



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION II
SAM NUNN ATLANTA FEDERAL CENTER
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ATLANTA, GEORGIA 30303-8931

July 27, 2007

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 05000261/2007003

Dear Mr. Walt:

On June 30, 2007, 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 July 2, with Mr. E. Kapopoulos 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 by Scott Shaeffer Acting For/

Randy Musser, Chief
Reactor Projects Branch 4
Division of Reactor Projects

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

Enclosure: Inspection Report 05000261/2007003
w/Attachment: Supplemental Information

cc w/encl. (See page 3)

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Director, Site Operations
Carolina Power & Light Company
H. B. Robinson Steam Electric Plant
Electronic Mail Distribution

Ernest J. Kapopoulos, Jr.
Plant General Manager
Carolina Power & Light Company
H. B. Robinson Steam Electric Plant
Electronic Mail Distribution

Paul Fulford, Manager
Performance Evaluation and
Regulatory Affairs PEB 5
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 w/encl: (See page 3)

CP&L

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Inspection report to Tom Walt from Randall A, Musser dated July 27, 2007.

SUBJECT: H.B. ROBINSON STEAM ELECTRIC PLANT - NRC INTEGRATED
INSPECTION REPORT 05000261/2007003

Distribution w/encl:

L. Regner, NRR

C. Evans (Part 72 Only)

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U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket No: 50-261

License No: DPR-23

Report No: 005000261/2007003

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

Location: 3581 West Entrance Road
Hartsville, SC 29550

Dates: April 1, 2007 through June 30, 2007

Inspectors: R. Hagar, Senior Resident Inspector
D. Jones, Resident Inspector
E. Morris, Resident Inspector
K. Korth, Resident Inspector, Browns Ferry
H. Gepford, Senior Health Physicist, (Sections 2OS1 & 4OA5.2)
J. Díaz Vélez, Health Physicist, (Section 2OS2)
C. Peabody, Reactor Inspector, (Section 4OA5.1)
S. Vias, Senior Reactor Inspector (Section 1R08)
A. Vargas-Mendez, Reactor Inspector (Section 1R08)

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

Enclosure

SUMMARY OF FINDINGS

IR 05000261/2007-003, Carolina Power and Light Company; on 04/01/2007-06/30/2007; H.B. Robinson Steam Electric Plant, Unit 2.

The report covered a three-month period of inspection by resident inspectors and announced inspections by health physicists and 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.

A. NRC-Identified and Self-Revealing Findings

None.

B. Licensee-Identified Violations

None.

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REPORT DETAILS

Summary of Plant Status The unit began the inspection period operating at 92 percent of rated thermal power as the unit was experiencing an end-of-cycle coastdown at the rate of approximately -1 percent of rated thermal power per day, in preparation for beginning a scheduled refueling outage. On April 7, with the reactor operating at approximately 4 percent power, the licensee manually tripped the reactor to begin that outage. The licensee restarted the reactor on May 12, re-connected the unit to the electrical grid on May 13, and began a routine post-outage power increase toward 100 percent. On May 15, with the unit operating at 82 percent of rated thermal power and ramping upward, the plant experienced an automatic reactor trip after an electrical fault associated with main transformer monitoring circuitry caused that circuitry to initiate a main generator lockout, which in turn caused a turbine trip and a subsequent reactor trip. After resolving trip-related issues, the licensee restarted the reactor and re-connected the unit to the electrical grid on May 17. The unit returned to full power on May 18, and operated at full power for the remainder of the 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 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>
Train A motor driven auxiliary feedwater	Train B motor driven auxiliary feedwater	May 24
Trains B and C Charging Pumps	Train A charging pump	May 29
A deepwell pump	D deepwell pump	June 11

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.

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1R05 Fire Protectiona. 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>
25F/25G	Turbine building east/west mezzanine and operating deck
1	Diesel generator B room
20	Emergency switchgear room and electrical equipment area
19	Cable spread room
7	Auxiliary building hallway
26	Yard electrical transformers

b. Findings

No findings of significance were identified.

1R08 Inservice Inspection (ISI) Activitiesa. Inspection Scope

The inspectors observed in-process ISI work activities, reviewed ISI procedures, and reviewed selected ISI records, associated with risk significant structures, systems, and components during the outage. The observations and records were compared to the requirements specified in the Technical Specifications (TSs) and the ASME Boiler and Pressure Vessel Code, to verify compliance and to ensure that examination results were appropriately evaluated and dispositioned.

The inspectors conducted an onsite review of nondestructive examination (NDE) activities to evaluate compliance with TSs, ASME Section XI, and ASME Section V requirements, to verify that indications and defects (if present) were appropriately evaluated and dispositioned in accordance with the requirements of ASME Section XI, IWB-3000 or IWC-3000 acceptance standards.

The inspectors observed and reviewed non-destructive examination (NDE) activities.

Specifically, the inspectors observed the following examinations:

Ultrasonic Testing (UT):

- Main Feed water Pipe to Elbow Weld #: 216/07
- Residual Heat Removal Pipe Weld #s: 109/09, 109/08

Magnetic Particle Testing (MT):

- Main Feed Water Pipe Weld #s: 216/07

Penetrant Testing (PT):

- Residual Heat Removal Pipe Weld #s: 109/09, 109/08

Specifically, the inspectors reviewed the following examination records:

Magnetic Particle Testing (MT):

- Main Feed Water Pipe Weld #: 216/08

Ultrasonic Testing (UT):

- Main Feed Water Elbow to Elbow Weld #: 216/011
- Main Feed Water Elbow to Pipe Weld #: 216/012

Augmented Ultrasonic Testing (AUT):

- Steam Generator (S/G) A Nozzle to Elbow Weld #: 215/79-13-A
- S/G B Nozzle to Elbow Weld #: 217/79-13-B
- S/G C Nozzle to Elbow Weld #: 217/79-13-C

Specifically, the inspectors reviewed the following examination records that contained recordable indications:

- UT: Residual Heat Removal System # 109/08, 109/09
- PT: Residual Heat Removal System # 109/08, 109/09
- VT: Spring Hanger, 3020-213C, 2080-247C

Qualification and certification records for examiners, inspection equipment, and consumables along with the applicable NDE procedures for the previously referenced ISI examination activities were reviewed and compared to requirements stated in ASME Section V, ASME Section XI, and other industry standards.

