



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

October 30, 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 05000261/2012004**

Dear Mr. Gideon,

On September 30, 2012, 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 October 29, 2012, with R. Hightower.

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 NRC identified finding of very low safety significance (Green) was identified during this inspection. The 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 (NCV) consistent with Section 2.3.2 of the Enforcement Policy.

If you contest the violation or significance of the NCV, 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.

In addition, if you disagree with the cross-cutting aspect assignment in this report, you should provide a response within 30 days of the date of this report, with the basis for your disagreement, to the Regional Administrator, Region II, and the NRC Resident Inspector at H.B. Robinson.

R. Gideon

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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 Agency wide 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 05000261/2012004  
w/Attachment: Supplemental Information

cc w/encls: (See page 3)

R. Gideon

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Sincerely,

**/RA/**

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

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cc w/encls: (See page 3)

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R. Gideon

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Letter to William R. Gideon from Randall A. Musser dated October 30, 2012.

SUBJECT: H.B. ROBINSON STEAM ELECTRIC PLANT - NRC INTEGRATED INSPECTION  
REPORT 05000261/2012004

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**U. S. NUCLEAR REGULATORY COMMISSION**

**REGION II**

Docket No: 50-261

License No: DPR-23

Report No: 005000261/2012004

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

Location: 3581 West Entrance Road  
Hartsville, SC 29550

Dates: July 1, 2012 through September 30, 2012

Inspectors: J. Hickey, Senior Resident Inspector  
C. Scott, Resident Inspector  
D. Jones, Senior Reactor Inspector, (1R17)  
D. Mas-Peñaranda, Reactor Inspector, (1R17)  
M. Coursey, Reactor Inspector, (1R17)  
M. Singletary, Reactor Inspector (in training), (1R17)  
L. Lake, Senior Reactor Inspector, (4OA5.3)

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

Enclosure

## SUMMARY OF FINDINGS

IR 05000261/2012004, Carolina Power and Light Company; on 07/01/2012-09/30/2012; H.B. Robinson Steam Electric Plant, Unit 2; Maintenance Effectiveness.

The report covered a three month period of inspection by resident inspectors and announced inspections by reactor inspectors. One 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). 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: Mitigating Systems**

- Green. The inspectors identified a Green non-cited violation (NCV) of 10 CFR 50.65(b)(2), "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," because the licensee failed to include all aspects of the Fuel Oil System in the maintenance rule program. Specifically, the fuel oil supply to the Technical Support Center (TSC) Emergency Operations Facility (EOF) Security Diesel is required to support the diesels emergency operating procedure (EOP) function of providing back-up power to security lighting and the plant computer system. The licensee entered the issue into their corrective action program (CAP) as Nuclear Condition Report (NCR) 560424. The licensee corrective actions included revising the scoping document of the fuel oil system to include its function of providing fuel to the diesel.

The failure to scope in the fuel oil system function of providing fuel to the TSC/EOF/Security Diesel to the maintenance rule program was a performance deficiency. The finding was more than minor because it impacted the equipment performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to scope in the fuel oil supply to the maintenance rule could affect the TSC/EOF/Security reliability and the accomplishment of EOPs. This finding was considered to have very low safety significance (Green) because the finding did not cause a loss of mitigation equipment functions and did not represent an actual loss of function of one or more non-Technical Specification Trains of equipment designated as high safety-significant in accordance with the licensee's maintenance rule program for more than 24 hours. This finding had a cross cutting aspect in the Corrective Action Program component of the Problem Identification and Resolution area, because the licensee failed to perform a thorough evaluation, such that the necessary support systems for the TSC/EOF/Security diesel were identified and added to the maintenance rule program (P.1(c)). (Section 1R12)

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**B. Licensee-Identified Violations**

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

## REPORT DETAILS

Summary of Plant Status: The unit began the inspection period at rated thermal power. On July 27, 2012, the licensee conducted a downpower to 50 percent power to perform turbine valve maintenance. The unit returned to full power on July 30, 2012, and operated at full power for the remainder of the inspection period.

### 1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

#### 1R01 Adverse Weather Protection

##### External Flooding

##### a. Inspection Scope

The inspectors reviewed flood protection barriers and procedures for coping with external flooding to ensure they were appropriate. The inspectors reviewed the Final Safety Analysis Report (FSAR) and related flood analysis documents to identify those areas that can be affected by external flooding. The inspectors also reviewed problem reports and corrective actions for past flooding events, including the heavy rain event on May 2011. Inspectors conducted a walkdown of the site boundary to further assess the adequacy of the design features relied upon to mitigate the effects of external flooding. In addition, the inspectors met with site engineering to discuss the status of planned modifications to the site topography and their impact on external flood mitigation.

Documents reviewed are listed in the Attachment.

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

- 557395, Camera used to check oil level in the auxiliary building sump pumps needs improvement.
- 555966, Unit 1 coal pile drainage trench has sediment buildup.

##### b. Findings

No findings were identified.

#### 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 or following surveillance testing:

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- “A” Containment Spray Pump following surveillance testing.
- “A” Emergency Diesel Generator (EDG) while the “B” EDG was out of service for surveillance testing
- Motor Driven Fire Pump while Engine Driven Fire Pump was out of service for maintenance

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.

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

- 506938, Overcurrent relay 151-1 for MCC-5 Phase-A is partially dropped.
- 535557, CVC-297 A,B,C Reactor Coolant Pump Seal Injection throttle valves do not have orange containment isolation identification tags.

b. Findings

No findings were identified.

1R05 Fire Protection

.1 Quarterly Resident Inspector Tours

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 Updated Final Safety Analysis Report (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:

- Rod Control Room (fire zone 21)
- Dedicated Shutdown Diesel Generator (DSDG) Enclosure (fire zone 25)
- 4160 Volt Switchgear Room (fire zone 25)

- Auxiliary Feedwater Pump Room (fire zone 6)
- Spent Fuel Pit (fire zone 28A)

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

- 506438, Adverse Trend in Exceeding the Allowable Out-of-Service Time in Fire Barriers
- 540896, Portable Podiums in Emergency Bus Switchgear Rooms and Hagan Room without Combustible Tag

b. Findings

No findings were identified.

