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

July 31, 2013

Mr. William R. Gideon
Vice President – Robinson Plant
Carolina Power and Light Company
H. B. Robinson Steam Electric Plant
Unit 2
3581 West Entrance Road
Hartsville, South Carolina 29550

SUBJECT: H.B. ROBINSON STEAM ELECTRIC PLANT - NRC INTEGRATED INSPECTION REPORT 05000261/2013003

Dear Mr. Gideon:

On June 30, 2013, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your H. B. Robinson Steam Electric Plant, Unit 2. The enclosed inspection report documents the inspection results which were discussed on July 25, 2013, with you 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.

One NRC identified finding of very low safety significance (Green) was identified during this inspection. The finding was determined to involve a violation of NRC requirements. The NRC is treating this violation as non-cited violations (NCV) consistent with Section 2.3.2 of the Enforcement Policy.

If you contest the violation or significance of the 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 H. B. Robinson Steam Electric Plant, Unit 2.

In addition, if you disagree with the cross-cutting aspect assignment in this report, you should provide a response within 30 days of the date of this report, with the basis for your disagreement, to the Regional Administrator, Region II, and the NRC Resident Inspector at H.B. Robinson.

ML13212A318

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's Agency wide Document Access and Management 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/

George Hopper, Chief
Reactor Projects Branch 4
Division of Reactor Projects

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

Enclosure: Inspection Report 05000261/2013003
w/Attachment: Supplemental Information

cc w/encl: (See page 3)

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ADAMS: ☒ Yes ACCESSION NUMBER:_____ ☒ SUNSI REVIEW COMPLETE ☐ FORM 665 ATTACHED

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| NAME | JHickey | CScott | ANielsen | WPursley | JDodson |
| DATE | 7/24/2013 | 7/26/2013 | 7/24/2013 | 7/24/2013 | 7/24/2013 |
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Letter to William R. Gideon from George Hopper dated July 31, 2013.

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**U. S. NUCLEAR REGULATORY COMMISSION**

**REGION II**

| | |
|---|---|
| Docket No: | 50-261 |
| License No: | DPR-23 |
| Report No: | 005000261/2013003 |
| Facility: | H. B. Robinson Steam Electric Plant, Unit 2 |
| Location: | 3581 West Entrance Road<br>Hartsville, SC 29550 |
| Dates: | April 1, 2013 through June 30, 2013 |
| Inspectors: | J. Hickey, Senior Resident Inspector<br>C. Scott, Resident Inspector<br>A. Nielsen, Senior Health Physicist (Section 2RS6, 4OA1)<br>W. Pursley, Health Physicist (Section 2RS7) |
| Approved by: | G. Hopper, Chief<br>Reactor Projects Branch 4<br>Division of Reactor Projects |

Enclosure

## SUMMARY OF FINDINGS

IR 05000261/2013003, Carolina Power and Light Company; on April 1, 2013 – June 30, 2013; H.B. Robinson Steam Electric Plant, Unit 2; IR Maintenance Effectiveness.

The report covered a three month period of inspection by resident inspectors, operations engineers, and announced inspections by reactor health physics inspectors. One inspector identified finding of very low safety significance (Green) was identified. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, issued June 19, 2012 "Significance Determination Process" (SDP). The cross-cutting aspects were determined using IMC 0310, "Components Within the Cross-Cutting Areas," issued October 28, 2011. All violations of NRC requirements are dispositioned in accordance with the NRC's Enforcement Policy dated January 28, 2013. The NRC's program for overseeing the safe operations of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process" revision 4.