From April 16-20, 2007, the inspectors reviewed the Boric Acid Corrosion Control (BACC) program to ensure compliance with commitments made in response to NRC Generic Letter 88-05, "Boric Acid Corrosion of Carbon Steel Reactor Pressure Boundary Components in PWR Plants."

The inspectors conducted an on-site record review as well as an independent walkdown of parts of the reactor building that are not normally accessible during at-power operations to evaluate compliance with licensee BACC program requirements and 10

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CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," requirements. In particular, the inspectors verified that the visual examinations focused on locations where boric acid leaks can cause degradation of safety-significant components and that degraded or non-conforming conditions were properly identified in the corrective action system.

The inspectors reviewed a sample of engineering evaluations completed for boric acid found on reactor coolant system piping and components to verify that the minimum design code-required section thickness had been maintained for the affected components. The inspectors also reviewed licensee corrective actions (NCRs) as well as corrosion assessments implemented for evidence of boric acid leakage to confirm that they were consistent with requirement. Specifically, the inspectors reviewed:

- Work Order (WO) #: 990888, A Charging Pump inlet and outlet cover gaskets leak
- WO #: 586874, Waste Decay tank Room Ceiling, boric acid on structural ceiling and walls.
- WO #: 611353, B RHR Pump Seal Area
- NCR 20050914, discolored Boric Acid Buildup B Spray PP Seal
- NCR 20050917, Source of Boric Acid Leak Behind C RCP Not Identified
- NCR 20060109, Boric Acid Corrosion on SI-895L
- NCR 20070407, Wet Boric Acid On Tubing Downstream of CVC-310B
- NCR 20070409, Excess Letdown HX Boric Acid Leak
- 20070410, Boric Acid Found on RHR-HTX-B Flange and Bolting

The inspectors reviewed welding activities from the previous outage. The inspectors reviewed drawings, work instructions, weld process sheets, weld travelers, pre-heat requirements and radiography records for welding of an ASME Class 2 pressure boundary weld.

Specifically the inspectors reviewed:

- Component Cooling Water Valve SW-6 Replacement
- Service Water Check Valve SW-75 Replacement
- Safety Injection System Valve SI-875J Replacement

The inspectors reviewed the SG examination scope, expansion criteria, eddy current testing (ET) acquisition procedures, ET analysis procedures, the SG Operational Assessment, in-situ tube pressure testing procedures, and records and examination reports to confirm that:

- The SG tube ET examination scope was sufficient to identify tube degradation confirming that the ET scope completed was consistent with procedures and plant TS requirements. In addition, the inspectors reviewed the SG tube ET examination scope to determine that it was consistent with that recommended in EPRI "Pressurized Water Reactor Steam Generator Examination Guidelines," Revision 6, and included tube areas which represent ET challenges, such as the tubesheet regions, expansion transitions and support plates.

- The ET probes and equipment configurations used to acquire ET data from the SG tubes were qualified to detect the known/expected types of SG tube degradation in accordance with Appendix H, "Performance Demonstration for Eddy Current Examination," of EPRI "Pressurized Water Reactor Steam Generator Examination Guidelines," Revision 6.
- The licensee adequately evaluated for any contractor deviations from their ET data acquisition or analysis procedures or EPRI "Pressurized Water Reactor Steam Generator Examination Guidelines," Revision 6.

The inspectors performed a review of SG ISI-related problems that were identified by the licensee and entered into the CAP. The inspectors reviewed these corrective action program (CAP) documents to confirm that the licensee had appropriately described the scope of the problems. In addition, the inspectors' review included confirmation that the licensee had an appropriate threshold for identifying issues and had implemented effective corrective actions. The inspectors evaluated the threshold for identifying issues through interviews with licensee staff and review of licensee actions to incorporate lessons learned from industry issues related to the ISI program. The inspectors performed these reviews to ensure compliance with 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," requirements.

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 crew 1 to verify that operator performance was consistent with expected operator performance, as described in Exercise Guide LOCT 01-6. This training tested the operators' ability to operate components from the control room, direct auxiliary operator actions, and determine the appropriate emergency action level classifications while responding to a failed pressurizer pressure transmitter, a leak in the south service water header, and a subsequent steam generator tube rupture without pressurizer pressure control. 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.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectivenessa. 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>AR</u>	<u>Performance Problem/Condition</u>
216145	Functional failures in the reactor protection system exceeded the corresponding Maintenance Rule performance criteria
216382	Guide ring found improperly set

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:

- 192736, Yellow [system health] status for Reactor Protection System
- 194211, Unanticipated [Limiting Condition for Operation] entry due to failure of [loop 3 T_{avg} /Delta-T protection channel T_{hot} average summator] TM-432N
- 205117, Unanticipated [Limiting Condition for Operation] 3.3.1 entry due to [steam generator B feedwater flow transmitter] FT-487 failure
- 213638, [low-pressure reactor trip protection signal lead/lag module] PM-455A found out of tolerance during [surveillance test] MST-004.

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Evaluation

a. Inspection Scope

For the three 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:

- May 14 - May 18, including a reactor trip and a subsequent plant startup
- May 18 - May 25, including testing of a Component Cooling Water to Regenerative Heat Exchanger isolation valve concurrent with maintenance on a 115KV breaker
- June 9 - June 15, including scheduled work involving the steam-driven auxiliary feedwater system

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the two operability evaluations associated with the ARs listed below. The inspectors assessed the accuracy of the evaluations, the use and control of any necessary compensatory measures, and compliance with the TS. The inspectors verified that the operability determinations were made as specified by Procedure OPS-NGGC-1305, Operability Determinations. The inspectors compared the justifications provided in the determinations to the requirements from the TS, the UFSAR, and associated design-basis documents, to verify that operability was properly justified and the subject components or systems remained available, such that no unrecognized increase in risk occurred.

The inspectors also reviewed a licensee's response to NRC Information Notice 2006-20, "Foreign Material Found in the Emergency Core Cooling System", and in conjunction with licensee actions to resolve Generic Safety Issue 191, "Assessment of Debris Accumulation on PWR Sump Performance".

