as an extent of condition review, 4 valves were evaluated with no issues discovered. The licensee has taken long term corrective actions to attempt to either eliminate or reduce vibrations on residual heat removal train B or modify plant equipment to withstand the higher vibration stresses. Corrective actions are documented in Callaway Action Request 201303740. The inspectors reviewed the licensee's submittal along with corrective action documents and determined that the licensee adequately documented the event, including the potential safety consequences and necessary corrective actions. No violations were identified during the inspectors' review because the leak was discovered and confirmed to have occurred while the plant was in Mode 6, which is not a mode of applicability for reactor coolant system operational leakage (Technical Specification 3.4.13). This licensee event report is closed.

.5 (Closed) Licensee Event Report 05000483/2013-007-00: Violation of Technical Specification 3.8.1 Due To an Inoperable Offsite AC Electrical Power Source

On May 28, 2013, oil was observed leaking from a 345 kV bushing on the startup transformer. On May 30, 2013, the leakage was eliminated by tightening the bushing oil fill cap. However, it was determined that the leak had been ongoing since maintenance work was performed on the transformer on May 19, 2013, while the plant was preparing for restart after a refueling outage. The licensee determined the event was reportable in accordance with 10 CFR 50.73 (a)(2)(i)(B) as a condition prohibited by technical specifications; specifically Technical Specification 3.8.1 requires two qualified circuits of offsite transmission network and the onsite Class 1E power system must be operable in Modes 1, 2, 3, and 4. The plant entered Mode 4 on May 22, 2013, as a result one train of offsite power was unavailable for greater than the required 72 hour completion time during the period of May 22-30, 2013. The licensee determined that personnel had inappropriately loosened the bushing oil cap and failed to retighten it during maintenance. The licensee instituted as a corrective action that future maintenance instructions will contain specific guidance and pictures directing personnel which components they should be operating during maintenance. The inspectors reviewed the licensee's submittal and related corrective action documents and determined that the licensee adequately documented the event, including the potential safety consequences and necessary corrective actions under Callaway Action Request 201304347. Enforcement aspects associated with this licensee event report are discussed in Section 4OA7. This licensee event report is closed.

4OA6 Meetings, Including Exit

Exit Meeting Summary

The inspectors debriefed Mr. F. Diya, Vice President Nuclear Operations, and other members of the licensee's staff of the results of the licensed operator requalification program inspection on August 29, 2013, and telephonically exited with Ms. S. Banker, Training Director, and other staff members on September 10, 2013. The licensee representatives acknowledged the findings presented. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. All proprietary information was returned.

On August 29, 2013, the inspectors discussed the in-office review of the preliminary exercise scenario with Mr. P. McKenna, Manager, Emergency Preparedness, and other members of the licensee's staff. The licensee acknowledged the issues presented.

On September 27, 2013, the inspectors presented the results of the onsite inspection of the licensee's biennial emergency preparedness exercise to Mr. A. Heflin, Chief Nuclear Officer, and other members of the licensee's staff. The licensee acknowledged the issues presented. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

On October 10, 2013, the inspectors presented the inspection results to Mr. B. Cox, Senior Director Nuclear Operations, and other members of the licensee staff. The licensee

acknowledged the issues presented. The inspector asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

40A7 Licensee-Identified Violations

The following violations of very low safety significance (Green) were identified by the licensee and are violations of NRC requirements which meet the criteria of the NRC Enforcement Policy for being dispositioned as non-cited violations.

- .1 Technical Specification 3.7.10, "Control Room Emergency Ventilation System (CREVS)," requires that two control room emergency ventilation system trains shall be operable in Modes 1, 2, 3, and 4 and during movement of irradiated fuel assemblies. Contrary to the above, on April 18, 2013, with the plant in Mode 6 for Refueling Outage 19, Callaway workers impaired the control building envelope, causing the control room emergency ventilation system to be rendered inoperable while a fuel assembly was in movement in the fuel handling building. Specifically, licensee workers blocked open door DSK32013, breaching the control building ventilation system envelope, to run temporary power cables to the train B battery chargers. The inspectors evaluated the finding in accordance with Inspection Manual Chapter 0609, Appendix G, "Shutdown Operations Significance Determination Process." The inspectors determined that the finding was of very low safety significance (Green) because it did not require a quantitative assessment as determined in Appendix G, Attachment 1, Checklist 4, "PWR Refueling Operation: RCS level > 23'OR PWR Shutdown Operation with Time to Boil > 2 hours And Inventory in the Pressurizer."

