



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION II
SAM NUNN ATLANTA FEDERAL CENTER
61 FORSYTH STREET, SW, SUITE 23T85
ATLANTA, GEORGIA 30303-8931

April 30, 2006

Carolina Power and Light Company
ATTN: Mr. Tom Walt
Vice President - Robinson Plant
H. B. Robinson Steam Electric Plant
Unit 2
3851 West Entrance Road
Hartsville, SC 29550

SUBJECT: H.B. ROBINSON STEAM ELECTRIC PLANT - NRC INTEGRATED
INSPECTION REPORT 05000261/2006002

Dear Mr. Walt:

On March 31, 2006, the US 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 April 12, with **Bill Noll** 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.

Based on the results of this inspection, the inspectors identified one issue of very low safety significance (Green). This issue was determined to involve a violation of NRC requirements. However, because of its very low safety significance and because it has been entered into your Corrective Action Program, the NRC is treating this issue as a non-cited violation (NCV), in accordance with Section VI.A.1 of the NRC's Enforcement Policy. In addition, one licensee identified violation which was determined to be of very low safety significance is listed in Section 4OA7 of the enclosed report. If you contest any NCV in the enclosed report, 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 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/

Paul E. Fredrickson, Chief
Reactor Projects Branch 4
Division of Reactor Projects

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

Enclosure: Inspection Report 05000261/2006002
w/Attachment: Supplemental Information

cc w/encl: (See page 3)

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cc w/encl:
William G. Noll
Director, Site Operations
Carolina Power & Light Company
H. B. Robinson Steam Electric Plant
Electronic Mail Distribution

Daniel G. Stoddard
Plant General Manager
Carolina Power & Light Company
H. B. Robinson Steam Electric Plant
Electronic Mail Distribution

Chris L. Burton, Manager
Performance Evaluation and
Regulatory Affairs CPB 9
Electronic Mail Distribution

C. T. Baucom, Supervisor
Licensing/Regulatory Programs
Carolina Power & Light Company
H. B. Robinson Steam Electric Plant
Electronic Mail Distribution

J. F. Lucas, Manager
Support Services - Nuclear
Carolina Power & Light Company
H. B. Robinson Steam Electric Plant
Electronic Mail Distribution

Henry J. Porter, Director
Div. of Radioactive Waste Mgmt.
Dept. of Health and Environmental
Control
Electronic Mail Distribution

R. Mike Gandy
Division of Radioactive Waste Mgmt.
S. C. Department of Health and
Environmental Control
Electronic Mail Distribution

Beverly Hall, Acting Director
Division of Radiation Protection
N. C. Department of Environment,
Health and Natural Resources
Electronic Mail Distribution

David T. Conley
Associate General Counsel - Legal Dept.
Progress Energy Service Company, LLC
Electronic Mail Distribution

John H. O'Neill, Jr.
Shaw, Pittman, Potts & Trowbridge
2300 N. Street, NW
Washington, DC 20037-1128

Chairman of the North Carolina
Utilities Commission
c/o Sam Watson, Staff Attorney
Electronic Mail Distribution

Robert P. Gruber
Executive Director
Public Staff - NCUC
4326 Mail Service Center
Raleigh, NC 27699-4326

Public Service Commission
State of South Carolina
P. O. Box 11649
Columbia, SC 29211

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Report to Tom Walt from Paul E. Fredrickson dated April 30, 2006.

SUBJECT: H.B. ROBINSON STEAM ELECTRIC PLANT - NRC INTEGRATED INSPECTION
REPORT 05000261/2006002

Distribution w/encl:

C. Patel, NRR

C. Evans (Part 72 Only)

L. Slack, RII EICS

RIDSNRRDIPMLIPB

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U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket No: 50-261

License No: DPR-23

Report No: 005000261/2006002

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

Location: 3581 West Entrance Road
Hartsville, SC 29550

Dates: January 1, 2006 - March 31, 2006

Inspectors: R. Hagar, Senior Resident Inspector
D. Jones, Resident Inspector
L. Mellen, Senior Reactor Inspector (Lead), (Sections 1R02 & 1R17)
M. Thomas, Senior Reactor Inspector, (Sections 1R02 & 1R17)
R. Taylor, Reactor Inspector, (Sections 1R02 & 1R17)
W. Fowler, Reactor Inspector Trainee, (Sections 1R02 & 1R17)
J. Quinones-Navarro, Reactor Inspector Trainee, (Sections 1R02 & 1R17)
M. Bates, Operations Engineer, (Section 1R11)

Approved by: P. Fredrickson, Chief
Reactor Projects Branch 4
Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000261/2006002, 01/01/2006 - 03/31/2006, Carolina Power and Light Company; H.B. Robinson Steam Electric Plant, Unit 2; Maintenance Effectiveness.