.2 Annual Fire Protection Drill Observation

a. Inspection Scope

To evaluate the readiness of personnel to fight fires, the inspectors observed fire brigade performance during an unannounced drill in the 4160 volt switchgear room on September 21, 2012. This included observing the pre-drill briefing for the drill controllers, dress out of the fire brigade members in the fire locker, fire brigade performance at the fire scene, and the post-drill critiques for the controllers and the fire brigade. The inspectors evaluated the fire brigade performance to verify that they responded to the fire in a timely manner, donned proper protective clothing, used self-contained breathing apparatus, and had the equipment necessary to control and extinguish the fire. The inspectors also assessed the adequacy of the fire brigade's fire fighting strategy including entry into the fire area, communications, search and rescue, and equipment usage.

b. Findings

No findings were identified.

1R06 Flood Protection Measures

.1 Internal Flooding

a. Inspection Scope

The inspectors reviewed the following two areas because they contain risk-significant SSCs which are susceptible to flooding from postulated pipe breaks. The inspectors walked down the areas to verify that the physical configuration, features, and equipment functions were consistent with the descriptions and assumptions used in Calculation RNP-F/PSA-0009, Assessment of Internally Initiated Flooding Events and in the supporting basis documents listed in the Attachment. The inspectors reviewed the

operator actions credited in the analysis to verify that the desired results could be achieved using the plant procedures listed in the Attachment.

- Service Water Intake Structure
- Reactor Auxiliary Building Wall Penetrations near the Station Air Compressors

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification

a. Inspection Scope

The inspectors observed three samples of licensed-operator performance during requalification simulator training of the following scenario for three different crews to verify expected operator performance, as described in Exercise Guide Lesson Number LOCT 1207-3/LOC1207R-S3, Rev. 0. This training tested the operators' ability to operate components from the control room and direct auxiliary operator actions, while responding to an initial turbine roll to synchronous speed, placing the main generator online, a failed individual rod position indication, a leak in the north service water header, and high turbine vibrations which required a turbine trip and plant stabilization. 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.

Licensed Operator Performance in the Actual Plant/Main Control Room

The resident inspectors were in the control room to observe and assess licensee operator performance during a 50 percent power reduction to troubleshoot and repair intermittent errors associated with main turbine #1 control valve digital control circuit. During this period of heightened risk the inspectors verified that the licensed operator's actions and communication were in accordance with OMM-001, Conduct of Operations, Rev. 38.

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

- 404328, In the simulator, operators stopped using adverse numbers after containment pressure dropped below setpoint.

b. Findings

No findings were identified.

## 1R12 Maintenance Effectiveness

### a. Inspection Scope

The inspectors reviewed the five 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:

- Maintenance History of the Auxiliary Building Floor Drains
- 553464, QM-502 Reactor Coolant System Over Pressure Protection Module Found out of Tolerance
- Maintenance Rule Scoping of the Fuel Oil System
- 560663, Gaps Between (MOV) Motor Operated Valve Preventative Maintenance Program Task and RNP Limitorque Grease Inspections
- Reactor Protection Bi-stable Module Output Failures

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:

- 561890, Auxiliary Feedwater Flow Control Valve Packing Adjustment delayed due to system not being pressurized.
- 560219, Conduit below SI-837, Refueling Water Storage Tank Drain Valve has degraded due to contact with boric acid.

b. Findings

Introduction: The inspectors identified a Green Non-Cited Violation (NCV) of 10 CFR 50.65 (b) (2), "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," because the licensee failed to include all aspects of the fuel oil system into the maintenance rule. Specifically, the licensee failed to scope in the fuel oil supply to TSC/EOF/Security diesel into the maintenance rule monitoring program.

Description: The inspectors reviewed the licensee's maintenance rule scoping documents for the TSC/EOF/Security diesel generator and the fuel oil system. The inspectors noted that the TSC/EOF/Security diesel generator was scoped into the maintenance rule program because the diesel provides back-up power to several high mast security lights. The high mast security lights illuminate plant areas that contain EOP components and safe shutdown pathways. As such, its function is implied in the use of the EOPs. Additionally, the security diesel provides back up power to the plant computer system, Emergency Response Facility Information System (ERFIS), which is also an implied, EOP function. One of the functions listed in the fuel oil scoping document is to provide fuel oil to TSC/EOF/Security diesel. However, the fuel oil scoping document stated that the "TSC/EOF/Security diesel is not in scope in the maintenance rule, therefore its fuel oil supply is also excluded". The inspectors were concerned that the fuel oil supply to the TSC/EOF/Security diesel, including the day tank, day tank transfer pump, fuel and associated piping were not being monitored under the licensee's maintenance rule program. The inspectors raised this concern to site engineering and the licensee entered the issue into the CAP program.

The TSC/EOF/Security diesel was added to the maintenance rule program in 2010. The decision was partially based on operating experience that Robinson received regarding another licensee's failure to include all aspects of a SSC, required for EOP execution, within the maintenance rule. Robinson's maintenance rule expert panel evaluated this OE for applicability and decided to include the TSC/EOF/Security diesel in the scope of the maintenance rule due to its EOP function. The inspector's discussions with the licensee revealed that the scoping documentation of fuel oil systems was never revised to include its function of providing fuel to the TSC/EOF/Security diesel. Consequently, the licensee failed to evaluate the need for preventive maintenance for the fuel oil supply, including the day tank, day tank transfer pump and associated piping.

Analysis: The inspectors determined that the failure to scope in the fuel oil system function of providing fuel to the TSC/EOF/Security Diesel was a performance deficiency. The finding was more than minor because it impacted the equipment performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to scope in the fuel oil supply to the Maintenance Rule could affect the TSC/EOF/Security diesel reliability and the accomplishment of EOPs. This finding was considered to have very low safety significance (Green) because the finding did not cause a loss of mitigation equipment functions and did not represent an actual loss of function of one or more non-Tech Spec Trains of equipment designated as high safety-significant in accordance with the licensee's maintenance rule program for greater than 24 hrs. This finding had a

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cross cutting aspect in the Corrective Action Program component of the Problem Identification and Resolution area, because the licensee failed to perform a thorough evaluation, such that the necessary support systems for the TSC/EOF/Security diesel were identified and added to the maintenance rule program (P.1(c)).