NRC-Identified and Self-Revealing Findings

**Cornerstone: Mitigating Systems**

Green: The inspectors identified a Green NCV of 10 CFR 50.65(b)(2), "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," because the licensee failed to scope in all the Chemical Volume and Control (CVCS) instruments used in plant Emergency Operating Procedures (EOPs). Specifically, the CVCS instrument loops for FI-110, Boric Acid Bypass Flow, FI-122A, Charging Flow and LI-115, volume control tank (VCT) Level, were not included in the maintenance monitoring program. Subsequent review by the licensee identified one additional functional failure that was previously unrecognized. The licensee entered the issue into their corrective action program (CAP) as Nuclear Condition Report (NCR) 574956. The licensee corrective actions included adding the associated instruments loops to the maintenance rule program and revising the performance monitoring criteria.

The inspectors determined that the failure to scope in all the CVCS instruments, used in EOPS, into the maintenance rule program was a performance deficiency. The finding was more than minor because if left uncorrected, the performance deficiency would have had the potential to lead to a more significant safety concern. Specifically, the failure to scope in all CVCS instruments into the maintenance rule program could affect the maintenance rule program's ability to effectively monitor the performance of CVCS equipment and the accomplishment of EOPs. This finding was considered to have very low safety significance (Green) because the finding did not cause a loss of mitigation equipment functions and did not represent an actual loss of function of one or more non-Tech Spec Trains of equipment designated as high safety-significant in accordance with the licensee's maintenance rule program for greater than 24 hours. The finding does not have a cross-cutting aspect since the failure to scope this equipment into the maintenance rule program was not recognized during the initial maintenance rule scoping activities and as a result, is not indicative of current performance. (Section 1R12)

## REPORT DETAILS

Summary of Plant Status

The unit began the inspection period at rated thermal power. On April 11, 2013, the licensee conducted a downpower to 50 percent power to perform maintenance on the "B" main feedwater pump (MFP). The unit returned to full power on April 15, 2013, and operated at full power for the remainder of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R01 Adverse Weather Protection

.1 Response to Impending Severe Weather

a. Inspection Scope

The inspectors reviewed actions taken by the licensee in accordance with Procedure OMM-021, Operation During Adverse Weather Conditions,` when a tornado watch was issued for the site on June 10, 2013. The inspectors verified the adverse weather conditions did not initiate a plant event nor prevent any system, structure, or component from performing its design function.

Documents reviewed are listed in the Attachment.

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

- AR #599511, Unit 1 Catch Basin Unit 1 Clogged with Sediment
- AR #596304, 100 LB Propane Tanks for Tainter Gate Auxiliary Engine

b. Findings

No findings were identified.

.2 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.

b. Findings

No findings were identified.

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 or following surveillance testing:

- "A" Main Feedwater Pump (MFP) while the "B" MFP was OOS for maintenance
- "B" Emergency Diesel Generator (EDG) Fuel Oil Transfer System while the "A" EDG Fuel Oil Pump was OOS for maintenance
- "B" Boric Acid Transfer Pump while the "A" Boric Acid Transfer Pump was OOS for maintenance

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.

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.

Complete System Walkdown:

The inspectors conducted a detailed review of the alignment and condition of the Safety Injection 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.

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

- AR #593161, Incorrect Tag Found on A Plant Component DPS-1608A, South Service Water Differential Pressure Switch
- AR #610836, Incorrect inhibit Switch Actuated During OST-643-1, Startup Transformer (SUT) Deluge System Flow Test (18 Month Interval)

b. Findings

No findings were identified.

1R05 Fire Protection

.1 Quarterly Resident Inspector Tours

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:

- Transformer Yard (fire zone 26)
- 4160 Volt Switchgear room (fire zone 25E)
- Safety Injection Pump room (fire zone 3)
- Rod Control Room (fire zone 21)
- "B" Diesel generator Room (fire zone 1)

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

- AR #590736, FDR-49, South Door to Control Room Plunger is Stuck
- AR #580108, Detector FP-17B3 Would Not Actuate During OST-611-10, Low Voltage Fire Detection and Actuation System Zones (Semi-Annual)

b. Findings

No findings were identified.

