UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
245 PEACHTREE CENTER AVENUE NE, SUITE 1200
ATLANTA, GEORGIA 30303-1257

July 28, 2010

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

SUBJECT: H.B. ROBINSON STEAM ELECTRIC PLANT - NRC INTEGRATED INSPECTION REPORT 05000261/2010003

Dear Mr. McCartney:

On June 30, 2010, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your H.B. Robinson reactor facility. The enclosed integrated inspection report documents the inspection results, which were discussed on July 28, 2010, with Mr. Scott Saunders and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

The report documents one NRC-identified finding of very low safety significance (Green). This finding was determined to involve violations of NRC requirements. However, because of its very low safety significance and because it has been entered into your corrective action program (CAP), the NRC is treating this finding as a non-cited violation (NCV), consistent with Section VI.A.1 of the NRC's Enforcement Policy. If you contest this NCV, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, Region II; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the H.B. Robinson Plant.

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/

Randall A. Musser, Chief
Reactor Projects Branch 4
Division of Reactor Projects

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

Enclosure: Inspection Report 05000261/2010003
w/Attachment: Supplemental Information

cc w\encl:

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Letter to Eric McCartney from Randall A. Musser dated July 28, 2010

SUBJECT: H.B. ROBINSON STEAM ELECTRIC PLANT - NRC INTEGRATED INSPECTION REPORT 05000261/2010003

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U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket No:	50-261
License No:	DPR-23
Report No:	005000261/2010003
Facility:	H. B. Robinson Steam Electric Plant, Unit 2
Location:	3581 West Entrance Road Hartsville, SC 29550
Dates:	April 1, 2010 – June 30, 2010
Inspectors:	J. Hickey, Senior Resident Inspector D. Bollock, Resident Inspector D. Mills, General Engineer J. Austin, Senior Resident Inspector, Harris A. Hutto, Senior Resident Inspector, Catawba R. Hamilton, Senior Health Physicist (4OA5) H. Gepford, Senior Health Physicist (2RS2, 2RS3) W. Loo, Senior Health Physicist (2RS1, 4OA1) J. Rivera-Ortiz, Senior Reactor Inspector (4OA5) M. Coursey, Reactor Inspector (1R08, 4OA5) E. Michel, Senior Reactor Inspector (1R08)
Approved by:	R. Musser, Chief Reactor Projects Branch 4 Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000261/2010003, 04/01/2010 – 06/30/2010; Carolina Power and Light Company; H.B. Robinson Steam Electric Plant, Unit 2; Identification and Resolution of Problems.

The report covered a three month period of inspection by resident inspectors and an announced inspection by senior health physicists. One NRC-identified violation was identified. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP). Findings for which the SDP does not apply may be Green or be assigned a severity level after NRC management review.

A. NRC-Identified and Self-Revealing Findings

Cornerstone: Initiating Events

- Green. The inspectors identified a violation of 10 CFR 50, Appendix B, Criterion XVI, for the licensee's failure in 2004 to determine the cause of a programmatic deficiency in foreign-material-exclusion (FME) controls, which resulted in steam generator tube leakage. This licensee entered the issue into the corrective action program as AR 272388 following the issuance of URI 05000261/2008002-01. A revised extent of condition and all corrective actions to the FME program were implemented in 2008.

  Failure to evaluate FME programmatic deficiencies in AR 115704 or in any other NCR since 2004 until the issuance of URI 05000261/2008002-01 is a performance deficiency. The inspectors initially screened this issue in accordance with Inspection Manual Chapter 0609 Appendix J for URI 05000261/2008002-1. This screening directed an additional operating cycle be reviewed to provide a basis to evaluate the effectiveness of the licensee's corrective actions. Based on the steam generator tube performance following the most recent refueling outage, with respect to no potential tube ruptures (all tubes sustained 3 times delta Pressure for normal operation) or tubes that should have been repaired as a result of previous inspections, the issue was screened in accordance with Manual Chapter 0609 Appendix A. This finding is more-than-minor because it affects the "Equipment Performance" attribute of the Initiating Events Cornerstone, in that deficiencies in foreign-material-exclusion controls could allow foreign material to enter the steam generators, and the foreign material could initiate a steam generator tube leak or rupture. The finding has very low safety significance because no significant tube damage occurred during the extended significance determination review. The finding is not indicative of current performance in that the timeframe of the performance deficiency was 2004-2007 and therefore a cross-cutting aspect will not be assigned to this issue. (Section 4OA2.4)

B. Licensee-Identified Violations

None.

REPORT DETAILS

Summary of Plant Status

The unit began the inspection period in a forced outage and transitioned to a planned refueling outage on April 7, 2010. The unit remained shutdown for the rest of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R01 Adverse Weather Protection

.1 Readiness of Offsite and Alternate AC Power Systems

a. Inspection Scope

The inspectors verified that plant features and procedures for operation and continued availability of offsite and alternate alternating current (AC) power systems during adverse weather were appropriate. The inspectors reviewed the licensee's procedures affecting these areas and the communications protocols between the transmission system operator (TSO) and the plant to verify that the appropriate information was being exchanged when issues arose that could impact the offsite power system. Examples of aspects considered in the inspectors' review included:

- The coordination between the TSO and the plant during off-normal or emergency events;
- The explanations for the events;
- The estimates of when the offsite power system would be returned to a normal state; and
- The notifications from the TSO to the plant when the offsite power system was returned to normal.

The inspectors also verified that plant procedures addressed measures to monitor and maintain availability and reliability of both the offsite AC power system and the onsite alternate AC power system prior to or during adverse weather conditions. Specifically, the inspectors verified that the procedures addressed the following:

- The actions to be taken when notified by the TSO that the post-trip voltage of the offsite power system at the plant would not be acceptable to assure the continued operation of the safety-related loads without transferring to the onsite power supply;
- The compensatory actions identified to be performed if it would not be possible to predict the post-trip voltage at the plant for the current grid conditions;
- A re-assessment of plant risk based on the maintenance activities which could affect grid reliability, or the ability of the transmission system to provide offsite power; and

- The communications between the plant and the TSO when changes at the plant could impact the transmission system, of when the capability of the transmission system to provide adequate offsite power was challenged.

Documents reviewed are listed in the attachment to this report.

b. Findings

No findings were identified.

1R04 Equipment Alignment

a. Inspection Scope

Partial System Walkdowns:

The inspectors performed the following three partial system walkdowns, to verify the required functions were operable for the conditions in effect at the time:

- "A" Emergency Diesel Generator (EDG) while "B" EDG was supplying E-2 bus loads on April 2, 2010;
- "A" Train of Residual Heat Removal (RHR) prior to core offload, April 28, 2010; and
- "B" Train Component Cooling Water (CCW) following system maintenance during core reload, June 10, 2010.

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 Temporary Spent Fuel Pool Alternate Cooling System to verify that the existing alignment of the system was consistent with the correct alignment. To determine the correct system alignment, the inspectors reviewed the procedures, drawings, and the Updated Final Safety Analysis Report (UFSAR) section listed in the attachment. The inspectors also walked down the system. During the walkdown, the inspectors reviewed the following:

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

- Tagging clearances were appropriate.
- Valves were locked as required by the locked valve program.
- Breakers were correctly positioned.
- Cabinets, cable trays, and conduits were correctly installed and functional.
- Visible cabling appeared to be in good material condition.

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

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

- 372336, 10 CFR 50.59 for Engineering Change (EC) 68035 Temporary Modification for Spent Fuel Pool Alt Cooling

b. Findings

No findings were identified.

1R05 Fire Protection

a. Inspection Scope

For the five 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:

- E1/E2 Bus Room - Fire Zone 20
- RHR Pump Pit - Fire Zone 27
- North Cable Vault Room - Fire Zone 9
- South Cable Vault Room - Fire Zone 10
- Containment Vessel - Fire Zone 24

b. Findings

No findings were identified.

1R07 Heat Sink Performance

a. Inspection Scope

The inspectors observed the inspection of the "A" CCW heat exchanger to verify that inspection results were appropriately categorized against the pre-established acceptance criteria described in Procedure CM-201, Safety Related and Non-Safety Related Heat Exchanger Maintenance. The inspectors also verified that the frequency of inspection was sufficient to detect degradation prior to loss of heat removal capability below design basis values. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

1R08 Inservice Inspection (ISI) Activities

.1 Non-Destructive Examination (NDE) Activities and Welding Activities

a. Inspection Scope

From April 26 - 30, 2010, the inspector reviewed the implementation of the licensee's In-service Inspection (ISI) program for monitoring degradation of the reactor coolant system (RCS) boundary and risk significant piping boundaries. The inspector's activities consisted of an on-site review of NDE and welding activities to evaluate compliance with the applicable edition of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (BPVC), Section XI (Code of record: 1998 Edition with 2000 Addenda), and to verify that indications and defects (if present) were appropriately evaluated and dispositioned in accordance with the requirements of the ASME Code, Section XI acceptance standards.

The inspector's review of NDE activities specifically covered examination procedures, NDE reports, equipment and consumables certification records, personnel qualification records, and calibration reports (as applicable) for the following examinations:

- VT-3 Loop A Feedwater Pipe Support 215/FW-6A-1005
- VT-3 Steam Driven AFW Pump Support
- UT Pipe to Valve MS-V1-3C Weld

The inspector's review of welding activities specifically covered the welding activities listed below in order to evaluate compliance with procedures and the ASME Code. The inspector reviewed the work orders, repair and replacement plans, weld data sheets, welding procedures, procedure qualification records, welder qualification records, and NDE reports.

