



UNITED STATES
NUCLEAR REGULATORY COMMISSION

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

October 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 05000261/2006004

Dear Mr. Walt:

On September 30, 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 October 11, with Mr. 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. On the basis of the results of this inspection, no findings of significance were identified.

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,

IRAI

Binoy Desai, Acting Chief
Reactor Projects Branch 4
Division of Reactor Projects

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

Enclosure: Inspection Report 05000261/2006004
w/Attachment: Supplemental Information

October 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
05000261/2006004

Dear Mr. Walt:

On September 30, 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 October 11, with Mr. 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. On the basis of the results of this inspection, no findings of significance were identified.

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,

IRA

Binoy Desai, Acting Chief
Reactor Projects Branch 4
Division of Reactor Projects

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

Enclosure: Inspection Report 05000261/2006004
w/Attachment: Supplemental Information

X PUBLICLY AVAILABLE X NON-SENSITIVE

ADAMS: X Yes ACCESSION NUMBER: ML063030428

OFFICE	RII:DRP	RII:DRP	RII:DRP	RII:DRP	RII:DRP	RII:DRP	RII:DRP
SIGNATURE	SON	RCH2	DAJ2 by fax	BBD for	GAH2 by email	RLM2 by email	MAS1 by email
NAME	SNinh	RHagar	DJones	JAustin	AHutto	RMonk	MScott
DATE	10/20/2006	10/24/2006	10/26/2006	10/26/2006	10/25/2006	10/24/2006	10/24/2006
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO
OFFICE	RII:DRP						
SIGNATURE	ECM2 by email						
NAME	EMichel						
DATE	10/26/2006	11/ /2006	11/ /2006	11/ /2006	11/ /2006	11/ /2006	11/ /2006
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

OFFICIAL RECORD COPY

DOCUMENT NAME: C:\FileNet\ML063030428.wpd

cc w/encls:

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, Chief Radiation
Protection Section
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

Distribution (See page 3)

CP&L

3

Report to Tom Walt from Binoy Desai dated October 30, 2006

SUBJECT: H.B. ROBINSON STEAM ELECTRIC PLANT - NRC INTEGRATED
INSPECTION REPORT 05000261/2006004

Distribution w/encl:

C. Patel, NRR

C. Evans (Part 72 Only)

L. Slack, RII EICS

OE Mail (email address if applicable)

RIDSNRRDIRS

PUBLIC

U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket No: 50-261

License No: DPR-23

Report No: 005000261/2006004

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

Location: 3581 West Entrance Road
Hartsville, SC 29550

Dates: July 1, 2006 through September 30, 2006

Inspectors: R. Hagar, Senior Resident Inspector
D. Jones, Resident Inspector
J. Austin, Brunswick Resident Inspector (Section 1R15)
A. Hutto, Oconee Resident Inspector (Sections 1R05 & 1R06)
R. Monk, Browns Ferry Resident Inspector (Sections 1R05, 1R13
& 1R19)
M. Scott, DRS Inspector, (Section 1R07)
E. Michel, DRS Inspector, (Section 1R07)

Approved by: Binoy Desai, Acting Chief
Reactor Projects Branch 4
Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000261/2006-004, 07/01/2006 - 09/30/2006; H.B. Robinson Steam Electric Plant, Unit 2; Routine Integrated Report.

The report covered a three month period of inspection by resident inspectors and two announced inspections by a regional senior health physics inspector and a regional senior reactor inspector. 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.

No findings were identified during this inspection period.

A. NRC-Identified and Self-Revealing Findings

None

B. Licensee-Identified Violations

None

Enclosure

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

1R04 Equipment Alignment

a. Inspection Scope

Partial System Walkdowns:

The inspectors performed the following two 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>
B emergency diesel generator (EDG)	EDG A	August 7
Instrument Air Train 2A and B	Air Compressor D	August 22

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

Complete System Walkdown:

The inspectors conducted a detailed review of the alignment and condition of train A of the component cooling water system to verify that the existing alignment of the system was consistent with the required alignment. To determine the required system alignment, the inspectors reviewed the procedures, drawings, and the Updated Final Safety Analysis Report (UFSAR) section listed in the Attachment. The inspectors also walked down the system. During the walkdown, the inspectors reviewed the following:

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

Enclosure

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

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

- AR 172161, [Motor-operated valve] CC-749A [Component Cooling Water to "A" Residual Heat Removal heat exchanger] Failure to Actuate on Demand
- AR 167279, High [reactor coolant pump] seal temperatures received during [surveillance test] OST-908
- AR 185821, Repetitive failures of [Motor-operated valve] CC-749A [Component Cooling Water to "A" Residual Heat Removal heat exchanger] during RO-22 and RO-23

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>
G1/25	turbine building (ground floor)
A5/16	battery room
A2/2	A diesel generator room
25E & F	turbine building east & west mezzanine
25G	turbine building operating deck
25D	dedicated shutdown diesel generator

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures

a. Inspection Scope

External Flooding

The inspectors walked down the service water intake pits which contains risk-significant SSCs which are susceptible to flooding from external sources to verify that the area configuration, features, and equipment functions were consistent with the descriptions and assumptions used in UFSAR Section 9.2.1, Service Water, and in the supporting basis documents listed in the Attachment.

Internal Flooding

Because the auxiliary building first floor hallway contains risk-significant SSCs which are susceptible to flooding from postulated pipe breaks, the inspectors checked all doors credited for flood control and also verified the staging of the door blocking devices in the operations cabinet in the contaminated tool room. The inspector also walked down the first floor hallway to verify that the area configuration, features, and equipment functions were consistent with the descriptions and assumptions used in Calculation RNP-F/PSA-0009, Assessment of Internally Initiated Flooding Events and in the supporting basis documents listed in the Attachment. The inspectors reviewed the operator actions credited in the analysis to verify that the desired results could be achieved using the plant procedures listed in the Attachment

b. Findings

No findings of significance were identified.

1R07 Biennial Heat Sink Performance

a. Inspection Scope

The inspectors reviewed inspection records, clean and inspect results, corrective action program documents, and other documentation to ensure that heat exchanger (HX) deficiencies that could mask or degrade performance were identified and corrected. Procedures and records were also reviewed to verify that these were consistent with Generic Letter (GL) 89-13 licensee commitments, and industry guidelines. Risk significant heat exchangers (HX) reviewed included the Component Cooling Water (CCW) HXs, Emergency Diesel Generator (EDG) HXs, and the Motor-Driven Auxiliary Feed Water Oil Cooler HXs.

The inspectors reviewed HX inspection and cleaning work instructions, work maintenance history, and completed inspection records for all the safety related HXs selected. The documents were reviewed to verify inspection methods were consistent with industry standards, to verify HX design margins were being maintained, and to verify performance of the HXs under the current maintenance frequency was adequate.

The inspectors also reviewed general health of the service water system via review of design basis documents, system health reports, inservice testing requirements, heat exchanger performance testing calculations, and discussions with the service water (SW) system engineer. These documents were reviewed to verify the design basis was being maintained and to verify adequate SW system performance under current preventive maintenance, inspections, and test frequencies. The inspectors physically walked down accessible portions of the SW system including the EDG coolers, CCW coolers, SW discharge canal and Lake Robinson dam. The inspectors reviewed the dam inspection reports and spoke with environmental engineers regarding the health of Lake Robinson with respect to Zebra Mussels and Asiatic Clams.

The inspectors also verified SW system corrosion and degradation were being monitored and addressed via review of corrosion control program procedures, SW pipe replacement and material condition action plans, and discussions of coatings with applicable engineers. The inspectors reviewed samples of the licensee's SW Project activities that are in progress for piping replacement over the next several years, or have been accomplished since the previous inspection.