- 235903, Loss of analog rod position indication on the main control board
- 230613, Foreign material in residual heat removal suction piping

Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified. However, during a refueling outage on April 22, 2007, the licensee used a remote video camera to visually inspect the two suction lines between the ECCS sump and RHR pumps A and B. Inspection of the first line revealed a piece of wire approximately 30 inches long, and inspection of the second line revealed a stainless steel insulation band and other smaller items of metallic debris. These items were immediately removed. The licensee has not completed their engineering evaluations at the end of the inspection period. The inspectors determined that additional inspections are required to determine whether and to what extent the subject debris could have affected safety functions during a postulated event that includes recirculation flow from the ECCS sump. Therefore, this issue is identified as URI 05000261/2007003-01, Emergency Core Cooling Sump Piping Foreign Material. This issue is in the CAP as AR 230613.

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 following tests were witnessed/reviewed:

<u>Test Procedure</u>	<u>Title</u>	<u>Related Maintenance Activity</u>	<u>Date Inspected</u>
OST-701-5	Reactor Coolant System Inservice Valve Test	Valve maintenance including limit switch adjustments	April 28
OST-302-2	Service Water Pumps C & D Inservice Test	Grout repair on pump and motor	April 30
OST-701-11	Radiation Monitoring Inservice Valve Test	Valve maintenance including valve internal work and LLRT failure	May 1

01063174*	Train "A" Motor Driven Auxiliary Feedwater Pump Failed to Autostart	Replaced the control switch	May 17
OST-252-2	Residual Heat Removal System Valve Test Train "B"	Valve maintenance including motor torque adjustments	May 24

* This post-maintenance test was described in the identified work order rather than in a procedure.

b. Findings

No findings of significance were identified.

1R20 Refueling and Outage Activities

For the outage that began on April 6 and ended on May 13, the inspectors evaluated licensee outage activities as described below to verify that licensees considered risk in developing outage schedules, adhered to administrative risk reduction methodologies they developed to control plant configuration, and adhered to operating license and technical specification requirements that maintained defense-in-depth. The inspectors also verified that the licensee developed mitigation strategies for losses of the following key safety functions:

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

In addition, the inspectors completed their review of Operating Experience Smart Sample (OpESS) FY2007-03, Crane and Heavy Lift Inspection, Supplemental Guidance for IP-71111.20. Documents reviewed are listed in the Attachment.

.1 Review of Outage Plan

a. Inspection Scope

Prior to the outage, the inspectors reviewed the outage risk control plan to verify that the licensee had performed adequate risk assessments, and had implemented appropriate risk-management strategies when required by 10 CFR 50.65(a)(4).

b. Findings

No findings of significance were identified.

.2 Monitoring of Shutdown Activities

a. Inspection Scope

The inspectors observed portions of the cooldown process to verify that technical specification cooldown restrictions were followed.

b. Findings

No findings of significance were identified.

.3 Licensee Control of Outage Activities

a. Inspection Scope

During the outage, the inspectors observed the items or activities described below to verify that the licensee maintained defense-in-depth commensurate with the outage risk-control plan for key safety functions and applicable technical specifications when taking equipment out of service.

- Clearance Activities
- Reactor Coolant System Instrumentation
- Electrical Power
- Decay Heat Removal (DHR)
- Spent Fuel Pool Cooling
- Inventory Control
- Reactivity Control
- Containment Closure

The inspectors also reviewed responses to emergent work and unexpected conditions to verify that resulting configuration changes were controlled in accordance with the outage risk control plan, and to verify that control-room operators were kept cognizant of the plant configuration.

b. Findings

No findings of significance were identified.

.4 Reduced-Inventory Conditions

a. Inspection Scope

The inspectors reviewed commitments from Generic Letter 88-17, and confirmed by

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sampling that those commitments are still in place and adequate. Periodically during the reduced-inventory conditions, the inspectors reviewed system lineups to verify that the configuration of the plant systems are in accordance with those commitments. During reduced-inventory operations, the inspectors observed operator activities to verify that unexpected conditions or emergent activities did not degrade the operators' ability to maintain required reactor vessel level.

b. Findings

No findings of significance were identified.

.5 Refueling Activities

a. Inspection Scope

The inspectors observed fuel handling operations (removal, inspection, and insertion) and other ongoing activities to verify that those operations and activities were being performed in accordance with technical specifications and approved procedures. Also, the inspectors observed refueling activities to verify that the location of the fuel assemblies, including new fuel, was tracked from core offload through core reload.

b. Findings

No findings of significance were identified.

.6 Monitoring of Heatup and Startup Activities

a. Inspection Scope

Prior to mode changes and on a sampling basis, the inspectors reviewed system lineups and/or control board indications to verify that TSs, license conditions, and other requirements, commitments, and administrative procedure prerequisites for mode changes were met prior to changing modes or plant configurations. Also, the inspectors periodically reviewed RCS boundary leakage data, and observed the setting of containment integrity to verify that the RCS and containment boundaries were in place and had integrity when necessary. Prior to reactor startup, the inspectors walked down containment to verify that debris has not been left which could affect performance of the containment sumps. The inspectors reviewed reactor physics testing results to verify that core operating limit parameters were consistent with the design.

b. Findings

No findings of significance were identified.

.7 Identification and Resolution of Problems

a. Inspection Scope

Periodically, the inspectors reviewed the items that had been entered into the CAP to verify that the licensee had identified problems related to outage activities at an appropriate threshold and had entered them into the CAP. For the significant problems documented in the CAP and listed below, the inspectors reviewed the results of the investigations to verify that the licensee had determined the root cause and implemented appropriate corrective actions, as required by 10 CFR 50, Appendix B, Criterion XVI, Corrective Action.

- 230551, Damage to CVC-312B check valve seal cap
- 231270, Inadvertent spent fuel pool level decrease during refueling cavity draindown
- 231446, Water inadvertently added to the reactor coolant system due to maintenance on valve SI-870B
- 231589, Inadvertent start of emergency diesel generator A
- 232630, Deficiencies noted during NRC walkdown of containment A
- 232899, Technical specification interpretation relating to the steam-driven auxiliary feedwater pump

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

For the six surveillance tests listed below, the inspectors witnessed testing and/or reviewed the test data to verify that the systems, structures, and components involved in these tests satisfied the requirements described in the TS, the UFSAR, and applicable licensee procedures, and that the tests demonstrated that the SSCs were capable of performing their intended safety functions. Documents reviewed are listed in the Attachment.