1R06 Flood Protection Measures

.1 Underground Cable Inspection

a. Inspection Scope

The inspectors walked down two underground cable manholes/bunkers to verify the following:

- The cable was not submerged in water;
- The condition of any cable splices;
- The condition of any cable support structures; and
- The condition of any dewatering devices, if applicable.

The following cable/locations were inspected:

- M-35,Service Water Cables from Reactor Auxiliary Building to Intake/North
- M-50A, South Service Water Electrical Manhole
- M-36, Service Water Cables from Reactor Auxiliary Building to Intake/South
- M-50B, North Service Water Electrical Manhole

Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification

a. Inspection Scope

Licensed Operator Requalification Activities in the Simulator

The inspectors observed licensed-operator performance during requalification simulator training of the following scenario, as described in Operations Training 2013 Exam 13. This training tested the operators' ability to operate components from the control room and direct auxiliary operator actions, while responding to a failed pressurizer pressure protection instrument, a steam generator tube leak which degrades to a rupture, a reactor trip, failed open steam generator safety valve, and several components which fail to start following a safety injection. The inspectors focused on clarity and formality of communication, the use of procedures, alarm response, control board manipulations, group dynamics, and supervisory oversight.

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

Licensed Operator Performance in the Actual Plant/Main Control Room

The resident inspectors were in the control room to observe and assess licensee operator performance during a 50 percent power reduction to troubleshoot and repair increased inboard bearing temperatures associated with "B" Main Feedwater Pump. During this period of heightened risk, the inspectors verified that the licensed operator's actions and communication were in accordance with OMM-001, Conduct of Operations, Revision 62.

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

- AR #600818, Turbine Transferred to "GO" when Securing "B" Main Feed Pump

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness

a. Inspection Scope

The inspectors reviewed the three 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:

- AR #599546, Unable to Break In "A" Charging Pump
- AR #574956, Maintenance Rule Scoping of FI-110, Boric Acid Bypass Flow Indicator
- Performance History of the ATWS Mitigating System Actuation Circuitry (AMSAC)

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:

- 608102, Replace DPS-6502B, HVE-19A DP Switch
- 608702, “B” Battery Charger PM Frequency Changed Incorrectly

b. Findings

Introduction: The inspectors identified a Green NCV of 10 CFR 50.65(b)(2)(ii) for the licensee’s failure to appropriately scope all EOP instrument loops for the Chemical Volume and Control System into the maintenance rule program.

Description: During a review of emergency operating procedure FRP-S.1, Response to Nuclear Power Generation /ATWS, and maintenance rule scoping documentation for the CVCS, the inspectors discovered that the FI-110, Boric Acid Bypass Flow was not listed as an instrument monitored in the maintenance rule (MR) program. In FRP-S.1, operators are directed to verify flow via FI-110, and align the CVCS for emergency boration. The maintenance rule program has a performance monitoring group (PMG) that monitors the EOP functions to verify Boric Acid Storage Tank level, local seal injection flow, Reactor Coolant Pump (RCP) seal leak-off, seal water DP and VCT pressure. The inspector discussed this with site engineering and the issue was entered in the CAP as NCR 570803. As a result of the inspector’s questions, the licensee found two additional CVCS instrument loops that should have been included in the MR monitoring report due to their use in EOPs. On January 29, 2013, the MR rule panel voted to add the instrument loops for FI-110, Boric Acid Bypass Flow, FI-122A, Charging Flow and LI-115, VCT Level. The MR panel also voted to increase the performance criterion of three functional failures per 36 months to four failures in 36 months. Following the change to the MR program, the licensee performed a historical review for the recently added instruments to log any functional failures. The licensee identified two additional functional failures, with the most recent failure occurring on May 9, 2012.

Considering the three functional failures documented as of January 29, 2013, and the previously unrecognized functional failure on May 9, 2012, the licensee would have exceeded the previously established performance criterion of three failures. The inspectors concluded that the MR expert's panel decision to increase the performance criterion to four failures was in accordance with the MR program. However, the inspectors identified that the failure to appropriately scope in all the CVCS instruments, used in EOPs, could affect the licensee's ability to appropriately monitor equipment performance and could affect the operator's ability to implement emergency operating procedures.