- Install and Weld Hot Tap On Line 10-AC-152N-40 Per EC 75553

The inspectors reviewed examination records for the following ASME Code component, which had recordable indications that were analytically evaluated and accepted for continued service against the ASME Code Section XI or an NRC-approved alternative.

- Containment Vessel Liner at elevation levels 280 through 284, underneath sheathing panels A, B, SS, TT, UU, VV, AAA, BBB, and CCC.

b. Findings

No findings were identified.

.2 PWR Vessel Upper Head Penetration (VUHP) Inspection Activities

a. Inspection Scope

Inspections during this outage consisted of visual examinations conducted above the reactor pressure vessel upper head to identify potential boric acid leaks from pressure-retaining components. The inspector specifically reviewed examination procedures, personnel training and qualification records, reports for the visual inspection of pressure retaining components above the head performed every outage, and reviewed the licensee's calculations for effective degradation years (EDYs). The inspector verified compliance with the requirements contained in 10CFR50.55a(g)(6)(ii)(d) and Code Case N-729-1.

b. Findings

No findings were identified.

.3 Boric Acid Corrosion Control (BACC) Inspection Activities

a. Inspection Scope

The inspector reviewed the licensee's BACC program activities to ensure implementation with commitments made in response to NRC Generic Letter 88-05, "Boric Acid Corrosion of Carbon Steel Reactor Pressure Boundary," and applicable industry guidance documents. Specifically, the inspector performed an on-site record review of procedures and the results of the licensee's containment walk-down inspections performed during the outage. The inspector also interviewed the BACC program owner and conducted a walk-down of the reactor building to evaluate compliance with the licensee's BACC program requirements and to verify that degraded or non-conforming conditions, such as boric acid leaks identified during the containment walk-down, were properly identified and corrected in accordance with the licensee's BACC and corrective action programs.

- AR 370764 Boric Acid present on boric acid filter lagging, 1/11/2010
- AR 355071 Boric Acid leak from B charging pump, 1/27/2010

The inspector reviewed a sample of engineering evaluations completed for evidence of boric acid found on systems containing borated water to verify that the minimum design code required section thickness had been maintained for the affected components. The inspector selected the following evaluations for review:

- CVC-121D Leak (PLP-111)
- Small leak on letdown diversion piping downstream LCV-115A

b. Findings

No findings were identified.

.4 Steam Generator (SG) Tube Inspection Activities

a. Inspection Scope

The inspectors determined that since potential degraded conditions had been reported and were applicable to the licensee's SG design; for example outside diameter stress corrosion cracking (ODSCC), and primary water stress corrosion cracking (PWSCC), that all steps in section 02.04 of inspection procedure 71111.08 were applicable.

The inspectors observed activities and/or reviewed documentation to evaluate the following items against requirements in the licensee's technical specifications, commitments made to the NRC, ASME Section XI, and Nuclear Energy Institute (NEI) 97-06 (Steam Generator Program Guidelines):

- Reviewed the licensee's in-situ SG tube pressure testing screening criteria as stated in the degradation assessment. In particular, for axial ODSCC at the top of tube sheet (TTS), assessed whether assumed NDE flaw sizing accuracy was consistent with data from the applicable EPRI examination technique specification sheets (ETSS);
- Since the only existing degradation mechanism was volumetric in nature, no numbers and sizes of SG tube flaws were predicted in the licensee's previous outage Operational Assessment predictions;
- Reviewed the SG tube ET examination scope and expansion criteria;
- No new degradation mechanisms were identified during the EC examinations;
- Evaluated the licensee's SG tube ET examination scope for inclusion of potential areas of tube degradation identified in prior outage SG tube inspections and/or as identified in NRC generic industry operating experience applicable to the licensee's SG tubes;
- Reviewed the licensee's repair criteria and processes;
- Primary-to-secondary leakage (e.g., SG tube leakage) was below three gallons per day during the previous operating cycle;
- Evaluated if the ET equipment and techniques used by the licensee to acquire data from the SG tubes were validated to detect the known/expected types of SG tube

degradation in accordance with Appendix H and/or Appendix I of the EPRI Pressurized Water Reactor Steam Generator Examination Guidelines, Revision 7;
- Reviewed the licensee's secondary side SG Foreign Object Search and Removal (FOSAR) activities; and
- Interviewed the eddy current testing (ET) Level III, and reviewed bobbin and plus point ET data from tube 4-46 in SG B.

b. Findings

No findings were identified.

.5 Identification and Resolution of Problems

a. Inspection Scope

The inspector performed a review of ISI-related problems, including welding, BACC, and SG inspections that were identified by the licensee and entered into the corrective action program as Condition Reports (CRs). The inspector reviewed the CRs to confirm that the licensee had appropriately described the scope of the problem and had initiated corrective actions. The review also included the licensee's consideration and assessment of operating experience events applicable to the plant. The inspector performed this review to ensure compliance with 10CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," requirements. The corrective action documents reviewed by the inspector are listed in the report attachment.

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification

a. Inspection Scope

The inspectors observed licensed-operator performance during requalification simulator training to verify that operator performance was consistent with expected operator performance, as described in Remedial Exam LOC0015R, Rev 12A. 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 "B" Heater Drain Pump Trip, Loss of Individual Rod Position Indication, and a steam break in containment. The inspectors focused on clarity and formality of communication, the use of procedures, alarm response, control board manipulations, group dynamics, and supervisory oversight. Documents reviewed are listed in the attachment.

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

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

- 396581 Abnormal Operating Procedure (AOP) weakness identified during simulator training

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness

a. Inspection Scope

The inspectors reviewed the three degraded structure, system, and component (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.

- RCP “B” Seal Assembly replacement following Fire event March 28, 2010;
- 4160V Buses 4 & 5 and Cable Tray R40 repairs following Fire Event; and
- RCP “C” Rotating Assembly and seal replacement.

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:

- 397842 Contingency Balance shot on RCP “B”
- 390095 Cable failure to 4kV non-vital Bus 5 causes fire.

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Evaluation

a. Inspection Scope

For the four samples 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.

- Reactor vessel drain down to support head removal;
- Reactor head lift and movement to resting pad;
- Alternate Spent Fuel Pool Cooling with the core off-loaded in the Spent Fuel Pool; and
- Reactor Core Reload Prerequisites.

b. Findings

No findings were identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the six operability determinations associated with the ARs listed below. The inspectors assessed the accuracy of the evaluations, the use and control of any necessary compensatory measures, and compliance with the Technical Specification (TS). The inspectors verified that the operability determinations were made as specified by Procedure OPS-NGGC-1305, Operability Determinations. The inspectors compared the justifications provided in the determinations to the requirements from the Technical Specifications, the UFSAR, associated design-basis documents.

- 392879, “A” EDG small holes in the exhaust header;
- 393072, Grid Voltage Results in E-1/E-2 bus high voltage;
- 396716, “B” EDG Standby Jacket Water Cooling Pump Seal Leakage;
- 400799, “C” Charging Pump Alternate Cooling Drain Line Clogged;
- 380852, CVC-277A Charging Pump Recirculation Valve Seat Leakage; and
- 398231, EDG Service Water Isolation Valve Fouling.

Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

1R18 Plant Modifications

.1 Temporary Modifications

a. Inspection Scope

The inspectors reviewed the two temporary modifications described in the ECs listed below to verify that the modifications did not affect the safety functions of important safety systems, and to verify that the modifications satisfied the requirements of 10 CFR 50, Appendix B, Criterion III, Design Control. Documents reviewed are listed in the Attachment.

- EC 76607 Temp Mod to restore power to 480V Buses 4 and 5 following 4160V bus fires; and
- EC 68035 Temp Mod for Spent Fuel Pooling Alternate Cooling System.

.2 Permanent Modification

a. Inspection Scope

The inspectors reviewed the two permanent modifications described in the Engineering Changes listed below to verify that the modification, design, implementation, and testing did not degrade the design basis and performance capabilities of risk significant equipment, and did not place the plant in an unsafe or unanalyzed condition. The inspectors verified the modifications satisfied the requirements of Procedure EGR-NGGC-005, Engineering Change, and 10 CFR 50, Appendix B, Criterion III, Design Control. Documents reviewed are listed in the attachment.

- EC 69420, Upgrade Battery Chargers to Remain Connected On a Loss of Power to MCC-5 or MCC-6; and
- EC 76896, Redesign of FIC-626X Control Circuit to Prevent Spurious Closure of FCV-626.

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

- 372336, 10 CFR 50.59 for EC 68035 Temporary Modification for Spent Fuel Pool Alt Cooling;
- 398289, 10 CFR 50.59 for EC 76896 Redesign of FIC-626X Control Circuit to Prevent Spurious Closure of FCV-626.

b. Findings

No findings were identified.

