



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
REGION II
245 PEACHTREE CENTER AVENUE NE, SUITE 1200
ATLANTA, GEORGIA 30303-1257

January 26, 2012

Carolina Power and Light Company
ATTN: Mr. Randy Gideon
Vice President - Robinson Plant
H. B. Robinson Steam Electric Plant
Unit 2
3581 West Entrance Road
Hartsville, South Carolina 29550

**SUBJECT: H.B. ROBINSON STEAM ELECTRIC PLANT - NRC INTEGRATED
INSPECTION REPORT 05000261/2011005**

Dear Mr. Gideon,

On December 31, 2011, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your H. B. Robinson Steam Electric Plant, Unit 2. The enclosed inspection report documents the inspection results which were discussed on January 19, 2012 with you and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

One self-revealing finding of very low safety significance (Green) was identified during this inspection. This finding was determined to involve a violation of NRC requirements. Further, a licensee-identified violation which was determined to be of very low safety significance is listed in this report. The NRC is treating these violations as non-cited violations (NCVs) consistent with Section 2.3.2 of the Enforcement Policy.

If you contest these findings, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, Region II, the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at H. B. Robinson Steam Electric Plant, Unit 2.

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 II and the NRC Resident Inspector at H. B. Robinson Steam Electric Plant, Unit 2.

In accordance with 10 CFR 2.390 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 Public Document Room or from the Publicly Available Records (PARS) component of NRC's Agencywide Document Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Randall A. Musser, Chief
Reactor Projects Branch 4
Division of Reactor Projects

Docket No.: 50-261
License No.: DPR-23

Enclosure: Inspection Report 05000261/2011005
w/Attachment: Supplemental Information

cc w/encls: See page 3

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Letter to Randy Gideon from Randall A. Musser dated January 26, 2012

SUBJECT: H.B. ROBINSON STEAM ELECTRIC PLANT - NRC INTEGRATED
INSPECTION REPORT 05000261/2011005

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U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket No: 50-261

License No: DPR-23

Report No: 05000261/2011005

Facility: H. B. Robinson Steam Electric Plant, Unit 2

Location: 3581 West Entrance Road
Hartsville, SC 29550

Dates: October 1, 2011 – December 31, 2011

Inspectors: T. Chandler, Senior Resident Inspector
P. Lessard, Senior Resident Inspector
C. Scott, Resident Inspector

Approved by: R. Musser, Chief
Reactor Projects Branch 4
Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000261/2011005, Carolina Power and Light Company; 10/01/2011-12/31/2011; H.B. Robinson Steam Electric Plant, Unit 2; Adverse Weather Protection.

The report covered a three month period of inspection by resident inspectors. One self-revealing finding of very low safety significance (Green) was identified. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP). The cross-cutting aspects were determined using IMC 0310, "Components within the Cross-Cutting Areas." Findings for which the SDP does not apply may be Green or be assigned a severity level after NRC management review.

A. NRC-Identified and Self-Revealing Findings

Cornerstone: Initiating Events

- Green. A self-revealing non-cited violation (NCV) of 10 CFR 50, Appendix B, Criterion III, "Design Control," was identified for the licensee's failure to consider how the aggregate changes to the site's topography could impact the site's ability to drain storm water runoff and adequately respond to localized flooding during periods of heavy rain. This resulted in the ponding of storm water runoff, the subsequent direction of runoff flow towards the power block, overfilling of the retention basin, backup of the storm drainage system, and ultimately, uncontrolled water intrusion into safety-related equipment rooms in the auxiliary building. The licensee took immediate actions to remove the water from the affected plant buildings and grounds. In addition, within a few weeks of the event, the licensee repaired the washed out area of the berm just to the north of the power block, and performed interim adjustments to site topography to limit ponding near the berm. The licensee plans to perform additional site grade and trench restoration and remediation to permanently prevent site ponding. This issue was entered into the licensee's corrective action program as NCR 468235.

The licensee's failure to consider how the aggregate changes to the site's topography could impact the site's ability to drain storm water runoff and adequately respond to localized flooding during periods of heavy rain as required by procedure EGR-NGGC-0005, "Engineering Change," was a performance deficiency. This performance deficiency was considered more than minor because it was associated with the Initiating Events Cornerstone attributes of the Design Control (plant modifications) and Protection Against External Factors (flood hazard), and adversely affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the failure to consider aggregate changes to the site's topography on the site's ability to drain storm water runoff resulted in uncontrolled water intrusion into safety-related equipment rooms. The inspectors assessed the finding using Inspection Manual Chapter (IMC) 0609, Significance Determination Process (SDP), Att. 4, Phase 1 - Initial

Enclosure

Screening and Characterization of Findings, and determined the finding was potentially greater than very low safety significance because the finding increases the likelihood of an external flooding event. As a result, the characterization worksheet for Initiating Events required a Phase 3 analysis using the Individual Plant Examination for External Event Submittal (IPEEE) or other existing plant specific analyses as inputs. A Senior Reactor Analyst determined the increase in likelihood of flooding was of very low risk significance i.e., Green. The main contributors to the low risk results were: 1) the low frequency of a severe rainfall necessary to impact equipment in the plant, and 2) the limited impact on risk-significant components affected by the postulated worst-case flood i.e., the 230kV switchyard and none of the equipment in the Auxiliary Building. The inspectors determined that the cause of this finding was related to the trending and assessment aspect in the Corrective Action Program component of the Problem Identification and Resolution cross-cutting area. (P.1(b)) (Section 1R01)

B. Licensee-Identified Violations

A violation of very low safety significance that was identified by the licensee has been reviewed by inspectors. Corrective actions planned or taken by the licensee have been entered into the licensee's corrective action program. This violation and corrective action tracking number is listed in Section 4OA7 of this report.

Enclosure

REPORT DETAILS

Summary of Plant Status: The unit began the inspection period at rated thermal power, and operated at or near full power for the entire inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R01 Adverse Weather Protection

.1 Impending Adverse Weather Conditions

a. Inspection Scope

When near freezing weather conditions were predicted for the site during the week of November 21, 2011, the inspectors reviewed actions taken by the licensee in accordance with Procedure OMM-021, Operation During Adverse Weather Conditions, and OP-925, Cold Weather Operation, to ensure that the adverse weather conditions would neither initiate a plant event nor prevent any system, structure, or component from performing its design function.