The report covered a three month period of inspection by resident inspectors and an announced inspection by several reactor inspectors. One Green non-cited violation was identified. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using 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. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

A. NRC-Identified and Self-Revealing Findings

Cornerstone: Mitigating Systems

Green. The inspectors identified a non-cited violation of 10 CFR 50.65(a)(2) for failure to **demonstrate that the performance of a safety-related breaker was being effectively controlled through the performance of appropriate preventive maintenance, in that repetitive failures that caused a performance criteria to be exceeded were not identified and, as a result goal setting and monitoring was not conducted as required by 10 CFR 50.65(a)(1).**

The finding is greater than minor because it is associated with the equipment performance attribute of the Mitigating Systems Cornerstone and affects the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). **The failure to identify and properly account for repetitive failures of a safety-related valve breaker resulted in goal setting and monitoring not being performed between the period of October 2005 and March 2006.** This finding was of very low safety significance because it is not a design or qualification deficiency, does not represent an actual loss of safety function for a system or train, and is not risk significant due to a seismic, fire, flooding, or severe weather initiating event.. The cause of this finding is inattention to detail during validation and verification of assumptions made during the MR evaluations, and is therefore, identified as a performance aspect of the Human Performance cross-cutting area. (Section 1R12)

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 Corrective Action Program. The violation and the licensee's corrective action tracking number are listed in Section 4OA7 of this report.

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REPORT DETAILS

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

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R02 Evaluations of Changes, Tests or Experimentsa. 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 evaluations for five changes and additional information, such as calculations, supporting analyses, the UFSAR, and drawings to confirm that the licensee had appropriately concluded that the changes could be accomplished without obtaining a license amendment. The five evaluations reviewed are listed in the Attachment.

The inspectors also reviewed samples of changes for which the licensee had determined that evaluations were not required, to confirm that the conclusions to “screen out” these changes were correct and consistent with 10 CFR 50.59. These changes were reviewed in the region II office. The 13 “screened out” changes reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignmenta. Inspection ScopePartial 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:

<u>System Walked Down</u>	<u>SSC Out of Service</u>	<u>Date Inspected</u>
Safety Injection Train B	A Safety Injection Pump	January 19

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Service Water Train A	C Service Water Pump	February 7
Motor Driven Auxiliary Feedwater Train A and B	Steam Driven Auxiliary Feedwater Pump	February 28

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

The following areas were inspected:

<u>Fire Zone</u>	<u>Description</u>
25A/B	turbine building east and west ground floor
25F/G	turbine building east/west mezzanine and operating deck
25D	dedicated shutdown diesel generator
16	battery room
2	diesel generator A room
26	yard transformers

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification

Annual Review of Licensee Requalification Examination Results

a. Inspection Scope

On March 2, 2006, the licensee completed the requalification annual operating tests, required to be given to all licensed operators by 10 CFR 55.59(a)(2). The inspectors performed an in-office review of the overall pass/fail results of the individual operating tests, and the crew simulator operating tests. These results were compared to the thresholds established in Inspection Manual Chapter 0609 Appendix I, Operator Requalification Human Performance Significance Determination Process.

b. Findings

No findings of significance were identified.

Quarterly Review

a. Inspection Scope

On February 15, the inspectors observed licensed-operator performance during requalification simulator annual examinations for two crews to verify that operator performance was consistent with expected operator performance, as described in Dynamic Simulator Scenario Examinations DSS-009 and DSS-010. The DSS-009 examination tested the operators' ability to respond to the failure of a pressurizer spray valve, a reactor coolant pump seal failure, a reactor coolant system leak and a large break loss of coolant accident. The DSS-010 examination tested the operators' ability to respond to the failure of a steam pressure channel, a leaking steam generator power operated relief valve, a steam leak and a faulted and ruptured steam generator. The inspectors focused on clarity and formality of communication, the use of procedures, alarm response, control board manipulations, group dynamics, and supervisory oversight. Documents reviewed are listed in the Attachment.

