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

April 2, 2004

Carolina Power and Light Company
ATTN: Mr. John Moyer
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 05000261/2004002

Dear Mr. Moyer:

On March 13, 2004, 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 March 17, with Mr. Chris Burton 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, 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,

/RA/

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

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

Enclosure: Inspection Report 05000261/2004002
w/Attachment: Supplemental Information

cc w/encl: (See page 2)

cc w/encl:
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U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket No:	50-261
License No:	DPR-23
Report No:	05000261/2004002
Licensee:	Carolina Power and Light Company
Facility:	H. B. Robinson Steam Electric Plant, Unit 2
Location:	3581 West Entrance Road Hartsville, SC 29550
Dates:	December 14, 2003 - March 13, 2004
Inspectors:	R. Hagar, Senior Resident Inspector D. Jones, Resident Inspector K. VanDoorn, Senior Reactor Inspector (Sections 1R02 & 1R17) M. Scott, Senior Reactor Inspector (Sections 1R02 & 1R17) M. Maymi, Reactor Inspector (Sections 1R02 & 1R17) D. Mas-Penaranda, Reactor Inspector (Sections 1R02 & 1R17)
Approved by:	P. Fredrickson, Chief Reactor Projects Branch 4 Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000261/2004-002;12/14/2003-3/13/2004; H.B. Robinson Steam Electric Plant, Unit 2; Routine Integrated Report.

The report covered a three-month period of inspection by resident inspectors and an announced inspection by regional reactor inspectors. 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.

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 Evaluation of Changes, Tests or Experiments

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, the Updated Final Safety Analysis Report (UFSAR), or procedures, may be made and tests conducted, without prior NRC approval. The inspectors reviewed evaluations for four 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. These evaluations included the only three full evaluations conducted during the inspection period and one previous evaluation referenced by a current change. The four evaluations reviewed are listed in the Attachment.

The inspectors also reviewed samples of changes such as design changes, commercial grade dedication packages, material equivalency evaluations, a procedure change, a Technical Specification (TS) Bases change, and engineering technical reviews for which the licensee had determined that evaluations were not required. The purpose of this review was to confirm that the licensee's conclusions to "screen out" these changes were correct and consistent with 10CFR50.59. The 16 "screened out" changes reviewed are listed in the Attachment.

The inspectors also reviewed a recent self-assessment of the 10CFR50.59 process and selected action requests/nonconformance reports (ARs) 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.

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:

System Walked Down	SSC Out-of-Service	Date Inspected
Motor-driven auxiliary feedwater trains A and B	Steam-driven auxiliary feedwater	12/29/03
Residual heat removal train A	Residual heat removal train B	01/14/04
Motor-driven auxiliary feedwater train B and steam-driven auxiliary feedwater	Motor-driven auxiliary feedwater train A	01/29/04
Motor-driven fire pump	Engine-driven fire pump	02/23/04

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

Complete System Walkdown

The inspectors conducted a detailed review of the alignment and condition of the A train of the motor-driven auxiliary feedwater system. To determine the proper system alignment, the inspectors reviewed the procedures, drawings, and the UFSAR section listed in the Attachment.

The inspectors walked down the system to verify that the existing alignment of the system was consistent with the correct alignment. Alignment activities reviewed during the walkdown included the following:

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

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.

b. Findings

No findings of significance were identified.

1R05 Fire Protection

a. Inspection Scope

For the six areas identified below, the inspectors reviewed the licensee's 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:

Fire Zone(s)	Description
22	Control room
29	Service water pump area
1	B diesel generator room
25A & 25B	Turbine building ground floor
16	Battery room
25F & G	Turbine building mezzanine and operating deck

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification

a. Inspection Scope

The inspectors observed licensed-operator performance during requalification simulator training for operating crew 4, to verify that operator performance was consistent with expected operator performance, as described in Dynamic Simulator Scenario

Examination DSS-044, Revision 4. This examination tested the operators' ability to respond to, in part, failure of a pressurizer level instrument, a steam generator tube leak, a loss of main condenser vacuum, a steam generator tube rupture, and failure of a steam generator power-operated relief valve. 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 had 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 six degraded SSC/function performance problems or conditions listed below, to verify the licensee's 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:

Performance Problem/Condition	AR
Safety injection pump C bearing replacement	68240
Exceeding Maintenance Rule performance criteria for the control room emergency filtration system	79406
Exceeding Maintenance Rule performance criteria for the B steam generator power operated relief valve	114505
Simultaneous loss of both channels of residual heat removal pump room sump level indication	108878
Deepwell pump A exceeded its unavailability allowance	102997
Containment fan coolers low-flow alarm received unexpectedly	116960

During the review, 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

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Evaluation

a. Inspection Scope

For the four time periods and emergent activities listed below, the inspectors reviewed the licensee's risk assessments and the risk-management actions used by the licensee to manage risk. The inspectors verified 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. The inspected periods included the following:

- January 3-9, including emergent work associated with problems in the rod control system and reactor coolant loop 1 temperature instrumentation

- January 16-23, including emergent work associated with the failure of a flow transmitter on the A main steam line and repairs to the control circuit of a pressurizer power-operated relief valve

- January 31 - February 6, including planned work on the A charging pump and all three circulating-water pumps

- March 8-12, including emergent work associated with a steam-generator level transmitter, rescheduling of maintenance work on an important motor-operated valve, and rescheduling of control-rod testing

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the operability determinations in the three ARs listed below:

- AR 99903, Non-Conservative Error in the Calculation of Available Net Positive Suction Head for Emergency Core Cooling System Pumps
- AR 92762, [Component Cooling Water] Autostart Consideration During Safeguards Sequencing
- AR 89619, [Residual Heat Removal] and [Safety Injection] Pump Room Cooling Fan Motors

For these ARs, the inspectors assessed the validity of the operability determinations, the use and control of any necessary compensatory measures, and compliance with the TS. The inspectors also verified that the operability determinations were made as specified by Procedure PLP-102, "Operability Determinations." In addition, the inspectors compared the justifications provided in the operability determinations to the requirements from the TS, the UFSAR, associated design-basis documents, and other applicable documents, to verify that operability was properly justified and the subject component or system 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.

1R16 Operator Work-Arounds

a. Inspection Scope

The inspectors reviewed the following two operator workarounds to verify that they did not affect either the functional capability of the related system in responding to an initiating event, or the operators' ability to implement abnormal or emergency operating procedures:

Number	Description
04-03	Component cooling water flow indicator from charging pump oil return is out of service
03-011	Manual operation action required to ensure temperature does not exceed non-regenerative heat exchanger outlet temperature limit

The inspectors reviewed the cumulative effects of the operator workarounds listed on the RNP Unit 2 Workaround Log dated 1/08/04 to verify that those effects could not increase an initiating event frequency, affect multiple mitigating systems, or affect the ability of operators to respond in a correct and timely manner to plant transients and accidents. Documents and operator workarounds reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R17 Permanent Plant Modifications

a. Inspection Scope

The inspectors evaluated design change packages for eight modifications, in the Initiating Events, Mitigating Systems, and Barrier Integrity Cornerstone areas, to evaluate the modifications for adverse affects on system availability, reliability, and functional capability. The modifications and the associated attributes reviewed are as follows:

EC 50634, NIS Power Range Channel Sensitivity Upgrade Modification (Initiating Events, Mitigating Systems)

- Conformance to design basis
- Installation documentation
- Seismic considerations
- Functional test plan and results
- Plant procedure and drawing updating
- 10CFR50.59 screen

EC-50764, Change of E1/E2 Breakers Long Time Pickup Setting (Mitigating Systems)

- Accident considerations
- Licensing documents update
- 10 CFR 50.59 screen
- Energy needs

EC-47546, Improve IB power source to Allow Replacement of RPS Relays (Initiating Events, Mitigating Systems)

- Accident considerations
- Seismic considerations
- Licensing documents update
- 10 CFR 50.59 screen
- Energy needs

EC 45497, Target Rock Valve Replacement (Initiating Events, Mitigating Systems, Barrier Integrity)

- Code and safety classification
- Replacement components are seismically qualified
- Materials/replacement components are compatible
- Control signals appropriate
- Post-modification testing for operability and design basis
- 10 CFR 50.59 screen

EC 47637, Service Water Motor Replacement (Mitigating Systems)

- Heat removal requirements
- Materials/replacement components compatible
- Pressure boundary and design basis maintained
- Structural integrity for accident/event condition
- Post-modification testing for operability and design basis
- 10 CFR 50.59 screen

EC 47140, Pressurizer Heaters' Cables and Connections Replacement (Mitigating Systems, Barrier Integrity)