Corrective actions included coaching of operations and planning staff on the correct modes of applicability for Technical Specification 3.7.10 and enhancing procedures and forms to evaluate the technical specification appropriately. This violation was entered into the licensee's corrective action program as Callaway Action Request 201302882.

- .2 Title 10 of the Code of Federal Regulations, Section 55.49, "Integrity of Examinations and Tests," requires that facility licensees shall not engage in any activity that compromises the integrity of an examination. The integrity of a test or examination is considered compromised if any activity, regardless of intent, affected, or, but for detection, would have affected the equitable and consistent administration of the test or examination. Individuals with knowledge of the content of requalification exams are required to sign an exam security agreement based on NUREG 1021, Form ES-601-1, which reads, in part, "I understand that I am not to instruct, evaluate, or provide performance feedback to those operators scheduled to be administered these examinations" Contrary to the above, in June 2013, an individual who had developed questions for the upcoming biennial requalification written exam also developed weekly cycle exams which were administered to licensed operators. This was a violation of the exam security agreement, as developing exams is a form of evaluating operators. This item was entered into the licensee's corrective action program as Callaway Action Request 201305585. Using NRC Manual Chapter 0609, "Significance Determination Process," Phase 1 worksheets, and the corresponding Appendix I, "Licensed Operator Requalification Significance Determination Process," the

finding was determined to have very low safety significance because the potentially compromised questions were replaced before they were administered and, therefore, did not affect the equitable and consistent administration of the test.

- .3 Technical Specification (TS) 3.8.1.a, requires two qualified electrical circuits between the offsite transmission network and the onsite for AC power system during Modes 1, 2, 3, and 4. Required Action A.3 of this TS requires that with one offsite circuit inoperable, the licensee restore the circuit to operable status within 72 hours or be in Mode 3 within the next 6 hours. Contrary to the above, one offsite circuit was inoperable but was not restored within 72 hours, and the plant was not placed in Mode 3 within the next 6 hours. Specifically, on May 28, 2013, an oil leak on the startup transformer was discovered that had most likely begun during maintenance performed on the component on May 19, 2013, near the completion of a refueling outage. However, unaware of the leak at the time, the plant entered operating Mode 4, on May 22, 2013, and exceeded the 72-hour action. The licensee completed the leak repair on May 30, 2013. Using Inspection Manual Chapter 609, Appendix A, Exhibit 2, Mitigating Systems Cornerstone screening questions, Section A, the finding was determined to be of very low safety significance (Green) because within the first 24 hours, the startup transformer would have still supplied AC power to plant safety systems. The violation was entered into the licensee's corrective action program as Callaway Action Request 201304347.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

S. Banker, Director, Training
J. Cortez, Operations Training Manager
M. Covey, Assistant Operations Manager
B. Cox, Senior Director, Nuclear Operations
F. Diya, Vice President, Nuclear Operations
T. Elwood, Supervising Engineer, Regulatory Affairs and Licensing
L. Graessle, Senior Director, Operations Support
D. Hall, Director, Nuclear Operations
A. Heflin, Senior Vice President and Chief Nuclear Officer
S. Maglio, Regulatory Affairs Manager
P. McKenna, Emergency Preparedness Manager
M. McLachlan, Director, Engineering Systems
D. Neterer, Senior Director, Engineering
E. Olson, Security Manager
S. Petzel, Licensing Engineer, Regulatory Affairs
C. Reasoner, Vice President, Engineering
L. Sandbothe, Director, Plant Support
K. Shaw, Superintendent, Administration
J. Small, Chemistry Manager
C. Smith, Radiation Protection Manager

NRC Personnel

K. McCullough, Emergency Preparedness Specialist, NSIR

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000483-2013004-01 NCV Failure to Administer a Comprehensive Requalification
Operating Test (Section 1R11.3)

Closed

05000483/2013-002-00 LER Degraded Bearing on B Essential Service Water Pump Motor
05000483/2013-002-01 Renders B Essential Service Water Train Inoperable
(Section 4OA3.2)
05000483/2013-004-00 LER Control Building Envelope Boundary Door Open During
Movement of Irradiated Fuel Assemblies (Section 4OA3.3)
05000483/2013-006-00 LER Degradation of Safety Injection Accumulator Vent Line
(Section 4OA3.4)