<u>Test Procedure</u>	<u>Title</u>	<u>Date Inspected</u>
OST-252-2	RHR System Valve Test - Train B	April 4
OST-703-2*	Primary Side Inservice Valve Test for RHR System	April 26
OST-253	Comprehensive Flow test for Residual Heat Removal	April 26

OST-151-4	Comprehensive Flow Test for Safety Injection Pump A	April 28
OST-411	Emergency Diesel Generator B	April 29
OST-163	Safety Injection Test and Emergency Diesel Generator Auto Start on Loss of Power and Safety Injection (Refueling)	May 3

*This procedure included inservice testing requirements.

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness

1EP6 Drill Evaluation

a. Inspection Scope

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

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY

Cornerstone: Occupational Radiation Safety

2OS1 Access Control To Radiologically Significant Areas

a. Inspection Scope

Licensee activities for monitoring workers and controlling access to radiologically significant areas were reviewed. The inspectors evaluated procedural guidance and directly observed implementation of administrative and physical controls; appraised radiation worker and technician knowledge of, and proficiency in implementing, radiation protection program activities; and assessed worker exposures to radiation and radioactive material.

Radiological postings and material labeling were directly observed during tours of the Unit 2 (U2) reactor auxiliary building, U2 containment, and radwaste processing areas. The inspectors conducted independent surveys in these areas to verify posted radiation levels and to compare with current licensee survey records. During plant tours, control of locked high radiation area (LHRA) and very high radiation area (VHRA) keys and the physical status of LHRA doors and accessible VHRA access points were examined. In addition, the inspectors observed radiological controls for non-fuel radioactive material stored in the spent fuel pool. The inspectors also reviewed selected radiological control procedures and radiation work permits (RWPs), and discussed current access control program implementation with health physics supervisors.

During the inspection, radiological controls for work activities in high radiation areas (HRA) were observed and discussed. The inspectors attended pre-job briefings for radiography and core reload, evaluating the communication of RWP requirements, radiological conditions, and operating experience. The inspectors directly or by remote monitoring observed work activities associated with steam generator (S/G) sludge lancing, S/G eddy current testing, emergency core cooling system (ECCS) sump modification, scaffolding, and various ongoing maintenance activities in the U2 containment. The inspectors directly observed licensee posting and control of boundaries during radiographic operations. The inspectors observed workers' adherence to RWP guidance and health physics technician (HPT) proficiency in providing job coverage. Controls for limiting exposure to airborne radioactive material were reviewed, and operation of ventilation units and positioning of air samplers were also observed. The inspectors evaluated electronic dosimeter alarm setpoints for consistency with radiological conditions in containment and the reactor auxiliary building. In addition, the inspectors interviewed workers in the reactor auxiliary building and containment to assess knowledge of RWP requirements.

The inspectors evaluated worker exposures through review of data associated with discrete radioactive particle and dispersed skin contamination events. The inspectors also evaluated licensee procedure and process for evaluating internal doses, including review of select internal dose assessments. Controls used for monitoring extremity dose and the placement of dosimetry when work involved significant dose gradients were reviewed.

Health Physics Program activities were evaluated against 10 CFR Part 20; Technical Specification (TS) Sections 5.4, Procedures, and 5.7, HRA; Regulatory Guide 8.38, Control of Access to High and Very High Radiation Areas in Nuclear Power Plants; and approved licensee procedures. Licensee guidance documents, records, and data reviewed are listed in the report Attachment.

Problem Identification and Resolution An audit, three self-assessments, and two benchmark reports related to access controls to radiologically significant areas were reviewed. Additionally, select Nuclear Condition Reports (NCRs) associated with radiological controls, personnel monitoring, and exposure assessments were reviewed and discussed with health physics supervisors. The inspectors assessed the ability to identify, characterize, prioritize, and resolve the identified issues in accordance with

Procedure CAP-NGGC-0200, Corrective Action Program , Rev. 18. Specific documents reviewed are listed in the report Attachment.

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

b. Findings

No findings of significance were identified.

2OS2 ALARA Planning and Controls

a. Inspection Scope

ALARA The inspectors evaluated ALARA program guidance and its implementation for refueling outage 24 (RO-24). The inspectors reviewed, and discussed with licensee staff, ALARA work plan (AWP) documents including dose estimates and prescribed ALARA controls for selected outage work activities that incurred significant collective doses. The inspectors reviewed the integration of AWP requirements into work procedures and RWPs. The inspectors reviewed the interfaces between plant departments in regard to implementation of the ALARA program. These elements of the ALARA program were evaluated for consistency with the methods and practices delineated in applicable licensee procedures.

The inspectors reviewed the site collective exposure estimates and their bases for calendar year 2007 and RO-24. The inspectors compared select person-hour estimates provided by maintenance and other planning groups with actual work activity time requirements, evaluated the accuracy of the estimates, and discussed identified differences with the ALARA staff. Changes to dose budgets relative to changes in job scope also were identified and discussed.

The inspectors reviewed select shielding request packages with respect to dose rate reduction goals and the associated engineering reviews, as applicable. The inspectors reviewed pre-installation and post-installation radiation surveys associated to shielding request packages to determine the consistency between dose reduction goals and results achieved.

Selected work activities were observed for evaluating the use of ALARA controls. Activities observed included: ECCS sump modification, S/G eddy current testing, S/G sludge lancing, and industrial radiography. The inspectors evaluated if the AWP considerations, including engineering controls, were implemented appropriately during job performance. The inspector determined if workers were aware of low dose waiting areas, their electronic dosimeter set points, and the radiological conditions in the area of work. The inspectors evaluated whether radiation workers adhered to AWP and RWP requirements, and if radiation worker practices demonstrated the ALARA philosophy. In addition, the inspectors evaluated HPT proficiency in providing pre-job briefings and job coverage.

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The inspectors reviewed the controls employed by the licensee for declared pregnant women with respect to the requirements of 10 CFR Part 20.

ALARA program activities and their implementation were evaluated against 10 CFR 19.12; 10 CFR Part 20, Subparts B, C, F, G, H, and J; and approved licensee procedures. In addition, licensee performance was evaluated against Regulatory Guide 8.8, Information Relevant to Ensuring that Occupational Radiation Exposures at Nuclear Power Stations will be As Low As Reasonably Achievable. Procedures and records reviewed within this inspection area are listed in the Attachment.