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

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness

a. Inspection Scope

The inspectors reviewed the two degraded SSC/function performance problems or conditions listed below to verify the appropriate handling of these performance problems

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or conditions in accordance with 10 CFR 50, Appendix B, Criterion XVI, Corrective Action, and 10 CFR 50.65, Maintenance Rule (MR). Documents reviewed are listed in the Attachment.

The problems/conditions and their corresponding action requests (ARs) were:

<u>Performance Problem/Condition</u>	<u>AR</u>
Valve CC-749A failure to actuate on demand	172161
Fuel oil transfer pump B failure	172281

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).

b. Findings

Introduction The inspectors identified a Green non-cited violation (NCV) of 10 CFR 50.65(a)(2) for failure to demonstrate that the performance or condition of an SSC is being effectively controlled through the performance of appropriate preventive maintenance. Repetitive failures of a safety-related breaker that caused a performance criteria to be exceeded were not identified and, as a result, goal setting and monitoring was not conducted as required by 10 CFR 50.65(a)(1).

Description On May 23, 2004 and October 9, 2005 valve CC-749A failed to operate as required. Valve CC-749A is a normally closed valve that is required to open to allow component cooling water (CCW) flow through the A residual heat removal heat exchanger during emergency core cooling system containment sump recirculation. Troubleshooting efforts for both valve failures determined that the cause was a tripped thermal overload in the associated breaker.

The licensee performed MR evaluations (AR 133282 and 172161) for both valve failures and determined that neither event would be classified as an MR functional failure. After reviewing the licensee's MR procedure, MR evaluations, and associated work requests, the inspectors questioned the determinations that the events were not MR functional

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failures. On February 28, 2006, the licensee initiated AR 185821 and subsequently classified both events as MR functional failures. Because the additional failures resulted in the safety-related motor control center breakers (MCC) performance criteria being exceeded, the licensee classified the breakers as MR (a)(1) which requires monitoring against licensee established goals.

Analysis The finding is more than minor because it is associated with the equipment performance attribute and affected the Mitigating Systems Cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). **The failure to identify and properly account for repetitive failures of a safety-related valve breaker resulted in goal setting and monitoring not being performed as required by 10 CFR 50.65(a)(1).** The inspectors determined that the finding is of very low safety significance because it was not a design or qualification deficiency, did not represent an actual loss of safety function for a system or train, and was not risk significant due to a seismic, fire, flooding, or severe weather initiating event. The finding was related to the cross-cutting area of Human Performance because the root cause was determined to be a lack of validation and verification of assumptions made during Maintenance Rule evaluations.

Enforcement 10 CFR 50.65 (a)(1) requires, in part, that the licensee monitor the performance or condition of SSCs, against licensee-established goals, in a manner sufficient to provide reasonable assurance that such SSCs are capable of fulfilling their intended functions.

10 CFR 50.65 (a)(2) requires, that monitoring as specified in paragraph (a)(1) of this section is not required where it has been demonstrated that the performance or condition of an SSC is being effectively controlled through the performance of appropriate preventive maintenance, such that the SSC remains capable of performing its intended function.

Contrary to the above, between the period of October 2005 through March 2006, the performance of a safety-related breaker was not effectively controlled through the performance of appropriate preventive maintenance and breaker performance was not monitored against licensee-established goals. Specifically, the licensee failed to identify and account for repetitive failures of the safety-related breaker on May 23, 2004 and October 9, 2005, which demonstrated that the SSC was not being effectively controlled through appropriate preventative maintenance and, as a result, goal setting and monitoring was required, but not performed. Because the finding was of very low safety significance, and has been entered in the Corrective Action Program (CAP) (AR 185821), it is being treated as an NCV, consistent with Section VI.A.1 of the NRC Enforcement Policy: NCV 05000261/2006-01, Failure to Demonstrate Performance of Safety-Related Breaker Effectively Controlled.