The inspectors reviewed the following action requests (ARs) associated with this area to verify that the licensee identified and implemented appropriate corrective actions:

- 430300, Arcing Observed from Freeze Protection Circuit
- 502829, Improper Staging of Cold Weather Temporary Power Equipment
- 499145, Poor preparation for Cold Weather Operation

Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

.2 Winter Seasonal Readiness Preparations

a. Inspection Scope

The inspectors conducted a review of the licensee's preparations for winter conditions to verify that the plant's design features and implementation of procedures were sufficient to protect plant systems from the effects of adverse weather. Documentation for selected risk-significant systems was reviewed to ensure that these systems would remain functional when challenged by inclement weather. During the inspection, the inspectors focused on plant specific design features and the licensee's procedures used to mitigate or respond to adverse weather conditions. Cold weather protection systems, such as heat tracing and area heaters, were verified to be in operation where applicable. The inspectors also reviewed CAP items to verify that the licensee was identifying

Enclosure

adverse weather issues at an appropriate threshold and entering them into their CAP in accordance with station corrective action procedures. Specific documents reviewed during this inspection are listed in the Attachment. The inspectors' reviews focused specifically on the following plant systems due to their risk significance or susceptibility to cold weather issues:

- Service Water System
- Auxiliary Feedwater System

b. Findings

No findings were identified.

.3 External Flooding

a. Inspection Scope

The inspectors completed an in-office review of AV 05000261/2011004-01, Water Intrusion into Safety-Related Buildings due to Inadequate Design of Site Storm Water Runoff Drainage System which was documented in Inspection Report number 05000261/2011004. The significance of this AV was designated as To Be Determined until the safety characterization was completed. An SDP Phase 3 analysis has been finalized and the results are documented below.

b. Findings

Introduction: A self-revealing green non-cited violation (NCV) of 10 CFR 50, Appendix B, Criterion III, "Design Control," was identified for the licensee's failure to consider how the aggregate changes to the site's topography could impact the site's ability to drain storm water runoff and adequately respond to localized flooding during periods of heavy rain. This performance deficiency resulted in the ponding of storm water runoff, the subsequent direction of runoff flow towards the power block, overfilling of the retention basin, backup of the storm drainage system, and ultimately, uncontrolled water intrusion into safety-related equipment rooms in the auxiliary building. The licensee took immediate actions to remove the water from the affected plant buildings and grounds. In addition, within a few weeks of the event, the licensee repaired the washed out area of the berm just to the north of the power block, and performed interim adjustments to site topography to limit ponding near the berm. The licensee plans to perform additional site grade and trench restoration and remediation to permanently prevent site ponding. This issue was entered into the licensee's corrective action program as NCR 468235.

Description: The Updated Final Safety Analysis Report (UFSAR) for the H.B. Robinson Plant states: "Flooding is a physical impossibility at this site since the maximum cooling lake level which can be maintained by the drain and appurtenant structures is below plant grade." The IPEEE for the plant states that due to the site's topography, the probability of a sustained water level of one foot or more at the Auxiliary Building following the probable maximum precipitation (30 inches in 6 hours – NOAA 1978) is

Enclosure

extremely unlikely. On May 27, 2011, the Robinson Nuclear Plant experienced a heavy rainstorm that resulted in uncontrolled water intrusion into several safety-related equipment rooms due to external flooding. This storm produced only 3.71 inches of rain in one 6-hour period, which is only 12 percent of that assumed in the IPEEE.

The heavy rains caused localized ponding of storm water runoff in the protected area (PA) and outlying areas of the owner controlled area. From approximately 1200 on May 27, 2011, to 0200 on May 28, 2011, the plant received a total of 5.82 inches of rain, with 3.71 inches being received in the first 6 hours. This initial influx of rain water exceeded the capacity of the existing storm drain system, and as a result, storm water backed up into plant buildings, including the 'A' train emergency diesel generator (EDG) room. The floor drains in the EDG rooms, which are tied directly to the storm drain system, had been modified in 1994 to add back-flow isolation valves to prevent such an event. However the back-flow isolation valve in the 'A' EDG room failed to close. Within the first 2 hours, storm water runoff from the areas north of the plant, which include the Independent Spent Fuel Storage Installation (24P-ISFSI) pad, the Unit 1 landfill, and the Unit 1 coal pile, began to form a large pond on the north side of the berm which runs along the protected area (PA) fence on the north side of the plant. At approximately 1515 on May 27 the first washout of soil occurred from the berm area south of the ISFSI pad. The washed out soil collected in the storm drains and storm drain catch basins on the north side of the plant rendering them inoperable. As a result, several of the buildings on the north side of the power block were flooded with several inches of water.

At 1530, another larger washout of the same berm occurred in the southeast corner of the 24P-ISFSI pad allowing additional amounts of soil and storm water runoff to drain into the north side of the PA. This second washout effectively drained the large pond north of the berm. Soon after, a third washout occurred in the southwest corner of the 24P-ISFSI pad.

By 1800, the licensee had removed enough soil from the north side of the plant to allow the 6-8 inches of water that had accumulated up against the power block to drain to the retention ponds. This draining of the north plant area eventually overflowed both the Unit 1 (coal plant) and Unit 2 retention basins which had been cross-connected earlier in an attempt to prevent Unit 2 retention basin from overflowing. It should be noted that none of the Auxiliary Building internal or external doors are designed to be watertight, and as a result, water flowed under and around the external doors on the north and east side of the building for several hours. However, the Auxiliary Building sump system minimized the effects of the water ingress until the sump pumps had to be secured due to high level in the Waste Hold Up Tank. The water level in the Safety Injection and Containment Spray pump room, which is located against the north wall of the Auxiliary Building, reached 1-2 inches in depth. Many rooms inside the Auxiliary Building, including the 'A' EDG room and the hallway that contains one of the two safety-related 480 volt ac motor control centers, had 1-2 inches of water on the floor. The Hot Machine Shop and New Fuel Storage Room, which are located on the north side of the power block, contained 6-8 inches of standing water. Within a few hours, the licensee had removed the water from the affected plant buildings and grounds. In addition, within a few weeks of the event the licensee repaired the washed out area of the berm and

Enclosure

performed interim adjustments to site topography to limit ponding near the berm. The licensee plans to perform additional site grade and trench restoration and remediation to permanently prevent site ponding. The licensee also initiated revisions to procedures to provide adequate guidance for slope and berm backfill, coordinate site topography changes between Units 1 and 2, and to require erosion control plans for parking areas, roadways, and drives.