Enforcement: 10 CFR 50.65, paragraph (b)(2), "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants." requires, in part, that the scope of the monitoring program includes non-safety related structures, systems, or components that are relied upon to mitigate accidents or transients or are used in plant EOPs. Contrary to the above, in 2010, during Maintenance Rule scoping of the TSC/EOF/Security diesel, the licensee failed to scope in the fuel oil system's required function of providing fuel to the diesel. The fuel oil to the TSC/EOF/Security diesel is required to support the diesels EOP function of providing back-up power to security lighting and the plant computer system. Robinson's corrective actions included revising the scoping document of the fuel oil system to include its function of providing fuel to the diesel. Because this finding is of very low safety Significance (Green) and has been entered into the corrective action program as NCR 560424, this violation is being treated as an NCV, consistent with the NRC Enforcement Policy. NCV 05000261/2012004-01, Failure to Include the Fuel Oil Supply to the TSC/EOF/Security Diesel in the Maintenance Rule.

#### 1R13 Maintenance Risk Assessments and Emergent Work Evaluation

##### a. Inspection Scope

For the five 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:

- July 16 through July 23, repair LCV-115B Volume Control Tank Inlet Divert Valve, "B" steam generator steam flow instruments calibration, primary instrument air compressor inspection and repair
- July 23 through July 30, "B" Auxiliary Feedwater Pump oil change, Switchyard circuit breaker OCB 52/7 repair, CVC-2941 Seal Water Injection Filter isolation valve repair
- August 13 through August 20, pressurizer power operated relief valve control circuit repairs, "A" train reactor protection system testing, "A" train engineered safeguards system testing
- August 14, emergent response to a coolant leak on the engine drive fire pump.
- September 18, Yellow Risk condition for scheduled maintenance on the engine driven fire pump and steam driven auxiliary feedwater pump



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

- 558609, “B” Emergency Diesel Fire Damper Testing Re-scheduled at T-1.
- 551230, Incorrect Risk Assessment Classification on Spray Additive Flow Instrument Calibration.

Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the four 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 Specification (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, 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:

- 548678, “A” Containment Spray Pump failed surveillance testing due to faulty pressure gauge.
- 537225, “A” EDG Recirculation Damper Found Open, Past Operability Evaluation
- NCR 553968, Packing Nuts Loose on, SI-868 A, B, C, Loop A, B & C Cold Leg Isolation.
- 560007, SI-837, Refueling Water Storage Tank Drain Valve, through wall valve body leakage.

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:

- 548127, Charging Pump Low Speed Alarm is Locked In.
- 541976, Loose Lagging on the “C” Safety Injection Pump Discharge Piping.

b. Findings

No findings were identified.

## 1R17 Evaluations of Changes, Tests, or Experiments and Permanent Plant Modifications

### a. Inspection Scope

The inspectors reviewed selected samples of evaluations to confirm that the licensee had appropriately considered the conditions under which changes to the facility UFSAR, or procedures may be made, and tests conducted, without prior NRC approval. The inspectors reviewed evaluations for six changes and additional information, such as drawings, calculations, supporting analyses, the UFSAR, and TS to confirm that the licensee had appropriately concluded that the changes could be accomplished without obtaining a license amendment. The six evaluations reviewed are listed in the List of Documents Reviewed.

The inspectors reviewed samples of changes for which the licensee had determined that evaluations were not required to confirm that the licensee's conclusions to "screen out" these changes were correct and consistent with 10CFR50.59. The fourteen "screened out" changes reviewed are listed in the List of Documents Reviewed.

The inspectors evaluated engineering design change packages for seven material, component, and design-based modifications to evaluate the modifications for adverse effects on system availability, reliability, and functional capability. The seven modifications are listed below:

- EC 80271, SI-863A/B Actuator to Improve Valve Seating, Rev. 1
- EC 69423, Appendix R: Auto Start the DSDG on Loss of All Power, Rev. 8
- EC 78954, Reduce CCW Pump Mechanical Seal Failures, Rev. 5
- EC 76839, Replace SI-865A and SI-865B Motors, Rev. 3
- EC 79124, Master EC to replace Fischer & Porter Rotameters in the Component Cooling Water (CCW) system; included are FIC-629, FIC-632, FIC-635, FIC-637, FIC-638, Rev. 0
- EC 83854, Westinghouse DB-50 breaker base, Rev. 0
- ME 78206, Fuse Reducer for 600V, Class H & K Dimension Fuses, used for reducing 60A, 600V clips to 30A, 600V clips, Rev. 0

Documents reviewed included procedures, engineering calculations, modification design and implementation packages, work orders, site drawings, corrective action documents, applicable sections of the UFSAR, supporting analyses, TS, and design basis information. Additionally, the inspectors reviewed test documentation to ensure adequacy in scope and conclusion. The inspectors' reviews were also intended to verify that all appropriate details were incorporated in licensing and design basis documents and associated plant procedures.

The inspectors reviewed selected nuclear condition reports and the licensee's recent self-assessment associated with modifications and screening/evaluation issues to confirm that problems were identified at an appropriate threshold, and were entered into the corrective action process, and appropriate corrective actions had been initiated and tracked to completion.

b. Findings

No findings were identified.

1R19 Post Maintenance Testing

a. Inspection Scope

For the seven post-maintenance tests (PMT) 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 2104513, Installation of Temporary Power Supply for Rod Control System, PMT in accordance with OST-011, Rod Cluster Control Exercise and Rod Position Indication Monthly Interval, Rev. 34
- WO 2053427, Repair B Motor Driven AFW Shaft Leak, PMT in accordance with OST-201-2 Motor Driven Auxiliary Feedwater Component Test, Rev. 30
- WO 2110140, Problems with Left Upper Governing Valve Digital Control Circuit, PMT in accordance with OST-551-1, Turbine Valve Test, Rev. 4
- WO 752080-02, Replace Rotating Assembly on the Service Water Booster Pump "A", PMT in accordance with OST-303-3, Comprehensive Flow Test for Service Water Booster Pump A, Rev. 15
- WO 2125751, Replacement of the annunciator test switch on the control room control board, PMT in accordance with the work order.
- WO 2128312, Maintenance on the "B" Charging Pump internals, PMT in accordance with OST-101-2, Chemical Volume Control System (CVCS) Component Test Charging Pump "B", Rev. 42
- WO 547908, Repair of the TSC/EOF/Security Diesel Lube Oil Heater, PMT in accordance with OST-406, TSC/EOF/Security Diesel Generator, Rev. 31

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

- 521061, During Steam Logic Test, Steam Dump Valve, PRV-1324-B2 Would Not Stroke
- 542924, Failure to Stop Emergency Diesel Generator from the reactor turbine generator board (RTGB) as Briefed

b. Findings

No findings were identified.

1R22 Surveillance Testing

a. 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.