- Post-modification testing for operability and design basis
- Pressure boundary and design basis maintained
- Materials/replacement components are compatible
- 10 CFR 50.59 screen

EC 44178, EDG Pressure and Temperature Switch Allowable Tolerance Expansion to Facilitate Extended EDG Maintenance Interval (Mitigating Systems)

- Updating review
- Control signals
- Failure modes bounded by existing analysis
- 10 CFR 50.59 screen

EC 44213, Valves SI-870B and RHR-750 Actuator Modification to Increase Torque/Thrust Margin Requirements (Mitigating Systems)

- Failure modes bounded by existing analysis
- Updating review
- Seismic qualification
- 10 CFR 50.59 evaluation
- Post-modification testing
- Response time

Documents reviewed included procedures, engineering calculations, modifications design and implementation packages, work orders, site drawings, corrective action documents, applicable sections of the UFSAR, supporting analyses, the TS, and design basis information.

The inspectors also reviewed the Engineering organization self-assessment program and recent results and trending to confirm that a viable self-critical process was in place for Engineering organization products. The inspectors also confirmed that problems were being handled appropriately using the Corrective Action Program, if applicable.

b. Findings

No findings of significance were identified.

1R19 Post Maintenance Testing

a. 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 tests included the following:

Procedure	Title	Related Maintenance Activity	Date Inspected
OST-151-3	Safety Injection System Components Test - Pump C	Calibration of pump discharge pressure indicator	December 16
OST-202	Steam Driven Auxiliary Feedwater System Component Test	Calibration of several instruments & routine maintenance on several valves	December 29
OST-701-9	Steam Generator Blowdown System Inservice Valve Test	Air regulator filter replacement on two flow-control valves	February 3
OST-910	Dedicated Shutdown Diesel Generator (Monthly)	Semi-annual inspection, maintenance on several related instruments	February 10
OP-306	Component Cooling Water	Replacement of B component cooling water pump breaker	February 25

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

- AR 87565, [Dedicated shutdown diesel generator] failed OST-910 acceptance criteria
- AR 108662, Voltage control problem with the [dedicated shutdown diesel generator] during OST-910

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

For the seven surveillance tests identified 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.

Test Procedure	Title	Date Inspected
OST-701-8*	V12-10 and V12-11 Inservice Valve Test	December 29
OST-750-2	Control Room Emergency Ventilation System - Train “B” (Monthly)	January 8
OST-908-1**	Comprehensive Flow Test for the Component Cooling Water Pumps	January 12
MST-023	Safeguard Relay Rack Train B	January 21
OST-005	Nuclear Instrumentation Power Range (Power Above P-8)	January 30
MST-020	Reactor Protection Logic Train “A” at Power	February 18
OST-102	Chemical and Volume Control System Valve Test	March 3

* This procedure included testing of a large containment isolation valve.
** This procedure included inservice testing requirements.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification

a. Inspection Scope

The inspectors reviewed the performance indicators (PIs) identified below, to verify the accuracy of the reported PI data. For each PI, the inspectors evaluated the licensee's basis for reporting the data against 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 the PI data collection, evaluation, and distribution. Documents reviewed are identified in the Attachment.

Mitigating Systems Cornerstone

For the Safety System Functional Failures PI, the inspectors reviewed licensee event reports, records of inoperable equipment, and Maintenance Rule records, to verify that the licensee had adequately accounted for the functional failures experienced in safety systems during the period from January, 2003 through December, 2003.

Barrier Integrity Cornerstone

- Reactor Coolant System Specific Activity
- Reactor Coolant System Leakage

For the Reactor Coolant System (RCS) Specific Activity PI, the inspectors observed licensee sampling and analysis of reactor coolant system samples, and compared the licensee-reported performance indicator data with records developed by the licensee while analyzing previous samples, for the period from January, 2003 through December, 2003.

For the Reactor Coolant System Leak Rate Performance Indicator, the inspectors observed the performance of an RCS leakage evaluation and reviewed records of daily measures of RCS identified leakage, for the period from January, 2003 through December, 2003.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems

Annual Sample Review

a. Inspection Scope

The inspectors conducted in-depth reviews of the ARs identified below:

- AR 89711, 20MW load reduction due to spurious turbine runback on April 5, 2003
- AR 105199, [self assessment] 77701 Issue 2 - Equipment Reliability

The inspectors selected these ARs because AR 89711 relates specifically to the Initiating Events Cornerstone, and AR 105199 relates generally to the Mitigating Systems Cornerstone. Both were classified by the licensee as significant conditions adverse to quality.