The modifications to the site's topography that led to the May 27, 2011, external flooding event occurred over several decades, but culminated with the capping of the Unit 2 landfill in April 2010. During the summer of 2010 there were three separate rain events that caused breaches through the berm on the north side of the PA due to ponding of storm water runoff. Therefore it can be conservatively assumed that the site was vulnerable to external flooding events for approximately 13 months before the May 27 event.

Although no safety-related equipment was directly impacted during the May 27 event, there were 1-2 inches of water in several rooms that contain significant amounts of safety-related equipment. The majority of the safety-related equipment is mounted approximately 12 inches above the floor. However, the rain storm on May 27 produced only 3.71 inches of rain in one 6-hour period, which is only 12 percent of that assumed in the IPEEE. Had the site received the probable maximum precipitation, the likelihood of safety related equipment being impacted by raising flood water would have increased.

Analysis: The licensee's failure to consider how the aggregate changes to the site's topography could impact the site's ability to drain storm water runoff and adequately respond to localized flooding during periods of heavy rain as required by procedure EGR-NGGC-0005, "Engineering Change," was a performance deficiency. Specifically, the licensee did not follow procedure EGR-NGGC-0005, "Engineering Change," which provides guidance and checklist items to ensure that the aggregate effects of facility changes on rain water runoff were considered. This performance deficiency was considered more than minor because it was associated with the Initiating Events Cornerstone attributes of the Design Control (plant modifications) and Protection Against External Factors (flood hazard), and adversely affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the failure to consider aggregate changes to the site's topography on the sites' ability to drain storm water runoff resulted in uncontrolled water intrusion into safety-related equipment rooms. The inspectors assessed the finding using IMC 0609, Significance Determination Process (SDP), Att. 4, "Phase 1 - Initial Screening and Characterization of Findings," and determined the finding was potentially greater than very low safety significance because the finding increases the likelihood of an external flooding event. As a result, the characterization worksheet for Initiating Events required a Phase 3 analysis to be performed.

A Senior Reactor Analyst determined the increase in likelihood of flooding was of very low risk significance i.e., Green. The main contributors to the low risk results were: 1) the low frequency of a severe rainfall necessary to impact equipment in the plant, and 2)

Enclosure

the limited impact on risk-significant components affected by the postulated worst-case flood i.e., the 230kV switchyard and none of the equipment in the Auxiliary Building. The dominant core damage scenarios were valid demands for a reactor/turbine trip accompanied by a loss of the Unit Auxiliary Transformer, where the reactor fails to trip and high pressure mitigation fails.

The inspectors determined that the cause of this finding was related to the trending and assessment aspect in the Corrective Action Program component of the Problem Identification and Resolution cross-cutting area. Specifically, the licensee used less than-adequate trending and assessment techniques and thus failed to recognize a significant number of event pre-cursors that indicated an adverse trend in the site's ability to control storm water runoff. (P.1(b))

Enforcement: 10 CFR 50, Appendix B, Criterion III requires in part that the design basis is correctly translated into drawings and procedures, and the adequacy of design changes are verified or checked. Site procedure EGR-NGGC-0005, "Engineering Change," is used to implement this regulatory requirement. Contrary to the above, from November 1966 to April 2010 the licensee made several modifications to the site's topography without performing adequate design reviews that would have identified the aggregate effects of the proposed topography changes on storm water runoff. This resulted in the May 27, 2011, uncontrolled water intrusion into safety-related equipment rooms. This issue was entered into the licensee's corrective action program as NCR 468235. The licensee has initiated the following corrective actions to restore compliance:

- Implement an Engineering Change to restore grading and trenching to ensure storm runoff in the north plant area is directed to appropriate drains.
- Perform necessary design basis calculations to support compliance with 10 CFR 50, Appendix A, Criterion 2, "Design bases for protection against natural phenomena."
- Revise the interface agreement between Unit 1 and Unit 2 to coordinate changes to the site's topography controlled by Unit 1 to ensure review by Unit 2 engineering for impact to design, licensing, and regulatory requirements.
- Revise the site's design change procedures to require a sedimentation and erosion control plan when the potential for runoff of disturbed land exists.

Because this finding was of very low safety significance (Green), and was entered into the licensee's CAP as NCR 423147, this violation is being treated as an NCV, consistent with Section 2.3.2 of the NRC Enforcement Policy. (AV) 05000261/2011004-01, Water Intrusion into Safety-Related Buildings due to Inadequate Design of Site Storm Water Runoff Drainage System, is being updated as NCV 05000261/2011004-01, Failure to Perform Adequate Design Reviews Related to Site Topography Changes Result in Water Intrusion into Safety-Related Buildings.

Enclosure

1R04 Equipment Alignment

a. Inspection Scope

Partial System Walkdowns:

The inspectors performed the following three partial system walkdowns, while the indicated structures, systems, and/or components (SSCs) were out-of-service for maintenance and testing:

- 'B' Containment Vessel Spray System while 'A' Containment Vessel Spray System was out of service for corrective maintenance.
- 'A' and 'B' motor-driven auxiliary feedwater (MDAFW) pumps while the steam driven auxiliary feedwater (SDAFW) pump was out of service for a maintenance outage.
- 'A' DC Electrical System while the 'B' Battery Charger was unavailable for planned testing.

To evaluate the operability of the selected trains or systems under these conditions, the inspectors compared observed positions of valves, switches, and electrical power breakers to the procedures and drawings listed in the Attachment.

