UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
SAM NUNN ATLANTA FEDERAL CENTER
61 FORSYTH STREET, SW, SUITE 23T85
ATLANTA, GEORGIA 30303-8931

January 28, 2010

EA-09-320

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

SUBJECT: H.B. ROBINSON STEAM ELECTRIC PLANT - NRC INTEGRATED INSPECTION REPORT 05000261/2009005 AND EXERCISE OF ENFORCEMENT DISCRETION

Dear Mr. McCartney:

On December 31, 2009, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your H.B. Robinson reactor facility. The enclosed integrated inspection report documents the inspection findings, which were discussed on January 25, 2010, 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.

The report documents one NRC-identified finding of very low safety significance (Green). The finding did not involve a violation of NRC requirements. Additionally, a licensee-identified violation which was determined to be of very low safety significance is listed in this report. However, because of the very low safety significance and because it is entered into your corrective action program, the NRC is treating the licensee-identified violation as a non-cited violation (NCV) consistent with Section VI.A.1 of the NRC Enforcement Policy. If you contest 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 the H.B. Robinson facility. In addition, if you disagree with the characterization of any finding 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. The information you provide will be considered in accordance with Inspection Manual Chapter 0305.

This report also documents an electrical breaker issue which resulted in a violation of Technical Specification 3.8.1.B. Specifically, the “B” Emergency Diesel Generator (EDG) was inoperable in excess of the TS allowed outage time. Although the issue constitutes a violation of NRC requirements, we have concluded that the violation resulted from matters not within Carolina Power and Light’s ability to control. As such, I have been authorized, after consultation with the Director, NRC Office of Enforcement and the Region II Regional Administrator, to exercise enforcement discretion in accordance with Section VII.B.6 of the Enforcement Policy and refrain from issuing enforcement action for the violation.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document 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/

Leonard D. Wert, Jr., Director
Division of Reactor Projects

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

Enclosure: Inspection Report 05000261/2009005
w/Attachment: Supplemental Information

cc w/encl. (See page 3)

This report also documents an electrical breaker issue which resulted in a violation of Technical Specification 3.8.1.B. Specifically, the "B" Emergency Diesel Generator (EDG) was inoperable in excess of the TS allowed outage time. Although the issue constitutes a violation of NRC requirements, we have concluded that the violation resulted from matters not within Carolina Power and Light's ability to control. As such, I have been authorized, after consultation with the Director, NRC Office of Enforcement and the Region II Regional Administrator, to exercise enforcement discretion in accordance with Section VII.B.6 of the Enforcement Policy and refrain from issuing enforcement action for the violation.

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Letter to Eric McCartney from Leonard E. Wert, Jr. dated January 28, 2010

SUBJECT: H.B. ROBINSON STEAM ELECTRIC PLANT - NRC INTEGRATED INSPECTION REPORT 05000261/2009005 AND EXERCISE OF ENFORCEMENT DISCRETION EA-09-32

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U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket No:	50-261
License No:	DPR-23
Report No:	005000261/2009005
Facility:	H. B. Robinson Steam Electric Plant, Unit 2
Location:	3581 West Entrance Road Hartsville, SC 29550
Dates:	October 1, 2009 – December 31, 2009
Inspectors:	J. Hickey, Senior Resident Inspector D. Bollock, Resident Inspector J. Austin, Senior Resident Inspector, Harris G. Wilson, Senior Project Engineer A. Nielsen, Health Physics Inspector (2OS1, 4OA1) R. Moore, Senior Reactor Inspector (1R17) D. Mas-Penaranda, Reactor Inspector (1R17) R. Patterson, Reactor Inspector (1R17) C. Even, Reactor Inspector (1R17) G. Crespo, Construction Inspector Trainee (1R17)
Approved by:	Leonard D. Wert, Jr., Director Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000261/2009005, 10/01/2009 – 12/31/2009; H.B. Robinson Steam Electric Plant, Unit 2; Operability Evaluations.

The report covered a three month period of inspection by resident inspectors, a senior project engineer and announced baseline inspections by regional inspectors. One Green finding 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 finding for the licensee's failure to identify an oil leak on the "A" charging pump. This failure was determined to be a performance deficiency with respect to licensee procedure OMM-001-11, "Logkeeping," which requires oil leakage be identified and abnormal conditions reported to shift management. The licensee responded by stopping the "A" charging pump to verify proper oil level. An addition of 6.5 quarts was required to restore the oil level to normal. Additionally, to maintain operability, the licensee established a compensatory action to stop the "A" charging pump every three days to verify oil level until the oil leak was repaired. The licensee entered the issue into the corrective action program as AR 360876.

  The finding is more than minor because if left uncorrected the performance deficiency would have the potential to lead to a more significant safety concern. Given the history of continuous operation of the charging pumps for up to 37 days, if the identified oil leak remained uncorrected, a loss of lubrication failure of the "A" charging pump would occur. The charging pumps are technical specification required equipment and are used in the emergency operating procedures to mitigate the consequences of an event. This finding was determined to be green because no loss of operability or functionality of the "A" charging pump resulted from the identified oil leakage. The apparent cause of this finding was a failure to implement a procedural requirement to identify and communicate an oil leak to shift management. The inspectors determined no cross-cutting aspect was associated with this performance deficiency. (Section 1R15)

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 corrective action program (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 November 6 a manual reactor trip was performed due to a failed steam generator feedwater regulating valve. The unit was returned to rated thermal power on November 9. On December 31 a power reduction to 55 percent was performed to repair a main turbine steam control valve.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R01 Adverse Weather Protection

a. Inspection Scope

After the licensee completed preparations for seasonal low temperature, the inspectors walked down the turbine first stage and main steam pressure transmitters, hotwell level control, electro-hydraulic skid area, instrument air compressors, Emergency Operating Facility/Technical Support Center security diesel and the intake structure. These systems were selected because a majority of them have safety-related/risk-significant functions that could be affected by adverse weather. The inspectors reviewed documents listed in the attachment, observed plant conditions, and evaluated those conditions using criteria documented in Procedure AP-008, “Cold Weather Preparations”.