The inspectors reviewed these reports to verify:

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

The inspectors also verified licensee compliance with the requirements of the licensee's Corrective Action Program as described in Corporate Procedure CAP-NGGC-0200, Corrective Action Program, and 10 CFR 50, Appendix B. Documents reviewed are listed in the Attachment.

b. Observations and Findings

No findings of significance were identified. However, during the review of AR 105199, the inspectors noted that not all corrective actions were appropriately focused to correct the problem. The inspectors noted that the investigation determined that the site prioritization process did not include some important activities associated with major projects and long-standing equipment concerns, and that two of the associated corrective actions implemented changes in the way the site prioritizes those activities. However, these changes were implemented through private discussions, group meetings, and changes to informal charters, and not through changing any controlled document. Because these changes were not incorporated into a controlled document, the corrective actions are less likely to remain effective over time than if they had been incorporated into a controlled document.

4OA6 Meetings, Including Exit

An interim exit was conducted on January 30, 2004 to discuss the findings of the modifications/10CFR50.59 region based inspection. One proprietary document was reviewed but not retained by the inspector.

On March 17, 2004, the resident inspectors presented the integrated inspection results to Mr. Chris Burton and other members of his staff. The inspectors confirmed that proprietary information was not retained by the inspector.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel

J. Adams, Supervisor, On-Line Scheduling
M. Arnold, Superintendent, Shift Operations
C. Baucom, Supervisor, Regulatory Support
C. Burton, Director of Site Operations
E. Caba, Superintendent, Design Engineering
G. Cheatham, Radiation Protection Superintendent
C. Church, Engineering Manager
B. Clark, Manager - Training
T. Cleary, Plant General Manager
W. Farmer, Superintendent, Systems Engineering
R. Howell, Supervisor, Emergency Preparedness
T. Hubbard, Supervisor, Electrical/I&C Maintenance
R. Ivey, Operations Manager
E. Kapopoulos, Outage Management Manager
V. Leeth, Work Week Manager
J. Lucas, Manager, Support Services - Nuclear
J. Stanley, Superintendent, Technical Services
D. Stoddard, Maintenance Manager
R. Supler, Lead Engineer, Systems Engineering
J. Thompson, Work Week Manager
T. Tovar, Manager, Shift Operations

NRC personnel

P. Fredrickson, Chief, Reactor Projects Branch 4

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None

Closed

None

Discussed

None

Attachment

LIST OF DOCUMENTS REVIEWED

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

Evaluations

- 03-0839, Elimination of the Hydrogen Recombiner and Hydrogen Purge from Design Basis
- 01-1005, Power Uprate Restrictions
- 00-0470, Valves SI-870B and RHR-750 Actuator Modification to Increase Torque/Thrust Margin Requirements
- 03-0926, UFSAR Section 6.4 Revision to Incorporate Current Control Room Habitability System Information Provided in the New Toxic Gas Analysis Calculation

Screened Out Items

- 03-987; EST-047, Reactor Coolant Flow Test, Rev. 20 change
- 03-1022, Technical Specification Bases 3.2.3.1 Change
- 02-1240, Change of E1/E2 Breakers Long Time Pickup Setting
- 02-1335, Emergency Diesel Starting Air Compressor Controls
- 97-00557, “A” & “B” Station Battery Charger Starting Method
- 03-0500, Spiking Observed on NIS Power Range Channel N42
- 03-0849, Current problems observed on NIS Power Range Channel N42
- 00-0559, Teledyne MOV Sensor Installation
- 01-1245, Motor Starting Duty Evaluation
- 02-0040, Modification of Valves to Improve MOV Actuator Margin
- 03-0163, SDAFW Pump Lube Oil Self Cooling Source of Water Change
- 02-1256, Change in Valve Stroke Time for 2SI-870 Valves From 13 to 15 Seconds
- Material Evaluation (ME) 6010R2, Commercial Grade Dedication for AFW-9 Check Valve
- ME 5514R00, Equivalency Evaluation for ASCO Solenoid Valve
- ME 05815R00, Equivalency Evaluation for Socket Welded Globe Valve
- ME 04579R04, Commercial Grade Dedication for 3/4 inch Manual Globe Valves