- OST-352-1, Containment Spray Component Test-Train A, Rev. 32
- OST-013, Weekly Checks and Operations (Weekly), Rev. 101 (Spent Fuel Pool Liner Leakage Test)
- SP-1506, Control Room Integrated In-leakage Tracer Test, Rev. 2
- PM-452, "Dedicated Shutdown UPS Battery Service Test, Rev. 14

Inservice Testing Surveillance

- OST- 251-2, RHR Pump B and Components Test, Rev. 29

Reactor Coolant System Leakage Surveillance

- OST-051, Reactor Coolant Leakage Evaluation (Every 72 Hours During Steady State Operation and Within 12 Hours of Reaching Steady State Operation) Rev. 46

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

- 534276, "A" RHR Pump Vibration Data Point Locations are not Found in the Surveillance Procedure.
- 545458, Strobotach readings of pump speed misread due to resonance at a lower than actual speed.

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness

1EP6 Drill Evaluation

a. Inspection Scope

On August 28, 2012, and September 18, 2012, the inspectors observed an emergency preparedness drill to verify licensee self-assessment of classification, notification, and protective action recommendation development in accordance with 10 CFR 50, Appendix E. The inspectors also attended the post-drill critique to verify that the licensee properly identified failures in classification, notification and protective action recommendation development activities.

Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator (PI) Verification

a. 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. 6. In addition, the inspectors interviewed licensee personnel associated with collecting, evaluating, and distributing these data.

Initiating Events Cornerstone

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

For the period from the third quarter of 2011 through the second quarter of 2012, 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

- Mitigating Systems Performance Index (MSPI), Heat Removal System

For the period from the third quarter of 2011 through the second quarter of 2012, 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 ARs associated with this area to verify that the licensee identified and implemented appropriate corrective actions:

- 386544, Strategic Plan for MSPI Margin Improvement.
- 478600, Performance Indicator Data Verifier did not have Current Qualifications.

#### 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 follow-up, the inspectors performed frequent screenings of items entered into the CAP. The review was accomplished by reviewing daily AR reports.

#### .2 In-Depth Review of Operator Workarounds

##### a. Inspection Scope

The inspectors performed a detailed review of the Operator Workarounds and Operator Burdens List as of September 24, 2012, to verify the full extent of the issues were identified, an appropriate evaluation was performed, and appropriate corrective actions were specified and prioritized. The inspectors reviewed and walked down selected Caution Tags to assess the impact to the operators. The inspectors met with Operations staff to discuss the current status of the Operator Workaround and Operator Burdens list.

Documents reviewed are listed in the Attachment.

##### b. Findings

No findings were identified.

#### 4OA3 Follow-up of Events

##### .1 Notice of Unusual Event Due to a Loss of all Control Room Annunciators

###### a. Inspection Scope

On August 17, 2012, a notice of unusual event was declared due to a loss of all control room annunciators. The cause of the event was a failed annunciator test switch. The inspectors responded to the control room and reviewed the status of mitigating systems, 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 inspectors also reviewed post event activities to verify that the licensee identified and resolved event-related issues prior exiting the emergency.

Documents reviewed are listed in the Attachment.

###### b. Findings

No findings were identified.

#### 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

###### a. Inspection Scope

The Inspectors and Branch Chief reviewed the Institute of Nuclear Power Operations (INPO) evaluation received by the licensee on June 28, 2012. The report was reviewed to ensure that issues identified were consistent with NRC perspectives of licensee performance and to verify if any significant safety issues were identified that required further NRC follow-up.

Enclosure

b. Findings

No findings were identified.

3. (Discussed) Temporary Instruction (TI) -2515/182 - Review of the Implementation of the Industry Initiative to Control Degradation of Underground Piping and Tanks, Phase 1

a. Inspection Scope

Leakage from buried and underground pipes has resulted in ground water contamination incidents with associated heightened NRC and public interest. The industry issued a guidance document, Nuclear Energy Institute (NEI) 09-14, "Guideline for the Management of Buried Piping Integrity," (ADAMS Accession No. ML1030901420), to describe the goals and required actions (commitments made by the licensee) resulting from this underground piping and tank initiative. On December 31, 2010, NEI issued Revision 1 to NEI 09-14, "Guidance for the Management of Underground Piping and Tank Integrity," (ADAMS Accession No. ML110700122), with an expanded scope of components which included underground piping that was not in direct contact with the soil and underground tanks. On November 17, 2011, the NRC issued TI-2515/182 "Review of the Industry Initiative to Control Degradation of Underground Piping and Tanks," to gather information related to the industry's implementation of this initiative.

The inspectors reviewed the licensee's programs for buried pipe and underground piping and tanks in accordance with TI-2515/182 to determine if the program attributes and completion dates identified in Sections 3.3 A and 3.3 B of NEI 09-14, Revision 1 were contained in the licensee's program and implementing procedures. For the buried pipe and underground piping program attributes, with completion dates that had passed, the inspectors reviewed records to determine if the attribute was in fact complete and to determine if the attribute was accomplished in a manner which reflected good or poor practices in program management.

b. Observations

The licensee's buried piping and underground piping and tanks program was inspected in accordance with paragraphs 03.01.a through 03.01.c of TI-2515/182 and was found to meet all applicable aspects of NEI 09-14 Revision 1, as set forth in Table 1 of the TI.

Based upon the scope of the review described above, Phase I of TI-2515/182 was completed.

c. Findings

No findings were identified.



.4 Operation of an Independent Spent Fuel Storage Installation (ISFSI)

a. Inspection Scope

The inspectors performed a walkdown and external inspection of the two ISFSIs on site (reference docket 72-3 and 72-60). The inspectors observed the general condition of the structures and passive cooling passages.

b. Findings

No findings were identified.

.5 (Discussed) NRC Temporary Instruction (TI) 2515/187, Inspection of Near-Term Task Force Recommendation 2.3 Flooding Walkdowns, and NRC TI 2515/188, Inspection of Near-Term Task Force Recommendation 2.3 Seismic Walkdowns

a. Inspection Scope

Inspectors accompanied the licensee on a sampling basis, during their flooding and seismic walkdowns, to verify that the licensee's walkdown activities were conducted using the methodology endorsed by the NRC. These walkdowns are being performed at all sites in response to a letter from the NRC to licensees, entitled "Request for Information Pursuant to Title 10 of the *Code of Federal Regulations* 50.54(f) Regarding Recommendations 2.1, 2.3, and 9.3, of the Near-Term Task Force Review of Insights from the Fukushima Dai-Ichi Accident," dated March 12, 2012 (ADAMS Accession No. ML12053A340).