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

- 370069, Freeze protection circuits not listed as Out-of-Service (OOS)

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment

a. Inspection Scope

Partial System Walkdowns:

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

System Walked Down	SSC Out of Service or Recently Restored	Date Inspected
"B" component cooling water pump	"C" component cooling water pump inoperable	October 13
power range nuclear instruments N-41, 43, 44	power range nuclear instrument N-42 inoperable	November 4
engine driven fire pump	electric driven fire pump unavailable	November 17
electric driven fire pump	recently restored following replacement	November 19

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.

b. Findings

No findings of significance were identified.

1R05 Fire Protection

a. Inspection Scope

For the four 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:

Fire Zone	Description
23	rod control room
3	safety injection pump room
4	charging pump room
17	HVAC equipment room for the control room

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures

a. Inspection Scope

Underground Cable Inspection

The inspectors walked down the underground cable manhole/bunker to verify the following:

- The cable was not submerged in water
- The condition of any cable splices
- The condition of any cable support structures
- The condition of any dewatering devices if applicable.

The following cable was inspected:

- "A" EDG fuel oil transfer pump

Documents reviewed are listed in the attachment.

b. Findings

Introduction: The inspectors identified an unresolved item (URI) associated with the submergence of a safety-related cable. The inspectors identified approximately 3 inches of standing water in the manhole which contained the "A" EDG fuel oil transfer pump cabling. This item is unresolved pending further review and evaluation of the licensee's environmental qualifications of the submerged 600V cable.

Description: During an inspection of the underground cable manhole/bunkers, the "A" EDG fuel oil transfer pump power supply cable was identified as being submerged in 3 inches of water. Additional inspection activities are needed to determine if the "A" EDG fuel oil transfer pump power supply cable is suitable for exposure to submersion in water. Pending the results of this additional inspection an Unresolved Item will be opened and designated as URI 05000261/2009005-01," "A" EDG Fuel Transfer Pump Power Supply Cable Submerged in Water."

1R11 Licensed Operator Requalification

a. Inspection Scope

The inspectors observed licensed-operator performance during requalification simulator training for crew one to verify that operator performance was consistent with expected operator performance, as described in Licensed Operator Continued Training scenario LOCT-03-03, Rev 4. This training tested the operators' ability to operate components from the control room, direct auxiliary operator actions, and determine the appropriate emergency action level classifications while responding to high motor current on the "A" main feed pump, a rod control urgent failure, and "A" main feed pump trip. 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.

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

- 274567, Simulator scenario guide required an unusual event declaration erroneously
- 274714, Large break LOCA red path entry conditions

Documents reviewed are listed in the attachment.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness

a. Inspection Scope

The inspectors reviewed the degraded SSC/function performance problem or condition 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 the corresponding AR was:

Performance Problem/Condition	AR
Intermediate range nuclear instrument N-35 spiking	364850

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

- 364900, N-35 power supply AC ripple voltage greater than limit.

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Evaluation

a. Inspection Scope

For the four time periods 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 6 - October 8, including emergent corrective maintenance on the "C" Component Cooling Water (CCW) pump and "C" deepwell pump
- October 30 - November 6, including Yellow risk condition due to planned maintenance of the "B" emergency diesel generator
- November 13 – November 20, including Yellow risk condition due to planned maintenance on the electric fire pump and "A" emergency diesel generator
- December 18 – December 25, including Yellow risk condition due to planned maintenance on the steam driven auxiliary feedwater pump.

b. Findings

No findings of significance 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, 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:

- 362306, Service water pipe through wall leak

- 363240, Delayed post maintenance test on auxiliary feedwater sectionalizing valve AFW-V2-20A
- 370764, Boric acid present on the lagging near the boric acid filter.
- 360876, “A” Charging Pump oil leak

Documents reviewed are listed in the attachment.

b. Findings

Introduction: The inspectors identified a Green finding for the licensee’s failure to identify an oil leak on the “A” charging pump. This failure was determined to be a performance deficiency with respect to licensee procedure OMM-001-11, “Logkeeping”, which requires oil leakage be identified and abnormal conditions reported to shift management.

Description: On October 13 the inspectors identified a 20 drop per minute oil leak on the running “A” charging pump. The oil was dripping from an installed leakoff line into a permanent catch container. The container is periodically emptied by staff other than operations. There are three charging pumps with normally two in operation and one in standby. Further investigation concluded there is no means to monitor oil level on the charging pumps when they are in operation. The charging pumps must be stopped to measure the oil level. The inspectors reviewed the operating history for the previous year and determined that the charging pumps had been operated for up to 37 continuous days. The charging pump oil sump capacity is approximately 10 gallons. The identified oil leakage would result in draining the charging pump oil sump in approximately 26 days and result in a loss of lubrication for the “A” charging pump. The licensee responded by stopping the charging pump to verify proper oil level. An addition of 6.5 quarts was required to restore the oil level to normal. Additionally, a compensatory action to stop the “A” charging pump every three days to verify oil level was established until the oil leak was repaired. The licensee entered the issue into the corrective action program as AR 360876.