Closed

05000483/2013-007-00 LER Violation of Technical Specification 3.8.1 Due to an Inoperable Offsite AC Electrical Power Source (Section 4OA3.5)

LIST OF DOCUMENTS REVIEWED

Section 1R04: Equipment Alignment

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
OTN-EM-00001, Checklist 2	Safety Injection System Outside Containment Valve Lineup	25
OTN-GK-00001, Checklist 2	Control Building HVAC System Normal Valve Lineup by Component	15
ODP-ZZ-0016E Appendix 1	Operations Technician General Inspection Guide	9

DRAWINGS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
M-22EM01	Piping and Instrumentation Diagram – High Pressure Injection System	37
M-22GK01	Piping and Instrumentation Diagram – Control Building H.V.A.C.	20

CALLAWAY ACTION REQUESTS

201300182 201302402 201208968

Section 1R05: Fire Protection

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
Fire Preplan Manual	Fire Pre-plan Manual	36
FPP-ZZ-00001, Attachment 11	Pre-Plan/Fire Area #A-3A Auxiliary Building, 1974' Elevation	23
FPP-ZZ-00001, Attachment 12	Pre-Plan/Fire Area #A-3B Auxiliary Building, 1974' Elevation	23

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
FPP-ZZ-00001, Attachment 38	Pre-Plan/Fire Area #A-3C Auxiliary Building, 2026' Elevation	23
FPP-ZZ-00004, Attachment 11	Pre-Plan/Fire Area #C-9, Control Building and Communications Corridor, 2000' Elevation	17
FPP-ZZ-00004, Attachment 14	Pre-Plan/Fire Area #C-12, Control Building and Communications Corridor, 2000' Elevation	17
FPP-ZZ-00001 Attachment 24	Pre-Plan/Fire Area #A-25, Auxiliary Building, 2000' Elevation	23
FPP-ZZ-00001 Attachment 9	Pre-Plan/Fire Area #A-1A, Auxiliary Building, 1974' Elevation	23
APA-ZZ-00750	Hazard Barrier Program	26

DRAWINGS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
E-2F1101	Fire Detection/Protection System Auxiliary & Reactor Buildings Elevation 1974'-0"	5
M-22KC05	Piping & Instrumentation Diagram Fire Protection System	11
M-22KC08	Piping & Instrumentation Diagram Fire Protection System Pre-action Sprinkler System	5

MISCELLANEOUS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
RFR 3863	Add Vent and Drain Hoses to Combustible Loading Information Program	C
RFR 13528	Evaluate Storage of Equipment in Auxiliary Building	A
RFR 18846	Storage of Hose Rack Carts and Sample Room Cabinet	A

CALLAWAY ACTION REQUESTS

201307954

Section 1R07: Heat Sink Performance

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
ETP-ZZ-03001	GL89-13 Heat Exchanger Inspection	9
FAN-CCOIL-0006	Clean and Inspect Room Cooler Tubes and Fan (Aerofin), PMB Fan-1-5.3-4, PMB Fan-1-5.3-8	1
ODP-ZZ-00002	Equipment Status Control	72

DRAWINGS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
M-1089-00097	31 Tube Face Coil Assembly Drawing	2

JOBS

10515845

Section 1R11: Licensed Operator Requalification Program

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
ACAD 07-001	Guidelines for the Continuing Training of Licensed Personnel	January 2007
APA-ZZ-00500	Corrective Action Program	48
APA-ZZ-00908	Fitness for Duty Programs	29
APA-ZZ-00912	Callaway Energy Center Medical Certification Program	17
CTM-OPS	Callaway Training Manual – Operations	42
CTM-SAT	Callaway Training Manual – SAT	42
ESP-ZZ-00009	MTC Determination	23
ETP-ZZ-ST010	Low Power Physics Test Program with Dynamic Rod Worth Measurement – IPTE	11
ETP-ZZ-00012	Inverse Count Rate Ratio (ICRR) Monitoring for Approach to Criticality	14
ODP-ZZ-00001	Operations Department Code of Conduct	83