1R19 Post Maintenance Testing

a. Inspection Scope

For the four work orders (WO's) and the Special Procedures (SP) 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:

- WO 1581196, Rod Position Indication adjustments for Rods C-09 and D-08;
- WO 1711882, Control Board Annunciator APP-007-F1 does not flash;
- WO 1663917, Replace LC-112B Volume Control Tank Level Controller;
- WO 1728243, Refueling Water to Charging Pumps Suction Pipe Weld Hydro; and
- SP-1547 Testing of 4kV Bus 4 Cubicle 24 Circuitry, Rev. 0; SP-1548 Testing of 4kV Bus 4 Cubicle 25 Circuitry, Rev. 2; SP-1549 Testing of 4kV Bus 4 Passthrough Circuitry, Rev. 1; SP-1550 Testing of 4kV Bus 4 Cubicle 23 Circuitry, Rev. 1.

b. Findings

No findings were identified.

1R20 Refueling and Outage Activities

For the outage that began on March 28 and continued through the end of the inspection period, the inspectors evaluated licensee outage activities as described below to verify that the licensee considered risk in developing outage schedules, adhered to administrative risk reduction methodologies they developed to control plant configuration, and adhered to operating license and technical specification requirements that maintained defense-in-depth. The inspectors also verified that the licensee developed mitigation strategies for losses of the following key safety functions:

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

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 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 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 were identified.

.4 Reduced-Inventory Conditions

a. Inspection Scope

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

.6 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 corrective action program. For the significant problems documented in the corrective action program 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.

- 396951, Reactor Vessel Level Indication Not Consistent
- 396953, Control Room Shift Turnover Delayed Due to Oncoming Shift Not Being Briefed on RCS Draindown Evolution

b. Findings

No findings 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.

- WO 1619341, Control Room Fire/Security Doors Seal Inspection
- OST-021, Control Room Daily Surveillances
- OST-163, Safety Injection and Emergency Diesel Generator Auto Start on Loss of Power and Safety Injection (Refueling)

Inservice Testing Surveillance

- OST-933-7, Penetration 43, Hot Leg SI Header (SI-869) Leakage Test (As Required And Every 18 Months)

Containment Isolation Valve Surveillance

- OST-933-2, Penetration 24, CVC Charging Line (CVC-282, CVC-202A, CVC-309A) Leakage Test (As Required And Every 18 Months)

Reactor Coolant System Leakage Surveillance

- OST-051, Reactor Coolant Leakage Evaluation (Every 72 Hours During Steady State Operation and Within 12 Hours of Reaching Steady State Operation)

b. Findings

No findings were identified.

2. RADIATION SAFETY

Cornerstone: Occupational Radiation Safety

2RS1 Radiological Hazard Assessment and Exposure Control

a. Inspection Scope

Radiological Hazard Assessment. The inspectors reviewed a number of radiological surveys, including those performed for airborne areas, of locations throughout the facility including the Unit 2 (U2) containment, reactor building, turbine building, and the independent spent fuel storage installation (ISFSI). The inspectors also walked down those same areas and select radioactive material storage locations with a survey instrument, evaluating material condition, postings, and radiological controls. The inspectors observed jobs in radiologically risk-significant areas including high radiation areas (HRAs) and areas with, or with the potential for, airborne activity. The inspectors determined that the surveys were adequate in thoroughness and frequency for the identified hazards.

Instructions to Workers. During plant walk-downs, the inspectors observed labeling and radiological controls on containers of radioactive material. The inspectors also reviewed radiation work permits (RWP) used for accessing HRAs and airborne areas, verifying that appropriate work control instructions and electronic dosimeter (ED) setpoints had been provided and to assess the communication of radiological control requirements to workers. For selected tasks, the inspectors attended pre-job briefings that reviewed RWP details with the workers. The inspectors reviewed selected ED dose and dose rate alarms, to verify workers properly responded to the alarms and that the licensee's review of the events was appropriate. Through observation of pre-job RWP briefings and health physics (HP) technician coverage of workers, the inspectors determined the licensee had established adequate means to notify workers of changing radiological conditions.

Contamination and Radioactive Material Control. The inspectors observed the release of potentially contaminated items from the radiologically controlled area (RCA) and from contaminated areas such as the U2 containment personnel hatch. The inspectors also reviewed the procedural requirements for, and equipment used to perform, the radiation surveys for release. During plant walk downs, the inspectors evaluated radioactive material storage areas and containers, including satellite RCAs, assessing material condition, posting/labeling, and control of materials/areas. In addition, the inspectors reviewed the sealed source inventory and verified labeling, storage conditions, and leak testing of selected sources.

The inspectors walked-down the ISFSI facilities, observing the physical condition of the casks, radiological postings, and barriers. The inspectors performed independent gamma radiation surveys of the area and reviewed gamma radiation surveys of the ISFSI facility performed by licensee personnel. Inspectors compared the independent survey results to previous surveys and against procedural and technical specification (TS) limits. The inspectors evaluated implementation of radiological controls, including

labeling and posting, and discussed controls with health physics staff. Environmental monitoring results for direct radiation from the ISFSI were reviewed and inspectors observed the placement and physical condition of thermoluminescent dosimeters around the facility.

Radiological Hazards Control and Work Coverage. The inspectors evaluated licensee performance in controlling worker access to radiologically significant areas and monitoring jobs in-progress associated with current the U2 refueling outage (RO-26). Established radiological controls were evaluated for selected tasks including reactor coolant pump (RCP) "C", seal table room, reactor head lift, steam generator sludge lance and eddy current testing, and diving operations. The inspectors evaluated the effectiveness of radiation exposure controls, including air sampling, barrier integrity, engineering controls, and postings through a review of both internal and external exposure results.

During walk-downs with a radiation survey meter, the inspectors independently verified ambient radiological conditions were consistent with licensee performed surveys, RWPs, and pre-job briefings; observed the adequacy of radiological controls; and observed controls for radioactive materials stored in the spent fuel pool. The inspectors also reviewed the procedural guidance for multi- and extremity badging. Select multi-badge packets were reviewed to verify consistency with procedural and regulatory guidance. For high radiation area tasks involving significant dose rate gradients, the inspectors evaluated the use and placement of whole body and extremity dosimetry to monitor worker exposure. The inspectors also reviewed and discussed selected whole-body count analyses conducted during calendar year 2009 and RO-26. The inspectors reviewed RWPs for use in airborne areas, ensuring the prescribed controls were appropriate for the conditions as identified in radiological surveys and air samples. ED alarm set points and worker stay times were evaluated against area radiation survey results for containment and refueling floor activities.

Risk Significant HRA and Very High Radiation Area (VHRA) Controls. The inspectors discussed the controls and procedures for locked high radiation areas (LHRAs) and VHRAs with HP supervisors and the radiation protection manager. The inspectors observed the issuance of LHRA keys and evaluated the storage, inventory, and handling of LHRA/VHRA keys. During plant walk-downs, the inspectors verified the posting and locking of LHRA/VHRA areas.

Radiation Worker Performance and Radiation Protection Technician Proficiency. The inspectors observed radiation worker performance through direct observation, via remote camera monitoring, and via telemetry. Jobs observed associated with RFO-26 included seal table room work activities, reactor head lift, RCP "C" activities, motor operated valve (MOV) work, and diving operations. These jobs were performed in high radiation, airborne, and/or contaminated areas. The inspectors also observed HP technicians providing field coverage of jobs and providing remote coverage.

Problem Identification & Resolution. Licensee Corrective Action Program (CAP) documents associated with radiation monitoring and exposure control were reviewed

and assessed. This included review of selected CAP records related to radiation worker and health physics technician performance. The inspectors evaluated the licensee's ability to identify, characterize, prioritize, and resolve the identified issues in accordance with procedure CAP-NGGC-0200, Corrective Action Program, Rev. 32. The inspectors also evaluated the scope of the licensee's internal audit program and reviewed recent assessment results. Licensee CAP documents reviewed are listed in Section 2RS1 of the Attachment.

Radiation protection activities were evaluated against the requirements of Updated Final Safety Analysis Report (UFSAR) Section 12; TS Section 5.7; 10 Code of Federal Regulations (CFR) Parts 19 and 20; and approved licensee procedures. Radiological control activities for ISFSI areas were evaluated against 10 CFR Part 20, 10 CFR Part 72, and TS details. Records reviewed are listed in Section 2RS1 of the Attachment.

The inspectors completed 1 sample, as described in Inspection Procedure (IP) 71124.01. The inspectors also completed the radiation protection line-item sample activities specified in IP 60855.1.

b. Findings

No findings were identified.

2RS2 Occupational ALARA Planning and Controls

a. Inspection Scope

Radiological Work Planning. The inspectors reviewed a number of ALARA Work Plans (AWPs) associated with the previous refueling outage (RO-25) and the current refueling outage (RO-26). The AWPs were reviewed with respect to activity evaluation, exposure estimates, and exposure mitigation requirements. The inspectors verified that the plans identified appropriate mitigation features, proposed alternate mitigation features, incorporated lessons learned from previous outages, and defined reasonable dose goals. For AWPs from RO-25, the inspectors compared the results achieved in terms of actual dose vs. planned dose and actual hours vs. estimated hours, reviewed in-progress and post-job ALARA reviews, and discussed the job planning, performance, and reviews with ALARA staff. For AWPs associated with RO-26, the inspectors tracked dose-to-date on select jobs, comparing estimates with actuals, and observed development of selected in-progress reviews. AWPs assessed included work on motor operated valves (RO-25 and RO-26), snubbers (RO-25), emergency core cooling system sump modification (RO-25), air-operated valves (RO-25 and RO-26), steam generator eddy current testing (RO-26), and steam generator secondary side work (RO-26).