Complete System Walkdown:

The inspectors conducted a detailed review of the alignment and condition of the 'A' Emergency Diesel Generator (EDG) system to verify that the existing alignment of the system was consistent with the correct alignment. To determine the correct system alignment, the inspectors reviewed the procedures, drawings, and the UFSAR section listed in the Attachment. The inspectors also walked down the system. During the walkdown, the inspectors reviewed the following:

- Valves were correctly positioned and did not exhibit leakage that would impact the functions of any given valve.
- Electrical power was available as required.
- Major system components were correctly labeled, lubricated, cooled, ventilated, etc.
- Hangers and supports were correctly installed and functional.
- Essential support systems were operational.
- Ancillary equipment or debris did not interfere with system performance.

The inspectors reviewed the documents listed in the Attachment to verify that the ability of the system to perform its functions could not be affected by outstanding design issues, temporary modifications, operator workarounds, adverse conditions, and other system-related issues tracked by the engineering department.

The inspectors reviewed the following AR associated with this area to verify that the licensee identified and implemented appropriate corrective actions:

Enclosure

- 504063, Local Valve Position Indication Hard to Determine

b. Findings

No findings were identified.

1R05 Fire Protection

a. Inspection Scope

For the five areas identified below, the inspectors reviewed the control of transient combustible material and ignition sources, fire detection and suppression capabilities, fire barriers, and any related compensatory measures to verify that those items were consistent with UFSAR Section 9.5.1, Fire Protection System, and UFSAR Appendix 9.5.A, Fire Hazards Analysis. The inspectors walked down accessible portions of each area and reviewed results from related surveillance tests to verify that conditions in these areas were consistent with descriptions of the areas in the UFSAR. Documents reviewed are listed in the Attachment.

The following areas were inspected:

- Service Water Pump Intake Structure (fire zone 29)
- Charging Pump Room (fire zone 4)
- 'B' Diesel Generator Room (fire zone 1)
- Transformer Yard (fire zone 26)
- Rod Control Room (fire zone 21)

The inspectors reviewed the following ARs associated with this area to verify that the licensee identified and implemented appropriate corrective actions:

- 489547, Diesel Driven Fire Pump Engine Low Coolant Level
- 502103, Fire Door 5 did not Latch Without Assistance

b. Findings

No findings were identified.

1R11 Licensed Operator Regualification

a. Inspection Scope

The inspectors observed licensed-operator performance during requalification simulator training to verify that operator performance was consistent with expected operator performance, as described in Emergency Response Organization Integrated Exercise, dated October 11, 2011. This training tested the operators' ability to operate components from the control room, direct auxiliary operator actions, and determine the

Enclosure

appropriate emergency action level classifications while responding to seismic activity, safety injection accumulator 'A' low level alarm, loose parts monitoring system (LPMS) alarm, primary to secondary leak, main steam line break in containment, containment spray pump 'B' trip, 'B' steam generator tube rupture, catastrophic failure of the control rod drive mechanism housing and an off-site release due to a failure of a containment penetration in the auxiliary building. The inspectors focused on clarity and formality of communication, the use of procedures, alarm response, control board manipulations, group dynamics, and supervisory oversight.

The inspectors observed the post-exercise critique to verify that the licensee identified deficiencies and discrepancies that occurred during the simulator training.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness

a. Inspection Scope

The inspectors reviewed the two degraded SSC/function performance problems or conditions listed below to verify the appropriate handling of these performance problems or conditions in accordance with 10 CFR 50, Appendix B, Criterion XVI, Corrective Action, and 10 CFR 50.65, Maintenance Rule. Documents reviewed are listed in the Attachment.

The problems/conditions and their corresponding ARs were:

- 490132; Pressurizer Back Up Group 'B' Heaters Failed to Energize
- Maintenance Review of EDG Ventilation Systems

During the reviews, the inspectors focused on the following:

- Appropriate work practices;
- Identifying and addressing common cause failures;
- Scoping in accordance with 10 CFR 50.65(b);
- Characterizing reliability issues (performance);
- Charging unavailability (performance);
- Trending key parameters (condition monitoring);
- 10 CFR 50.65(a)(1) or (a)(2) classification and reclassification; and
- Appropriateness of performance criteria for SSCs/functions classified (a)(2) and/or appropriateness and adequacy of goals and corrective actions for SSCs/functions classified (a)(1).

The inspectors reviewed the following ARs associated with this area to verify that the licensee identified and implemented appropriate corrective actions:

Enclosure

- 504866, Supply of Spare Parts for the EDGs is Inadequate
- 504073, CM-026 and CM-144 Have Different Torque for DG-5A

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Evaluation

a. Inspection Scope

For the four samples listed below, the inspectors reviewed risk assessments and related activities to verify that the licensee performed adequate risk assessments and implemented appropriate risk-management actions when required by 10 CFR 50.65(a)(4). For emergent work, the inspectors also verified that any increase in risk was promptly assessed, and that appropriate risk-management actions were promptly implemented. Documents reviewed are listed in the Attachment. Those periods included the following:

- October 17, testing of the 'A' Containment Spray (CS) pump concurrent with maintenance work being performed on the 'A' Safety Injection (SI) pump
- October 24-25, planned maintenance outage of the steam-driven AFW pump
- November 2-3, maintenance outage for 'B' EDG extended due to issue with valves in fuel oil system concurrent with control rod exercising
- November 16, maintenance work performed on the 'B' service water pump concurrent with maintenance work being performed on the 'A' condenser vacuum pump and performing a capacity test of the 'A' battery charger

The inspectors reviewed the following ARs associated with this area to verify that the licensee identified and implemented appropriate corrective actions:

- 502239, Process Deficiency in Procedure WCP-NGCC-1000, Conduct of On-line Work Management
- 504083, 'A' EDG Risk Contingency

b. Findings

No findings were identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the three operability determinations associated with the ARs listed below. The inspectors assessed the accuracy of the evaluations, the use and control of any necessary compensatory measures, and compliance with the Technical

Enclosure

Specifications (TS). The inspectors verified that the operability determinations were made as specified by Procedure OPS-NGGC-1305, Operability Determinations. The inspectors compared the justifications provided in the determinations to the requirements from the TS, the UFSAR and associated design-basis documents to verify that operability was properly justified and the subject components or systems remained available, such that no unrecognized increase in risk occurred:

- 494070, 'B' SI Pump E2 (52/29B) Breaker Failed to Function in Test Position
- 490780, Pressurizer Heater Back-up 'A' Extent of Condition
- 488466, Dedicated Shutdown Diesel Generator (DSDG) Jacket Water Expansion Tank Indicates Low Off Scale

Documents reviewed are listed in the Attachment.