Corrective action program documents, Action Reports (AR) were reviewed for potential common cause problems and problems which could affect system performance to confirm that the licensee was entering problems into the corrective action program and initiating appropriate corrective actions.

b. Findings

The inspectors found an issue during a review of the licensee's ultimate heat sink configuration and operational controls. This issue is identified as follows:

Lake Robinson is the source of the ultimate heat sink for the Robinson nuclear plant (Unit 2). The lake is impounded by the Lake Robinson dam that serves both the nuclear plant and a fossil plant (Unit 1). The fossil Unit 1 staff controls the operation and maintenance of the Tainter gates (electrically moveable spillway gates) in the Lake Robinson dam. The gates are periodically cycled (opened and then closed) to ensure freedom of movement. During the cycling, the gates are at risk of continuing to open or failing to close, which could result in a dramatic lowering of lake level, the ultimate heat sink for the nuclear plant. The gates are subject to external events and other types of failures. A failed Tainter gate could lower lake level resulting in loss of supply to the nuclear Unit 2 Service Water (SW) pumps' suction and therefore a loss of SW.

Licensing statements regarding the SW system are contained in a 1970 NRC issued safety evaluation (section 3.9.6). The statements described how the SW system would

be used to shutdown the plant during a loss of the Robinson dam. At the time of the inspection it was unclear what procedure(s) contained or covered the evaluation's statements and mitigation strategy.

The inspectors noted two procedures that address various degrees of loss of SW for the Unit 2 nuclear plant. With the loss of the Tainter gate(s), it was unclear to the inspectors how the heat sink function was to be met in light of procedure wording (mitigation strategy) and stated level of testing of newly installed SW support equipment. The procedure and equipment qualification uncertainties could be a potential technical specification required procedure problem or an inability to meet heat sink functional needs, a design issue (10 CFR 50, Appendix B), in certain accident scenarios. This issue will require NRC review to determine if the installed equipment and procedures can provide for long term safe shutdown of Unit 2 upon loss of the ultimate heat sink. Accordingly, this issue is left as an Unresolved Item (URI) 05000261/2006004, Verify Mitigation Capabilities for Loss of Heat Sink.

1R11 Licensed Operator Requalification

a. Inspection Scope

The inspectors observed licensed-operator performance during requalification simulator training for shift 1 to verify that operator performance was consistent with expected operator performance, as described in Operations Training guide LOCT-07-1. This training tested the operators' ability to respond to a failed indicator of control-rod position, a turbine trip at low power level, and a steam generator tube rupture followed by a loss-of-coolant accident. 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 discussed the post-exercise critique with the training staff 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 or conditions in accordance with 10 CFR 50, Appendix B, Criterion XVI, Corrective Action, and 10 CFR 50.65, Maintenance Rule. Documents reviewed are listed in the Attachment.

The problems/conditions and their corresponding ARs were:

<u>Performance Problem Condition</u>	<u>AR</u>
Repetitive failures of main steam dump valves	158740
Steam Generator [power operated relieve valve] found out of calibration	158703

During the reviews, the inspectors focused on the following:

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

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

- 77525, [Pressure relief valve]1324B-2 failed to open due to bad [solenoid-operated valve] 20/17C
- 126344, Steam dump valve [Pressure relief valve]1324B-1 failed to open
- 160930, Number of functional failures exceeded the criteria

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:

- The work week of August 5 - August 11, which included scheduled maintenance on the A motor-driven auxiliary feedwater system and an unplanned downpower to 90 percent of rated power and subsequent return to full power.
- The work week of August 12 - August 18, including emergent maintenance on boric acid pump A and startup transformer A during a B train work week.
- The work week of September 5 - September 8, which included scheduled maintenance on the A emergency diesel generator.
- The work week of September 18 - September 22, which included emergent maintenance on the B charging pump and A vacuum pump.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the operability determination and compensatory actions associated with AR 179678, which addressed the need to frequently drain the boric acid injection tank (BIT) header due to back leakage from the reactor coolant system. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R19 Post Maintenance Testing

a. Inspection Scope

For the six post-maintenance tests listed below, the inspectors witnessed the test and/or reviewed the test data to verify that test results adequately demonstrated restoration of the affected safety functions described in the UFSAR and Technical Specification (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>
OST-352-1	Containment Spray Component Test - Train A	Inspection and testing of pump breaker 52/19A	July 5
OST-108-1	Boric Acid Pump A Inservice Inspection	Pin-hole weld repair on discharge piping	August 14

Enclosure

OST-409-2	Emergency Diesel Generator B Fast Speed Start	Replacement of air start solenoids 19B and 23B and starting air system maintenance	August 17
OST-409-1	Emergency Diesel Generator A Fast Speed Start	Modification of air start system	September 8
OST-101-2	[Chemical and Volume Control System] Component Charging Pump B	Replacement of valves and packing on the B charging pump	September 20
Work Order 667359-02	Replace Alarm Switches in 52/21C (Safety Injection Pump A)	Modification of an alarm switch on the shunt trip coil	September 25

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.