Self Assessment Documents and Procedures

- Self-Assessment No. 77687, 10CFR50.59 and 72.48 Process at RNP
- REG-NGGC-0010, 10 CFR 50.59 and Selected Regulatory Reviews, Rev. 5
- ENG-NGGC-0011, Conduct of Engineering Products Review, Rev. 6
- AR 00084524, 10 CFR 50.59 Documents Not Found
- AR 00095235, Justification Does not Adequately Address All Aspects of Questions
- AR 00101573, Completed Forms Did Not Have Sufficient Information
- AR 00102027, 10 CFR 50.59 Oversight Process Not Implemented
- AR 00105381, 10 CFR 50.59 Self-Assessment Items
- AR 00105392, 10 CFR 50.59 Self-Assessment Weakness
- AR 00105394, 10 CFR 50.59 Forms Do Not Meet Expectations
- AR 00105496, Unclear Understanding of 50.59 Review Requirements

Section1R04: Equipment Alignment

Partial System Walkdown

Auxiliary Feedwater system:

- Drawing G-190197, Feedwater, Condensate and Air Evacuation System Flow Diagram, Sheet 4 of 4, Rev. 51
- Procedure OP-402, Auxiliary Feedwater System, Rev. 59
- The System Health Report for Auxiliary Feedwater, December 9, 2003
- FSAR section 10.4.8, Auxiliary Feedwater System,
- Clearance Order Checklist No. 64897, Clean and Test “A” Motor Driven AFW Pump Oil Cooler
- Clearance Order Checklist No. 63623, SDAFW Pump Fragnet

Residual Heat Removal system:

- OST-251-2, RHR Pump B and Components Test, Rev. 19
- SD-003, Residual Heat Removal System, Rev. 11
- DWG 5379-1082, Safety Injection System Flow Diagram, Sheet 2 of 5, Rev. 42
- DWG 5379-1484, Residual Heat Removal System Flow Diagram, Sheet 1 of 1, Rev. 39

Fire Water System:

- Clearance Order Checklist No. 66427, Engine Driven Fire Pump Maintenance
- Procedure SD-042, Fire Water System, Rev. 41
- DWG HBR2-8255, Fire Protection System Intake Structure Flow Diagram, Sheet 1 of 6, Rev. 12

Complete System Walkdown

- Procedure OP-402, Auxiliary Feedwater System, Rev. 59
- System Description SD-042, Auxiliary Feedwater System, Rev. 7
- Drawing G-190197, Feedwater Condensate and Air Evacuation System Flow Diagram, Sheet 4, Rev. 51
- FSAR section10.4.8, Auxiliary Feedwater System
- A list of work orders completed on Auxiliary Feedwater System components during 2003
- A list of ARs that involved Auxiliary Feedwater System components during 2003
- The system health report for Auxiliary Feedwater, dated December 9, 2003

Section1R05: Fire Protection

UFSAR Fire Hazards Analysis (Appendix 9.5.1A) Sections

- 3.1.5.8, Fire Zone 22 - Control Room
- 3.9.1, Fire Zone 29 - Service Water Pump Area
- 3.1.1, Fire Zone 1 - B Diesel Generator Room
- 3.7.1, Fire Zone 25A - Turbine Building East Ground Floor

- 3.7.2, Fire Zone 25B - Turbine Building West Ground Floor
- 3.1.5.2, Fire Zone 16 - Battery Room
- 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

Procedures:

- OST-610, Portable Fire Extinguishers, Fire Hose Stations and Hose Stations and Houses (Monthly), Rev. 41
- OST-611-12, Low Voltage Fire Detection and Actuation System Zones 22 & 23 (Semi-Annual), Rev. 3
- OST-611-13, Low Voltage Fire Detection and Actuation System Zones 24, 25A, 25B, 25C and 26 Cold Shutdown Exceeding Twenty-four Hours if not Performed in the Previous Six Months, Rev. 2
- OST-624, Fire Damper Inspection (18 Month), Rev. 18
- OST-625, Fire Door Inspection (Semi-Annually), Rev. 23
- OP-809, Diesel Generator Carbon Dioxide Suppression System, Rev.15
- OST-621, Diesel Generator Carbon Dioxide System Cylinder Weight Test (Semi-Annual), Rev. 20
- OST-623, Fire Barrier Penetration Seal Inspection (18 Month), Rev. 18
- CM-621, Structural, Mechanical, and Electrical Penetration Fire Barriers, Rev. 28