The inspectors reviewed the following ARs associated with this area to verify that the licensee identified and implemented appropriate corrective actions:

- 497748 'A' EDG Fuel Oil Line Chaffing On Exhaust Manifold Shield
- 505011, TI-974, Refueling Water Storage Tank (RWST) Temperature Indication Frozen at 83 F

b. Findings

No findings were identified.

1R18 Plant Modifications

.1 Temporary Modification

a. Inspection Scope

The inspectors reviewed the temporary modification described in Engineering Change 82964, Temporarily Disable Fire Detection Zone 26 'A' Train Detection, to verify that the modification did not affect the safety functions of important safety systems, and to verify that the modification satisfied the requirements of Procedure EGR-NGGC-005, Engineering Change, and 10 CFR 50, Appendix B, Criterion III, Design Control. This temporary modification temporarily disables the failed heat detector in fire protection zone 26A inside containment.

Documents reviewed are listed in the Attachment.

The inspectors reviewed the following ARs associated with this area to verify that the licensee identified and implemented appropriate corrective actions:

- 497764, Day Tank Solenoid Valves EV-1693B-1 and EV-1963B-2 Failed Bench Calibration

Enclosure

- 504158, Suspect 50.59 Screen for Procedure Change

b. Findings

No findings were identified.

1R19 Post Maintenance Testing

a. Inspection Scope

For the six post-maintenance tests listed below, the inspectors witnessed the test and/or reviewed the test data to verify that test results adequately demonstrated restoration of the affected safety functions described in the UFSAR and TS. Documents reviewed are listed in the Attachment.

The following tests were witnessed/reviewed:

- WO 1817072, Replace relay TX/AFW-PMP-B and WO 1817073, Replace relay DPX/AFW-PMP-B, PMT in accordance with OST-201-2, MDAFW System Component Test – Train B, Rev. 29
- WO 1803569, Performed maintenance in accordance with MST-012-3, Maintenance and Testing of Reactor Trip Bypass Breakers on 'A' Reactor Trip Breaker; PMT in accordance with MST-012-1, Maintenance and Testing of 'B' Reactor Trip Breaker, Rev. 5
- WO 893353, Check Valve Inspection – AFW 84, PMT in accordance with OST-206, Comprehensive Flow Test for the Steam Driven Auxiliary Feedwater Pump, Rev. 7
- EC 82844, Air motor replacement for EDG Room ventilation supply, PMT in accordance with WO 1991063-12, Exercise Damper to Demonstrate Opening
- WO 1512225, Replace 'B' EDG Fuel Oil Day Tank Solenoid Valves, EC 72331; PMT in accordance with OST-402-2, EDG B Diesel Fuel Oil System Flow Test, Rev. 35
- WO 1291125, Replace Engine Driven Jacket Water Pump on 'A' EDG; PMT in accordance with OST-401-1, EDG 'A' Slow Speed Start, Rev. 51

The inspectors reviewed the following ARs associated with this area to verify that the licensee identified and implemented appropriate corrective actions:

- 496430, EDG Recirculation Damper Partially Open
- 488838, PLP-033 EDG PMT Guidance Requires More Specificity

b. Findings

No findings were identified.

Enclosure

1R22 Surveillance Testinga. Inspection Scope

For the six surveillance tests listed below, the inspectors witnessed testing and/or reviewed the test data to verify that the systems, structures, and components involved in these tests satisfied the requirements described in the TS, the UFSAR, and applicable licensee procedures, and that the tests demonstrated that the SSCs were capable of performing their intended safety functions. Documents reviewed are listed in the Attachment.

- EST-010, Containment Personnel Airlock Leakage Test, Rev. 31
- OST-401-1, EDG 'A' Slow Speed Start, Rev. 50
- OST-401-2, EDG 'B' Slow Speed Start, Rev. 47
- OST-303-2, Service Water Booster Pump 'B' Test
- OST-251-1, RHR Pump 'A' and Components Test

Inservice Testing Surveillance

- OST-252-2, RHR Valve Test-Train 'B'

The inspectors reviewed the following ARs associated with this area to verify that the licensee identified and implemented appropriate corrective actions:

- 494292, OST-401-1 Meter Identification
- 494373, Quarterly Testing of 'A' RHR Pump Not Scheduled Correctly

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator (PI) Verificationa. Inspection Scope

The inspectors verified the PIs identified below. For each PI, the inspectors verified the accuracy of the PI data that had been previously reported to the NRC by comparing those data to the actual data, as described below. The inspectors also compared the licensee's basis in reporting each data element to the PI definitions and guidance contained in NEI 99-02, "Regulatory Assessment Indicator Guideline," Rev. 4. In addition, the inspectors interviewed licensee personnel associated with collecting, evaluating, and distributing these data.

Enclosure

Initiating Events Cornerstone

- Unplanned Scrams/7000 critical hours
- Unplanned Scrams with Complications
- Unplanned Power Changes/7000 critical hours

For the period from January 1, 2011, through September 30, 2011, the inspectors reviewed a selection of licensee event reports, operator log entries, daily reports (including the daily CR descriptions), monthly operating reports, and PI data sheets to verify that the licensee had accurately identified the number of scrams and unplanned power changes greater than 20 percent that occurred during the subject period. The inspectors compared those numbers to the numbers reported by the licensee for the PI. The inspectors also reviewed the accuracy of the number of critical hours reported, and the licensee's basis for crediting normal heat removal capability for each of the reported reactor scrams.

Mitigating Systems Cornerstone

- Emergency AC Power Systems
- High Pressure Safety Injection Systems
- Heat Removal Systems

For the period from October 1, 2010, through September 30, 2011, the inspectors reviewed Licensee Event Reports (LERs), records of inoperable equipment, and Maintenance Rule records to verify that the licensee had accurately accounted for unavailability hours that the subject systems had experienced during the subject period. The inspectors also reviewed the number of hours those systems were required to be available and the licensee's basis for identifying unavailability hours.