Enclosure 3 of the March 12, 2012, letter requested licensees to perform seismic walkdowns using an NRC-endorsed walkdown methodology. Electric Power Research Institute (EPRI) document 1025286 titled, "Seismic Walkdown Guidance," (ADAMS Accession No. ML12188A031) provided the NRC-endorsed methodology for performing seismic walkdowns to verify that plant features, credited in the current licensing basis (CLB) for seismic events, are available, functional, and properly maintained.

Enclosure 4 of the letter requested licensees to perform external flooding walkdowns using an NRC-endorsed walkdown methodology (ADAMS Accession No. ML12056A050). Nuclear Energy Industry (NEI) document 12-07 titled, "Guidelines for Performing Verification Walkdowns of Plant Protection Features," (ADAMS Accession No. ML12173A215) provided the NRC-endorsed methodology for assessing external flood protection and mitigation capabilities to verify that plant features, credited in the CLB for protection and mitigation from external flood events, are available, functional, and properly maintained.

b. Findings

Findings or violations associated with the flooding and seismic walkdowns, if any, will be documented in the 4<sup>th</sup> quarter integrated inspection reports.

.6 (Closed) Unresolved item (URI): Adequacy of Pre-planned Mitigating Actions in Response to Declaring the Control Room Envelope Inoperable.

a. Inspection Scope

The inspectors reviewed and evaluated the licensee's response to declaring the Control Room Envelope (CRE) inoperable on June 6, 2012; the licensee was required to verify mitigating actions to ensure CRE occupancy for design basis conditions in accordance with TS 3.7.9 Action G.2 was completed within 24 hours. Those actions are described in PLP-019, Control Room Envelope Habitability Program. An aspect of the mitigating actions included having self-contained breathing apparatus' (SCBA) available for the control room occupants. The licensee verified five SCBAs were available in the control room for use by normal shift complement of licensed operators and shift technical advisor. The inspectors questioned whether the emergency communicator should have an SCBA.

Documents reviewed are listed in the Attachment.

b. Observations and Findings

Based on a review of the licensing basis and requirements for personnel habitability in the control room, although the emergency communicator normally goes to the control room upon the initial declaration of the emergency, the inspectors determined the emergency communicator is not required to conduct their emergency function from the control room. Redundant emergency communication equipment and facilities are available at other locations on-site to perform the emergency communicator function. The licensee's initial response to the issue by placing a sixth SCBA in the control room is considered a conservative action which provides the emergency director additional options for the emergency communicator to perform their function. Therefore, the licensee's response to the June 6, 2012, event was adequate and no findings were identified. URI 05000261/2012003-01, Adequacy of Pre-planned Mitigating Actions in Response to Declaring the Control Room Envelope Inoperable is closed.

4OA6 Meetings, Including Exit

On October 29, 2012, the resident inspectors conducted the final exit meeting, with Mr. Hightower, to discuss the inspection results.

On October 15, 2012, the resident inspectors held an initial exit meeting to present the inspection results to Mr. Glover and other members of his staff.

An exit with licensee management and staff was conducted on August 9, 2012, to discuss the results of the engineering inspection. Proprietary information that was reviewed by the team as part of routine inspection activities was returned to the licensee in accordance with prescribed controls.

An exit meeting for the TI-182 inspection was conducted on July 19, 2012, with R. Gideon, Site Vice President, and other members of the licensee staff. The inspectors verified that all proprietary information was returned to the licensee.

4OA7 Licensee-Identified Violations

The following finding of very low significance was identified by the licensee and is a violation of NRC requirements, and, consistent with the NRC Enforcement Policy, is being dispositioned as an NCV.

10 CFR 50.63 "Loss of All Alternating Current Power", requires in part that "station batteries and other necessary support systems must provide sufficient capacity and capability to ensure the core is cooled and appropriate containment integrity is maintained in the event of a station blackout. Contrary to the above, on August 28, 2012 during PM-452, Dedicated Shutdown UPS Battery Test", the dedicated shutdown uninterruptible power supply (DS-UPS) batteries failed to meet the acceptance criteria. The licensee documented this condition in NCR 557582 and NCR 558425. The results of previous test indicated a negative trend in battery performance and that the battery should have been replaced before failure. The licensee initiated actions to replace the DS-UPS batteries. The inspectors evaluated this finding using NRC Inspection Manual Chapter 0609 Appendix F, Fire Protection Significance Determination. The finding was screened as having very low safety significance (Green) because the assigned fire degradation rating was low. In addition, based upon licensee procedures and operator actions, it is reasonable to conclude that the dedicated shutdown diesel generator would have been started and available to provide power to the required safe shutdown equipment prior to the battery falling below minimum voltage.

## **SUPPLEMENTAL INFORMATION**

### **KEY POINTS OF CONTACT**

#### Licensee personnel

D. Barker, Nuclear Oversight Manager  
T. Cosgrove, Plant General Manager  
S. Connelly, Licensing  
H. Curry, Training Manager  
R. Gideon, Vice President  
M. Glover, Director – Site Operations  
R. Hightower, Licensing/Reg. Programs Supervisor  
K. Holbrook, Operations Manager  
B. Houston, Radiation Protection Superintendent  
D. Marrano, Engineering  
L. Martin, Engineering Director  
S. McCutcheon, Engineering  
C. Morris, Maintenance Manager  
K. Moser, Outage & Scheduling Manager  
J. Rotchford Jr., Environmental & Chemistry Superintendent  
S. Wheeler, Support Services Manager

#### NRC personnel

R. Musser, Chief, Reactor Projects Branch 4  
R. Nease, Branch Chief, DRS

## LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

### Opened & Closed

05000261/2012004-01	NCV	Failure to Include the Fuel Oil Supply to the TSC/EOF/Security Diesel in the Maintenance Rule (Section 1R12)
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### Closed

05000261/2012003-01	URI	Adequacy of Pre-Planned Mitigating Actions in Response to Declaring the Control Room Envelope Inoperable (Section 4OA5.6)
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### Discussed

Temporary Instruction 2515/182	TI	Review of the Implementation of the Industry Initiative to Control Degradation of Underground Piping and Tanks, Phase 1 (Section 4OA5.3)
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Temporary Instruction 2515/187	TI	Inspection of Near-Term Task Force Recommendation 2.3 Flooding Walkdowns (Section 4OA5.5)
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Temporary Instruction 2515/188	TI	Inspection of Near-Term Task Force Recommendation 2.3 Seismic Walkdowns (Section 4OA5.5)
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## LIST OF DOCUMENTS REVIEWED