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:

- The work week of January 9 - January 13, including scheduled maintenance on the dedicated shutdown diesel and associated bus
- The work week of January 17 - January 20, including scheduled maintenance on the A safety injection pump and emergent maintenance on the A CCW pump
- The work week of January 23 - January 27, including scheduled maintenance on the steam driven auxiliary feedwater pump and the A residual heat removal train
- The work week of March 13 - March 17, including scheduled maintenance on the A emergency diesel generator

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the operability determination associated with AR 183489, Operability Determination needed for Flow Transmitters 1426A, B and C. This AR addressed the erratic indications of the steam driven auxiliary feedwater pump flow transmitters. The inspectors assessed the accuracy of the evaluation, the use and control of any necessary compensatory measures, and compliance with the Technical Specification (TS). The inspectors verified that the operability determination was made as specified by Procedure OPS-NGGC-1305, Operability Determinations. The inspectors compared the justifications provided in the determination to the requirements from the TS, the UFSAR, and associated design-basis documents to verify that operability was properly justified and the flow transmitters remained available, such that no unrecognized increase in risk occurred.

Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R17 Permanent Plant Modifications

a. Inspection Scope

The inspectors evaluated engineering change packages for seven modifications, in the Mitigating Systems and Barrier Integrity Cornerstone areas, to evaluate the modifications for adverse effects on system availability, reliability, and functional capability. The seven modifications and the associated attributes reviewed were as follows:

EC 52464 Replace Stack Monitor (Barrier Integrity)

- control signals
- energy needs
- flow paths
- installation records
- licensing basis
- materials/replacement components
- operations
- plant document updating

EC 62245, Replace Rosemount Transmitter Model 1153 with 1154 for FT-497 (Mitigating Systems)

- control signals
- energy needs
- installation records
- licensing basis
- materials/replacement components
- operations
- plant document updating
- structural
- system flow requirements

EC 52357, SW South Header Flow Instrument (Barrier Integrity)

- control signals
- energy needs
- installation records
- materials/replacement components
- operations
- plant document updating
- system flow requirements

EC 59628, SI Flow Element (Barrier Integrity/Mitigating Systems)

- flow paths
- installation records
- materials/replacement components
- operations
- plant document updating

- process medium
- system flow requirements

EC 41799, Polar Crane Power Supply (Barrier Integrity)

- control signals
- energy needs
- installation records
- licensing basis
- materials/replacement components
- operations
- plant document updating
- structural

EC 52753, SI Flow Element (Barrier Integrity/Mitigating Systems)

- flow paths
- installation records
- materials/replacement components
- operations
- plant document updating
- process medium
- system flow requirements

EC 58657, Appendix R Pressurizer PORV & Charging Pump Make-up Modification (Mitigating Systems)

- energy needs
- flow paths
- installation records
- licensing basis
- materials/replacement components
- operations
- plant document updating
- process medium
- system flow requirements
- timing delays

For selected modification packages, the inspectors observed the as-built configuration. Documents reviewed included procedures, engineering calculations, modification design and implementation packages, work orders, site drawings, corrective action documents, applicable sections of the UFSAR, TS, and design basis information.

The inspectors also reviewed selected ARs and an audit associated with modifications to confirm that problems were identified at an appropriate threshold were entered into the corrective action process, and appropriate corrective actions had been initiated.

b. Findings

No findings of significance were identified.

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1R19 Post Maintenance Testinga. Inspection Scope

For the five 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:

<u>Test Procedure</u>	<u>Title</u>	<u>Related Maintenance Activity</u>	<u>Date Inspected</u>
OP-301-1	Chemical and Volume Control System (Infrequent Operation)	Adjustment of packing gland on valve LCV-460B to stop leakage	January 4
OST-202	Steam Driven Auxiliary Feedwater System Component Test	Removal and reinstallation of hydramotor for flow control valve, FCV-6416	January 24
OST-206	Comprehensive Flow Test for the Steam Driven Auxiliary Feedwater Pump	Repair of the discharge check valve, AFW-84	March 1
OST-401-1	[Emergency Diesel Generator] A Slow Speed Start	Replace coils for air start solenoid valves DA-19A and DA-23A	March 16
OST-303-1	Service Water Booster Pump A Test	Disassembly and inspection of check valve SW-932	March 22

The inspectors reviewed an AR associated with this area, AR 174145, Testing of the Charging Pumps Back-Up Instrument Air Supply, to verify that the licensee identified and implemented appropriate corrective actions:

b. Findings

No findings of significance were identified.

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1R22 Surveillance Testing

a. Inspection Scope

For the three surveillance tests listed below, the inspectors witnessed testing and/or reviewed the test data to verify that the SSCs 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.