Problem Identification and Resolution Licensee CAP documents associated with ALARA activities were reviewed and assessed. The inspectors evaluated the ability to identify, characterize, prioritize, and resolve issues in accordance with CAP requirements. Specific assessments, audits, and NCR documents reviewed and evaluated in detail for this inspection area are identified in the Attachment.

The inspectors completed ten of the specified line-item samples detailed in IP 71121.02. Together with the sixteen samples documented in IR 05000261/2006003, IP 71121.02 is complete.

b. Findings

No findings of significance were identified.

Cornerstone: Public Radiation Safety

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 200586 for detailed review. The inspectors selected this AR because it relates generally to the Mitigating Systems Cornerstone, in that it involves the reliability and availability of the D instrument air compressor. The inspectors reviewed this report to verify:

- complete and accurate identification of the problem in a timely manner;
- evaluation and disposition of performance issues;

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

The inspectors also reviewed this AR to verify compliance with the requirements of the CAP as delineated in Procedure CAP-NGGC-0200, Corrective Action Program, and 10 CFR 50, Appendix B. Documents reviewed are listed in the Attachment.

b. Observations and Findings

No findings of significance were identified.

.3 Semi-Annual Trend Review

a. Inspection Scope

The inspectors performed a review of the CAP and associated documents to identify trends that could indicate the existence of a more significant safety issue. The inspector's review focused on repetitive equipment issues, but also considered the results of daily inspector CAP item screening discussed in Section 4OA2.1, licensee trending efforts, and licensee human performance results. The inspector's review considered the six-month period of January, 2007, through June, 2007. The review included issues documented outside the normal CAP in major equipment problem lists, repetitive and/or rework maintenance lists, departmental problem/challenges lists, system health reports, quality assurance audit/surveillance reports, self assessment reports, and Maintenance Rule assessments. The inspectors compared and contrasted their results with the results contained in the latest monthly and quarterly trend reports. Corrective actions associated with a sample of the issues identified in the trend reports were reviewed for adequacy. The specific documents reviewed are listed in the Attachment.

The inspectors also evaluated the trend reports against the requirements of the CAP as specified in 10 CFR 50, Appendix B, Criterion XVI, and in Procedures CAP-NGGC-0200, CAP-NGGC-0206, Corrective Action Program Trending and Analysis.

b. Assessment and Observations

No findings of significance were identified. The inspectors evaluated trending methodology and observed that the licensee had performed detailed reviews. The licensee routinely reviewed cause codes, involved organizations, key words, and system links to identify potential trends in their CAP data. The inspectors compared the licensee process results with the results of the inspectors' daily screening, and did not

identify any discrepancies or potential trends in the CAP data that the licensee had failed to identify.

40A3 Event Follow-up

.1 May 15 Reactor Trip

a. Inspection Scope

Following the reactor trip that occurred on May 15, the inspectors reviewed the status of mitigating systems and fission product barriers, equipment and personnel performance, and related plant management decisions to assist NRC management in making an informed evaluation of plant conditions. The inspectors also reviewed post-trip activities to verify that the licensee identified and resolved event-related issues prior to restarting the plant. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

40A5 Other Activities

.1 (Closed) Temporary Instruction (TI) 2515/166, Pressurized Water Reactor Containment Sump Blockage (NRC Generic Letter 2004-02)

a. Inspection Scope

The inspectors reviewed Unit 2 implementation of commitments documented in their September 1, 2005, response to Generic Letter 2004-02, Potential Impact of Debris Blockage on Emergency Recirculation During Design Basis Accidents at Pressurized Water Reactors. These commitments included the permanent modification of the Containment Building ECCS sump strainer assembly. The inspectors reviewed the sump strainer assembly Engineering Change package (EC), corresponding 10 CFR 50.59 evaluation, and ECCS sump inspection requirements in the Plant Operating Manual. The inspectors conducted a visual walkdown to verify the installed strainer assembly configuration was consistent with drawings and specifications provided in the engineering change packages.

The inspectors determined the following answers to the Reporting Requirements detailed in TI 2515/166-05 issued 3/16/06:

- The licensee implemented plant modifications and procedure changes committed to in their GL 2004-02 response for Unit 2.
- The licensee updated its licensing bases to reflect the corrective actions taken in response to GL 2004-02.

b. Findings and Observations

No findings of significance were identified.

.2 Independent Spent Fuel Storage Installation (ISFSI) Radiological Controls

a. Inspection Scope

The inspectors reviewed gamma-ray, neutron, and contamination surveys of the two ISFSI facilities, 7P-ISFSI (docket No. 72-3) and 24P-ISFSI (docket No. 72-60). Inspectors also observed performance of routine gamma and neutron surveys, and compared the results to previous surveys and TS limits. The inspectors evaluated implementation of radiological controls, including labeling and posting, and discussed controls with health physics supervisory staff. Environmental monitoring results for direct radiation from the ISFSI were reviewed, and inspectors observed the placement of thermoluminescent dosimeters around the facilities.

Radiological control activities for ISFSI areas were evaluated against 10 CFR Part 20, 10 CFR Part 72, radioactive materials license SNM-2502 TS, and NUHOM Certificate of Compliance No. 1004 TS details. Documents reviewed are listed in section 4OA5 of the report Attachment. The inspectors completed the radiation protection line-item sample activities specified in IP 60855.

b. Findings

No findings of significance were identified.

4OA6 Meetings, Including Exit

On April 20, the inspectors discussed results of the onsite radiation protection inspection with Mr. T. Walt and other staff members. The inspectors noted that personally identifiable information was reviewed during the course of the inspection but would not be included in the documented report.

On April 20, the inspectors discussed results of the inspection described in section 1R08 with Mr. C. Baucom and other staff members. The inspectors confirmed that proprietary information was not provided or examined during the inspection.

On May 10, the inspectors conducted via telephone a formal exit for the inspection described in section 4OA5.1, with Mr. T. Walt and other staff members.

On July 2, the resident inspectors presented additional inspection results to Mr. E. Kapopoulos and other staff members. The inspectors confirmed that proprietary information was not provided or examined during the inspection.