Verification of Dose Estimates and Exposure Tracking Systems. For the ALARA work plans reviewed, the inspectors reviewed the assumptions and basis for the dose rate and man-hour estimates. The inspectors discussed with ALARA staff the means by which wrench-hours were derived from the work order hours provided by craft

supervision to ALARA staff. The inspectors verified the licensee had established several means to track and trend doses for ongoing work activities. The inspectors observed discussions between ALARA staff and job owners related to in-progress reviews and re-planning work when dose/hour budgets were exceeded or when emergent work and/or changes in scope were encountered. The inspectors attended an ALARA committee meeting in which additional dose was requested for MOV work.

Source Term Reduction and Control. The inspectors determined the historical trends and current status of the plant source term through review of records. Through interviews and document review, the inspectors assessed the licensee's current activities and future plans related to source term reduction, including shutdown chemistry and response to problems with fuel in previous cycles.

Radiation Worker Performance. The inspectors observed radiation worker performance through direct observation, via remote camera monitoring, and via telemetry. Jobs observed associated with the RO-26 refueling outage included RCP "C" work, seal table room work, reactor head lift, miscellaneous MOV work, and diving operations. These jobs were performed in high radiation, airborne, and/or contaminated areas.

Problem Identification & Resolution. Licensee CAP documents associated with ALARA planning and controls were reviewed and assessed. This included review of selected Action Requests (ARs), self-assessments, and audits. The inspectors evaluated the licensee's ability to identify, characterize, prioritize, and resolve the identified issues in accordance with procedure CAP-NGGC-0200, Corrective Action Program, Rev. 32. Licensee CAP documents reviewed are listed in Section 2RS2 of the Attachment.

Radiation protection activities were evaluated against the requirements of UFSAR Section 12; 10 CFR Parts 19 and 20; and approved licensee procedures. Records reviewed are listed in Section 2RS2 of the report attachment.

The inspectors completed 1 sample, as described in IP 71124.02.

b. Findings

No findings were identified.

2RS3 In-Plant Airborne Radioactivity Control and Mitigation

a. Inspection Scope

Engineering Controls. The inspectors reviewed the procedure for the use of installed ventilation systems such as the Fuel Building Air Cleanup System and the Reactor Auxiliary Building Main Supply and Exhaust System. In addition, during observations of jobs in-progress and containment walk-downs, the inspectors observed the placement and use of tents, HEPA negative pressure units, and air sampling equipment. Air sampling analysis results and radiological surveys for selected jobs in contaminated areas with the potential for producing airborne conditions were also reviewed.

Use of Respiratory Protection Devices. The inspectors verified the licensee had procedures in place to ensure that the use of respiratory protection devices was ALARA when engineering controls were not practicable. The inspectors determined that respiratory protection devices had not been used for radiological protection recently because the use of engineering controls minimized airborne hazards. Because there was no opportunity to observe use of the equipment in the field, the training curriculum for respiratory protection users was reviewed.

The inspectors walked-down the respirator issue and storage locations and verified that the equipment was appropriately stored and maintained. Records of monthly and quarterly inventory and inspection of the equipment were also reviewed by the inspectors. The inspectors discussed the process for issuing respirators, and verified that selected individuals qualified for respirator and/or self-contained breathing apparatus (SCBA) use had completed the required training, fit-test, and medical evaluation.

In addition, the inspectors walked-down the compressor used for filling SCBA bottles and reviewed records of Grade D air testing for the compressor and instrument air systems. The ability to fill and transport bottles to the control room during an emergency was assessed by the inspectors.

Self-Contained Breathing Apparatus for Emergency Use. The inspectors reviewed the status and surveillance records of SCBAs staged for in-plant use during emergencies through review of records and walk-down of SCBA staged in the control room, technical support center, and operations support center. The walk-down verified the appropriate number of SCBA kits were staged as specified by the emergency plan, appropriate mask sizes and types available for use, and, through interviews, that users were knowledgeable of storage locations of SCBA, spare masks, and vision correction, as well as how to don and use the equipment. Selected maintenance records for SCBA units and air cylinder hydrostatic testing documentation were reviewed.

Problem Identification and Resolution. Licensee CAP documents associated with the control and mitigation of in-plant radioactivity were reviewed and assessed. This included review of selected ARs related to use of respiratory protection devices including SCBA. The inspectors evaluated the licensee's ability to identify, characterize, prioritize, and resolve the identified issues in accordance with procedure CAP-NGGC-0200, Corrective Action Program, Rev. 32. The inspectors also evaluated the scope of the licensee's internal audit program and reviewed recent assessment results. Licensee CAP documents reviewed are listed in Section 2RS3 of the attachment.

Radiation protection activities were evaluated against the requirements UFSAR Section 12; 10 CFR Parts 19 and 20; and approved licensee procedures. Records reviewed are listed in Section 2RS3 of the attachment.

The inspectors completed 1 sample, as described in IP 71124.03.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator (PI) Verification

a. Inspection Scope

The inspectors verified the PI identified below. The inspectors verified the accuracy of the PI data that had been previously reported to the NRC by comparing those data to the actual data, as described below. The inspectors also compared the licensee's basis in reporting each data element to the PI definitions and guidance contained in NEI 99-02, "Regulatory Assessment Indicator Guideline". In addition, the inspectors interviewed licensee personnel associated with collecting, evaluating, and distributing these data.

Mitigating Systems Cornerstone

- Safety System Functional Failures

For the period from the First quarter of 2009 through the fourth quarter of 2009, the inspectors reviewed Licensee Event Reports (LERs), records of inoperable equipment, and Maintenance Rule records to verify that the licensee had accurately accounted for unavailability hours that the subject systems had experienced during the subject period. The inspectors also reviewed the number of hours those systems were required to be available and the licensee's basis for identifying unavailability hours.

Occupational Radiation Safety Cornerstone

The inspectors reviewed the Occupational Exposure Control Effectiveness PI results for the Occupational Radiation Safety Cornerstone from October 2009 to March 2010. For the assessment period, the inspectors reviewed ED alarm logs and selected ARs related to controls for exposure significant areas. The inspectors also reviewed licensee procedural guidance for collecting and documenting PI data. Documents reviewed are listed in sections 2RS1 and 4OA1 of the report Attachment.

Public Radiation Safety Cornerstone

The inspectors reviewed the Radiological Control Effluent Release Occurrences PI results for the Public Radiation Safety Cornerstone from October 2009 to March 2010. For the assessment period, the inspectors reviewed cumulative and projected doses to the public and ARs related to Radiological Effluent Technical Specifications/Offsite Dose Calculation Manual issues. The inspectors also reviewed licensee procedural guidance for collecting and documenting PI data. Documents reviewed are listed in section 4OA1 of the attachment.

b. Findings

No findings were identified.

4OA2 Identification and Resolution of Problems

.1 Routine Review of ARs

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

.2 Annual Sample Review

a. Inspection Scope

The inspectors selected one AR for detailed review. The inspectors reviewed this/these report/s 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 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.

- 388815 Conservative Calculation Error in Pipe Flaw Evaluation

b. Observations and Findings

No findings were identified.

.3 Semi-Annual Trend Review

a. Inspection Scope

The inspectors performed a review of the CAP and associated documents to identify trends that could indicate the existence of a more significant safety issue. The

inspector's review focused on repetitive equipment issues, but also considered the results of daily inspector CAP item screening discussed in Section 4OA2.1, licensee trending efforts, and licensee human performance results. The inspector's review nominally considered the six month period of January, 2010 through June, 2010, although some examples may expand beyond those dates when the scope of the trend warranted. The review included issues documented outside the normal CAP in major equipment problem lists, repetitive and/or rework maintenance lists, departmental problem/challenges lists, system health reports, quality assurance audit/surveillance reports, self assessment reports, and Maintenance Rule assessments. The inspectors compared and contrasted their results with the results contained in the latest monthly and quarterly trend reports. Corrective actions associated with a sample of the issues identified in the trend reports were reviewed for adequacy. 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, Corrective Action Program, and CAP-NGGC-0206, Corrective Action Program Trending and Analysis.

b. Assessment and Observations

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

.4 (Closed) Unresolved Item 05000261/2008002-01 Failure to determine the cause of and take corrective actions to preclude repetition of an identified programmatic deficiency in foreign-material-exclusion controls

Introduction: The inspectors identified a Green NCV of 10 CFR 50, Appendix B, Criterion XVI, for the licensee's failure in 2004 to determine the cause of a programmatic deficiency in foreign-material-exclusion (FME) controls, after that deficiency contributed to steam generator tube leakage.

Description: In 2004, the licensee identified a significant condition adverse to quality but did not determine the cause of that condition and did not take corrective action to preclude repetition, in that:

- In AR 115704, the licensee determined that one cause of steam generator tube leakage had been maintenance practices that resulted in substandard cleanliness.
- That cause (maintenance practices that resulted in substandard cleanliness) is evidence of deficiencies in the licensee's foreign-material-exclusion (FME) control program.