<u>Test Procedure</u>	<u>Title</u>	<u>Date Inspected</u>
MST-931-2	Testing of Emergency Diesel Generator B Protective Bypasses	January 31
OST-352-4*	Comprehensive Flow Test for Containment Spray Pump B	March 1
MST-005	Pressurizer Water Level Protection Channel Testing	March 15

*This procedure included inservice testing requirements.

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications

a. Inspection Scope

The inspectors reviewed the temporary modification described in Special Procedure, SP-1529, [Reactor Coolant System] to [Boron Injection Tank] Header Leak Path Determination, 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 PLP-037, Conduct of Infrequently Performed Tests or Evolutions and Pre-Job Briefs, 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.

Cornerstone: Emergency Preparedness

1EP6 Drill Evaluation

a. Inspection Scope

On January 9, 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.

4. OTHER ACTIVITIES

4OA2 Identification and Resolution of Problems

.1 Routine Review of ARs

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

.2 Annual Sample Review

a. Inspection Scope

The inspectors selected AR 178735, Blocked Appendix R Pathway, for detailed review. The inspectors selected this AR because it relates specifically/generally 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.

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b. Observations and Findings

See Section 4OA7.

4OA5 Other

Implementation of Temporary Instruction (TI) 2515/165 - Operational Readiness of Offsite Power and Impact on Plant Risk

a. Inspection Scope

The objective of TI 2515/165, "Operational Readiness of Offsite Power and Impact on Plant Risk," was to gather information to support the assessment of nuclear power plant operational readiness of offsite power systems and impact on plant risk. The inspectors evaluated licensee procedures against the specific offsite power, risk assessment and system grid reliability requirements of TI 2515/165. They also discussed the attributes with licensee personnel.

The information gathered while completing this TI was forwarded to the Office of Nuclear Reactor Regulation for further review and evaluation.

b. Findings

No findings of significance were identified

4OA6 Meetings, Including Exit

On April 12, 2006, the resident inspectors presented the inspection results to Mr. Bill Noll and other staff members. 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 (Green) 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 an NCV.

On December 13, 2005, the licensee discovered that a pathway used for fire-fighting was inaccessible when operations personnel unsuccessfully attempted to unlock and enter a security enclosure that provided access to security door 24. The pathway provides passage between a turbine building mezzanine area and the room that contains the CCW pumps, the CCW heat exchanges, and some service water piping. The licensee subsequently determined that for a time period of approximately 22 hours that began on December 12 and ended on December 13, access was not provided through security door 24 to permit effective functioning of the fire brigade.

Because 10 CFR 50, Appendix R requires, in part, that access to permit effective functioning of the fire brigade be provided to all areas that contain or present an exposure fire hazard to SSCs important to safety, the inspectors determined that the circumstances described above constituted a violation of 10 CFR 50, Appendix R. This violation was more than minor because it affected the Mitigating Systems Cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences, in that it affected protection of the CCW and SW systems against external factors (a fire). Because this finding related to fire protection defense-in-depth, the inspectors assessed its significance as described in NRC Manual Chapter 0609, Appendix F, Fire Protection Significance Determination Process. Based on this assessment, the finding was determined to be have “a low degradation rating” and thus was of very low safety significance (Green) because the fire brigade's performance and reliability will be only minimally impacted by the finding, and could reasonably be expected to display nearly the same level of effectiveness and reliability as it would in the absence of the finding. This NCV is in the CAP as AR 178735.

ATTACHMENT: SUPPLEMENTAL INFORMATION

Enclosure

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel

R. Ivey, Operations Manager
C. Church, Engineering Manager
E. Caba, Engineering Superintendent
B. Clark, Nuclear Assurance Manager
J. Huegel, Maintenance Manager
W. Noll, Director of Site Operations
E. Kapopoulos, Outage and Scheduling Manager
D. Stoddard, Plant General Manager
W. Farmer, Engineering Superintendent
J. Lucas, Manager, Support Services - Nuclear
J. Moyer, Vice President, Robinson Nuclear Plant
A. Cheatham, Radiation Protection Superintendent
S. Wheeler, Supervisor, Regulatory Support
G. Ludlam, Training Manager
C. Castell, Licensing Engineer
R. Supler, Electrical Design Engineer
P. Fagan, Mechanical Design Engineer