ATTACHMENT: SUPPLEMENTAL INFORMATION

Enclosure

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel

C. Baucom, Acting Manager, Support Services - Nuclear
L. Baxley, Radiation Control Supervisor
D. Blakeney, Outage and Scheduling Manager
B. Clark, Training Manager
W. Farmer, Engineering Manager
D. Foster, Acting Operations Manager
J. Huegel, Maintenance Manager
E. Kapopoulos, Plant General Manager
J. Lucas, Nuclear Assurance Manager
T. Tovar, Radiation Protection Superintendent
T. Walt, Vice President, Robinson Nuclear Plant
S. Wheeler, Supervisor, Regulatory Support

NRC personnel

R. Musser, Chief, Reactor Projects Branch 4

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

05000261/2007003-01	URI	Emergency Core Cooling Sump Piping Foreign Material (Section 1R15)
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Closed

05000261/2515/166	TI	Pressurized Water Reactor Containment Sump Blockage (NRC Generic Letter 2004-02) (Section 4OA5.1)
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LIST OF DOCUMENTS REVIEWED

1R04 Equipment Alignment

Partial System Walkdown

Motor Driven Auxiliary Feedwater system:

Drawing G-190197, Feedwater, Condensate and Air Evacuation System Flow Diagram, sheet 1 of 4, Rev. 77

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

Procedure OP-402, "Auxiliary Feedwater System," Rev. 67

Charging system:

Drawing 5379-685, "Chemical and Volume Control System Purification and Makeup Flow Diagram, Sheet 2, Rev. 57

Deepwell pumps:

Procedure OP-402, "Auxiliary Feedwater System," Rev. 67

Procedure OMM-007, "Equipment Inoperable Record", Rev. 70

Drawing G-190202, "Primary and Makeup Water System Flow Diagram", Sheet 3, Rev. 30

1R05 Fire Protection

UFSAR Section

3.1.5.6 Fire Zone 20 - Emergency Switchgear Room and Electrical Equipment Area

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

3.1.1 Fire Zone 1 - Diesel Generator "B" Room

3.1.3.2 Fire Zone 7 - Auxiliary Building Hallway

Results from Completed Procedures

OST-627, Functional Test of the Emergency Diesel Generators CO2 Cardox Suppression System (Annual), Rev. 29, dated 1/29/07

OST-621, Diesel Generator CO2 System Cylinder Weight Test (Semi-Annual), Rev. 23, dated 4/2/07

OST-611-1, Low Voltage Fire Detection and Actuation System Zones 1 & 2 (Semi-Annual), Rev. 5, dated 2/17/07

OST-611-11, Low Voltage Fire detection and Actuation System Zones 19 & 20 (Semi-Annual), Rev. 4, dated 12/9/06

OST-620, Carbon Dioxide Suppression System Weight Test (Semiannual), Rev. 23, dated 2/9/07

OST-624, Fire Damper Inspection (18-Month), Rev. 20, dated 3/21/06

OST-628, Function Test of the Halon 1301 System (Annual), Rev. 28, dated 9/5/06

OST-630, Halon 1301 Suppression System Weight Test (Semi-Annual), Rev. 22, dated 4/1/07

OST-611-6, Low Voltage Fire Detection and Actuation System Zone 11 & 13 (Semi-Annual), Rev. 3, dated 12/27/06

OST-611-7, Low Voltage Fire Detection and Actuation System Zone 12 (Semi-Annual), Rev. 2, dated 11/29/06

1R08 Inservice Inspection Activities

Procedures

ENG-NGGC-0207, Boric Acid Corrosion Control, Rev. 1
TMM-104, System Walkdown Procedure, Rev. 18
NDEP-2001, Liquid Penetrant Examination (visible, dye, solvent removeable)
NDEP-0301, Magnetic particle Examination, Rev. 15
NDEP-0437, Ultrasonic Examination Procedure for Ferritic Pipe Welds, Rev. 1
TMM-020, Inservice Pressure Testing Program, Rev. 16

Other

Inservice Inspection Report, Interval 4, Period 2, Online (2006 On-Line)
ISI Self-Assessment Report, 8/1-4/2005
NRC 229085, Procedure use expectations not met
NCR 228991, VT1 qualified inspector not used for lift rig inspection
NCR 229655, Problems during draining of the RCS to 70"
NCR 229555, SG 'B' secondary manway degraded gasket seating surfaces

1R11 Licensed Operator Requalification

Exercise Guide LOCT 06-01
Continuing Training Simulator Option form, "[Operating Experience] and additional malfunctions for LOCT 01-6 in Cycle 07-1", 5/17/07

1R12 Maintenance Effectiveness

Action Requests

192736, Yellow [system health] status for Reactor Protection System
194211, Unanticipated [Limiting Condition for Operation] entry due to failure of [loop 3 $T_{avg}/\Delta T$ protection channel T_{hot} average summator] TM-432N
205117, Unanticipated [Limiting Condition for Operation] 3.3.1 entry due to [steam generator B feedwater flow transmitter] FT-487 failure
213638, [low-pressure reactor trip protection signal lead/lag module] PM-455A found out of tolerance during [surveillance test] MST-004.

216145, System 1080 [Maintenance Rule] performance criteria exceeded
216382, Guide ring found improperly set

Other Documents

Action Plan [in accordance with procedure PLP-121, Troubleshooting Guidelines] for Return of System 1080 to GREEN
Procedure PLP-121, Troubleshooting Guidelines, Rev. 5
System 1080 health report
Procedure CM-102, Nozzle Relief Valve Maintenance, Rev. 36

Procedure EST-111, Safety Pressure Relief & Vacuum Breaker Valve Test Selection and Verification (Refueling Shutdown and As Needed After Maintenance), Rev. 14
Procedure EST-112, Pressure Safety and Relief Valve Bench Testing, Rev. 23

Maintenance Rule Documents

For system 1080, Reactor Protection System:

- Event List for December, 2005 - June, 2007
- Scoping and Performance Criteria
- Monitoring Status

1R13 Maintenance Risk Assessments and Emergent Work Evaluation

Procedure OMM-048, Work Coordination and Risk Assessment, Rev. 28

1R15 Operability Evaluations

Action Requests

230613, Foreign material in residual heat removal suction piping

Correspondence

Letter from A. Schwencer (NRC) to Mr. J.A. Jones dated 10/29/1979

NO-80-1133, Request for Technical Specification Change Rod Position Indication System,
August 1, 1980