Analysis: The failure of the licensee to identify the oil leak in accordance with a licensee procedural requirement is a performance deficiency. Procedure OMM-001-11, “Logkeeping,” Section 8.4.2 requires operators to identify oil leaks and report them to shift management. The finding is more than minor because if left uncorrected, the performance deficiency would have the potential to lead to a more significant safety concern. Specifically, given the history of continuous operation of the charging pumps for up to 37 days, if the identified oil leak remained uncorrected, a loss of lubrication failure of the “A” charging pump would occur. The charging pumps are technical specification required equipment and are used in the emergency operating procedures to mitigate the consequences of an event. Using Attachment 4 of the Significance Process (SDP) described in MC 0609, Mitigating System Cornerstone, this finding was determined to be Green because no loss of operability or functionality of the “A” charging pump resulted from the identified oil leakage. The inspectors determined no cross-cutting aspect was associated with this performance deficiency.

Enforcement: Enforcement action does not apply because the performance deficiency did not involve a violation of regulatory requirements. Because this finding does not

involve a violation of regulatory requirements and has a very low safety significance, it is characterized as a finding and is designated as FIN 05000261/2009005-02, Failure To Identify Oil Leakage On An Operating Charging Pump.

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, Updated Final Safety Analysis Report (UFSAR), or procedures may be made, and tests conducted, without prior NRC approval. The inspectors reviewed seven evaluations for changes and additional information, such as drawings, calculations, supporting analyses, the UFSAR, and Technical Specifications (TS) to confirm that the licensee had appropriately concluded that the changes could be accomplished without obtaining a license amendment. The seven 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 19 "screened out" changes reviewed are listed in the List of Documents Reviewed.

The inspectors evaluated engineering design change packages for sixteen material and design based modifications to evaluate the modifications for adverse effects on system availability, reliability, and functional capability. The sixteen modifications and the associated attributes reviewed are as follows:

EC 63939, Install Electrical Penetration E-5 and spare Electrical Penetration D-5, Rev. 10 (Barrier Integrity)

- Materials/Replacement Component
- Post Modification testing
- Licensing Basis
- Failure Modes

EC 65891, Start-up Transformer Over/Under Voltage Alarm, dated 02/01/07 (Mitigating System)

- Materials/Replacement Component
- Post Modification testing
- Licensing Basis
- Failure Modes

EC 65221, HVE-3 and HVE-4 Replacement Motors, dated 05/07/07 (Mitigating System)

- Materials/Replacement Component
- Post Modification testing
- Licensing Basis
- Failure Modes

EC 71645, Equivalent Breaker for MCC 9, Rev.0 (Initiating Events)

- Materials/Replacement Component
- Post Modification testing
- Licensing Basis
- Failure Modes

EC 47130, Thermal Overload Device Optimization for Various, Rev. 4 (Mitigating System)

- Materials/Replacement Component
- Post Modification testing
- Licensing Basis

EC 66553, Provide Temporary Power During CB-3 & CB-4 Maintenance, dated 04/28/07 (Initiating Events)

- Materials/Replacement Component
- Licensing Basis
- Failure Modes

EC 58749, Procedure Changes to Support Reduced Period to Removal of Containment Equipment Hatch After Plant Shutdown, Rev. 2 (Initiating Event)

- Operations
- Licensing Basis

EC 60972, Replace Valves V12-14 and V12-18, Rev. 4 (Mitigating Systems)

- Materials/Replacement Component
- Post Modification testing
- Licensing Basis
- Failure Modes

EC 66629, Equivalency Evaluation – Steam Generator Instrument Root Valve, Rev. 1 (Mitigating Systems)

- Materials Replacement Components
- Failure Modes

EC 58601, Electrically Disconnect the EDG ‘A’ Field Flash Batteries, Rev. 4

- Timing
- Failure Modes
- Licensing Basis

EC 62245, Replace Rosemount Transmitter Model, Rev. 1

- Energy Needs
- Materials/Replacement Components
- Process Medium
- Licensing Basis

EC 71462, Replace SI-865A and SI-865C Motors, Rev. 9

- Energy Needs

- Material/Replacement Components
- Timing
- Licensing Basis

EC-51309, Replace the inverter (DS-UPS-Inverter) for the Dedicated Shutdown Uninterruptible Power Supply (UPS) System located in the 4160 V. Switchgear room, Rev. 12 (Mitigating System)

- Materials / Replacement Component
- Equipment Protection
- Energy Needs

EC-66771, Replace the existing Peerless Electric Class B motor on the motor operated valve SI-869 Limitorque Operator with a Reliance Class RH motor, Rev. 1 (Mitigating System)

- Materials / Replacement Component
- Energy Needs
- Timing

EC 48645, Air Regulator Settings for Category 1, 2 & 3 Air Operated Valves, Identification No. 02-0503, dated 12/19/2007 (Mitigating System)

- Failure Modes
- Flowpaths
- Licensing Basis
- Control Signals

EC 60720, Replace EDG Starting Air Solenoid Valve, dated 04/07/2007 (Mitigating System)

- Failure Modes
- Flowpaths
- Licensing Basis
- Post Modification Testing
- Control Signals

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

The inspectors also reviewed the licensee's recent self-assessments associated with the station implementation of the 10 CFR 50.59 and design control processes to confirm that problems were identified at an appropriate threshold, were entered into the corrective action process, and appropriate corrective actions had been initiated and tracked to completion.

b. Findings

No findings of significance were identified.

1R18 Plant Modifications

a. Inspection Scope

The inspectors reviewed the temporary modification described in Engineering Change 74885, temporary leak repair to service water pipe 6-CW-89, 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.

Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R19 Post Maintenance Testing

a. Inspection Scope

For the three 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:

Test Procedure	Title	Related Maintenance Activity	Date Inspected
OST-908	Component Cooling System Component Test	"C" Component Cooling Water Pump motor replacement	October 15
MST-022	Safeguard Relay Rack Train "A"	PC-495 test switch replacement	October 21
OST-302-1	Service Water Pumps "A" & "B" Inservice Test	Replacement of the "B" Service Water Pump	November 17

b. Findings

No findings of significance were identified.