Drawings:

- HBR2-9716, Fire Barrier Penetrations, Sheet 280, Rev. 1
- HBR2-9716, Fire Barrier Penetrations, Sheet 283, Rev. 9

Other Documents:

- Contract Number 30333, Amendment Number 31, Procurement of Control Room Carpet, dated October 28, 2003

Section 1R12: Maintenance Effectiveness

Action Requests

- 79406, Control Room HVAC Maint. Rule Performance Criteria Exceeded
- 78856, NAS Assessment Weakness: Use of [Corrective Action Program] in Maintenance Rule
- 70866, Unplanned ITS 3.7.9 entry for one train [control-room] HVAC [out of service]
- 71215, Potential Rework on [control-room] HVAC Exhaust Dampers
- 68420, SI Pump C has discolored oil sample
- 100957, OMM-007, Rev. 58, Equipment Inoperable Record
- 102997, Deepwell pump A has exceeded its unavailability allowance ... per the Maintenance Rule

- 108878, Simultaneous loss of both channels of RHR pump room sump level indication
- 114505, B Steam Generator power operated relief valve Maintenance Rule performance criteria exceeded
- 116960, Containment fan coolers low flow alarm received unexpectedly
- 86158, Valve V6-33E failed to close electrically

Maintenance Rule Documents for Safety Injection System (system 2080)

- Scoping & Performance Criteria
- Performance Summary
- Event Log Report
- Expert Panel Meeting Minutes

Maintenance Rule documents for HVAC Control Room Area (system 8220)

- Scoping & Performance Criteria
- Event Log Report
- Performance Summary
- Unavailability Trend
- Expert Panel Meeting Minutes

Maintenance Rule documents for Main Steam (system 3020)

- Scoping & Performance Criteria
- Event Log Report
- Performance Summary
- Unavailability Trend
- Expert Panel Meeting Minutes

Maintenance Rule documents for Residual Heat Removal System (system 2405)

- Scoping & Performance Criteria
- Event Log Report
- Performance Summary
- Unavailability Trend
- Expert Panel Meeting Minutes

Maintenance Rule records for Demineralized and Primary Water System (system 6270)

- Scoping and Performance Criteria
- Performance Summary
- Event Log Report
- Expert Panel Meeting Minutes

Maintenance Rule records for HVAC Containment Building System (system 8150)

- Scoping and Performance Criteria
- Performance Summary
- Event Log Report

- Expert Panel Meeting Minutes

Completed procedures

- OST-751, Control Room HVAC R-1 Initiation and [Emergency Response Facilities Information System] Point Test (Quarterly), on 9/7/2002
- RST-001, Radiation Monitor Source Checks, on 9/11/2002
- OST-750-1, Control Room Emergency Ventilation System Train “A” (Monthly), on 9/20/2002
- OST-902, Containment Coolers Component Test, on 8/19/03

Procedures

- SD-003, Residual Heat Removal System, Rev. 11
- OST-013, Weekly Checks and Operations (Weekly), Rev. 61
- CAP-NGGC-0200, Corrective Action Program, Rev. 9
- PDM-001, Equipment Lube Oil Sampling, Rev. 47
- TMM-117, Lube Oil Analysis Program, Rev. 7
- APP-002, Engineering Safeguards, Rev. 44
- OMM-001-14, Shift Orders, Rev. 3

Work Orders

- 00310543, Control Room HVAC System Exhaust Damper
- 00317045, Control Room HVAC System Exhaust Damper
- 00308319, Control Room HVAC System Exhaust Damper
- 00463136, Obtain Lube Oil Sample from C SI Pump
- 00429797, Obtain Lube Oil Sample from C SI Pump
- 00396262, Obtain Lube Oil Sample from C SI Pump
- 00376469, Obtain Lube Oil Sample from C SI Pump
- 00311801, PIC-487 requires calibration
- 00069312, PIC-487 requires calibration
- 00490678, PIC-487 requires calibration
- 00501504,RV-2 setpoint indication did not respond as expected
- 00508928, Replace setpoint station potentiometer