### **Section 1R01: Adverse Weather Protection**

#### Work Orders

96663-01, Site Topography and Grading Aggregate Review

#### Action Requests

468235, Flooding Due To Rainstorms and Backup Storm Drains

498581, Rainwater Runoff Swales not per Design

#### Other documents

EC 82099, Flooding Design Basis Reconstitution

### **Section 1R04: Equipment Alignment**

#### Partial System Walkdown

#### Procedures

OP-604, Diesel Generators, Rev. 93

OP-801, Fire Water System, Rev.57

### **Section 1R05: Fire Protection**

#### UFSAR Sections of Appendix 9.5.1A

3.7.5 Fire Zone 25E - Turbine Building East Mezzanine

3.10.1 Fire Zone 28A- New and Spent Fuel Storage Areas

#### Procedures

OMM-OO3, Fire Pre Plans, Rev. 58

OST-665, Inspection of Portable Fire Extinguishers, Fire Hose Stations & Houses (Balance of Site) (Monthly), Rev. 39

FP-003, Control of Transient Combustibles, Rev. 27

#### Drawings

HBR2-11937, Fire Pre-Plan Rod Control Room, Rev. 0

HBR2-11937, Fire Pre-Plan D.S. Diesel Enclosure, Rev. 0

HBR2-11937, Fire Pre-Plan, 4160 Volt Switchgear Room, Rev. 69

HBR2-11937, Auxiliary Feedwater Pump Room, Rev.1

HBR2-11937, Fire Pre-Plan Spent Fuel Pit, Rev. 0

#### Other documents

CPL0202000001, Combustible Loading Calculation, Rev. 31

TPP-219, Fire Protection Training Program, Rev. 22

Fire Drill Critique 12-3Q-01U, 4160 Switchgear Room (Scenario 18 rev 2)

FP-001, Fire Drill Post Activation Inspection Sheet- 9/21/12, Rev. 61

**Section 1R06: Flood Protection Measures**Procedures

AOP-022, Loss of Service Water, Rev. 35

Action Requests

554846, Penetration obscured by debris and excess sealant

554845, Small void in penetration fire sealant

Other documents

G-190190, General Arrangement Reactor Auxiliary Building Plans, Rev. 29

G-190673, Reactor Auxiliary Building Ground Floor Conduit and Grounding Sheet 2, Rev. 19

**Section 1R11: Licensed Operator Requalification**Procedures

OP-105, Maneuvering the Plant When Greater Than 25% Power, Rev. 53

**Section 1R12: Maintenance Effectiveness**Procedures

PM-112, Limitorque Inspection No. 1, Rev. 33

NGG-PMB-MOV-01, Motor Operated Valves (MOV), Rev. 0

MMM-004, Motor Operated Valves Maintenance Requirements, Rev. 15

MNT-NGGC-0010, Installation and Use of Teledyne/ Quiklook Equipment for MOV Diagnostic Testing , Rev. 1

Work Orders

547780, Found QM-502 Out of Tolerance

Action Requests

553535, Maintenance Rule Scoping of Aux Building Drains

553464, QM-502 RCS OP Protection Module Found out of Tolerance

553619, Extend late Date For Replacement of Module

546351, Revise PM-112

558425, Missed Having Trending End-of-life for DS Battery

557582, PM-452, Battery Test Failure

460452, Implement Time Based Inspection of Backflow Preventer

Other documents

For system Auxiliary Building Structure:

- Event Log Report for 08/07/2010 – 08/07/2012

- Scoping and Performance Criteria

PMR 460452, Time Based Replacement of back Flow Preventer Valves in EDG Rooms

EC 88027, Review of QM-502 out of Tolerance Impact to Plant

Expert Panel Meeting Minute, Reactor Coolant System, 8/2/1995 - 1/6/2011

DSP-002, Hot Shutdown Using the Dedicated/Alternate Shutdown System, Rev. 45

8S19-P-101, Station Blackout Coping Analysis Report, Rev. 7

EC 69423, Appendix R: Auto Start the DSDG on Loss of All AC Power, Rev. 8

Action Plan for the failure of NUS comparator outputs dated August 16, 2012.

**Section 1R13: Maintenance Risk Assessments and Emergent Work Evaluation**

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

Robinson Risk Profile for 12W38, 9/17 to 9/24 "A" Train Work Week, Rev. 2

**Section 1R15: Operability Evaluations**Action Requests

496430, "A" Emergency Diesel Generator Was found partially open

537225, CR 496430 Did not Address Past Operability of "A" EDG

QCE 553968, Packing Gland Nuts Loose on SI-868 A, B, C

Other documents

RNP-M/HVAC-1064, "A" and "B" Emergency Diesel Generator Room Steady State

Temperature. Rev. 1

EC 86833, Past Operability of "A" EDG

**Section 1R17: Evaluations of Changes, Tests, or Experiments and Permanent Plant Modifications**10 CFR 50.59 Evaluations: (Sample 6-12)

AR 478624, Revise Design and Licensing Basis to Restrict the Alignment of Purification System to RWST in Mode 1, 2, 3, and 4, Rev. 0

AR 506842, EOP-E-0, Reactor Trip or Safety Injection, Rev. 0

AR 406603, EC 70450, Review REG-NGGC-0010, REV. 5

AR 458520, Revise SP-1575 for a Temporary Compressed Air Source to the EDGs Starting Air Receiver Tank, Rev. 2

AR 458256, Provide a Temporary Compressed Air Source to the EDG "A" or "B", Rev. 1

AR 492552, Revise OWP-007 (Diesel Generators), OP-604 (Diesel Generators 'A' and 'B'), and APP-010 (HVAC - Emergency Generators & Misc. Systems), Rev. 0

Screened Out Items: (Sample 12-25)

AR 546982, Bypass R-14 Plant Vent Stack Flow Sensor Fe-14F

AR 367171, RXA and RXB Relay Replacement for HVE-19A and B

AR 440359, RCP Seal Injection Flow Indication in the Control Room

AR 336177, Implement EC 70679 to Add Vent to 4-51-110

AR 357712, RCP Seal Leakoff Transmitter Replacement

AR 546714, Rod Control Power Supply Addition to Temp Backup Failed Power Supply

AR 263621, Rewind of the RHR Motor

AR 399530, CCW-HTX-A Removal Nozzles

AR 369324, Evaluation of Containment Building Liner, Insulation, Sheathings, and Coatings