<u>Test Procedure</u>	<u>Title</u>	<u>Date Inspected</u>
OST-202	Steam Driven Auxiliary Feedwater System Component Test	July 11
CP-001	Chemistry Monitoring Program	July 12
OST-251-2*	[Residual Heat Removal] Pump B and Components Test	July 26
OST-252-2	[Residual Heat Removal] System Valve Test - Train B	July 26

*This procedure included inservice testing requirements.

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness

1EP6 Drill Evaluation

a. Inspection Scope

On September 5 and September 18, the inspectors observed two emergency preparedness drills 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 critiques 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

4OA1 Performance Indicator (PI) Verification

a. Inspection Scope

The inspectors verified the three 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 basis in reporting each data element to the PI definitions and guidance contained in NEI 99-02, "Regulatory Assessment Indicator Guideline," Rev. 2. In addition, the inspectors interviewed licensee personnel associated with collecting, evaluating, and distributing these data.

Initiating Events Cornerstone

- Unplanned Scrams
- Scrams with Loss of Heat Removal
- Unplanned Power Changes

For the period from the first quarter of 2005 through the first quarter of 2006, the inspectors reviewed a selection of licensee event reports, operator log entries, daily reports (including the daily CR descriptions), monthly operating reports, and PI data

sheets to verify that the licensee had accurately identified the number of scrams and unplanned power changes greater than 20 percent that occurred during the subject period. The inspectors compared those numbers to the numbers reported by the licensee for the PI. The inspectors also reviewed the accuracy of the number of critical hours reported.

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 followup, the inspectors performed frequent screenings of items entered into the Corrective Action Program (CAP). The review was accomplished by reviewing daily AR reports.

.2 Annual Sample Review

a. Inspection Scope

The inspectors selected AR 174081 (“[Pressure control valve] PCV-1380 does not pass expected flow rate”) for detailed review. The inspectors selected this AR because it relates specifically to operator workaround 05-12, which states that because a manual valve in the main steam system (MS-62) has failed in a closed position, another manual isolation valve (MS-61) is manually throttled and must therefore be manually closed following a reactor trip, to prevent an excessive cooldown of the reactor coolant system. 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.

Enclosure

b. Observations and Findings

No findings of significance were identified.

4OA6 Meetings, Including Exit

On October 11, 2006, the resident inspectors presented the inspection results to Mr. W. Noll and other members of his staff. A re-exit was conducted over the phone on October 11, 2006 to discuss the opening of the URI. The inspectors confirmed that proprietary information was not provided or examined during the inspection.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel

N. Bach, Environmental & Chemical Superintendent
D. Bailey, Sr. Nuclear Self Evaluation Special Regulatory Support
C. Baucom, Licensing/Reg. Programs
S. Brown, On-line Scheduling Supervisor
C. Church, Operations Manager
B. Clark, Nuclear Assurance Manager
W. Farmer, Engineering Manager
K. Jensen, Materials & Contract Services Superintendent
J. Lucas, Manager, Support Services - Nuclear
G. Ludlum, Training Manager
W. Noll, Director of Site Operations
G. Sanders, Sr. Engineer/Licensing
T. Tovar, Radiation Protection Superintendent

NRC personnel

B. Desai, Acting Chief, Reactor Projects Branch 4

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

05000261/2006-001	URI	Verify Mitigation Capabilities for Loss of Heat Sink.
-------------------	-----	---

Closed

None

Previous Items Closed

None

Discussed

None

LIST OF DOCUMENTS REVIEWED

1R04 Equipment Alignment

Partial System Walkdown

Emergency Diesel Generator system:

Drawing G-190204-A, Emergency Diesel Generator System Flow Diagram, Sheet 1, Rev. 29;
Sheet 2, Rev. 18; and Sheet 3, Rev. 18

Instrument Air system:

Procedure OP-905, Instrument and Station Air System, Revision 92

Drawing G-190200, Instrument and Station Air System Flow Diagram, Sheet 2, Revision 33

System Description SD-017, Instrument and Station Air System, Revision 10

Complete System Walkdown

Calculation RNP-F/PSA-0015, [Probabilistic Safety Analysis] Evaluation of Maintenance Rule
Performance Criteria 2001 Update, February 21, 2002

Drawing 5379-376, Component Cooling Water Flow Diagram: Sheet 1, Rev. 37; Sheet 2, Rev.
31; Sheet 3, Rev. 24; Sheet 4: Rev. 33

Expert Panel meeting minutes, 9/11/97-8/2/2004

List of pending Engineering Changes for system 4080

Maintenance Rule Documents:

Scoping and Performance Criteria

Event List, 5/31/05 - 9/1/06

Procedure OP-306, Component Cooling System, Rev. 41

Open Work Orders for system 4080

System 4080 system health report

System Description SD-013, Component Cooling Water System, Rev. 7

1R05 Fire Protection

Procedures

results from OST-611-13, Low Voltage Fire Detection and Actuation System Zones 24, 25A,
25A, 25B, 25C and 26 Cold Shutdown Exceeding 24 Hours if not Performed in the Previous
Six Months, Rev. 4, 9/22/05

results from OST-611-10, Low Voltage Fire Detection and Actuation System Zones 16, 17, 18,
29, and 30 (Semi-annual), Rev. 6, 7/24/06

results from OST-611-1, Low Voltage Fire Detection and Actuation System Zones 1 and 2
(Semi-annual), Rev. 4, 2/21/06

results from OST-621, Diesel Generator [Carbon Dioxide] Cylinder Weight Test (Semi-annual),
Rev. 5, 5/1/06

results from OST-645, Turbine Lube Oil Deluge System Flow Test, Rev. 17, 4/19/06

results from OST-610, Unit 2 Portable fire Extinguishers, Fire Hose Stations and Hoses
(Monthly), Rev. 45, 8/18/06

Other documents

UFSAR, Section 3.7, Fire Area G1, Turbine Building/Diesel Generator

1R06 Flood Protection Measures

UFSAR Sections

2.4.10, "Flooding Protection Requirements".

3.6A.6, "Flooding Analysis".

9.5.1, Fire Suppression Water Damage Control Features, Rev. 18

9.2.1, Service Water

Calculations

RNP-F/PSA-0009, Assessment for Internally Initiated Flood Events, Rev. 0

Procedures

AOP-014, Component Cooling Water System Malfunction, Rev. 20

AOP-022, Loss of Service Water, Rev. 29

OST-302-2, Service Water Pumps C & D Inservice test, Rev. 37

OST-302-4, Comprehensive Flow Test for Service Water Pumps C &D, Rev. 4

Other Documents

Work Order 593821-01, Calibrate the RHR Pump Room "B" Level Instruments

Work Order 785617-01, LS-1652A is Not Actuating

AR 00108878, Loss of RHR Sump Level Indication

System Description SD-4, Service Water, Rev. 11

Design Basis Document, DBD/R87038/SD04, Service Water System, Rev. 0

Section 1R07 : Biennial Heat Sink Performance

Procedures

- PLP-118, Hot Weather Operations, Rev. 9
- AOP-022, Loss of Service Water, Rev. 28
- EMG-RFPC-000043, Robinson Plant Drought Contingency Plan, Rev. 0
- RNP-L/LR-0636, Aging management Program Recommended Guidelines for Safety Inspections of Dams, Rev. 5
- OPS-RFPC-00014, Robinson Fossil Plant Impoundment Operation, Rev. 5

Action Requests (ARs)