1R20 Refueling and Outage Activities

For the outage that began on November 6 and ended on November 8 the inspectors evaluated licensee outage activities as described below to verify that the licensee considered risk in developing outage schedules, adhered to administrative risk reduction methodologies they developed to control plant configuration, and adhered to operating license and technical specification requirements that maintained defense-in-depth. The inspectors also verified that the licensee developed mitigation strategies for losses of the following key safety functions:

- decay heat removal
- inventory control
- power availability
- reactivity control

Documents reviewed are listed in the Attachment.

.1 Monitoring of Heatup and Startup Activities

a. Inspection Scope

Prior to mode changes and on a sampling basis, the inspectors reviewed system lineups and/or control board indications to verify that TS's, license conditions, and other requirements, commitments, and administrative procedure prerequisites for mode changes were met prior to changing modes or plant configurations.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

For the four 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.

Test Procedure	Title	Date Inspected
OST-910	Dedicated Shutdown Diesel Generator (Monthly)	October 8
OST-051	Reactor Coolant System Leakage Evaluation	October 21

OST-409-1	EDG "A" Fast Speed Start	October 20
OST-402-1*	EDG "A" Diesel Fuel Oil System Flow Test	November 23

*This procedure included inservice testing requirements.

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness

1EP6 Drill Evaluation

a. Inspection Scope

On November 18, 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 of significance were identified.

2. RADIATION SAFETY

Cornerstone: Occupational Radiation Safety (OS)

2OS1 Access Control To Radiologically Significant Areas

a. Inspection Scope

Access Controls: The inspectors evaluated licensee performance in controlling worker access to radiologically significant areas and monitoring jobs in-progress. The inspectors directly observed implementation of administrative and physical radiological controls; evaluated radiation worker (radworker) and health physics technician (HPT) knowledge of and proficiency in implementing radiation protection requirements; and assessed worker exposures to radioactive material.

During facility tours, the inspectors directly observed postings and physical controls for radiation areas, high radiation areas (HRAs), and potential airborne radioactivity areas established within the radiologically controlled area (RCA) of the auxiliary building, spent

fuel pool, “24-P” Independent Spent Fuel Storage Installation (ISFSI), containment, and radioactive waste storage locations. The inspectors independently measured radiation dose rates or directly observed conduct of licensee radiation surveys for selected RCA areas. Results were compared to current licensee surveys and assessed against established postings and Radiation Work Permit (RWP) controls. Licensee key control and access barrier effectiveness were evaluated for selected Locked High Radiation Area (LHRA) locations. Changes to procedural guidance for LHRA and Very High Radiation Area (VHRA) controls were discussed with health physics (HP) supervisors. Radiological controls for storage of irradiated material within the spent fuel pool (SFP) were reviewed and discussed with HP staff. In addition, licensee controls for areas where dose rates could change significantly as a result of plant shutdown and refueling operations were observed and discussed.

For an at-power entry into containment, the inspectors attended pre-job briefings and reviewed RWP details to assess communication of radiological control requirements to workers. Occupational workers’ adherence to selected RWPs and HPT proficiency in providing job coverage were evaluated through direct observations and interviews with licensee staff. Electronic dosimeter (ED) alarm set points and worker stay times were evaluated against area radiation survey results for the selected tasks.

The inspectors reviewed and assessed licensee evaluations of skin dose and internal dose due to radworker contamination events. For HRA tasks involving significant dose rate gradients, e.g. diving in the reactor cavity, the inspectors evaluated the use and placement of whole body and extremity dosimetry to monitor worker exposure.

Radiation protection activities were evaluated against the requirements of Updated Final Safety Analysis Report (UFSAR) Section 12; Technical Specifications (TS) Section 5.7; 10 Code of Federal Regulations (CFR) Parts 19 and 20; and approved licensee procedures. Records reviewed are listed in Section 2OS1 of the attachment.

Problem Identification and Resolution: Licensee Corrective Action Program (CAP) documents associated with access control to radiologically significant areas were reviewed and assessed. This included review of selected Nuclear Condition Report (NCR) records related to radworker and HPT performance. The inspectors evaluated the licensee’s ability to identify, characterize, prioritize, and resolve the identified issues in accordance with procedure CAP-NGGC-0200, “Corrective Action Program”, rev. 28. The inspectors also evaluated the scope of the licensee’s internal audit program and reviewed recent assessment results. Licensee CAP documents reviewed are listed in Section 2OS1 of the Attachment.

The inspectors completed 21 of the required line-item samples described in Inspection Procedure (IP) 71121.01.

b. Findings

No findings of significance 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." In addition, the inspectors interviewed licensee personnel associated with collecting, evaluating, and distributing these data.

Mitigating Systems Cornerstone

- Mitigating Systems Performance Index, Emergency AC Power
- Mitigating Systems Performance Index, High Pressure Safety Injection
- Mitigating Systems Performance Index, Heat Removal System

For the period from the 4th quarter of 2008 through the 3rd quarter of 2009, 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:

- 260174, Discovery Auxiliary Feedwater (AFW) unavailability hours previously unreported
- 238116, Unplanned unavailability of the "B" Motor-Driven Auxiliary Feedwater (MDAFW) pump

Occupational Radiation Safety Cornerstone: The inspectors reviewed the Occupational Exposure Control Effectiveness PI results for the Occupational Radiation Safety Cornerstone from October 2008 to September 2009. For the assessment period, the inspectors reviewed ED alarm logs and selected NCRs related to controls for exposure significant areas. The inspectors also reviewed licensee procedural guidance for collecting and documenting PI data. Documents reviewed are listed in sections 2OS1 and 4OA1 of the attachment.