AR 520301, Revision of Design Specification to clarify function of Caulked Insulation Panel Joints

AR 490146, Revision of Design Specification CPL-R2-M-18 for CV Insulation

AR 368777, Evaluate Spare AFW Pump Motor CAT ID 9220165604

AR 400155, HVS-6 and HVE-18 Westinghouse Switch Contact Configuration Change

AR 433395, Revise Calibration of TM-432H3

Permanent Plant Modifications: (Sample 5-15)

EC 80271, SI-863A/B Actuator to Improve Valve Seating, Rev. 1

EC 69423, Appendix R: Auto Start the DSDG on Loss of All Power, Rev. 8



EC 78954, Reduce CCW Pump Mechanical Seal Failures, Rev. 5  
EC 76839, Replace SI-865A and SI-865B Motors, Rev. 3  
EC 79124, Master EC to replace Fischer & Porter Rotameters in the Component Cooling Water (CCW) system; included are FIC-629, FIC-632, FIC-635, FIC-637, FIC-638, Rev. 0  
EC 83854, Westinghouse DB-50 breaker base, Rev. 0  
ME 78206, Fuse Reducer for 600V, Class H & K Dimension Fuses, used for reducing 60A, 600V clips to 30A, 600V clips, Rev. 0

#### Commercial Grade Dedications

ME 78206, Fuse Reducer for 600V, Class H & K Dimension Fuses, used for reducing 60A, 600V clips to 30A, 600V clips, Rev. 0

#### Item Equivalency Reviews

EC 83854, Westinghouse DB-50 breaker base, Rev. 0

#### Corrective Action Documents

NCR 477929, Administrative Errors within ME EC 82087R0  
NCR 472758, Specification L2-M-039 Lacks Guidance Concerning EDB Updates  
NCR 461062, Concerns With Charging Pump Backup Air Supply Routing  
NCR 477924, TAG 43/RMS MMV/BOM Not Updated  
NCR 425136, Operability of the RHR System for ECCS during MODE 4  
NCR 356305, FIC-638 Failure - Category 1 OWA, 10/2009

#### Procedures

EOP-E-0, Reactor Trip or Safety Injection, Rev. 0  
AOP-033, Shutdown LOCA, Rev. 16  
GP-002, Cold Shutdown to Hot Subcritical at No Load T Average, Rev. 123  
GP-007, Plant Cooldown from Hot Shutdown to Cold Shutdown, Rev. 93  
RST-026, Plant Vent Flow Monitor Calibration, Rev. 15  
TMM-026, List of Regulatory Guide 1.97 Components, Rev 29  
NGG-PMB-PWR-01, "NGG PMB DC Power Supply", Rev 0

#### Completed Procedures

SP-1540, Dedicated Shutdown Diesel Generator Auto start Functional Test, completed 7/18/2012  
EST-017, Auxiliary Building and Emergency Diesel Ventilation Systems Fans HVE-2A, HVE-2B, HVS-5, HVS-6, HVS-17 and HVE-18, completed 6/25/2012

Completed Work Orders

WO 1531164-02, SI-865A Valve Leakby, completed 6/2/2010  
 WO 1531164-01, SI-865A Valve Leakby, completed 5/4/2010  
 WO 1498093-03, Perform Mag Rotor Inspection on SI-865A, completed 6/26/2010  
 WO 1498093-04, Perform Mag Rotor Inspection on SI-865A, completed 5/23/2010  
 WO 1498093-10, Perform Mag Rotor Inspection on SI-865A, completed 5/23/2010  
 WO 1531163-08, SI-865B Leak By, completed 7/15/2010  
 WO 1531163-01, SI-865B Leak By, completed 5/17/2010  
 WO 02095632-05, R-14 Stack Flow Decreased Unexpected, completed 7/9/2012  
 WO 02104513, "Implement EC 87466 for Temporary Power", completed 7/16/2012  
 WO 02056772, "Power Supply Amber Light Illuminated", completed 3/16/2012  
 WO 01290618, "Replace Rod Control PWR Supplies for the Rod Control PWER CAB", completed 11/11/2009  
 WO 0189810, Flow Test, Bench Test, completed 3/9/12  
 WO 02050908, TC-502/TC -503, Change Temp Setpoint, completed 3/20/2012  
 WO 01851366, TM-432H3 Rescaling, completed 11/16/2010  
 WO 00862092, 52/20A: Revise Breaker Settings for AFW-PMP-A-Motor, completed 6/7/2010  
 WO 01528285, R226 GEMCO Switch Replacement, completed 2/25/2010

Calculations

Calculation RNP-M/Mech-1428, Mechanical Analysis and Calculations for SI-865A Accumulator A Discharge Isolation Valve  
 Calculation 8S19-E-01, Verification of DS System Capacity for Station Blackout, Rev. 1  
 Calculation MM-8210, RNP-M/HVAC-1064, "A" & "B" Emergency Diesel Generator Room Steady State Temperature, dated 1/18/1999  
 RNP-I/INST-1063, RCS Cold Leg Temperature Loop Uncertainty and Scaling Calculation (TE-410, 420 & 430), dated 3/30/2005

Drawings

SK-87466-E-3000, Temporary Power Supply Control Rod Drive Cabinet 2AC (Replacement for Failed PS1), Rev. A  
 SK-87466-E-3001, Temporary Power Supply Control Rod Drive Cabinet 2AC (Replacement for Failed PS1), Rev. A  
 B-190627, Auxiliary Electrical Distribution System Load List and Front Views, Sheet US0E1-2, Rev. 51  
 B-190628, Control Wiring Diagram, Sheet 561, Rev. 19  
 B-190628, Control Wiring Diagram, Sheet 37, Rev. 17  
 5379-376, Component Cooling Water System Flow Diagram, Sheet 1/4, Rev. 43  
 5379-376, Component Cooling Water System Flow Diagram, Sheet 2/4, Rev. 33  
 5379-376, Component Cooling Water System Flow Diagram, Sheet 3/4, Rev. 27  
 5379-376, Component Cooling Water System Flow Diagram, Sheet 4/4, Rev. 35  
 5379-376, Component Cooling Water System Flow Diagram, Sheet 1, Rev. 0

Other Documents

EBASCO Specification Heat Insulation for Reactor Containment Steel Liner CPL-R2-M-18, Rev. 3