NRC personnel

P. Fredrickson, Chief, Reactor Projects Branch 4
C. Ogle, Chief, Engineering Branch 1

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None

Closed

None

Opened and Closed

05000261/2006002-01

NCV

**Failure to Demonstrate
Performance of Safety-
Related Breaker Effectively
Controlled**

Discussed

None

LIST OF DOCUMENTS REVIEWED

Section 1R02: Evaluation of Changes, Tests, or Experiments

Full Evaluations

Engineering Change 52464, Replace Stack Monitor Rev. 1
Engineering Change 47253, Removal of EGD Emergency Field Flash Batteries
04-0224, Modify Procedure GP-007 to Defeat Tavg During Cooldown
LDCR 05-0008, UFSAR Changes for SI RV Piping
04-0021, Dedicated Shutdown Procedure Changes

Screened Out Items

04-0021, Fire Protection
AR 166687-01, New Core Loading Pattern
Engineering Change 41799, Polar Crane Power Supply
Engineering Change 47152, Ultrasonic Feedwater Flow Measurement
Engineering Change 51614, Backup IA for Changing Pumps
Engineering Change 51756, New Reload Batch Neutronics Design
Engineering Change 52357, SW South Header Flow Instrument
Engineering Change 52464, Replace Stack Monitor Revision 0
Engineering Change 58840, Dry Storage Facility Crane Modifications, Rev. 0
Engineering Change 58840, Dry Storage Facility Crane Modifications, Rev. 1
Engineering Change 58475, Re-analysis for DNBR
Engineering Change 58657, Appendix R Pressurizer PORV & Charging Pump Make-up
Modification
Engineering Change 62245, Replace Rosemount Transmitter Model 1153 with 1154 for FT-497

Section 1R04: Equipment Alignment

Partial System Walkdown

B Train Safety Injection:

Clearance Order Checklist 105787, A [Safety Injection] Pump Bearing Cooler Clean
Clearance Order Checklist 105627, A [Safety Injection] Pump Lube Oil Samples
Drawing 5379-1082, Safety Injection System Flow Diagram, Sheet 2 of 5, Rev. 45

A Service Water Train:

Procedure OP-903, Service Water System, Rev. 96
Drawing G-190199, Service and Cooling Water System Flow Diagram, Sheet 2 of 13, Rev. 63

Steam Driven Auxiliary Feedwater Train :

Drawing G-190197, Feedwater, Condensate and Air Evacuation System Flow Diagram, Sheet 1
of 4, Rev. 75
Drawing G-190197, Feedwater, Condensate and Air Evacuation System Flow Diagram, Sheet 4
of 4, Rev. 55

Section 1R05: Fire Protection

UFSAR Sections

- 3.7.1, Fire Zone 25A - Turbine Building East Ground Floor
- 3.7.2, Fire Zone 25B - Turbine Building West Ground Floor
- 3.7.5, Fire Zone 25F - Turbine Building East Mezzanine
- 3.7.6, Fire Zone 25F - Turbine Building West Mezzanine
- 3.7.7, Fire Zone 25G - Turbine Building Operating Deck
- 3.7.4, Fire Zone 25D - Dedicated Shutdown Diesel Generator
- 3.1.5.2, Fire Zone 16 - Battery Room
- 3.1.2, Appendix R Fire Area A2 (Fire Zone 2) - Diesel Generator A Room
- 3.7.8, Fire Zone 26 - Yard Transformers

Procedures

- results from OST-644, Hydrogen Seal Oil Deluge System Flow Teat (Annually), Rev. 15, 4/14/05
- results from OST-645, Turbine Lube Oil Deluge System Flow Teat (Annually), Rev. 17, 4/21/05
- results from OST-610, Unit 2 Portable Fire Extinguishers, Fire Hose Stations and Houses (Monthly), Rev. 44, 12/31/05
- results from OST-602, Unit 2 Fire Water System Flowpath Verification (Monthly) and Valve Cycling (Annually), Rev. 42, 1/22/06
- results from OST-611-10, Low Voltage Fire Detection and Actuation System Zones 16, 17, 18, 29 and 30 (Semi-Annual), Rev. 6, 12/10/05
- results from OST-621, Diesel Generator [Carbon Dioxide] System Cylinder Weight Test (Semi-Annual), Rev. 22, 11/14/05
- results from OST-643, Startup/Auxiliary Transformer Deluge System Flow Test (Annually), Rev. 19, 5/17/05

Other

- Drawing HBR2-8255, Fire Protection System Deluge and Pre-Action Control Valve Flow Diagram, Sheet 5 of 6, Rev. 15