Drawings

- B-190628, Control Wiring Diagram, Sheet 1 of 1, Rev. 13
- A-190301, Steam Generator B Atmosphere Relief Valve, Sheet 1 of 1, Rev. 0
- G-190199, Service and Cooling Water Flow Diagram, Sheet 4 of 13, Rev. 50
- G-190199, Service and Cooling Water Flow Diagram, Sheet 7 of 13, Rev. 38
- G-190200, Instrument and Station Air System Flow Diagram, Sheet 2 of 10, Rev. 29

Other documents

- Control-room operator logs from 9/6/2002, 9/11/2002, & 9/20/2002
- Control-room operator logs from 8/1/2003 through 11/1/2003
- System health report for the safety injection and containment spray system

- System health report for the HVAC control room area system
- System health report for the Demineralized and Primary Water system
- Laboratory Lube Oil Report, Safety Injection Pump C
- Fax message from Flowserve Pump Division to Robinson Nuclear Plant, Lubrication Oil Contaminants and Discoloration - Operability Concern, dated 11/25/02
- Letter from Ingersoll-Dresser Pump Company to Robinson Nuclear Plant, Black Oil in Bearing Housing(s), dated 06/25/97
- [Pre-defined Maintenance Requirements] 147744, Obtain Lube Oil Sample from C SI Pump
- Condition Report 9700843, SI Pump A has discolored oil sample
- Outside Auxiliary Operator Logs, September, 2003 through January, 2004
- DBD/R87038/SD03, Design Basis Document Residual Heat Removal System, Rev. 0
- Operations Directive 03-004, [Compensatory Actions Associated with Valve] V6-33E
- OMM-001-14, Shift Orders, Rev. 3

Section 1R13: Maintenance Risk Assessments and Emergent Work Evaluation

- Procedure OMM-048, Work Coordination and Risk Assessment, Rev. 19

Section 1R15: Operability Evaluations

- FSAR section 6.3.2.2.3, Net Positive Suction Head (NPSH) Requirements
- AR 99903, [Emergency Core Cooling System] Pump NPSH Calculation Error
- AR 89619, [Residual Heat Removal] and [Safety Injection] Pump Room Cooling Fan Motors

Section 1R16: Operator Work-Arounds

Workarounds Reviewed for the Cumulative Assessment

- 02-003, A and B Waste Gas Compressors do not function properly in “on” or “auto”
- 02-006, CVC-244 (an isolation valve on the deborating demineralizer) will not stroke from the main control board
- 02-008, B and D hydrogen coolers must be vented frequently
- 03-006, Manual action is required to verify the position of control rod H-10
- 03-008, Air handler HVE-6B must operate continuously
- 03-011, Temperature elements TE-143 & -144 are miscalibrated
- 03-012, To prevent the low-temperature alarm during cold weather, manual action is required to activate heaters to control electro-hydraulic control fluid temperature
- 04-01, Check heat trace circuit HTR-2 every 2 hours while the alarm is locked in

Procedures

- DSP-002, Hot Shutdown Using the Dedicated/Alternative Shutdown System, Rev. 28
- DSP-007, Cold Shutdown Using the Dedicated/Alternative Shutdown System, Rev. 18
- EPP-023, Restoration of Cooling Water Flow to Reactor Coolant Pumps, Rev. 4
- EPP-025, Energizing Supplemental plant Equipment Using the DSDG, Rev. 16
- AOP-014, Component Cooling Water System Malfunction, Rev. 20

- SD-013, Component Cooling Water System, Rev. 6
- CAP-NGGC-0200, Corrective Action Program, Rev. 9

Other Documents

- OMM-001-8 Attachment 10.2, Operator Work-Around Monthly Aggregate Impact Assessment, dated 12/15/03.
- Drawing 5379-376, Component Cooloing Water System Flow Diagram, Sheet 1 of 4, Rev. 34
- Caution Tag Number 4697
- Caution Tag Number 4699
- AR 117245, Workaround Administrative Deficiencies, February 5, 2003.
- AR 103623, [Resistance Temperature Detector] Type Different in Engineering Database and Calculations

Section 1R19: Post Maintenance Testing

Procedures:

- OST-151-3, Safety Injection System Components Test - Pump C, Rev. 20
- PLP-111, Leak Reduction Program, Rev. 5
- EST-078, Inservice Inspection Pressure Testing of Safety Injection Pump Discharge Piping, Rev. 17
- OST-701-9, Steam Generator Blowdown System Inservice Valve Test, Rev. 11
- PM-492, E-055, Air Regulator Maintenance, Rev. 0
- OP-306, Component Cooling Water, Rev. 36
- PM-402, Inspection and Testing of Circuit Breakers for 480 Volt Bus E1, Rev. 28