- 00110382: OST-913 - Caution tag #4528 hanging greater than three months, 11/10/03
- 00142202: Revise EST-153-111, 10/29/04
- 00143576: Due date extension - V6-16B-MO electrical inspection and diagnostic test, 11/12/04
- 00147833: Retire or modify System 4060 RFT PMRQs, 1/11/05
- 00152209: EV-1660 and EV-1661 due date extension, 3/1/05
- 00134219: Unplanned unavailability of "B" service water booster pump, 8/7/04
- 00132454: Service water booster pump "A" failure and unanticipated LCO entry, 7/20/04
- 00134590: Higher starting current for SW booster pump "B" pump motor, 8/12/04

A-5

- 00138843: "A" SW pump extended inoperability time, 10/1/04
- 00139678: Unplanned LCO entry into ITS 3.6.3 for V6-33F failure, 10/10/04
- 00147233: Blowdown circ water solenoid valves PMID-RQ #0003721101, 1/5/05
- 00126003: Large SW through wall leak, 5/3/04

Drawings

- 5379-912 R1: Service Water Pumps, dated 5/1/1968
- G-158005: Spillway General Plan and Sections, dated 7/16/1958

Miscellaneous

- System Health Reports for Station Air, Instrument Air, Emergency Diesel Generators, Auxiliary Feedwater, Safety Injection, Service Water, Heating and Ventilation Systems, January 2006
- UFSAR Section 2 and 9
- 194964, Ultimate Heat Sink Self Assessment, 7/16 - 19/2005
- Service Water Preventive Maintenance items and dates list for Unit 2
- EDG Trend Data for two years
- NRC letter on Fire Protection Exemptions for Unit 2 to Mr. EE Utley, Executive Vice President, dated November 25, 1983
- Mactec Project No. 6468-05-0993(05), Five Year Independent Consultant Inspection Cooling Lake Dam and Ash Pond Dikes - H.B. Robinson Steam Electric Plant, December 20, 2005
- Eason Diving and Marine Contractor Letter to Mr. Richard Isgect of CP&L, Spillway Inspection, July 14, 2000
- Carolina Power and Light company Interface Agreement - Robinson Nuclear Plant/ Robinson Fossil Plant/Darlington County Plant, dated 2/13/03
- TS Bases B3.7.8 Ultimate Heat Sink
- Letter from CP&L to USNRC, Subj: RESPONSE TO QUESTIONS REGARDING LAKE ROBINSON FLOODING, dated Dec 19, 1990, Serial: NLS-90-246
- HB Robinson Plant Generic Letter 89-13 Program
- HB Robinson Plant Generic Letter 89-13 Heat Exchanger Testing Data
- Email from Reed Garrett (Senior Environmental Specialist) to Gary Cappuccio (SW System Engineer), Subj: ASIATIC CLAM MONITORING IN LAKE ROBINSON, dated 10/25/2004
- Email from Reed Garrett (Senior Environmental Specialist) to Gary Cappuccio (SW System Engineer), Subj: RNP 2005 ASIATIC CLAM REPORT
- SW-D and SW-B In Service Testing pump test data
- HB Robinson IST Program
- HB Robinson Nuclear Plant, Unit 2 Individual Plant Examination of External Events (IPEEE) Energy Research Incorporated Technical Evaluation Report
- Letter from NRC/NRR to Mr. J. Moyer, VP CP&L, 8/9/01, Subj: HB ROBINSON STEAM ELECTRIC PLANT UNIT 2 - ISSUANCE OF AMENDMENT - TECHNICAL SPECIFICATION CHANGE ON ULTIMATE HEAT SINK (TAC NO MA9303)
- SW System Design Basis Document
- Letter from NRC/NRR to Mr. John Moyer, VP CP&L, Subj: LICENSE RENEWAL SAFETY EVALUATION REPORT FOR THE H.B. ROBINSON STEAM ELECTRIC PLANT, UNIT 2, dated Jan 20, 2004, serial # RRA-04-0011
- HB Robinson Self Assessment for Cooling Water Reliability (Ultimate Heat Sink), dated 8/1/05 - 8/5/05

- 1999 SW Intake Structure submerged inspection videos by Eason Diving and Marine Contractor