Section 1R11: Licensed Operator Requalification

- Dynamic Simulator Scenario Examination, DSS-009, Rev. 17
- Dynamic Simulator Scenario Examination, DSS-010, Rev. 17

Section 1R12: Maintenance Effectiveness

Action Requests

- 172161, CC-749A Failure to Actuate on Demand
- 133282, Potential Missed Maintenance Rule Functional Failure
- 172281, Fuel Oil Transfer Pump B Failure
- 22585, [Emergency Diesel Generator] A Fuel Oil Transfer Pump Motor

Procedures

PM-124, Testing of Thermal Overload Relays for MCC-5, Rev. 13

ADM-NGGC-0101, Maintenance Rule Program, Rev. 18

Maintenance Rule Documents

For system 4080 (Component Cooling Water)

- Event List
- Scoping and Performance Criteria
- Monitoring Status

For system 5095 (Emergency Diesel Generator)

- Event List
- Scoping and Performance Criteria
- Performance Trend

For system 5175 (480 Volt AC Distribution System)

- Event List
- Scoping and Performance Criteria
- Performance Trend
- Monitoring Status

Other Documents

Work Order 554999-01, CC-749A Would Not Stroke from [Reactor Turbine Gauge Board]

Work Order 768934-02, [Post Maintenance Test] - OST-252-1 on CC-749A

Work Order 563832-04, Valve Will Not Shut with the Control Switch in Close

Design Basis Document, DBD/R87038/SD13, Component Cooling Water System, Rev. 6

Engineering Service Request 00-00158, [Emergency Diesel Generator] B [Fuel Oil] Transfer Pump Replacement

Section 1R13: Maintenance Risk Assessments and Emergent Work Evaluation

Procedure

OMM-048, Work Coordination and Risk Assessment, Rev. 25

OWP-017, Service Water, Rev. 50

OP-906, Heating, Ventilation, and Air Conditioning, Rev. 39

Other

Engineering Service Request, ESR 95-00929, [Residual Heat Removal] Pump Room Cooler Equipment Evaluation

Calculation RNP-M/HVAC-1056, [Residual Heat Removal] Pump Room Heatup

Section 1R15: Operability Evaluations

AR 183498, Operability Determination Needed for FT-1426A, B, and C

Design Basis Document, DBD/R87038/SD32 Auxiliary Feedwater, Rev 9

Procedure OPS-NGGC-1305, Operability Determinations, Rev. 0

Technical Specification 3.3.3, Post Accident Monitoring (PAM) Instrumentation

UFSAR, 10.4.8, Auxiliary Feedwater System

Section 1R17: Permanent Plant Modifications

Engineering Change 41799, Polar Crane Power Supply
Engineering Change 52357, SW South Header Flow Instrument
Engineering Change 52464, Replace Stack Monitor
Engineering Change 59628, SI Flow Element
Engineering Change 52753, SI Flow Element
Engineering Change 62245, Replace Rosemount Transmitter Model 1153 with 1154 for FT-497
Engineering Change 58657, Appendix R Pressurizer PORV & Charging Pump Make-up Modification

Action Requests

151866, DCS Equipment Room Temperature/humidity Problems
120436, RCP Seal Leakage Resolution Improvement
122231, Degraded Supports on Auxiliary Building
165298, Resolution of SI Flow Element Actions
159588, EC 47199 Polar Crane Power Modification
165298, Resolution of SI Flow Element Actions
137045, Self-assessment 108398 Weakness
182862, EC Mod During RF023 Requires Turnover in Active Status

Drawings

SK 47199 E 3000 CV Polar Crane Voltage Regulator Cable and Conduit Layout
SK 47199 E 3001 CV Polar Crane Voltage Regulator Cable and Conduit Layout
SK 47199 E 3002 CV Polar Crane Voltage Regulator Cable and Conduit Layout
SK 47199 E 3003 Control Wiring Diagram CV Polar Crane Power Supply A 766
SK 47199 E 3004 480V BUS 2A (Compartment 7C) Internal Wiring Diagram M CV Polar Crane Power Supply

Design Basis Documents

DBD/R87038/SD16, DBD for Electrical Distribution System
DBD/R87038/SD62, DBD for Cable and Raceway System
DBD/R87038/SD19, Radiation Monitoring System, Revision 4
DBD/R87038/SD16, Electrical Power Distribution System, Revision 2
DBD/R87038/SD62, Cable and Raceway System, Revision 3