Public Radiation Safety Cornerstone: The inspectors reviewed the Radiological Control Effluent Release Occurrences PI results for the Public Radiation Safety Cornerstone from October 2008 to September 2009. For the assessment period, the inspectors reviewed cumulative and projected doses to the public and NCRs related to Radiological Effluent Technical Specifications/Offsite Dose Calculation Manual issues. The

inspectors also reviewed licensee procedural guidance for collecting and documenting PI data. Documents reviewed are listed in section 4OA1 of the attachment.

Documents reviewed are listed in the attachment.

b. Findings

No findings of significance 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 Annual Sample Review

a. Inspection Scope

The inspectors selected AR 342794 “Misapplication of LCO 3.0.5” for detailed review. The inspectors selected this AR because it relates specifically to the Mitigating Systems Cornerstone. The inspectors reviewed this report 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 this AR 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.

b. Findings

No findings of significance 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 4OA2.1, licensee trending efforts, and licensee human performance results. The inspector's review nominally considered the six month period of June 2009 through December 2009, although some examples expanded 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 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. 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 of significance 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 Manual Reactor Trip due to failure of the "A" feedwater regulating valve.

a. Inspection Scope

Following the reactor trip that occurred on November 6, 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-trip activities to verify that the licensee identified and resolved event-related issues prior to restarting the plant. Documents reviewed are listed in the attachment.

b. Findings

No findings of significance were identified.

.2 (Closed) LER 2009-001-00, "Emergency Diesel Generator Inoperable in Excess of Technical Specifications Allowed Completion Time".

Description: A violation of TS 3.8.1. B was identified when the "B" Emergency Diesel Generator (EDG) was inoperable in excess of the TS allowed outage time. Enforcement discretion was exercised for this violation. No performance deficiency was identified.

On April 20, 2009, the output breaker for the "B" EDG failed to close during the performance of planned surveillance testing. The licensee determined the cause of the breaker failure was due to the rotation of a cotter pin, used to retain a control relay lift linkage, during the previous breaker opening which prevented the lift linkage from returning to the normal position. The licensee entered the issue into the corrective action program as AR 331663 and initiated a root cause and extent of condition review.

Based on the failure mechanism, the licensee, using engineering judgment concluded the "B" EDG had been inoperable for greater than the 7 days allowed by TS 3.8.1.B.4 and Condition C. The last successful breaker closure was March 28, 2009.

As discussed in the licensee's root cause report, the vendor had previously modified the breakers lifting link assembly. The drive screw/rolled pin that was originally used to retain the relay's mechanical lift linkage was substituted with a cotter pin retaining component. This substitution created a design flaw because the cotter pin was susceptible to an unrecognized failure mechanism. The design flaw was reported by Westinghouse in accordance with 10 CFR 21 "Reporting of Defects and Noncompliance," on May 28, 2009 (EN 45100). Because the cotter pin substitution was a vendor performed design change, the cause was not reasonably within the licensee's ability to foresee and correct, therefore, no performance deficiency was identified.

The inspector determined a violation of TS 3.8.1.B occurred since the "B" EDG was inoperable in excess of the TS allowed outage time (7 days). The inspectors determined that this violation was more than minor because it affected the equipment performance attribute of the Mitigating System cornerstone and because it affects the cornerstone objective of ensuring mitigating system availability. The inspectors determined that the breaker failure was not a performance deficiency because the cause of the failure was not reasonably within the licensee's ability to foresee and correct to prevent the failure. Because a performance deficiency was not associated with this issue, it was not subject to evaluation under the formal Significance Determination Process (SDP) using Inspection Manual Chapter 0609. However, an assessment of the significance of the event was performed by the inspectors. This review resulted in the matter being assigned a risk assessment of low to moderate significance. In addition, the licensee's risk evaluation found an increase in core damage probability of 2.72 E-6 (also low to moderate significance). The event was mitigated by the redundant "A" EDG and Dedicated Shutdown Diesel Generator being available to respond to an event. Additionally, the licensee concluded that several response actions to recover the "B" EDG, such as the discovery of the misaligned relay lift linkage or replacing the affected

breaker with a spare could be accomplished in an estimated time frame which ranged from one to four hours. The inspectors reviewed the licensee's assessment and corrective actions for the event, and determined they were appropriate to the circumstances. All similar breakers at the Robinson Plant which are susceptible to this failure are scheduled to be modified by May 15, 2010. Prior to implementation of this modification, satisfactory compensatory actions have been implemented which will ensure successful operation of the breaker.

b. Enforcement: The NRC concluded that a violation of TS 3.8.1.B occurred because the "B" EDG was inoperable in excess of the TS allowed outage time (7 days). However, because a performance deficiency was not identified, and because the violation resulted from matters not within the licensee's control, no enforcement action is warranted for this violation of NRC requirements in accordance with Section VII.B.6 of the NRC's Enforcement Policy. Further, because licensee actions did not contribute to this violation, it will not be considered in the assessment process or the NRC's Action Matrix.

.3 (Closed) LER 2009-002-00, "Failure to Complete Technical Specifications Required Action Within Allowed Completion Time".

On June 29, 2009, the licensee identified that Technical Specifications (TS) Limiting Condition for Operation (LCO) 3.3.2, "Engineered Safety Feature Actuation System (ESFAS) Instrumentation" was violated for approximately two minutes. Specifically the containment pressure channel PC-953A was removed from the tripped condition as was required by TS LCO 3.3.2, Conditions D and E, during repair activities to the containment pressure channel. The inspectors reviewed the licensee's cause of the event to be insufficient work instructions to describe the impact of the repair activities for the containment pressure channel. Corrective actions included revising the operating procedures for out of service pressure channels, issue maintenance guidance for channel maintenance that maintains the channel in trip and work instructions to describe plant impact on applicable TS requirements. The licensee documented the problem in Condition Report 342794. The inspectors reviewed the licensee's assessment and corrective actions for the event, and determined they were appropriate. Enforcement aspects are discussed in Section 4OA7. No additional findings of significance 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 of significance were indentified.