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
ODP-ZZ-00001, Addendum 1	Annunciator Response	8
ODP-ZZ-00001, Addendum 13	Shift Manager Communications	15
ODP-ZZ-00001, Addendum 14	Operations Management Expectations	9
OSP-SF-00005	Estimated Critical Position Calculation	19
OTG-ZZ-0001A	Shutdown Bank Withdrawal	18
OTG-ZZ-00002	Reactor Startup – IPTE	51
OTG-ZZ-00003	Plant Startup Hot Zero Power to 30% Power – IPTE	55
OTG-ZZ-00004	Power Operations	85
TDP-IS-00001	Simulator Operation and Maintenance	12
TDP-IS-00002	Simulator Configuration Management	27
TDP-ZZ-00010	Operational Evaluations	26
TDP-ZZ-00018	NRC Correspondence Concerning Operator Licenses	10
TDP-ZZ-00019	NRC License Examination Security and Integrity	19
TDP-ZZ-00019 Appendix A	Simulator Security Guidelines	27

CALLAWAY ACTION REQUESTS

201101255	201104582	201105132	201202004	201202453
201203215	201203766	201207958	201208090	201302862
201304097	201305585	201306532	201306740	

JOBS

13004244

MISCELLANEOUS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
	Dynamic Simulator Exam Scenario DS-35	April 8, 2013
	Callaway Simulator Differences List	July 16, 2013
	Referenced Simulator Certification for Reactivity Manipulations Cycle 19	October 12, 2012
	Simulator Training Guide – Reactivity Manipulation for Turbine Load Change (100%-80%) MOL	October 1, 2012
WCAP-17502-P	Nuclear Design of Callaway Nuclear Power Plant, Cycle 19 Redesign	1
SIFT 2011001	Simulator Information Informal Tracking 2011001	January 6, 2011
Westrain White Paper	Simulator Reactor Core Performance Testing Guidelines	1
All	Training Needs Assessments	2012-2013
All	Simulator Expert Review Meeting Minutes	2012-2013
All	Simulator Oversight Group Meeting Minutes	2012-2013
T61.0810 8	2013 LOCT Biennial Exam – Week 4	August 16, 2013
T61.0810 8	2013 LOCT Biennial Exam – Week 3	August 6, 2013
	2013 LOCT Biennial Exam – Overlap Tracker	
	2013 LOCT Annual Exams – Weeks 1 – 5	
T61.0810.8	LOCT: Power Supply Issues / LOCC	September 5, 2012
	2013 LOCT Annual Exam Crew Rosters	
RCA 201302862	2013 Initial License Class Throughput Does Not Meet Callaway Energy Center Expectations	July 8, 2013

Section 1R12: Maintenance Effectiveness

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
EDP-ZZ-01128	Maintenance Rule Program	20

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
EDP-ZZ-01128, Appendix 1	Structures, Systems, and Components in the Scope of the Maintenance Rule at Callaway	8
EDP-ZZ-01128, Appendix 2	Summary of Structures, Systems, and Components Performance Criteria	24
EDP-ZZ-01128, Appendix 4	Maintenance Rule System Functions	10
OTN-MA-00001	Bus Duct Cooling System	11

CALLAWAY ACTION REQUESTS

201304858 201305640 201201309 201302358

JOBS

11513242 10506886 13506515

Section 1R13: Maintenance Risk Assessment and Emergent Work Controls

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
ODP-ZZ-00002	Equipment Status Control	72
ODP-ZZ-00002 Appendix 2	Risk Management Actions for Planned Risk Significant Activities	8

CALLAWAY ACTION REQUESTS

199700893

JOBS

10515845 13005226 08501961 08501864

MISCELLANEOUS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
Calculation GL-133, Addendum 1	Steady State Temperature	0

MISCELLANEOUS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
Request for Resolution 16444A	Operability of Component Cooling Water Pumps with Safety Related Room Coolers Inoperable	November 29, 1995

Section 1R15: Operability Evaluations

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
EDP-ZZ-01121	Raw Water System Predictive Performance Program	15
WDP-ZZ-00010	Identification, Control, Storage, and Disposition of Shelf Life Items	14
WDP-ZZ-00010, Appendix A	Generic Shelf Life Item List	2

DRAWINGS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
M-0282-00013	Component Cooling Water Pump Oil Lube Sectional Assembly	11
M-22EM01(Q)	Piping and Instrumentation Diagram High Pressure Coolant Injection System	37