Section 1R19: Post Maintenance Testing

Procedure

OP-301-1, Chemical and Volume Control System (Infrequent Operation), Rev. 32
TMM-004, Inservice Testing Program, Rev. 64
OST-202, Steam Driven Auxiliary Feedwater System Component Test, Rev. 62
DSP-002, Hot Shutdown Using the Dedicated/Alternative Shutdown System, Rev. 31
OST-206, Comprehensive Flow Test for the Steam Driven Auxiliary Feedwater Pump , Rev. 44
OST-401-1, [Emergency Diesel Generator] A Slow Speed Start, Rev. 25
OST-303-1, Service Water Booster Pump A Test, Rev. 0
TMM-008, Check Valve Program Technical Requirements, Rev. 20
PLP-033, Post-Maintenance Testing (PMT) Program, Rev. 36
PM-322, Velan Lift Check Valve Inspection, Rev. 7

Work Orders

775149-01, LCV-460B Has Boric Acid Build-Up on Packing Gland
747133-01, Test and Reset Lift Pressure on AFW-13
592774-01, FVC-6416-HO Disconnect/Reconnect FVC-6416 Valve Operator
58428-01, Replace Solenoid Coils A [Emergency Diesel Generator] Air Start
615613-01, SW-932 Check Valve Inspection

Other

Design Basis Document, DBD/R87038/SD21, Chemical and Volume Control System, Rev. 3
Inservice Testing Performance Evaluation Number 05-41, Review Scoping Basis for LCV-460A
and LCV-460B
AR 174145, Testing of the Charging Pumps Back-Up Instrument Air Supply
Design Basis Document, DBD/R870368/SD32, Auxiliary Feedwater System, Rev. 9
Engineering Change 51614, Back-Up Instrument Air for Charging Pumps, Rev. 1
Clearance Order Checklist110391, [Steam Driven Auxiliary Feedwater Pump] - AFW-84
Drawing, G-190262, Isolation Valve Seal Water Flow Diagram, Sheet 1 of 1, Rev. 28
Drawing, G-190199, Service and Cooling Water System Flow Diagram, Sheet 7 of 13, Rev. 38

Section 1R22: Surveillance Testing

Procedures

MST-931-2, Testing of Emergency Diesel Generator B Protective Bypasses, Rev. 4
APP-010, HVAC - Emergency Generators & Miscellaneous Systems, Rev. 50
APP-017, Emergency Diesel Panels, Rev. 20
OST-352-4, Comprehensive Flow Test for Containment Spray Pump B, Rev. 9
MST-005, Pressurizer Water Level Protection Channel Testing, Rev. 22

Drawings

5379-1153, Electrical Schematic Diagram for Diesel Generator, Sheet 1 of 1, Rev. 26
5379-3436, Pressurizer Level Control and Protection Block Diagram, Rev. 8
CP-300-5379-3693, Logic Diagram Pressurizer Pressure and Level Control, Rev. 7
CP-300-5379-2757, Diagrams - Pressurizer Trip Signals, Rev. 6

Section 1R23: Temporary Plant Modifications

Procedures

SP-1529, RCS to BIT Header Leak Path Determination, Rev. 0
PLP-037, Conduct of Infrequently Performed Tests or Evolutions and Pre-Job Briefs, Rev. 26

Drawings

5379-1082, Safety Injection System Flow Diagram, Sheet 1 of 5, Rev. 43
5379-1082, Safety Injection System Flow Diagram, Sheet 2 of 5, Rev. 45
5379-1082, Safety Injection System Flow Diagram, Sheet 4 of 5, Rev. 28

Other

10 CFR 50.59 Evaluation, SP-1529, Rev. 0

Section 1EP6: Drill Evaluation

Procedures

AOP-021, Seismic Disturbances, Rev. 17
AOP-021-BD, Basis Document, Seismic Disturbances, Rev. 17
APP-036, Auxiliary Annunciator, Rev. 52

Other

Emergency Response Organization Drill, January 2006

Section 4OA2: Identification and Resolution of Problems

AR 178735, Blocked Appendix R Pathway
AR 141669, Appendix R Route Impeded
AR 180507, Potential Inadequate Corrective Actions for [Nuclear Condition Report] 178735
Engineering Change 54786, Secondary Fighting Positions