4OA6 Meetings, Including Exit

On January 25, 2010, the resident inspectors presented the inspection results to Mr. Eric McCartney and other members of his staff. The inspectors confirmed that proprietary information was not provided or examined during the inspection.

4OA7 Licensee-Identified Violations

The following finding of very low significance was identified by the licensee and is a violation of NRC requirements which meets the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600 for being dispositioned as a non-cited violation (NCV).

- TS 3.3.2 required that PC-953A containment pressure switch channel be placed and maintained in the tripped condition. Contrary to this on June 29, 2009, during repair activities the channel was inadvertently removed from the tripped condition. The cause of the error was inadequate work instructions. The channel was restored to the tripped condition in approximately two minutes. This condition was documented in Condition Report 342793. This violation is of very low safety significance because the condition was promptly corrected in approximately 2 minutes and redundant channels were operable.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel

B. White, Manager, Support Services - Nuclear
K. Smith, Training Manager
W. Farmer, Engineering Manager
K. Jensen, Maintenance Manager
S. Saunders, Plant General Manager
J. Lucas, Nuclear Assurance Manager
J. Rhodes, Radiation Protection Superintendent
K. Jones, Operations Manager
E. McCartney, Vice President
S. Wheeler, Outage & Scheduling Manager

NRC personnel

L. Wert, Jr., Division Director, Reactor Projects
R. Musser, Chief, Reactor Projects Branch 4

Attachment

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

05000261/2009005-01	URI	"A" EDG Fuel Transfer Pump Power Supply Cable Submerged in Water (Section 1R06)

Closed

05000261/2009-001-00	LER	Emergency Diesel Generator Inoperable in Excess of Technical Specifications Allowed Completion Time (Section 4OA3.2)
05000261/2009-002-00	LER	Failure to Complete Technical Specifications Required Action Within Allowed Completion Time (Section 4OA3.3)

Opened & Closed

05000261/2009005-02	FIN	Failure To Identify Oil Leakage On A Operating Charging Pump (Section 1R15)

Discussed

None

Attachment

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

Procedures
OP-925, "Cold Weather Operation", Rev. 44
AP-008, "Cold Weather Preparations", Rev. 19

Section 1R04: Equipment Alignment

Partial System Walkdown
CCW system:
Procedures: OP-306, "Component Cooling Water System", Rev. 59
AOP-014, "Component Cooling Water System Malfunction", Rev. 26
Drawing 5379-376, "Component Cooling Water System Flow Diagram", Rev. 37

Power Range Nuclear Instrumentation System:
Procedure OP-002, "Nuclear Instrumentation System," Rev. 19
OWP-019, "Nuclear Instrumentation", Rev. 19

Fire Protection system:
Procedure OP-801, "Fire Water System," Rev. 46
Drawing HBR2-8255 Sheet 1, "Fire Protection System Intake Structure Flow Diagram", Rev. 14

Section 1R05: Fire Protection

Procedures
FP-001, "Fire Emergency", Rev. 57
FP-003, "Control of Transient Combustibles", Rev. 24
FP-004, "Duties of a Fire Watch", Rev. 14
FP-012, "Fire Protection Systems Minimum Equipment and Compensatory Actions", Rev. 12
OMM-003, "Fire Protection Pre-Plans/Unit 2", Rev. 54
OMM-002, "Fire Protection Manual", Rev. 41

Drawings
HBR2 11937 Fire Pre-Plan drawings

Section 1R06: Flood Protection Measures

Drawings
SK-51005-E-3002, Per 51005

Action Requests
370343, A EDG Fuel Transfer Pump power supply cable submerged in water

Other
Rockbestos Firewall III cable specification sheet Spec. RSS-3.021

Section 1R11: Licensed Operator Requalification

AOP-001, "Malfunction of Reactor Rod Control System", Rev 24
AOP-010, "Feedwater Malfunctions", Rev 32
EPP-4, "Reactor Trip Response", Rev 23

Section 1R12: Maintenance Effectiveness

Action Requests
364850, N-35 spiking following reactor trip
364900, N-35 A/C ripple voltage above limit

Work Orders
1546565-01, N-35 spiking repair

Procedures
ADM-NGGC-0101, "Maintenance Rule Program", Rev 20

Other
System Health Report Excore Nuclear Instrumentation

Section 1R13: Maintenance Risk Assessments and Emergent Work Evaluation

Procedure OMM-048, "Work Coordination and Risk Assessment", Rev. 42
OMM-048, "Work Coordination and Risk Management", Rev. 43
MMM-003, "Maintenance Planning", Rev. 81
OSU-001, "Outages And Scheduling Unit Organization and Administration", Rev. 11
Operating Logs
Plan of the Week for the inspected weeks

Section 1R15: Operability Evaluations

Generic Letter 90-05, Guidance for Performing Temporary Non-Code repair of ASME Code Class 1, 2, and 3 Piping
NDE exam results for Job No. 1640842-02 dated 10/23/2009
OPS-NGGC-1305, "Operability Determinations", Rev. 1
Drawing: G-190197, "Feedwater Condensate and Air Evacuation System Flow Diagram", Rev. 58
Work Order 1657684, Boric Acid Filter gasket replacement.