GD-79-3214, letter to NRC from E.E. Utlely, dated December 14, 1979

NLU-80-465, [Amendment No. 48]

Procedures

OST-020, Shiftly Surveillances, Rev. 28

EST-139, [Emergency Core Cooling System] Sump Inspection, Rev. 2

PLP-047, Foreign Material Exclusion Area Program, Rev. 11

Other Documents

Engineering Service Request 97-00611, Rod Position Indication Drift, Rev. 1

TS 3.1.7, Rod Position Indication and Bases

Operator log entries from 5/27/2007,

UFSAR section 7.7.1.1.5.1, Analog [Rod Position Indication] System

[Residual Heat Removal] Suction Debris Action Items, Rev. 0, 6/7/2007

Installation Data Report for S-143, 3/29/98

Work Request/Job Orders

97-AE001, Install the [emergency core cooling system] sump screens, S-143-1 thru S-143-10
per [Engineering Service Request] 96-00671 and drawing SK-9600671-C-1000

97-AE003, Remove, bag, tag and store approx. 2 [linear feet] of insulation on line 3/4-CH-
11A/Inspect and repair insulation in the ECCS sump area for line 3/4-CH-11A

97-AE004, Support [Engineering Service Request] 96-00671 by setting up [foreign material
exclusion area], remove 2 screens, pump down [residual heat removal] suction piping, install

cover plates over [residual heat removal] pipe and relocate [foreign material exclusion area] to cover plates
97-ACCN1, Prepare and paint [emergency core cooling system] sump area ...

1R19 Post Maintenance Testing

Procedures

OST-151-4, Comprehensive Flow Test for Safety Injection Pump "A", Rev. 8
OST-302-2, Service Water Pumps C & D Inservice Test, Rev. 42
OST-701-5, Reactor Coolant System Inservice Valve Test, Rev. 18
OST-701-11, Radiation Monitoring Inservice Valve Test, Rev. 8
OST-707-11, Radiation Monitoring Valve Position Indication Verification, Rev. 4
OST-258-2, Residual Heat Removal Valve Position Indicator Verification Train "B", Rev 7
OST-252-2, Residual Heat Removal System Valve Test Train "B", Rev 16

Drawings

5379-1082, Safety Injection System Flow Diagram, Sheet 1 of 5, Rev. 43
5379-1082, Safety Injection System Flow Diagram, Sheet 4 of 5, Rev. 29
8-190628, Sheet 651, Control Wiring Diagram / [Auxiliary] Feedwater Pump "A", Rev. 25
5379-376, Component Cooling Water System Flow Diagram, Sheet 2 of 4, Rev 33

Other

Engineering Change 66771, SI-869 Motor Replacement, Rev. 0
Work Order 01063174, "A" [Motor Driven Auxiliary Feedwater Pump] Failed to Autostart, tasks 02 & 03

1R20 Refueling and Outage Activities

Drawings

HBR2 10305, Reactor Containment Building Safe Load Path Internals and [Reactor Vessel] Head, Sheet 1, Rev. 4
HBR2 10305, Reactor Containment Building Safe Load Path Internals and [Reactor Vessel] Head, Sheet 2, Rev. 4
HBR2 10306, Reactor Containment Building Safe Load Path Reactor Coolant Pumps and Misc. Loads, Rev. 7
HBR2 10307, Fuel Handling Building Safe Load Paths, Rev. 3

Procedures

CM-603, Disassembly and Assembly of the Containment Equipment Hatch and Missile Barrier, Rev. 28
FMP-019, Fuel and Insert Shuffle, Rev. 34
GP-007, Plant Cooldown From Hot Shutdown to Cold Shutdown, Rev. 71
GP-008, Draining the Reactor Coolant System, Rev. 58
GP-009-2, Filling the Refueling Cavity with Reactor Defueled
GP-010, Refueling, Rev. 63
MMM-009, Operation, Testing and Inspection of Cranes and Material Handling Equipment, Rev. 57

MRP-004, Reactor Vessel Head Removal and Installation, Rev. 20
OMM-033, Implementation of CV Closure, Rev. 13
OMM-033, Implementation of CV Closure, Rev. 18
OMP-003, Shutdown Safety Function Guidelines, Rev. 21
OMP-003, Shutdown Safety Function Guidelines, Rev. 27
OMP-003, Shutdown Safety Function Guidelines, Rev. 29
OMP-004, Outage Risk Assessment, Rev. 20
OP-603, Electrical Distribution, Rev. 76
PLP-006, Containment Vessel Inspection/Closeout, Rev. 61
PLP-006, Containment Vessel Closeout Inspection, Rev. 71
PM-125, Crane Hook Inspection Annual, Rev. 23
PM-132, Containment Polar Gantry Crane Semiannual at Hot or Cold Shutdown Rev. 15
PRO-NGGC-0200, Procedure Use and Adherence, Rev. 8

Correspondence

GD-78-2207, CP&L to NRC, "Control of Heavy Loads Near Spent Fuel", August 9, 1978
NRC letter, "Control of Heavy Loads", dated December 12, 1980
NO-81-1336, CP&L to NRC, "Control of Heavy Loads", August 12, 1981
Un-numbered letter, CP&L to NRC, "Control of Heavy Loads - NUREG-0612", December 15, 1982
NLS-85-032, CP&L to NRC, "Control of Heavy Loads", January 30, 1985

Training Plans

MEI0006R, Lift Coordinator
ME217G, Overhead Crane Operation, Rev. 3
MEI0005R, MMM-009 Operation, Testing, and Inspection of Cranes and Material Handling Equipment, Rev. 1
ME210G, Hydraulic Crane Operation, Rev. 6

Other

ANSI N14.6 1978, "Standard For Special Lifting Devices for Shipping Containers Weighing 10,000 Pounds (4500 kg) or More For Nuclear Materials"
ANSI N14.5-1977, "American National Standard for Leakage Tests on Packages for Shipment of Radioactive Materials"
AR 175608, Heavy load lifts outside NUREG-0612 guidelines
Engineering Change 66104, Best Estimate Time to Boil Calculation for Early Equipment Hatch Removal
GID/R87038/0007, Generic Issues Document Hazards Analysis, Rev. 5
NUREG-0612, Control of Heavy Loads at Nuclear Power Plants
OMM-001-6 Post-Trip/Safeguards Review Report, dated 5/15/07
Self-Assessment Report 176381, RNP Rigging and Lifting Program, October 2-6, 2006
SFP Level and Temperature Monitoring Contingency Plan, Rev. 0
Technical Evaluation Report]-C5506-389, "Control of Heavy Loads - Phase I Safety Evaluation Report"