1R11 Licensed Operator Requalification

Licensed Operator Continuing Training, LOCT-07-1, dated 8/15/06
Abnormal Operating Procedure AOP-001, Malfunction of Reactor Control System, Rev. 21
Abnormal Operating Procedure AOP-007, Turbine Trip Below [Permissive 7], Rev. 7
Emergency Operating Procedure logic diagrams PATH-1 (Rev. 18) & PATH-2 (Rev. 17)
End Path Procedure EPP-17, [Steam Generator Tube Rupture With loss of Reactor Coolant:
Subcooled Recovery, Rev. 17

1R12 Maintenance Effectiveness

Action Requests

77525, [Pressure relief valve]1324B-2 failed to open due to bad [solenoid-operated valve]
20/17C
126344, Steam dump valve [Pressure relief valve]1324B-1 failed to open
158740, Repetitive failures of main steam dump valves
158703, Steam Generator [power operated relief valve] found out of calibration

Maintenance Rule Documents

For system 3020:

- Event Log Report for 1/1/2005 - 9/1/2006
- Scoping and Performance Criteria
- Expert Panel Meeting Minutes, 7/18/1995 - 6/29/2005
- Maintenance Rule Monitoring Status, 9/21/2006

Other Documents

Engineering Change 63783, Steam Dump Solenoid Replacement, Rev. 0
Work Request 241129, Replace supply [solenoid-operated valves] on all five (5) steam dump
valves
Procedure PIC-840, [Steam Generator Steam Line Pressure Input, Rev. 5

1R13 Maintenance Risk Assessments and Emergent Work Evaluation

Procedure OMM-048, Work Coordination and Risk Assessment, Rev. 26
Procedure PDM-001, Equipment Lube Oil Sampling, Rev. 55
Work Order 777533-01, Obtain Oil Sample on the A [Residual Heat Removal] Pump Motor
Upper Bearing
System Description, SD-026, Condensate System, Rev. 13

1R15 Operability Evaluations

AR 129650, Venting the BIT Header
AR 141563, Evaluation of BIT Header Venting Frequency
Drawing 5379-1082, BIT Header Flow Path, Sheet 1, Rev. 43
Procedure APP-002, Engineering Safeguards, Rev. 49

1R19 Post Maintenance Testing

Procedures

OST-352-1, Containment Spray Component Test - Train A, Rev. 26
TMM-020, Inservice Pressure Testing Program, Rev. 15
OST-409-2, EDG A Fast Speed Start, Rev. 29
OST-409-2, EDG B Fast Speed Start, Rev. 28
OST-151-1, Safety Injection System Components Test - Pump A, Rev. 26
Engineering Change 60720, Replace [Emergency Diesel Generator Starting Air Solenoid Valves], Rev. 5
OST-101-2, [Chemical and Volume Control System] Component Charging Pump B, Rev. 32

Work Orders

951068, Perform Valve Maintenance on B Charging Pump
946724, Replace the Packing on B Charging Pump
667359-02, Replace Alarm Switches in 52/21C (Safety Injection Pump A)

Other

Engineering Change 50117, Bell and Alarm Switch Replacement for Safety Related DB-50 Breakers

1R22 Surveillance Testing

Procedures

OST-202, Steam Driven Auxiliary Feedwater System Component Test, Rev. 63
CP-001, Chemistry Monitoring Program, Rev. 82
OST-251-2, [Residual Heat Removal] Pump B and Components Test, Rev. 21 - use if needed
OST-252-2, [Residual Heat Removal] System Valve Test - Train B, Rev. 16 - use if needed

1EP6 Drill Evaluation

Emergency Response Organization Drill, September 5, 2006
Emergency Response Organization Drill, September 18, 2006
Emergency Operating Procedure logic diagram PATH-1, Rev. 18
Emergency Action Level diagram EAL-1, Rev. 14
NEI-99-02, Regulatory Assessment Performance Indicator Guideline, Rev. 4

4OA2 Identification and Resolution of Problems

AR 174081, [Pressure Control Valve] PCV-1380 does not pass expected flow rate
Caution Tag Sheet 05-274
Operator Workaround 05-12