CALLAWAY ACTION REQUESTS

201305526	201304307	2013023358	201301149	200201544
201305680	201306459	201306559	201306681	201306813
201306816	201306866	201306867	201306906	201306936
201307271	201307265	201302945		

JOBS

13000796	13002244
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MISCELLANEOUS

<u>NUMBER</u>	<u>TITLE</u>	<u>DATE</u>
RO 0253171	Material Receipt Inspection Report – Spare Essential Service Water Pump Motor	February 15, 2013

Section 1R18: Plant Modifications

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
OTO-BB-00006	Pressurizer Pressure Control Malfunction	18

DRAWINGS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
J-27P31	Instrument Mounting Detail Pressure Transmitter	1
J-301-00100	Electronic Pressure Transmitter Rosemount 1155 Series H Outline and Installation	0

CALLAWAY ACTION REQUESTS

201305258

JOBS

13004296

MISCELLANEOUS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
MP 08-0054	Pressurizer Pressure Transmitter Replacement	0

Section 1R19: Post-Maintenance Testing

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
ITL-GD-00T61	Loop-TMP; Ultimate Heat Sink Cooling TWR Electric Room Supply Fan (CGD02B) TEMP	15
MPM-ZZ-QA001	Limiterque Actuator Inspection and Lubrication	39
OSP-EG-P01BD	Component Cooling Water Train B Pump and Valve Inservice Test – Group A	31
OSP-EGPV01B	Component Cooling Water Train B Pump and Valve Inservice Comprehensive Test	5
OSP-EC-V001B	Fuel Pool Heat Exchanger Shell Side Out Isolation Valve Inservice Test	13

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
OTN-EC-00001	Fuel Pool Cooling and Cleanup System	39
OSP-EM-P001B	Safety Injection Train B Inservice Test – Group B	46
OTS-EM-0001B	Safety Injection Pump B Non-Surveillance Run	9
OTN-EM-00001	Safety Injection System	34

DRAWINGS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
E-23ECO2(Q)	Schematic Diagram Component Cooling Water Discharge Valves from Fuel Pool Cooling Heat Exchangers	17

CALLAWAY ACTION REQUESTS

201305100

JOBS

12500481 07512514 07509892 12508196

MISCELLANEOUS

<u>NUMBER</u>	<u>TITLE</u>	<u>DATE</u>
CA2698	PCTM Approval, Installation and Removal – Safety Injection Pump B Temporary Gauges	September 18, 2013

Section 1R20: Refueling and Other Outage Activities

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
APA-ZZ-00542	Post Trip/Transient Equipment Evaluation	5
ETP-ZZ-00012	Inverse Count Rate Ratio (ICRR) Monitoring for Approach to Criticality	14
OSP-SF-00005	Estimated Critical Position Calculation	19
OTG-ZZ-00002	Reactor Startup – IPTE	51
OTG-ZZ-00003	Plant Startup Hot Zero Power to 30% Power – IPTE	55
OTG-ZZ-00004	Power Operation	86

CALLAWAY ACTION REQUESTS

201305943

Section 1R22: Surveillance Testing

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
OSP-BG-00002	Verify One Centrifugal Charging Pump Incapable of Injection into Reactor Coolant System	19
OSP-BG-P005B	Centrifugal Charging Pump B Inservice Test – Group B	48
OSP-EG-P01AC	Component Cooling Water Train A Pump and Valve Inservice Test – Group A	31
OSP-EJ-P001A	Residual Heat Removal Train A Inservice Test – Group A	54
OSP-EN-P001A	Train A Containment Spray Pump Inservice Test	38
OSP-NE-0001A	Standby Diesel Generator A Periodic Tests	52

JOBS

13506617 13507410 13509081 13507495 11509044

Section 1EP1: Exercise Evaluation

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
EIP-ZZ-00101	Classification of Emergencies	48
EIP-ZZ-00101	Addendum 2, Emergency Action Level Technical Bases Document	6
EIP-ZZ-00102	Emergency Implementing Actions	52
EIP-ZZ-00102	Addendum A, Control Room Notification Package	20
EIP-ZZ-00102	Addendum C, EOF Notification Package	20
EIP-ZZ-00200	Augmentation of the Emergency Response Organization	18
EIP-ZZ-00201	Notifications	50
EIP-ZZ-00212	Protective Action Recommendations, dated January 27, 1984	1
EIP-ZZ-00212	Protective Action Recommendations	25