The inspectors reviewed the following AR associated with this area to verify that the licensee identified and implemented appropriate corrective actions:

- 494348, Drill and Exercise Performance NRC PI Data Correction

b. Findings

No findings were identified.

4OA2 Identification and Resolution of Problems

.1 Routine Review of ARs

To aid in the identification of repetitive equipment failures or specific human performance issues for followup, the inspectors performed frequent screenings of items entered into the CAP. The review was accomplished by reviewing daily AR reports.

Enclosure

.2 Annual Sample Review

a. Inspection Scope

The inspectors selected 495659, ACC-2A Tripped, for detailed review. The inspectors reviewed these reports to verify:

- complete and accurate identification of the problem in a timely manner;
- evaluation and disposition of performance issues;
- evaluation and disposition of operability and reportability issues;
- consideration of extent of condition, generic implications, common cause, and previous occurrences;
- appropriate classification and prioritization of the problem;
- identification of root and contributing causes of the problem;
- identification of corrective actions which were appropriately focused to correct the problem; and
- completion of corrective actions in a timely manner.

The inspectors also reviewed these ARs to verify compliance with the requirements of the CAP as delineated in Procedure CAP-NGGC-0200, Corrective Action Program, and 10 CFR 50, Appendix B. Documents reviewed are listed in the Attachment.

- 494329, SL5 Reactivity Event due to Trip of ACC-2A
- 495489, Trip of ACC-2A/2B
- 496542, SL5 Reactivity Event due to ACC-2A Abnormal Operation
- 496433, SL5 Reactivity Event due to Trip of ACC-2A

b. Observations and Findings

No findings were identified.

.3 Semi-Annual Trend Review

a. Inspection Scope

The inspectors performed a review of the CAP and associated documents to identify trends that could indicate the existence of a more significant safety issue. The inspector's review focused on repetitive equipment issues, but also considered the results of daily inspector CAP item screening discussed in Section 40A2.1, licensee trending efforts, and licensee human performance results. The inspector's review nominally considered the six month period of July, 2011, through December, 2011, although some examples may expand beyond those dates when the scope of the trend warranted. The review included issues documented outside the normal CAP, in major equipment problem lists, repetitive and/or rework maintenance lists, departmental problem/challenges lists, system health reports, quality assurance audit/surveillance reports, self assessment reports, and Maintenance Rule assessments. The inspectors

Enclosure

compared and contrasted their results with the results contained in the latest monthly and quarterly trend reports. Corrective actions associated with a sample of the issues identified in the trend reports were reviewed for adequacy. The specific documents reviewed are listed in the Attachment.

The inspectors also evaluated the trend reports against the requirements of the CAP as specified in 10 CFR 50, Appendix B, Criterion XVI, and in Procedures CAP-NGGC-0200, Corrective Action Program, and CAP-NGGC-0206, Corrective Action Program Trending and Analysis.

b. Assessment and Observations

No findings were identified. The inspectors evaluated trending methodology and observed that the licensee had performed a detailed review. The licensee routinely reviewed cause codes, involved organizations, key words, and system links to identify potential trends in their CAP data. The inspectors compared the licensee process results with the results of the inspectors' daily screening, and did not identify any discrepancies or potential trends in the CAP data that the licensee had failed to identify.

4OA3 Event Follow-up

.1 (Closed) Licensee Event Report (LER) 05000261/2011-002-00, Reactor Trip due to Failed Relay Coil and Actuation of Auxiliary Feedwater

Following the reactor trip that occurred on September 26, 2011, the inspectors reviewed the status of mitigating systems and fission product barriers, equipment and personnel performance, and related plant management decisions to assist NRC management in making an informed evaluation of plant conditions. The trip was caused by the failure of the "C" RCP Breaker Loop 3 Low Flow Relay. This failure resulted in a signal being sent to the Reactor Protection System (RPS) indicating that the supply breaker for the "C" RCP was open, when in fact the breaker remained closed and the RCP continued running throughout the event. RPS interpreted this signal as a loss of flow in one reactor coolant loop, and automatically tripped the reactor. The inspectors also reviewed post-trip activities to verify that the licensee identified and resolved event-related issues prior to restarting the plant. For corrective actions prior to returning the unit to service, the licensee replaced the failed relay and ten other relays that were determined to be susceptible to the same failure mechanism. Documents reviewed are listed in the Attachment. No findings or NRC violations were identified during the review of this LER. This LER is closed.

Enclosure

4OA5 Other Activities

.1 Quarterly Resident Inspector Observations of Security Personnel and Activities

a. Inspection Scope

During the inspection period, the inspectors observed Security force personnel and activities to ensure that the activities were consistent with licensee security procedures and regulatory requirements relating to nuclear plant security. These observations took place during both normal and off-normal plant working hours.

These quarterly resident inspector observations of security force personnel and activities did not constitute any additional inspection samples. Rather, they were considered an integral part of the inspectors' normal plant status review and inspection activities.

b. Findings

No findings were identified.

.2 Periodic Resident Inspector Review of INPO Evaluations

The inspectors and Branch Chief reviewed the draft Institute of Nuclear Power Operations (INPO) evaluation dated December 5, 2011. The report was reviewed 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.

4OA6 Meetings, Including Exit

On January 19, 2012, the resident inspectors presented the inspection results to Mr. Randy Gideon and other members of his staff. The inspectors confirmed that proprietary information was not provided or examined during the inspection.

4OA7 Licensee-Identified Violation

The following finding of very low significance (Green) was identified by the licensee and is a violation of NRC requirements which meet the criteria of the NRC Enforcement Policy for being dispositioned as an NCV.