EBASCO Specification Heat Insulation for Reactor Containment Steel Liner CPL-R2-M-18, Rev. 4

Purchase Order 00527658, 30A-60A Fuse Reducer, Attachment 9, Sheet 1, 6/16/2011

Condition Reports Written as a Result of the Inspection

AR 553843, MOD/50.59 NRC INSP OBS EC 76839 Rigor

AR 553018, MOD/50.59 NRC INSP OBS FIC-657 Off-Scale High

AR 554287, MOD/50.59 NRC INSP OBS SI-865A LS Settings

AR 553018, Mod/50.59 NRC INSP OBS FIC-657 Off-SCALE HIGH created as a result of this sample inspection

**Section 1R19: Post Maintenance Testing**

Procedures

Motor Driven Auxiliary Feedwater Pump Overhaul, Rev. 11

OST-011, Rod Cluster Control Exercise and Rod Position Indication Monthly Interval, Rev. 34

OST-201-2 Motor Driven Auxiliary Feedwater Component Test, Rev. 30

CM-031, Service Water Booster Pump Maintenance Worthington, Type 8CNG-104, Rev. 23

Work Orders

2053427, B Motor Driven AFW Shaft Leak

2071613, AFW Pump B Motor Bearing Oil Drain, Flush, Fill

2104513, Install Temporary Power Supply; EC 87466

2110140, EH- Control, Inspect/Repair Associated Wiring and Fuses

Action Requests

553870, Gasket Thickness Incorrect for SWBP- A

547908, TSC/EOF EDG Water Jacket Heater Emitted Smoke

553941, Electric Heaters Wiring in TSC/EOF Diesel Have Heat Damage

557282, Excessive Charging Flow Oscillations of 10-15 GPM

557290, B Charging Pump Team Response

Other documents

EC 87466, Rod Control Power Supply Addition Temporarily Back-up the Failed Supply

**Section 1R22: Surveillance Testing**

Procedures

OST- 251-2, RHR Pump Band Components Test, Rev. 29

DSP-002, Hot Shutdown Using the Dedicated /Alternative Shutdown System, Rev. 45

EGR-NGGC-0010, System & Component Trending Program and Systems Notebooks, Rev. 19

EGR-NGGC-1031, Conduct of System and Equipment Performance Engineering, Rev. 2

Action Requests

558425, Missed Having Trending End-of-life for DS Battery

557582, PM-452, Battery Test Failure

Other documents

Data Report, NCS Corporation Control Room Envelope In- leakage testing at H.B. Robinson Unit 2 Nuclear Plant 2012

EC 88605, UPS Batteries  
EC 88341, Functionality of the UPS Batteries  
JPM IP-128, Energize the DS Using DSP-002, Attachment 9, Rev.1  
SD-056, Dedicated Shutdown System and TSC/EOF/PAP Diesel Generator System, Rev. 10  
PM-452, Dedicated Shutdown UPS battery Service Test, Rev. 14  
SD-016, 480/120 VAC Electrical Systems, Rev. 14  
EPP-1, Loss of All AC Power, Rev. 51

**Section 1EP6: Drill Evaluation**

Action Requests

561989, 9/18/2012 Drill Critique Comment  
562028, Timeliness of E-Plan Activities  
562095, Missed Classification during Training  
562180, TSC EP Drill 9/18/12 Par Timeline/Actions Need Improvement

Other documents

Emergency Response Organization Exercise Scenario Package for August 28, 2012  
Emergency Notification Forms for the August 28, 2012 Exercise  
Emergency Response Organization Exercise Scenario Package for September 18, 2012

**Section 4OA2: Identification and Resolution of Problems**

Procedures

CAP-NGGC-0200, Corrective Action Program, Rev. LATER  
CAP-NGGC-0206, Corrective Action Program Trending and Analysis, Rev. 6  
OPS-NGGC-1000, Conduct of Operations, Rev. 7  
OPS-NGGC-1316, Aggregate Risk Impact Assessment Program

Action Requests

539252, Charging Pump Low Speed is Locked in When Chg-B is Operating

Other documents

Operator Challenge Evaluation for NCR 493691

**Section 4OA3: Event Follow-up**

Procedures

EPNOT-01, CR/EOF Communicator, Attachment 10.8, Emergency Notification Quick Start Guide, Rev. 39

Other documents

Operating Logs  
Emergency Notification Forms

**Section 40A5 Other Activities****Procedures**

EGR-NGGC-0209, Buried Piping Program, Rev. 3  
 EGR-NGGC-0209, Buried Piping Program, Rev. 4  
 MNT-NGGC-0024, Excavation and backfill, Rev. 3  
 MNT-NGGC-0024, Excavation and backfill, Rev. 4  
 FMP-004, Special Nuclear Material (SNM) Inventory, Rev. 24  
 NGGM-PM-0028, Transnuclear NUHOMS Dry Fuel Storage Program Manual, Rev. 11  
 EGR-NGGC-0351, Condition Monitoring of Structures, Rev. 17  
 PLP-019, Control Room Envelope Habitability Program, Rev. 2  
 OMM-001-2, Shift Routines and Operating Practices, Rev. 76  
 PLP-007, Robinson Emergency Plan, Rev. 78

**Corrective Action Documents**

AR 492441, Buried Piping Program documentation at RNP is not being maintained in accordance with Procedural Requirements  
 AR 492446, Turnover and organizational changes have challenged the Buried Piping Program  
 AR 492444, License Renewal commitments described in the UFSA 18.1.20 related to buried piping are not being met.  
 AR 492471, Cathodic Protection system on diesel fuel line is not maintained

**Other Documents**

Self Assessment 447729, Buried Piping Program, dated 9/13-15/2011  
 Quick Hit Self Assessment 531636, Buried Piping Program and NRC TI-2515 Inspection, Dated 5/21-23/2012  
 Risk Ranking Data Base Spread sheets 2010-11  
 RNP Buried Pipe Inspection Plan, Rev. 1  
 Summary of Progress Energy Fleet Underground Piping and Tanks within the Expanded Scope of NEI 09-14 (Rev. 1)  
 Site Specific Risk Report for Buried and Underground Piping and Tanks for H. B. Robinson, Prepared by SIA, dated 5/31/2012  
 Buried Piping System Program Health Report for Q3-2011  
 Buried Piping System Program Health Report for Q4-2011  
 Buried Piping System Program Health Report for Q1-2012  
 Technical Specification/Bases 3.7.9, Control Room Emergency Filtration System (CREFS)