- According to Attachment 1 of licensee procedure CAP-NGGC-0200, "Corrective Action Program," a programmatic deficiency that is likely to cause a significant adverse condition or event is itself a significant adverse condition. Therefore, because the licensee considered steam generator tube leakage to be a significant adverse condition, and because FME programmatic deficiencies caused steam generator tube leakage, FME programmatic deficiencies were also a significant adverse condition.
- The licensee did not evaluate FME programmatic deficiencies in AR 115704, or in any other NCR since 2004.

As a result, Unresolved Item URI 05000261/2008002-01, "Failure to determine the cause of and take corrective actions to preclude repetition of an identified programmatic deficiency in foreign-material-exclusion controls," was opened and the licensee reviewed their FME program and initiated corrective actions.

Analysis: Failure to evaluate FME programmatic deficiencies in AR 115704 or in any other NCR since 2004 until the issuance of URI 05000261/2008002-01 is a performance deficiency. The inspectors initially screened this issue in accordance with Inspection Manual Chapter 0609 Appendix J for URI 05000261/2008002-1. This screening directed an additional operating cycle be reviewed to provide a basis to evaluate the effectiveness of the licensee's corrective actions. Based on the steam generator tube performance following the most recent refueling outage, with respect to no potential tube ruptures (all tubes sustained 3 times delta Pressure for normal operation) or tubes that should have been repaired as a result of previous inspections, the issue was screened in accordance with Manual Chapter 0609 Appendix A. This finding is more-than-minor because it affects the "Equipment Performance" attribute of the Initiating Events Cornerstone, in that deficiencies in foreign-material-exclusion controls could allow foreign material to enter the steam generators, and the foreign material could initiate a steam generator tube rupture. The finding has very low safety significance because no significant tube damage occurred during the extended significance determination review. The finding is not indicative of current performance in that the timeframe of the performance deficiency was 2004-2007.

Enforcement: 10 CFR 50, Appendix B, Criterion XVI requires, in part, that in the case of significant conditions adverse to quality, measures shall assure that the cause of the condition is determined and corrective action taken to preclude repetition. Contrary to the above, on January 18, 2004, the licensee identified a significant condition adverse to quality but did not assure that the cause of the condition was determined and corrective action taken to preclude repetition, in that:

- During their investigation of AR 115704, the licensee determined that one root cause of steam generator tube leakage during RO-22 had been "Maintenance work practices: substandard cleanliness."
- Maintenance work practices that resulted in substandard cleanliness were evidence of a programmatic deficiency (in FME controls) that caused a significant adverse condition (steam generator tube leakage).

- According to attachment 1 of CAP-NGGC-0200, a programmatic deficiency or adverse trend that is likely to cause a significant adverse condition or event is itself a significant adverse condition.
- For the significant adverse condition represented by an identified programmatic deficiency in FME controls, the licensee did not determine the cause of that condition, and therefore did not take action to preclude repetition.

This licensee entered the issue into the corrective action program as AR 272388. Because this violation was of very low safety significance, and it was entered into the licensee's corrective action program, this violation is being treated as an NCV, consistent with the NRC Enforcement Policy. This violation is therefore designated as NCV 05000261/2010003-01, "Failure to determine the cause of and take corrective actions to preclude repetition of an identified programmatic deficiency in foreign-material-exclusion controls."

4OA3 Event Follow-up

.1 Inoperability of Both Emergency Diesels Generator While in Mode 5

a. Inspection Scope

On June 24 the "A" EDG was available but inoperable pending post maintenance testing. The "B" EDG was rendered inoperable due to the failure of the "B" Inverter during safeguards testing. As a result, both EDG were inoperable simultaneously. The inspectors reviewed the status of mitigating systems and fission product barriers, equipment, personnel performance, implementation to Technical Specification requirements, and related plant management decisions to assist NRC management in making an informed evaluation of plant conditions. Documents reviewed are listed in the attachment.

b. Findings

No findings were identified.

4OA5 Other Activities

.1 Quarterly Resident Inspector Observations of Security Personnel and Activities

a. Inspection Scope

During the inspection period, the inspectors observed Security force personnel and activities to ensure that the activities were consistent with licensee security procedures and regulatory requirements relating to nuclear plant security. These observations took place during both normal and off-normal plant working hours. These quarterly resident inspector observations of security force personnel and activities did not constitute any additional inspection samples. Rather, they were considered an integral part of the inspectors' normal plant status review and inspection activities.

b. Findings

No findings were indentified.

.2 (Closed) TI 2515/173, Review of the Implementation of the Industry Ground Water Protection Voluntary Initiative

a. Scope

The inspectors reviewed elements of the licensee's environmental monitoring program to evaluate compliance with the voluntary Groundwater Protection Initiative (GPI) as described in Nuclear Energy Institute (NEI) 07-07, Industry Ground Water Protection Initiative – Final Guidance Document, August 2007 (ADAMS Accession Number ML072610036). Inspectors interviewed personnel, performed walk-downs of selected areas, and reviewed the following items:

- Site characterization of geology and hydrology as described in the licensee's groundwater flow study report;
- Evaluations of systems, structures, or components (SSCs) that contain or could contain licensed material and evaluations of work practices that involved licensed material for which there is a credible mechanism for the licensed material to reach the groundwater;
- Implementation of the onsite groundwater monitoring program to monitor for potential licensed radioactive leakage into groundwater;
- Locations of groundwater monitoring wells installed as a result of implementation of the Groundwater Protection Initiative;
- Procedures for the decision making process for potential remediation of leaks and spills, including consideration of the long term decommissioning impacts;
- Records of leaks and spills recorded in the licensee's decommissioning files in accordance with 10 CFR 50.75(g);
- Licensee briefings of local and state officials on the licensee's groundwater protection initiative;
- Procedures for notification to the local and state officials and to the NRC regarding detection of leaks and spills;
- Procedures for external notifications and reports if an onsite groundwater sample exceeds the criteria in the radiological environmental monitoring program;
- Groundwater monitoring results as reported in the annual radiological environmental operating report; and
- Licensee and industry assessments of implementation of the groundwater protection initiative.

b. Findings

No findings were identified with the licensee's Implementation of NEI 07-07. This completes the Region II inspection requirements.

.3 (Closed) Unresolved Item 05000261/2010008-01, Aging Management Program for Exterior Surface of EOF/TSC Main Storage Tank

a. Inspection Scope

As a result of the NRC's inspection of license renewal commitments under inspection procedure 71003 (NRC Inspection Report 05000261/2010008), the inspectors opened an Unresolved Item to evaluate additional information for a potential finding regarding the Emergency Operations Facility/Technical Support Center (EOF/TSC) Diesel Generator Main Storage Tank (buried diesel fuel oil tank). The inspection team was concerned whether the exclusion of the EOF/TSC Main Storage Tank from the Buried Piping and Tanks Inspection Program was appropriate and whether the aging management program (AMP) selected by the licensee to manage aging on the tank's surfaces was adequate.

The inspectors conducted inspection activities to review additional information on this issue and determine if a performance deficiency existed, if the performance deficiency was more than minor, or if the issue of concern constituted a violation of NRC requirements. Specifically, the inspectors discussed the issue with the staff from the Division of License Renewal in the Office of Nuclear Reactors Regulation; had additional discussions with the licensee to understand the tank's design basis and the licensee's justification for excluding the tank from the scope of the Buried Piping and Tanks Inspection Program; and reviewed licensee documents provided in response to the URI.

The inspectors reviewed Regulatory Commitment Change Evaluations and task items in the licensee's "Action Request" system to verify that there was reasonable assurance that the licensee would implement an adequate AMP for the external surface of the EOF/TSC Main Storage Tank prior to the period of extended operation. The inspectors noted that the licensee had an action plan to incorporate the EOF/TSC Main Storage Tank into the Buried Piping and Tanks Inspection Program. The inspectors verified that action items to revise: (a) the scope of the Buried Piping and Tanks Inspection Program, (b) the program's description in the FSAR supplement, and (c) the implementing procedures were adequate to address aging of buried tanks.

b. Findings

No findings were identified.

.4 TI 2515/172, Reactor Coolant System Dissimilar Metal Butt Welds (DMBWs)

a. Inspection Scope

From April 26 – 30, 2010, the inspector reviewed the licensee's activities related to the inspection and mitigation of DMBWs in the Reactor Coolant System (RCS) to ensure that the licensee activities were consistent with the industry requirements established in the Materials Reliability Program (MRP) document MRP-139, Primary System Piping Butt Weld Inspection and Evaluation Guidelines, July 2005.

TI 2515/172 was performed in 2008 as documented in Inspection Report 2008005. During that time a complete program review (per TI 2515/172 paragraph 03.05) was performed.

b. Findings and Observations

No findings were identified.

MRP-139 Baseline Inspections

1) Have the baseline inspections been performed or are they scheduled to be performed in accordance with MRP-139 guidance?

Yes. The licensee has performed all required baseline inspections at the time of this review.

No follow-on exams occurred since the baseline inspections had been performed, and based on the categorization of the welds in the program, no follow-on exams were required to have been completed at the time of the inspection.

Therefore, the licensee has met the MRP-139 deadlines for baseline examinations of all welds scoped into the MRP-139 program.

2) Is the licensee planning to take any deviations from MRP-139 requirements?

No, the licensee has not submitted any requests for deviation from MRP-139 requirements.

Volumetric Examinations

Sample not available.

Weld Overlays

Sample not available.

Mechanical Stress Improvement (Not Applicable)

Sample not available.