Drawings:

- G-190234, Steam Generator Blowdown and Wet Layup System Flow Diagram, Sheet 1 of 2, Rev. 38
- G-190234, Steam Generator Blowdown and Wet Layup System Flow Diagram, Sheet 2of 2, Rev. 38

Work Orders:

- 00372658-01 and -02, Safety Injection Pump C Discharge Pressure Indicator
- 00282590-01, Air Regulator Filter Replacement
- 00445775-03, Replace Breaker 52/22C with Refurbished DB-50 Breaker

Section 1R22: Surveillance Testing

Procedures:

- OST-701-8, V12-10 and V12-11 Inservice Valve Test, Rev. 8
- SD-035, Containment and Support System, Rev. 2
- SD-037, Containment HVAC, Rev. 7

- TMM-004, Inservice Testing Program, Rev. 61
- OST-908-1, Comprehensive Flow Test for the Component Cooling Water Pumps, Rev. 4
- MST-023, Safeguard Relay Rack Train B, Rev. 17
- SD-006, Engineered Safety Features System, Rev. 7
- OST-750-2, Control Room Emergency Ventilation System - Train "B" (Monthly), Rev. 12
- OST-750-2, Control Room Emergency Ventilation System - Train "B" (Monthly), Rev. 12
- PM-034, Air Handling/Air Cleaning Unit Fans and Dampers, Rev. 18
- MST-020, Reactor Protection Logic Train "A" at Power, Rev. 24

Drawings:

- G-190304, HVAC - Turbine, Fuel, Auxiliary, Reactor and Radwaste Building, Sheet 1 of 4, Rev. 45
- HBR2-6933, Post Accident Containment Venting and Hydrogen Recombiner System Flow Diagram, Sheet 1 of 1, Rev. 19
- 5379-376, Component Cooling Water System Flow Diagram, Sheet 1 of 4
- 5379-376, Component Cooling Water System Flow Diagram, Sheet 2 of 4
- 5379-376, Component Cooling Water System Flow Diagram, Sheet 3 of 4
- 5379-376, Component Cooling Water System Flow Diagram, Sheet 4 of 4
- 5379-2753, Logic Diagrams - Reactor Trip Signals, Sheet 1 of 1, Rev. 9
- 5379-2756, Logic Diagram- Primary Coolant System Signals, Sheet 1 of 1, Rev. 10
- 5379-2757, Logic Diagram- Pressurizer Trip Signals, Sheet 1 of 1, Rev. 6
- 5379-2758,Logic Diagram- Steam Generator Trip Signals, Sheet 1 of 1, Rev. 9
- 5379-2759, Logic Diagram- Safeguard Actuation Signals, Sheet 1 of 1, Rev. 19
- 5379-2761, Logic Diagram- Feedwater Isolation, Sheet 1 of 1, Rev. 9

Other Documents:

- Work Order 00430237-01, Control Room Dampers Maintenance - "A" & "B" Train

Section 4OA1: Performance Indicator Verification

- Procedure CP-003, Systems Sampling Procedure, Rev. 54
- Procedure OST-051, Reactor Coolant System Leakage Evaluation, Rev. 31
- Control-room operator logs, January - December, 2003

Section 4OA2: Identification and Resolution of Problems

Procedures

- CAP-NGGC-0200, Corrective Action Program, Rev. 9
- CAP-NGGC-0205, Significant Adverse Condition Investigations, Rev. 1
- OST-013, Weekly Checks and Operations (Weekly), Rev. 61
- PLP-037, Conduct of Infrequently Performed Tests or Evolutions, Rev. 21

Action Request's

- 105199, Self-Assessment 77701 Issue 2 - Equipment Reliability
- 105128, concerning Loop 2 Temperature fluctuations on recorder TR-412 on September 22, 2003.
- 106304, concerning turbine runback - rod stop alarm received on October 2, 2003.
- 111794, concerning spurious over-temperature delta temperature bistable actuation on November 24, 2003.
- 86712, [Radiation monitoring system] on [maintenance rule] (a)(1) status
- 10555, [Maintenance rule] performance criteria exceeded
- 98501, Some equipment failures have not been reviewed [under the maintenance rule]