Analysis: The inspectors determined that the failure to scope in all the CVCS instruments, used in EOPs, into the MR program was a performance deficiency. The finding was more than minor because if left uncorrected it could potentially result in a more significant issue. Specifically, the failure to scope in all CVCS instruments into the MR program could affect the MR program's ability to effectively monitor the performance of CVCS equipment and the accomplishment of EOPs. This finding was considered to have very low safety significance (Green) because the finding did not cause a loss of mitigation equipment functions and did not represent an actual loss of function of one or more non-Tech Spec Trains of equipment designated as high safety significant in accordance with the licensee's maintenance rule program for greater than 24 hours.

Enforcement: 10 CFR 50.65, paragraph (b)(2), "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants" requires, in part, that the scope of the monitoring program includes non-safety related structures, systems, or components that are relied upon to mitigate accidents or transients or are used in plant EOPs.

Contrary to the above, on January 29, 2013, the inspectors identified that the licensee failed to scope in all the CVCS instruments used in plant EOPs. Specifically, the inspectors identified that the instrument loops for FI-110, Boric Acid Bypass Flow, FI-122A, Charging Flow and LI-115, VCT Level, were not included in the maintenance monitoring program. Because this violation was of very low safety significance and it was entered into the licensee's CAP as NCR 574956, this violation is being treated as an NCV, consistent with Section 2.3.2 of the NRC Enforcement Policy. NCV 05000261/2013003-01, Failure to Scope in All CVCS Instruments used in EOPs in the maintenance rule program.

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. Those periods included the following:

- April 11-12, 2013, Planned downpower to 50 percent, “B” MFP out-of-service for maintenance, Tornado Watch and Repair of FCV-113B, Blended Make-Up to Charging Pump Suction;
- April 15-19, 2013, Instrument Air Dryer oil change, “A” Condenser Vacuum Pump instrument calibrations, OST-011, Rod Control movement test;
- April 29-May 3, 2013, CCW Heat Exchanger Inspection, “C” Service Water Pump Balance, “B” EDG Recirculation Damper Emergent Issue; and
- May 6-10, 2013, “A” Service Water Pump replacement, “A” EDG Fast Start Surveillance and “A” Charging Pump Speed Controller replacement.

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

- AR #581796, 13W02 Conflicts Between OST-302-1, South Service Water Train Testing and HVH-6A, Safety Injection Pump Area Cooling Maintenance; and
- AR #594140, Risk Profile Updated with Missing Work.

Documents reviewed are listed in the Attachment.

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 Specifications (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, 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:

- AR #571871, Acrid smell from “C” Service Water Pump following shutdown;
- AR #574362, Oil leak on Hydro-Actuator for FCV-1425, “B” Motor Driven Auxiliary Feedwater Pump Flow Control Valve;
- AR #578144, Erosion and silt build up in the discharge canal;
- AR #607555, Stainless Steel Tube for FT-122, CVCS Charging Flow Transmitter is Vibrating;
- AR #601677 Qualified Life Basis for Rosemount Transmitters is Outdated; and
- AR #606896, HVH-2, Containment Recirculation Fan did not start following maintenance.

Documents reviewed are listed in the Attachment.

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

- AR #606049, Degraded Bushing on Service Water Pump "D' Kirk Key Breaker; and
- AR #607098, Pipe Line 3/8-DG-31B is Degraded But Operable.

b. Findings

No findings were identified.

1R18 Plant Modifications

.1 Permanent/Temporary Modifications

a. Inspection Scope

The inspectors reviewed the modification 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 that the modification 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 83024, Replace "B" EDG Standby Circulating Water Pump Thermal Overload Relays

Documents reviewed included procedures, engineering calculations, modification design and implementation packages, work orders, site drawings, corrective action documents, applicable sections of the UFSAR, supporting analyses, TS, and design basis information. Additionally, the inspectors reviewed test documentation to ensure adequacy in scope and conclusion. The inspectors' reviews were also intended to verify that all appropriate details were incorporated in licensing and design basis documents and associated plant procedures.

b. Findings

No findings were identified.