In-service Inspection Program

This reporting requirement was addressed previously in inspection report 2008005; no new information was noted during this inspection.

4OA6 Meetings, Including Exit

An exit meeting for the ISI portion was conducted on April 30, 2010, with licensee management.

On May 13, 2010, the inspectors discussed the results of the Occupational Radiation inspection with Mr. Eric McCartney, Site Vice President, and other responsible staff.

On June 22, 2010, the inspectors presented the inspection results of the "Review of the Implementation of the Industry Ground Water Protection Voluntary Initiative" to Mr. S. Sanders, H.B. Robinson Plant General Manager, and other cognizant licensee representatives. The inspectors noted that proprietary information was reviewed during the course of the inspection but would not be included in the documented report.

On July 28, 2010, the resident inspectors presented the inspection results to Mr. Scott Saunders and other members of his staff. The inspectors confirmed that proprietary information was not provided or examined during the inspection.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel

T. Bardauskas, Site License Renewal Manager
M. Blew, ISI Coordinator
C. Castell, Licensing Supervisor
J. Cole, Manager of Shift Operations
W. Farmer, Engineering Manager
S. Garrity, Superintendent, Environmental and Chemistry
T. Huminski, Systems Engineer
K. Jensen, Maintenance Manager
K. Jones, Operations Manager
K. Kirkland, Sr. Environmental Specialist
R. Love, Radiation Control ALARA Specialist
J. Lucas, Nuclear Assurance Manager
E. McCartney, Vice President
G. Pizzuti, BACC Program Coordinator
J. Rhodes, Radiation Protection Superintendent
G. Sanders, Licensing Engineer
S. Saunders, Plant General Manager
K. Smith, Training Manager
S. Wheeler, Outage & Scheduling Manager
B. White, Manager, Support Services - Nuclear
G. Worley, Radiation Protection Supervisor

NRC personnel

R. Musser, Chief, Reactor Projects Branch 4, Division of Reactor Projects, RII

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Closed

05000261/2008002-01	URI	Failure to determine the cause of and take corrective actions to preclude repetition of an identified programmatic deficiency in foreign-material-exclusion controls. (Section 4OA2.4)
TI 2515/173	TI	Review of the Implementation of the Industry Ground Water Protection Voluntary Initiative (Section 4OA5.2)
05000261/2010008-01	URI	Aging Management Program for Exterior Surface of EOF/TSC Main Storage Tank (Section 4OA5.3)

Opened & Closed

05000261/2010003-01	NCV	Failure to determine the cause of and take corrective actions to preclude repetition of an identified programmatic deficiency in foreign-material-exclusion controls. (Section 4OA2.4)

Discussed

TI 2515/172	TI	Reactor Coolant System Dissimilar Metal Butt Welds (DMBWs) (Section 4OA5.4)

Attachment

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

Procedures
OMM-021 Operation During Adverse Weather Conditions, Rev. 38
NGGM-IA-003 Transmission Interface Agreement for Operation, Maintenance, and Engineering Activities at Nuclear Plants, Rev. 8
EMG-SUBS-00006 General Load Reduction and System Restoration Plan

Section 1R04: Equipment Alignment

Partial System Walkdown

Procedures
OP-604 Diesel Generators "A" and "B", Rev. 79
OP-306 Component Cooling Water System Rev. 62
AOP-014 Component Cooling Water System Malfunction, Rev. 26
Drawings: G-190204-A, "Emergency Diesel Generator System Flow Diagram", sheet 1 Rev. 32
Sheet 2 Rev. 18, Sheet 3 Rev. 19
5379-376, "Component Cooling Water System Flow Diagram", sheets 1-4, Rev. 39

Other documents
System Description SD-003, Residual Heat Removal System, Rev. 14
System Description SD-013, Component Cooling Water System, Rev. 10
UFSAR Section 5.4.4, Residual Heat Removal System
TS 3.9.4, Residual Heat Removal and Coolant Circulation - High Water Level

Complete System Walkdown

Procedures
SP-1535, Setup and Operation of the SFP Alternate Cooling System, Rev. 15

Action Requests
372336 50.59 for EC 68035 Temp Mod for Spent Fuel Pool Alt Cooling

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EC 68035 Temp. Mod for Spent Fuel Pooling Alternate Cooling System

Section 1R05: Fire Protection

UFSAR Sections of Appendix 9.5.1A
Section 3.1.5.5
Section 3.4
Section 3.5
Section 3.6
Section 3.11

Drawings
HBR2-11937, “Fire Pre-Plan Emergency Switchgear (E-1/E-2) Room”, sheet 30, Rev.1
HBR2-11937, “Fire Pre-Plan RHR Pump Room (RHR Pit)”, sheet 43, Rev. 0
HBR2-11937, “Fire Pre-Plan North Cable Vault “, sheet 5, Rev.0
HBR2-11937, “Fire Pre-Plan South Cable Vault”, sheet 6, Rev. 0
HBR2-11937, “Fire Pre-Plan Containment Vessel 1st Floor”, sheet 33, Rev.1
HBR2-11937, “Fire Pre-Plan Containment Vessel 2ndt Floor”, sheet 34, Rev.0
HBR2-11937, “Fire Pre-Plan Containment Vessel 3rd Level”, sheet 35, Rev.0

Other documents
OMM-002, “Fire Protection Manual”, Rev. 41
OMM-003, “Fire Protection Pre-Plans/Unit 2”, Rev 55

Section 1R07: Heat Sink Performance

Procedures
OWP-003 Component Cooling Water, Rev. 34
OP-306 Component Cooling Water System, Rev. 60
CM-201 Safety Related and Non-Safety Related Heat Exchanger Maintenance Rev. 44

Work Orders
WO 1391105

Action Requests
395305 As Found Condition of CCW Heat Exchanger A
396442 FME found in CCW Heat Exchanger A

Other documents
UFSAR Section 9.2.2

Section 1R08: Inservice Inspection (ISI) Activities

Procedures
EPRI Appendix I ETSS# I28424, Rev 2
EPRI Appendix I ETSS# I28432, Rev 1
EPRI Appendix I ETSS# I28425, Rev 2
EPRI Appendix I ETSS# I28431, Rev 1
EPRI Appendix H ETSS# 21409.1, Rev 6
Westinghouse ANTS# CPL-ANL-RPC-3C-10, Rev 0
Hot Tap Line 10-AC-152N-40 PER EC 75, 4/14/10

Condition Reports
AR 229819, Adverse Condition Investigation Form for foreign object in SG-A, 4/15/2007
AR 2998242, SG Molar Ratio Index SAL-1 Entry, 9/27/08
AR 3055651, SG Sulfate Secondary Action Level entry (SAL-1), 11/8/08
AR 309889, A SG Activity, 12/7/2008
AR 380565, EO Evaluation Form, NRC Information Notice 2010-05

AR 397673, Site NRC Inspection Interface Deficiencies, 5/5/2010
AR 397782, NRC review of RO26 degradation assessment, 5/6/2010
AR 398064, Appendix H instead of Appendix I implementation, 5/7/2010
Action Request 300581-28
Action Request 398129
AR 370764 Boric Acid present on boric acid filter lagging, 1/11/2010
AR 355071 Boric Acid leak from B charging pump, 1/27/2010
AR 367896 RCS leakage from CVC-216A, 12/23/2009
AR 387229 CVC-121D Leak (PLP-111), 3/17/2010
AR 370603 Small leak on letdown diversion piping downstream LCV-115A, 12/14/2009

Other Documents
SG-SGMP-09-13, H.B Robinson Unit 2 RO 26 Steam Generator Degradation Assessment, Rev 1
SG-A,-B, and-C listing of GEO calls reported at HTS – as reported from 2007, 5/4/2010
Drawing No. 10018357, Rev 6 EDM Combo Standard with Tube Expansion
MRS-GEN-1278, Appendix B Certificate of Calibration Instrument No. 223855, 12/30/2009
HBRSEP Unit No. 2 Technical Specifications 5.5.9, Steam Generator Program, Amendment 212
NRC Integrated Inspection Report 05000261/2008002, 4/25/2008
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Westinghouse MRS-TRC-2008, Use of Appendix H Qualified Techniques at Robinson Unit 2 26th Refueling, Rev 1
SG-A, -B, -C Hot and Cold Leg Brook's CIS Foreign Objects tube maps, 5/6/2010
SG-A, -B, -C Listing of PLP/LPI/LPS from previous ECT inspection (RO-24)
TID-EC-02-006, Secondary Chemistry Strategic Plan, Rev 5
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RNP-RA/07-0107, Letter from Progress Energy to USNRC, Subj: Steam Generator Tube Inspection Report, 11/1/2007
Engineering Change 0000072699, Revision 0
Drawing HBR2-12414, CV Liner Insulation/Sheathing Insulation Panels Developed Elevation View, Revision 0
RNP-C/STRU-1128, Minimum allowable Containment Liner Thickness, Revision 6
RNP-C/STRU-1128, Minimum allowable Containment Liner Thickness, Revision 5
RNP-C/STRU-1128, Minimum allowable Containment Liner Thickness, Revision 4
RNP-C/STRU-1130, Analysis Of Containment Liner Bulge, Revision 1
RNP-C/STRU-1130, Analysis Of Containment Liner Bulge, Revision 2
Visual Acuity Record for Darren Joy
Visual Acuity Record for E. Scott Overly
Metallurgy Services Technical Report on Robinson Nuclear Plant- Failure Analysis of Inner Panel Hold Down Studs, 10/27/08
UFSAR for Robinson Nuclear Plant, Rev. 15
WR 431051 FT-425 remove boric acid deposits dated 4/28/10