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
EIP-ZZ-00220	Emergency Team Formation	22
EIP-ZZ-00230	Accountability	33
EIP-ZZ-00240	Technical Support Center Operations	40, 41
EIP-ZZ-01211	Accident Dose Assessment	29
EIP-ZZ-C0010	Emergency Operations Facility Operations	37
KDP-ZZ-02001	Drill and Exercise Program	12

CALLAWAY ACTION REQUESTS

201203140	201203637	201203674	201206343	201206399
201206556	201208313	201208503	201208646	201301597
201301881	201306009	201306031	201306165	201306370
201306552	201306557	201307316	201307355	201307359
201307367	201307398	201307399	201307401	201307418
201307427	201307457	201307458		

Section 1EP6: Drill Evaluation

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
EIP-ZZ-00101	Classification of Emergencies	48
EIP-ZZ-00101, Addendum 1	Emergency Action Level Classification Matrix	3

CALLAWAY ACTION REQUESTS

201306333	201306358	201306370	201306441
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Section 4OA1: Performance Indicator Verification

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
EIP-ZZ-00101	Classification of Emergencies	48

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
EIP-ZZ-00101, Addendum 2	Emergency Action Level Technical Bases Document	6
EIP-ZZ-00102	Emergency Implementing Actions	52
EIP-ZZ-00201	Notifications	50
EIP-ZZ-00201, Addendum A	Control Room Notification Flowchart	20
EIP-ZZ-00201, Addendum C	EOF Notification Package	20

MISCELLANEOUS

<u>NUMBER</u>	<u>TITLE</u>	<u>DATE</u>
G215.0001.001	NRC Performance Indicator Transmittal Report – Third Quarter 2012	October 18, 2012
G215.0001.001	NRC Performance Indicator Transmittal Report – Fourth Quarter 2012	January 1, 2013
G215.0001.001	NRC Performance Indicator Transmittal Report – First Quarter 2013	April 10, 2013
G215.0001.001	NRC Performance Indicator Transmittal Report – Second Quarter 2013	July 15, 2013

Section 40A1: Performance Indicator Verification

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
	Callaway Plant, Alert and Notification System Design Report	April 2011
	Callaway Plant Alert and Notification System Design Report	January 2013
EIP-ZZ-00101	Classification of Emergencies	48
EIP-ZZ-00101	Addendum 1, Emergency Action Level Classification Matrix	3
EIP-ZZ-00101	Addendum 2, Emergency Action Level Technical Bases Document	6
EIP-ZZ-00212	Protective Action Recommendations	25
EIP-ZZ-00102	Addendum A, Control Room Notification Package	20

Section 40A1: Performance Indicator Verification

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
EIP-ZZ-00102	Addendum C, EOF Notification Package	20
EIP-ZZ-00201	Notifications	50
KDP-ZZ-00110	Sire Alerting System Testing	9
KDP-ZZ-02000	NRC Performance Indicator Data Collection	14

MISCELLANEOUS DOCUMENTS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
	Callaway Plant Radiological Emergency Response Plan, February 1983	5A
	Callaway Plant Radiological Emergency Response Plan	41, 42

Section 40A2: Identification and Resolution of Problems

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
APA-ZZ-00500	Corrective Action Program	57
ODP-ZZ-00001, Addendum 12	Operator Burdens and Workarounds	4
ODP-ZZ-00002	Equipment Status Control	72
ODP-ZZ-00008	Night Orders – Standing Orders – Operations Information Reports	13
ODP-ZZ-00029	RCS Leakage Action Level Guideline	3
OSP-BB-00009	RCS Inventory Balance	35
OSP-BB-VL006	RCS Pressure Isolation Valves Inservice Tests-IPTE	41
PDP-ZZ-00023	Work Screening and Processing	27

CALLAWAY ACTION REQUESTS

201304423	201304628	201206260	201305832	201304657
201302004	201208045	201300122	201300909	

JOBS

12004755	13004538	13003712	13000073	13000622
13001438	13003306			

Section 40A3: Event Follow-Up

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
EIP-ZZ-00101	Classification of Emergencies	48
EIP-ZZ-00101 Addendum 1	Emergency Action Level Classification Matrix	3
EIP-ZZ-00101 Addendum 2	Emergency Action Level Technical Bases Document	6

CALLAWAY ACTION REQUESTS

201305943