Work Order 00767045, Inspection of the [Containment Vessel] Polar Crane and Hooks, completed 04/09/07
Work Order 00767046, Containment Polar Crane Inspection, completed 04/07/07

1R22 Surveillance Testing

Procedures

OST-252-2, RHR System Valve Test - Train B, Rev. 16
OST-703-2, Primary Side Inservice Valve Test for RHR System, Rev. 5
OST-253, Comprehensive Flow test for Residual Heat Removal, Rev. 41
OST-411, Emergency Diesel Generator "B" (Twenty-Four Hour Load Test), Rev. 33
OST-163, Safety Injection Test and Emergency Diesel Generator Auto Start on Loss of Power and Safety Injection (Refueling), Rev. 44

1EP6 Drill Evaluation

Emergency Response Organization Exercise, June 18, 2007
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
2OS1 Access Controls to Radiologically Significant Areas

Procedures, Manuals, and Guidance Documents

PLP-031, Contamination Monitoring Program for Personnel/Personal Effects, Rev. 31
HPS-NGGC-0016, Access Control, Rev. 3
HPS-NGGC-0014, Radiation Work Permits, Rev. 4

HPS-NGGC-0013, Personnel Contamination Monitoring, Decontamination, and Reporting, Rev. 6
HPS-NGGC-005, Skin Dose from Contamination, Rev. 8
HPS-NGGC-0003, Radiological Posting, Labeling, and Surveys, Rev. 10
DOS-NGGC-0007, Internal Dose Calculations, Rev. 9
AP-031, Administrative Controls for Entry into Locked and Very High Radiation Areas, Rev. 41
HPP-500-4, Health Physics - Conduct of Pre-Job Briefings, Rev. 10
HPP-105, Airborne Radioactivity Surveillance, Rev. 30
HPP-009, Control of Radiographic Operations, Rev. 19
HPP-008, Steam Generator Inspection and Maintenance, Rev. 25
HPP-006, Radiation Work Permits, Rev. 70
HPP-003, Control of Hot Particles, Rev. 12
HPP-001, Radiologically Controlled Area Surveillance Program, Rev. 88

Records and Data Reviewed

RWP 3998, S/G Eddy Current Support Activities
RWP 3997, Remove/Install S/G Primary Manways and Diaphragms
RWP 3996, S/G Sludge Lance Activities
RWP 3999, S/G Eddy Current and Tube Plugging Activities
RWP 3567, Filter Changeouts
RWP 3588, Radiography Activities
RWP 4078, S/G Eddy Current Support Activities
RWP 3576, Reactor Head Disassembly/Reassembly/Cavity Activities
Penetration E-5 Radiography Plan, 4/17/07

Survey 041807-56, CV First Level, Routine
Survey 041607-38, CV First Level, Downpost from VHRA to HRA after fuel movement
Survey 041207-29, CV First Level at Head Storage
Survey 041007-27, CV First Level at RHR Line
Survey 040707-54, CV Second Level, Initial Radiation Survey
Survey 041807-37, CV Second Level, Routine
Survey 041607-36, CV Third Level, Post Cavity Drain
Survey 041807-43, CV Third Level, Routine
Survey 041907-28, CV Third Level, Clean Reactor Studs/Nuts
Survey 041507-33, "C" S/G Platform, Initial Survey Following Draining of Secondary Side
Survey 041707-41, CV Level 2 Overhead Feedwater Piping Survey
PassPort Dose Report, 8/1/06-4/14/07
DRD Alarm Evaluations, 8/1/06-4/18/07
Contamination Occurrence Log, 8/15/06-4/17/07
Internal Dose Assessment, intake date 4/8/07 19:53
Personnel Contamination Event Record (Event 1, 4/16/06; Event 2, 4/17/07)
U2 Hot Particle Gamma Scan, 4/17/07

Audits and Self-Assessments

R-RP-06-01, Robinson Nuclear Plant Radiation Protection Assessment Report, 11/16/06
Self-Assessment 176400, Radiation Work Permits, 7/28/06
Self-Assessment 176399, Radioactive Material Storage in Outside Areas, 7/20/06
Benchmark 176323, 12/18/06
Benchmark 176321, 10/28/06

Nuclear Condition Reports (NCRs)

209651, R-RP-06-01 NAS Assessment Weakness #3, 10/18/06
200725, Weakness #2 - Self-assessment #176399, 7/20/06
200726, Weakness #3 - Self-assessment #176399, 7/20/06
223190, Evaluate applicability: Riverbend NCV on alpha survey, 2/20/07
208857, LHRA authorization list not signed by the designated RPM, 10/10/06
216862, Increase negative observations in radworker practices, 12/18/06
202219, Self-assessment #176400, weakness #1 - worker's RWP knowledge, 8/3/06
202223, Self-assessment #176400, weakness #2, 8/3/06
208287, LHRA key box lock is not uniquely keyed, 10/4/06
229295, RNP positive WBC, 4/12/07
216960, Personnel contamination occurrences during filter change, 12/19/06
224163, Individuals entered a RMA without electronic dosimetry, 3/1/07

2OS2 ALARA Planning and Controls

Procedures and Guidance Documents

ADM-NGGC-0105, ALARA Planning, Rev. 7
ERC-004, Setup and Use of Temporary ALARA Equipment, Rev. 12
MNT-NGGC-0003, Radiation Shielding Use, Rev. 10
HPP-500-3, Radiation Control Work Planning Process, Rev. 15
HPP-252, Spent Resin Transfer to Waste Processing Containers, Rev. 18

HPS-NGGC-0014, Radiation Work Permits, Rev. 4
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4OA2 Identification and Resolution of Problems

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4OA3 Event Follow-up

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4OA5 Other Activities

Procedures

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HPP-010, Control of Radioactive Materials Outside of the Primary Radiation Control Area, Rev. 18

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