Section 1R11: Licensed Operator Requalification

OMM-001, Operations Administrative Requirements, Rev. 88
OPS-NGGC-1000, Fleet Conduct of Operations, Rev.3

Section 1R12: Maintenance Effectiveness

Procedures
CM-001 Reactor Coolant Pump Seal Assembly Maintenance, Rev. 50
CM-621 Structural, Mechanical, and Electrical Penetration Fire Barriers, Rev. 34

Action Requests
397842 Contingency Balance shot on RCP B
396597 4160 Switchgear Bus 5 cubicle 24
397875 Severed Ground Cable during 4160V Bus repair
399837 4160 Switchgear Bus 5 Cubicle dent in Cabinet
390095 Cable failure to 4kV non-vital Bus 5 causes fire
400609 4kV Bus 4 wrong stress cones received and issued
400614 4kV Bus 4 wrong material supplied
402838 4kV Bus 4 Client supplied Lugs
400811 4kV bus cubicles, dust in cubicles 22, 26, 27, 28
402853 Cable C2715E not properly Ray-Chemed on white conductor
402860 Temperature/Humidity instrument used by Eaton not Calibrated
402072 Substituted client supplied material for vendor supplied material
399280 Waived/NA'd design engineering signature
399523 Work started without pre-requisites signed off

Other documents
For RCP C rotating assembly replacement
WO 1440710
WO 1119276

For system 4160 V Electrical Buses 4&5
WO 1747157
WO 1752359
WO 1752360
WO 1752516
WO 1753099
WO 1753108
WO 1753110

EC 76879 Repair Hydrogen Control panel
EC 76875 Protective Relay scheme
EC 76878 Replace Feeder Cable; Switchgear 5 to SST-2E
EC 76873 Replace CWP "B" Cable
EC 76874 Replace Feeder Cable; Switchgear 4 to Switchgear 5
EC 76842 Replace Cable in Tray R40

L2-E-016 Specification for 5,000 Volt power Cable for RNP, Rev. 4
L2-E-018 Specification for Instrumentation and Computer Cable for RNP, Rev. 5
L2-E-035 Specification for 5,000 Volt power Cable for RNP, Rev. 1
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Drawing HBR2-0B060 Sheet H4
SGT Work Package 3511A Repair Fire Damaged Cables in Cable Tray R-40
SGT Work Package 3513 Install Feeder Cables between Bus 4 and Bus 5
SGT Work Package 3512C Replace Feeder Cables Switchgear 5 to SST-2E
SGT Work Package 3512A Install and splice cable for Circulation Water Pump B
SGT Work Package 3510A Install Refurbished Bus Section 4kV Bus #4
SGT Work Package 3516 DS Power Supply and Distribution panel "B" repair
SGT Work Package 3518B Bus 5: Replace Condensate Pump A and B cables

Event Log Report for LATER - LATER
Scoping and Performance Criteria

Section 1R13: Maintenance Risk Assessments and Emergent Work Evaluation

Procedure OMM-048, Work Coordination and Risk Assessment, Rev. 44
Procedure OMP-003, Shutdown Safety Function Guidelines, Rev. 42
RNP-C/STRU-1260, H.B. Robinson Unit 2 Closure Head Drop Evaluation, Rev. 1
GP-009-3, Draining the Refueling Cavity with Fuel in the Reactor Vessel, Rev. 10
SP-1535, Setup and Operation of the SFP Alternate Cooling System

Section 1R15: Operability Evaluations

Action Requests
391584 Clarification needed for applicability of Min/Max voltage on E-1/E-2
391195 AOP-031 Entries due to high voltage
391322 AOP-031 entry due to high voltage on 4/4/10
392879 "A" EDG exhaust holes
393072 E-1/E-2 bus high voltage
396716, "B" EDG Standby Jacket Water Cooling Pump Seal Leakage
400799, "C" Charging Pump Alternate Cooling Drain Valve Clogged
380852, CVC-277A Charging Pump Recirculation Valve Seat Leakage
398231, EDG Service Water Isolation Valve Fouling

Other documents
UFSAR Section 8.3.1, AC Power Systems

Section 1R18: Plant Modifications

Procedures
SP-1535, Setup and Operation of the SFP Alternate Cooling System, Rev. 15

Action Requests
391995 and 398289, for EC 76896 Redesign of FIC-626X Control Circuit to Prevent Spurious Closure of FCV-626
372336 50.59 for EC 68035 Temp Mod for Spent Fuel Pool Alt Cooling

Other documents
EC 76896 Redesign of FIC-626X to Prevent Spurious Closure of FCV-626
EC 76607 Temp Mod to restore power to 480V Buses 4 and 5 following 4160V bus fires
EC 68035 Temp Mod for Spent Fuel Pooling Alternate Cooling System
EC 69420, Upgrade Battery Chargers To Remain Connected On A Loss Of Power to MCC-5 or MCC-6
WO 1762310 Work order for installation and testing of FIC-626X replacement
OST 163 for testing related to FCV-626 control
SD 013 Component Cooling Water System

Section 1R19: Post Maintenance Testing

Procedures
EST-145, Determination of Control Rod Position Using the Moveable Incore Detector System, Rev. 5
LP-552, Rod Position Indication System On Line Adjustment, Rev. 8
MMM-006, Calibration Program, Rev. 29
SP-1546, Testing of the VCT Automatic Level Swapover Circuitry, Rev. 1
NDEP-0612, VT-2 Visual Examination of Nuclear Power Plant Components, Rev. 23
NOS-NGGC-0500, Quality Assurance Hold Point Procedure, Rev. 0
SP-1547 Testing of 4kV Bus 4 Cubicle 24 Circuitry, Rev. 0
SP-1548 Testing of 4kV Bus 4 Cubicle 25 Circuitry, Rev. 2
SP-1549 Testing of 4kV Bus 4 Passthrough Circuitry, Rev. 1
SP-1550 Testing of 4kV Bus 4 Cubicle 23 Circuitry, Rev. 1

Work Orders
WO 1581196, Adjust RPI Indications
WO 1718820, Repair of Annunciator APP-007-F1
WO 1663917, Replace LC-115B Volume Control Tank Level Controller
WO 1728243, Refueling Water to Charging Pumps Suction Pipe Weld Hydro

Section 1R20: Refueling and Outage Activities

Procedures
GP-004, Post Trip Stabilization, Rev. 14
GP-007, Plant Cooldown from Hot Shutdown to Cold Shutdown, Rev. 82
GP-008, Draining the Reactor Coolant System, Rev. 68
GP-009-1, Filling the Refueling Cavity with Fuel in the Reactor Vessel, Rev. 15
GP-009-2, Filling the Refueling Cavity or Reactor Vessel with Reactor Defueled, Rev. 9
GP-009-3, Draining the Refueling Cavity with Fuel in the Reactor Vessel, Rev. 11
GP-009-4, Draining the Refueling Cavity or Reactor Vessel with the Reactor Defueled, Rev. 12

GP-009-5, Adjusting Reactor Vessel Level After Refueling Cavity Drain with Fuel in the Reactor, Rev. 3
GP-010, Refueling, Rev. 71
GP-002, Cold Shutdown to Hot Subcritical at No Load Tavg, Rev. 112
GP-001, Fill and Vent of the Reactor Coolant System, Rev. 52
OMP-001, Outage Scheduling, Rev. 15
POP-002, Planned Outage Implementation, Rev. 21
OMP-003, Shutdown Safety Function Guidelines, Rev. 43
OMA-NGGC-0203, Shutdown Risk Management, Rev. 0
SP-1535, Setup and Operation of the SFP Alternate Cooling System, Rev. 15

Action Requests
AR 392806 Loss of 480V Bus 2A
AR 396655 Unusual Indication on GG29 During Offload Fuel Inspection
AR 392628 PZR Level Decrease with Corresponding Increase in RVLIS Level

Other documents
Clearance order, R226-4080C- CCW Components

Section 1R22: Surveillance Testing

Procedures
OST-021, Daily Surveillances, Rev. 29
OST-051, Reactor Coolant Leakage Evaluation (Every 72 Hours During Steady State Operation and Within 12 Hours of Reaching Steady State Operation) Rev. 41
OST-933-2, Penetration 24, CVC Charging Line (CVC-282, CVC-202A, CVC-309A) Leakage Test (As Required and Every 18 Months), Rev.1
OST-933-7, Penetration 43, Hot Leg SI Header (SI-869) Leakage Test (As Required and Every 18 Months), Rev. 1
OST-163, Safety Injection and Emergency Diesel Generator Auto Start on Loss of Power and Safety Injection (Refueling), Rev. 56

Work Orders
WO 1619341, Fire/Security Doors Seal Inspection

Action Requests
AR 407040 OST-163 Supplemental data taken on board walkdowns

Section 2RS1: Radiological Hazard Assessment and Exposure Control

Procedures, Guidance Documents, and Manuals
AP 031, Administrative Controls for Entry into Locked and Very High Radiation Areas, Rev. 50
CAP-NGGC-0200, Corrective Action Program, Rev. 32
CAP-NGGC-0201, Self-Assessment/Benchmark Programs, Rev. 13
DOS-NGGC-0002, Dosimetry Issuance, Rev. 26
EMP-013, Operation of R-14 and F-14, Rev. 44
EMP-020, Operation of R-22, Rev. 22