- 10 CFR 50.47(b)(4) requires in part, a standard scheme of emergency classification and action levels the basis of which include facility system and effluent parameters. PLP-007, Robinson Emergency Plan, and the associated Emergency Action Level (EAL) Matrices provide guidance for emergency classification. Contrary to the above, on December 6, 2011, the licensee identified that the Unusual Event (UE) (RU1.1) and Alert (RA1.1) EAL criteria for the Liquid Waste Disposal Effluent could not be achieved due to the monitor range capability. Specifically, the R-18 effluent monitor instrument range has a maximum range of 1.0E+06 with the alarm set at 1.0E+06. The UE and Alert criteria, which are 2 times the alarm for at least 60 minutes and 200 times the alarm for

Enclosure

at least 15 minutes respectively, both exceed the instrument range. Additionally, on December 8, 2011, the licensee identified that the same EAL classification criteria for the Steam Generator Blowdown radiation monitors and the Condensate Polisher Sump discharge radiation monitor could not be achieved due to the monitors' range capability. Specifically, the R-19 A, B, C and the R-37 monitors instrument range have a maximum range of $1.6\text{E}+06$ which is less than the classification criteria. This finding was evaluated using IMC 0609 Appendix B and was determined to be Green, because the specified radiation monitors created a condition such that an existing EAL would not be declared for one Alert or Notification of Unusual Event. Immediate corrective actions by the licensee were to establish guidance to declare an Alert if the alarm was reached on any of these radiation monitors if flow could not be stopped within 15 minutes. Planned long term corrective actions include adjusting the radiation monitor alarms and revising the EAL criteria. This issue is in the licensee's CAP as NCR 499498.

ATTACHMENT: SUPPLEMENTAL INFORMATION

Enclosure

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel

T. Cosgrove, Plant General Manager
H. Curry, Training Manager
R. Gideon, Vice President
J. Rotchford Jr., Environmental & Chemistry Superintendent
R. Hightower, Licensing
T. Hobbs, Nuclear Oversight Manager
B. Houston, Radiation Protection Superintendent
C. Kamlaris, Manager, Support Services
G. Kilpatrick, Operations Manager
L. Martin, Engineering Manager
B. Matherne, Outage & Scheduling Manager
C. Morris, Maintenance Manager

NRC personnel

R. Musser, Chief, Reactor Projects Branch 4

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Closed

05000261/2011-002-00	LER	Reactor Trip due to Failed Relay Coil and Actuation of Auxiliary Feedwater (Section 4OA3)
05000261/2011004-01	NCV	Failure to Perform Adequate Design Reviews Related to Site Topography Changes Result in Water Intrusion into Safety-Related Buildings (Section 1R01)

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

For cold weather:

Procedures

OP-925, Cold Weather Operation, Rev .48

OP-402, Auxiliary Feedwater System, Rev. 77

Action Requests

496946, SWS-385 and Associated Piping Needs To Be Insulated

498274, Inconsistencies between OP-402 and OP-925, OP-925 Deficient

Section 1R04: Equipment Alignment

Partial System Walkdown

Procedures

OP-202, Safety Injection and Containment Vessel Spray System, Rev. 86

OP-402, Auxiliary Feedwater System, Rev. 77

OP-601, DC Supply System, Rev. 49

Drawings

Drawing No. 5379-1082 Sheet 3 Safety Injection System Flow Diagram, Rev. 26

Drawing G-190197, Feedwater Condensate and Air Evacuation System, Sheet 1, Rev. 79

Drawing G-190197, Feedwater Condensate and Air Evacuation System, Sheet 4, Rev. 60

Other documents

SD-038, DC Electric System Description

SD-016, 480V Electrical System Description

SD-039, 230/4 kVAC Electrical System Description

Complete System Walkdown

Procedures

OP-604, Diesel Generators 'A' and 'B', Rev. 87

Work Orders

WO #1807323, Obtain Lube Oil Samples From 'A' Emergency Diesel Crankcase

WO #1927638, 'A' EDG, Replace Coolant Using New Additive

WO #2007026, 'A' EDG, Check For Combustion Gas Through Expansion Tank

WO #2004218, Adjust Fuel Drain Line on 'A' EDG

WO #1885266, 'A' EDG, Inspect the Overspeed Trip Linkage/Fuel Rack

WO #1571809, 'A' EDG, Inspect Fuel Injection Compartment Fittings

WO #1765740, 'A' EDG, Inspect EDG Engine Barring Mechanism

Drawings

Drawing G-190204A, Emergency Diesel Generator System Flow Diagram, Sheet 1, Rev.32
 Drawing G-190204A, Emergency Diesel Generator System Flow Diagram, Sheet 2, Rev.18
 Drawing G-190204A, Emergency Diesel Generator System Flow Diagram, Sheet 3, Rev.19

Other documents

SD-005, Emergency Diesel Generator System
 UFSAR Section 8.3 Onsite Electrical Power Systems

Section 1R05: Fire ProtectionUFSAR Sections of Appendix 9.5.1A

Section 3.9.1 Fire Zone 29-Service Water Pump Area
 Section 3.1.1 Fire Zone 1- Diesel Generator 'B' Room
 Section 3.7.9 Fire Zone 26- Yard Transformers
 Section 3.1.5 Fire Zone 21 Rod Control Room

Procedures

OMM-003, "Fire Protection Pre-Plans/Unit 2", Rev. 57
 OMM-002, "Fire Protection Manual", Rev .45

Drawings

HBR2-11937 Sheet 45 "Fire Pre-Plan Service Water Pump / Intake Structure", Rev. 0
 HBR2-11937 Sheet 7 "Fire Pre-Plan Charging Pump Room, Rev. 1
 HBR2-11937 Sheet 11" Fire Pre-Plan 'B' Diesel Generator Room, Rev. 2
 HBR2-11937 Sheet 57 "Fire Pre-Plan Transformer Yard", Rev.0
 HBR2-11937 Sheet 31" Fire Pre-Plan Rod Control Room", Rev. 0

Section 1R12: Maintenance EffectivenessWork Orders

503292, Pressurizer Backup Group 'B' Heaters Failed to Energize

Action Requests

490132, Pressurizer Back Up Group 'B' Heaters Failed to Energize
 494073, Breaker 56/6B Control Power Fuses Appear to Be Blown
 488830, HVE-17 Discharge Dampers Did Not Open When Fan Started

Other documents

For system 480V AC Distribution System:

- Expert Meeting Minutes for 1997 - 2011
- Scoping and Performance Criteria

For system Reactor Auxiliary Ventilation System:

Event Log Report for 12/15/2009 – 12/15/2011
 Scoping and Performance Criteria

Other documents

EC 82814R0, Time Delays to Pressurizer Heater Back Up Groups A and B
UFSAR, 9.4.4 Reactor Auxiliary Building Ventilation

Section 1R13: Maintenance Risk Assessments and Emergent Work Evaluation

Procedures

Procedure OMM-048, Work Coordination and Risk Assessment, Rev. 48

Other documents

Risk profile for 10/17 through 10/23
Risk profile for 10/24 through 10/28
Risk profile for 10/31 through 11/06
Risk profile for 11/14 through 11/20

Section 1R15: Operability Evaluations

Procedures

EPP-21, Energizing Pressurizer Heaters from Emergency Busses, Rev. 18

Work Orders

01994273, Breaker Failed to Close in the Test Position
01692323, Dedicated Shutdown Diesel Generator Inspection

Action Requests

494070, 'B' SI Pump E2 (52/29B) Breaker Failed to Close in Test
413865, Perform Non-conformance Evaluation
488466, DSDG Jacket Water Expansion Tank Indicates Low Off Scale

Other documents

EC 83217 Rev. 0, Breaker 52/29B 480v Bus to E2 SI Pump 'B' Test Position Evaluation
Root Cause Evaluation 413865, Inoperability of Pressurizer Heaters from 'B' EDG, Rev. 1
Drawing No. CP-300-5379-3694, Pressurizer Heater Control, Rev. 4
Quick Cause Evaluation Report for NCR 488466

Section 1R18: Plant Modifications

Other documents

EC 82964 Temporarily Disable Fire Detection Zone 26 'A' Train Detection
REG-NGGC-0010 Rev. 16 Attachment 1 -- Screening for EC 82964 (including 10 CFR 50.59)
REG-NGGC-0010 Rev. 16 Attachment 6 -- Fire Protection Program Evaluation for EC 82964
EC 81014, "C" Charging Pump Oil Level Sightglass Installation
EC 79219, Oil Level Sight Gage on Charging Pumps

Section 1R19: Post Maintenance Testing

Procedures

OST-201-2, MDAFW System Component Test – Train B, Rev. 29
 MST-012-1, Maintenance and Testing of 'A' Reactor Trip Breaker, Rev.5
 OST-206, Comprehensive Flow Test for the Steam Driven Auxiliary Feedwater Pump, Rev. 7
 OST-402-2, EDG B Diesel Fuel Oil System Flow Test, Rev. 35
 PLP-033, Post-Maintenance Testing (PMT) Program, Rev.54
 MNT-NGGC-0014, Aeroquip Marman/ Dresser Coupling, Rev. 0

Work Orders

WO 01817072, Replace relay TX/AFW-PMP-B
 WO 01817073, Replace relay DPX/AFW-PMP-B
 WO 893353, Check Valve Inspection – AFW 84
 WO 01990273, HVAC-15: Perform PMT for EC82860
 WO 01991063, HVS-6-DMP-AM-2; Exercise Damper to Demonstrate Opening
 WO 01991063, HVS-6-DMP-AM-1; Exercise Damper to Demonstrate Opening
 WO 1990276, SV-A17: Perform PMT; EC 82844
 WO 1990279, HVE-18-DMP: Perform; EC 82844
 WO 1991060, HVE-18, Exercise Damper to Demonstrate Opening and Closing
 WO 1991063, HVS-6-DMP-AM-2; PMT: Leak Test of Pneumatic Connections
 WO 1991060-05, HVE-18, PMT: Leak Test of Pneumatic Connections and Tubing
 WO 1991063-04, HVS-6-DMP-AM; PMT: Leak Test of Pneumatic Connections

Other documents

VTM-729-063-16, Fairbanks Morris Power Systems Products, 08/18/2011

Section 1R22: Surveillance Testing

Procedures

OST-401-1, EDG 'A' Slow Speed Start, Rev. 50
 OST-401-1, EDG 'B' Slow Speed Start, Rev. 47
 OST-252-2, RHR System Valve Test-Train 'B', Rev. 22
 OST-258-2, RHR Valve Position Indicator Verification –Train 'B', Rev. 8
 OST-303-2, Service Water Booster Pump 'B' Test, Rev. 16
 CM-026, Emergency Diesel Generator Lube Oil Pump and Water Pump Maintenance, Rev. 14
 OST-251-1, RHR Pump 'A' and Components Test, Rev. 26

Work Orders

WO 1806253-01, OST-401-2(M1) 'B' EDG Slow Speed Start
 WO1927638-02, Replace EDG 'A' Coolant Chromates with New Chemical

Section 4OA2: Identification and Resolution of Problems

Procedures

CAP-NGGC-0200, Corrective Action Program, Rev. 34
 CAP-NGGC-0206, Corrective Action Program Trending and Analysis, Rev. 5

OP-906, Heating, Ventilation, and Air Conditioning, Rev. 57
SPP-045, Supplemental Cooling for U-2 Cable Spreading Room and Hagan Room, Rev. 11

Work Orders

1999065, ACC-2A Tripped

Action Requests

494329, SL5 Reactivity Event due to Trip of ACC-2A
495489, Trip of ACC-2A/2B
495659, ACC-2A Tripped
496433, SL5 Reactivity Event due to Trip of ACC-2A
496542, SL5 Reactivity Event due to ACC-2A Abnormal Operation

Other documents

Engineering Change 53928, Supplemental Cooling for the Unit 2 Cable Spreading Room and Hagan Room HVAC System, Rev. 5
ACC-2A Hagan Room Air Conditioning Action Plan
3rd Quarter 2011 System Health Report for System 8210/8220, HVAC Auxiliary Building/Control Room Area
Robinson Corrective Action Roll-up Report, 9/2011- 11/2011

Section 4OA3: Event Follow-up

Procedures

ADM-NGGC-0107, Equipment Reliability Process
NGG-PMB-RLY-01, Equipment reliability Template Control Relay

Action Requests

361251, Single Point Vulnerability

Other documents

EC 82929, Extent of Condition for AR 490203