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

Full Evaluations
AR 228385, Temporary Power to FDAP A1 AND FDAP A2, dated 04/07/07

AR 222649, Procedure Changes to Support Reduced Period to Removal of Containment Equipment Hatch After Plant Shutdown, dated 3/6/07
AR 226110, Safety Evaluation for Revision 20 of LP-551, dated 3/26/07
04-0563, Electrically Disconnect the EDG 'A' Field Flash Batteries, Rev. 0
AR 240975, Using IPCEA P-54-440 for Assessing Cable Adequacy in Cable Trays, Rev. 0
AR 230553, Proposed Technical Changes to SORMC-GD-17 and SORMC-GD-22, Rev. 0
AR 256394, Increase in Turbine Valve Test Frequency, Rev. 0

Screened Out Items
AR 210593, Replace of HVE-3 Fan Motor, dated 11/07/06
AR 218801, Start-up Transformer Over/Under Voltage Alarm, dated 01/16/07
AR 223922, Electrical Penetration E-5 Installation, dated 03/13/07
AR 231030, Thermal Overload Device Optimization for various MOVs, dated 04/26/07
AR 251127, Replace Valves and Actuators for V12-14 and V12-18, dated 1/21/08
AR 217193, Revision 3 to In-Service Test Procedure, OST-703-3, dated 2/6/07
AR 219314, Revision to OST 302-2 and 302-04, dated 1/18/07
AR 221117, Revision to Acceptance Limits and Reference Values in OST-353-2 and 352-4, dated 2/8/07
AR 218486, Revision to OP-903, dated 1/12/07
AR 260511, SDAFWP Pressure Trip Time Delay, Rev. 0
AR 222557, CCW Pump Reset Switch, Rev. 0
AR 040242, Replace DS UPS Inverter, Rev. 4
AR 230709, Replace MOV Drive Motor, Rev. 0
AR 231014, Replace MOV Drive Motor incorporating new data into calibration data sheet, Rev.17
EC 48645, Air Regulator Settings for Category 1,2 & 3 Air Operated Valves, Identification No. 02-0503 dated
AR 254874, Procedural Change of RHR Pump Comprehensive Test, OST-253, dated 11/26/07
AR 214208, Change to Acceptable Relief Valve Set Pressure Ranges, Dated 9/10/2008
AR 272834, Procedural Change of OST-207 MDAFW Comp. Test, dated 3/31/2008
AR 198381, Replace Air Start Solenoid Valving/Piping Assemblies, date 06/29/06

Modifications
EC 63939, Install Electrical Penetration E-5 and spare Electrical Penetration D-5, Rev. 10
EC 65891, Start-up Transformer Over/Under Voltage Alarm, dated 02/01/07
EC 65221, HVE-3 and HVE-4 Replacement Motors, dated 05/07/07
EC 71645, Equivalent Breaker for MCC 9, Rev.0
EC 47130, Thermal Overload Device Optimization for Various, Rev. 4
EC 66553, Provide Temporary Power During CB-3 & CB-4 Maintenance, dated 04/28/07
EC 60972, Replace Valves V12-14 and V12-18, Rev. 4
EC 66629, Equivalency Evaluation – Steam Generator Instrument Root Valve, Rev. 1
EC 58749, Procedure Changes to Support Reduced Period to Removal of Containment Equipment Hatch After Plant Shutdown, Rev. 2
EC 58601, Electrically Disconnect the EDG 'A' Field Flash Batteries, Rev. 4
EC 62245, Replace Rosemount Transmitter Model, Rev. 1
EC 71462, Replace SI-865A and SI-865C Motors, Rev. 9
EC-51309, Replace the inverter (DS-UPS-Inverter) for the Dedicated Shutdown Uninterruptible Power Supply (UPS) System located in the 4160 V. Switchgear room, Rev. 12

EC-66771, Replace the existing Peerless Electric Class B motor on the motor operated valve SI-869 Limitorque Operator with a Reliance Class RH motor, Rev. 1
EC 48645, Air Regulator Settings for Category 1,2 & 3 Air Operated Valves, dated 12/19/2007
EC 60720, Replace EDG Starting Air Solenoid Valve, dated 04/07/2007

Basis Documents
Technical Requirements Manual, Current
Technical Specifications, Current
Updated Final Safety Analysis Report, Current
Design Basis Documents, Current

Self Assessments
RNAS 08-029, Results of Engineering Change Product Quality Focus Review, R-FR-OM-08-02, dated 4/30/08
R-ES-08-01, Robinson Nuclear plant Engineering Services Assessment Report, dated 6/26/08

Procedures
EGR-NGGC-0003, “Design Review Requirements”, Rev. 10
EGR-NGGC-0106, “AC and DC Overcurrent Protection and Coordination”, Rev. 4
PRO-NGGC-0204, “Procedure Review and Approval”, Rev. 15
MCP-NGGC-0401, “Material Acquisition (Procurement, Receiving and Shipping)”, Rev. 26
PM-450, “Molded Case Circuit Breakers Thermal and Instantaneous Trips Testing”, Rev. 13
PLP-058, “Temporary Power/Service Installation”, Rev.21
EDP-006, “Lighting Panels”, Rev. 50
EDP-003, “MCC Buses”, Rev. 43
OMM-001-8, “Control of Equipment and System Status”, Rev. 42
PM-507, “Thermal Overload Relay Testing”, Rev. 3
OP-903, “Service Water System”, Rev. 99
OWP-007, “Diesel Generators”, Rev. 61
AOP-031, “Operation with High Switchyard Voltage”, Rev. 11
OST-161, “Accumulator Isolation and Check Valve Operability Test”, Rev. 23
PIC-002, “D/P Electronic Transmitter”, Rev. 13
EGR-NGGC-0308, “Pipe Stress Analysis”, Rev. 6
EGR-NGGC-0355, “Pipe/Tube Stress Design”, Rev. 6
TMM-043, “Air Operated Valve Program, Technical Management Procedure”, Revision 6 &12
OST-207, “Comprehensive Flow Test for MDAFW Pumps”, Rev. 50, dated 11/2/2008
OST-253, “Comprehensive Flow Test for RHR Pumps”, Rev. 44, dated 10/22/2008