EMP-022, Gaseous Waste Release Permits, Rev. 51
EMP-025, Gaseous Effluent Samplings and Analysis Requirements, Rev. 46
FMP-021, Control of Materials in the Spent Fuel Pit, Rev. 17
HPP-001, Radiologically Controlled Area Surveillance Program, Rev. 107
HPP-003, Control of Hot Particles, Rev. 11
HPP-004, Radiological Control of Tools and Equipment, Rev. 60
HPP-006, Radiation Work Permits, Rev. 75
HPP-007, Handling and Storage of Contaminated and Radioactive Materials, Rev. 34
HPP-013, Radiation Protection during Diving Operations, Rev. 15
HPP-018, Control and Inventory of Radioactive Sources, Rev. 26
HPP-105, Airborne Radioactivity Surveillance, Rev. 37
HPS-NGGC-0003, Radiological Posting, Labeling and Surveys, Rev. 15
HPS-NGGC-0013, Personnel Contamination Monitoring, Decontamination, and Reporting, Rev. 10
HPS-NGGC-0014, Radiation Work Permits, Rev. 6
PLP-062, Radioactive Source Accountability Program, Rev. 13
RST-022, Surveillance of the Steam Generator Tomb, Rev. 15
RST-030, Surveillance of the 24P-Independent Spent Fuel Storage Installation, Rev. 4
RST-031, Surveillance of the Reactor Vessel Head Storage Building, Rev. 1
SIC-001, Administrative Controls for Survey Instruments, Portable Air Samplers, and CAMs, Rev. 44
SIC-016, Calibration and Operation of the Canberra Hand and Foot Personnel Monitor Model Sirius 4B, Rev. 3
SIC-041, Calibration and Operation of Canberra Personnel Monitors, Rev. 11

Records and Data
Analysis Report for 264434_1, Plant Vent (R-14) Particulate, 04/19/10
Analysis Report for 264436_1, CV Particulate (R-11/12) Atmosphere, 04/19/10
Analysis Report for 264457_1, E&RC Building (R-22) Effluent Gas R-22 Weekly Grab Gas, 04/20/10
Analysis Report for 264458_1, Radwaste Building (R-23) Particulate R-23 Weekly Particulate, 04/20/10
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Spent Fuel Pool Trash Basket Inventory Log, Undated

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RWP Number (No.) 5156 01, Filter Change Activities, 03/30/10

RWP No. 5157 01, Filter Change Activities, 03/30/10
RWP No. 5167 05, Rx Head & Upper Internals Lift/Set Activities & Blind Flange, 04/17/10
RWP No. 5169 01, Seal Table Room Activities, Dated 03/30/10
RWP No. 5171 01, Reactor Coolant Pump High Risk Activities, 03/30/10
RWP No. 5178 01, RO-26 CV Sump/Underwater Vessel Activities – High Risk, 03/30/10
RWP No. 5185, S/G Eddy Current and Tube Plugging Activities, 04/18/10

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Radiological Survey Record (RSR), Survey No. 100608-28, Map 512, 3rd Floor Total View, 10/05/08
RSR, Survey No. 040510-37, Map 526, "A" Pump Bay, 04/05/10
RSR, Survey No. 040510-38, Map 528, "C" Pump Bay, 04/05/10
RSR, Survey No. 040510-39, Map 527, "B" Pump Bay. 04/05/10
RSR, Survey No. M041910-16, Map 518, Seal Table Room (Lower Level), 04/19/10
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Corrective Action Program (CAP) Documents
AR 00303270, PCE while installing spiral staircase in cavity
AR 00309650, Loose contamination found on IF-302 (Spent Fuel) rail car
AR 00346346, Deteriorating Tri-Nuke filters in spent fuel pool
AR 00346683, High Area Radiation controls associated with radiation control and radworker practices
Quick Hit Self-Assessment Report, Assessment No. 00309749-07, Radiation Work Permits, 12/09/09

Section 2RS2: Occupational ALARA Planning and Controls

Procedures, Guidance Documents, and Manuals
ADM-NGGC-0105, ALARA Planning, Rev. 8
HPP-006, Radiation Work Permits, Rev. 75
HPP-500-3, Radiation Control Work Planning Process, Rev. 17

Reports, Records, and Data
H.B. Robinson Nuclear Plant Refueling Outage #25 ALARA Report, 11/08
ALARA Work Plan (AWP) 08-018, RO-25 Motor Operated Valve Diagnostic Testing, Rev. 0
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AWP 09-022, RO-26 Motor Operated Valve Diagnostic Testing, Rev. 1
AWP 09-015, Steam Generator Eddy Current, Rev. 0
AWP 09-043, S/G Secondary Side, Rev. 0
In-Progress ALARA Evaluation, AWP 09-043, 5/2/10
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Technical Information Document (TID) EC-09-001, RCS Startup Oxygen and Hydrogen Strategies, 10/09

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CAP Documents
R-RP-09-01, Assessment of Radiation Protection, 9/17/09
Assessment 309747, RNP ALARA Program, 7/10/09
AR 299615, Seal table ALARA work plan dose projection exceeded
AR 352217, Dose for dry fuel campaign higher than projection
AR 349958, NOS Assessment R-RP-09-01-F1, station focus on dose performance

Section 2RS3: In-Plant Airborne Radioactivity Control and Mitigation

Procedures, Guidance Documents, and Manuals
AP-038, Self Contained Breathing Apparatus and Fire Brigade Breathing Air Supply, Rev. 9
DOS-NGGC-0008, In-Vitro Bioassay, Rev. 9
HPP-104, Verification and Operation of Breathing Air Supplies, Rev. 30
HPP-105, Airborne Radioactivity Surveillance, Rev. 37
HPP-111, Control and Use of Respiratory Protection Equipment, Rev. 36
RST-023, Routine Respirator Inspection / Inventory, Rev. 30
OP-906, Heating, Ventilation, and Air Conditioning, Rev. 53

Records and Data
Lesson Number GN6C10G/GN7C10G/GN6C24G, Respiratory Protection Training, Rev. 19
RPT SSG, Student Handout for Respiratory Protection Training, Rev. 19
Radiation Control Air Sample Analysis Form, Sample Numbers: AS-20100507-019, AS-20100505-019, AS-20100505-007, AS-20100505-018, AS-20100426-007, AS-20100503-009, AS-20100504-007, AS-20100504-017, AS-20100504-018, AS-20100505-004, AS-20100505-005, AS-20100510-011
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Verification of Breathing Air Data Sheet: Primary Air Compressor (3/11/10), SCBA Compressor (11/12/09), “A” Instrument Air Compressor (12/7/09), “B” Instrument Air Compressor (12/7/09), “D” Instrument Air Compressor (12/02/09)
RST-023 Routine Respirator Inspection/Inventory: 5/13/08, 8/7/08, 11/3/08, 1/22/09, 2/24/09, 3/17/09, 4/17/09, 7/13/09, 1/3/10, 3/17/10

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Section 4OA1: Performance Indicator Verification

Procedures
REG-NGGC-0009, NRC Performance Indicators and Monthly Operating Report Data, Rev. 10

Records and Data
2008 Annual Radioactive Effluent Release Report
Electronic Dosimeter Alarm Log, 10/01/09 – 03/01/10
Gaseous Radioactive Waste Release Permit, E&RC Building Exhaust, Sample Entry No. 138, 03/23/10
Liquid Radioactive Waste Release Permit, Monitor Tanks A/B, Sample Entry No. 149, 03/28/10
NRC Performance Indicators and Monthly Operating Report Data Log from 10/01/09 – 03/31/10

NEI-99-02 Regulatory Assessment Performance Indicator Guideline, Rev. 6

Section 4OA2: Identification and Resolution of Problems

Procedures
CAP-NGGC-0200, "Corrective Action Program", Rev. 32
CAP-NGGC-0206, "Corrective Action Program Trending and Analysis", Rev. 5
CAP-NGGC-0205, "Significant Adverse Condition Investigations and Adverse Condition Investigations-Increased Rigor" Rev 11
NGG Fleet KPI Report, dated 6/17/2010
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388815 Conservative Calculation Error in Pipe Flaw Evaluation
272388 Significant Adverse Condition not Evaluated

Section 4OA3: Event Follow-up

Procedures
OST-163, Safety Injection Test and Emergency Diesel Generator Auto Start on Loss of Power and Safety Injection (Refueling), Rev. 56
OMM-007, Equipment Inoperability Record, Rev.82
Other documents
Control room Operating Logs
Technical Specifications
Technical Requirements Manual
Work Orders 1768627 and 1771039 for troubleshooting the 'B' Inverter

Section 4OA5: Other Activities

Procedures, Manuals, and Guidance Documents
AP-030, NRC Reporting Requirements, Rev. 42
AP-556, Effluent Management Program, Rev. 6
CHE-NGGC-0057, Groundwater Protection Program, Rev. 0

EGR-NGGC-0513, License Renewal Buried Piping and Tanks Inspection Program, Rev. 1
EMP-001, Environmental Sampling, Rev. 51
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