Work Orders
00719732, Replace the HVE-3 Motor During RO-24, dated 03/03/07
01040023, Trip Testing of MCC-9(2KR), dated 09/27/08
01042139, Provide Temp Power to FDAP A1, dated 04/14/07
00754607, Electrical Penetration D5 has 50° F, dated 10/04/05
00892773, Implement EC 63939 in RO24, dated 07/18/07
00852234, Implementation Overload relay Change and PMT for CC-749A, dated 04/25/07
00852231, Implementation Overload relay Change and PMT for AFW-V2-20A, dated 05/07/07
00967490, Implementation Overload relay Change and PMT for AFW-V2-20B, dated 03/03/07
00967489, Implementation Overload relay Change and PMT for CC-730, dated 04/16/07

00852233, Implementation Overload relay Change and PMT for CC-749B, dated 03/03/07
00967488, Implementation Overload relay Change and PMT for RHR-750, dated 03/04/07
00967487, Implementation Overload relay Change and PMT for RHR-752A, dated 03/04/07
00967490, Implementation Overload relay Change and PMT for RHR-752B, dated 03/03/07
00967519, Implementation Overload relay Change and PMT for SI-863A, dated 04/07/07
00967420, Implementation Overload relay Change and PMT for V6-16A, dated 03/04/07
00874792, Install EC 60720 to Replace EDG B Air Start Solenoid Inlet, dated 9/12/06
00525965, Testing of EDG 'A' Field Flash Voltage, dated 3/16/05
00525965, 'A' Emergency Diesel Field Flash Battery Disconnect, dated 3/16/05
00689397, Remove EDG 'A' Field Flash Batteries, dated 12/19/05
00689896, Remove EDG 'B' Field Flash Batteries, dated 12/19/05
00525966, Electrically Disconnect the EDG 'B' Field Flash Batteries, dated 9/21/04
00439829-02, Replace DSD-UPS Battery Charger Power Supply "A" DC Output Breaker dated 7/30/2003
0053789712-12 Perform Testing of Molded Case Switches to Support EC-51309 dated 11/13/2004
00874792 01-24, Install EC 60720 to Replace "B" EDG A, dated 08/09/2006
00820140 25, RES PMT, Perform Thermography of EDG Solenoid Valve, dated 09/12/06
01350332-02, SI-865C: Replace Motor per EC 71462, 10/08
01350332-10, SI-865C: PMT Motor Connections, 10/08
01350332-08, Modify MCC-5 (9F), 10/08
01350332-04, I/C PMT, 10/08
00558801-01, Inspect Limitorque on SI-865C, 10/08
01350332-03, Ops PMT, 10/08
01350337-03, SI-865A: Ops PMT, 10/08
00558805-02, OST-161, 10/08
01350337-10, SI-865A: PMT Motor Connections, 10/08
01350337-02, SI-865A: Replace Motor, 10/08
01350337-08, Modify MCC-5 (14F), 10/08
01350332-03, OPS PMT, 10/08
01350332-04, I/C PMT, 10/08
01350337-04, I/C PMT, 10/08
00558805-01, Inspect Limitorque on SI-865A, 10/08
00754609-02, Contingency to Replace FT-497

Non-Conformance Reports
NCR 355882 – EC-51309 Molded Case Switches, dated 9/18/09
NCR 357707 – DP-A (DS) Power Circuit Breaker Testing, dated 9/29/09
AR 00146191 – Investigation of Replacement Inverter Failure, Rev. 2
NCR00190935 Create New PM For EDG Air Start Solenoid Valve, date 04/12/2006
NCR00190923 Create PM For EDG Solenoid and Air Start Valve

Calculations
RNP-E-2.019, MCC 5, 6, 9 and 10 Protective Devices, Rev. 8
RNP-E-8.042, AC MOV Protection Evaluation Based On Computer Program "MOTORGUARD" Rev. 4
RNP-E-6.021, Load Profile and Battery Sizing Calculation for Battery A, Rev. 6
RNP-E-6.020, Load Profile and Battery Sizing Calculation for Battery B, Rev. 7

RNP-E-8.002, AC Auxiliary Electrical Distribution System Voltage/Load Flow/Fault Current Study, Rev. 6B
RNP-E-8.042, AC MOV Protection, Rev. 4
RNP-E-6.001 – DC System Relocation of Alternate Shutdown Transceivers, Rev. 0
RNP-E-2.017 – 10 CFR 50 Appendix R Coordination Study of Protective Devices Associated with 480 V DS Bus, MCC 24, PP-50, PP-51, and LP-41, Rev.1
EGR-NGGC-0206 AOV Calculations Using ACE Software, Rev. 0
ECO E106866 Seismic Qualification for Air Start Piping Modification EDG, dated 06/28/2006

Drawings
B-190627 MC005-2, Auxiliary Electrical Distribution System Single Line Diagram Motor Control Center No. 5, Rev.7
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MST-022, “Safeguard Relay Rack Train “A””, Rev. 19
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Technical Specifications
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3.3 Instrumentation
3.7.7 Service Water System

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2OS1: Access Control To Radiologically Significant Areas

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AR 00301312, Foreign material discovered on floor of transfer canal
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Section 4OA1: Performance Indicator Verification

Procedures
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Equipment out of service logs from the 4th quarter 2008 through the 3rd quarter 2009
REG-NGGC-0009, "NRC Performance Indicators and Monthly Operating Report Data", Rev. 9

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Section 4OA3: Event Follow-up

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