1R19 Post Maintenance Testing

a. Inspection Scope

For the five post-maintenance tests (PMT) 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 #1618508, Remove and Replace "A" Service Water Pump, PMT in accordance with OST-302-1, Service Water Pumps A & B, Rev. 63;
- WO #2155350, Replacement of the Inboard Bearing of the B MFP, PMT in accordance with 02155350-02,03, Standard Operational Checks;
- WO #02076970, Replace the thermal overload heaters on the "B" EDG Standby Circulation Pump Motor, PMT in accordance with WO 2221869, "B" EDG Standby Coolant Circulation Pump was not Running;
- WO #1967914, Replace MDAFW Pump "A" Relief valve, PMT in accordance with OST-201-1, MDAFW System Component Test-Train A, Rev. 34; and
- WO #2253023, Remove Foreign Material in the Dedicated Shutdown Diesel Generator, PMT in accordance with OP- 602 Dedicated Shutdown System, Rev. 66.

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

- AR #566648, Containment HVAC Motors Refurbished without 50.49 Upgrade; and
- AR #565029, RNP- New Speed Controller Actuator for "A" Charging Pump Venting Air.

b. Findings

No findings were identified.

1R22 Surveillance Testing

a. Inspection Scope

For the seven 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.

- OST-401-1, Emergency Diesel Generator (EDG) A Slow Speed Start, Rev. 58
- OST-402-1, EDG "A" Diesel Fuel Oil System Flow Test, Rev. 38
- OST-409-1, EDG "A" Fast Speed Start, Rev. 55
- EST-098, Inservice Inspection Pressure Testing of Diesel Fuel Oil System Piping, Rev. 17
- OST-201-2, Motor Driven Auxiliary Feedwater Water System Component Test, Rev. 31
- OST-401-2, Emergency Diesel Generator (EDG) B Slow Speed Start, Rev. 57

Inservice Testing Surveillance

- OST-151-4, Comprehensive Flow Test For Safety Injection Pump "A"

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

- AR #597345, Retest Charging Pump "B" OST-101-2, CVCS Component Test Charging Pump B, Due to Suspect Data; and
- AR #605791, Need to Qualify FR-124, RCP Seal Injection Flow Recorder, for Surveillance Requirement.

b. Findings

(Opened) Unresolved item (URI): Failure of "B" EDG Recirculation Damper in the Open Position Results in EDG Inoperability

Introduction: An Unresolved Item was identified regarding the discovery of HVS-5, B Emergency Diesel Generator Recirculation Damper failed in the open position. The URI is being opened to provide for additional inspection of the cause of the failure and to review the licensee's apparent cause evaluation.

Description: On May 1, 2013, "B" Emergency Diesel Generator Heating and Ventilation System Recirculation damper was found failed in the open position. Visual inspections by engineering determined that the actuator linkage was bent and contacting adjacent ductwork. This condition was identified during a walkdown of HVS-5 RECIRC-DMP following questions by inspectors regarding the position of the damper and operator's ability to properly monitor the damper position during EDG surveillance testing. Following the discovery of this issue, operations declared the "B" EDG inoperable and took immediate corrective actions to close the damper. The HVS-5-RECIRC damper is designed to open when the "B" EDG is in operation and outside ambient temperature is below approximately 50F. When outside ambient temperatures are above 60F, with the EDG in service, the recirculation damper is designed to be fully closed to prevent air circulation back to the "B" EDG room supply fan and ensure the diesel room design limit temperature, of 130F, is not exceeded.

The licensee's initial investigation determined that the failure was associated with inadequacies in the original equipment design of the air actuator and damper linkage. The air actuator was replaced on October 22, 2012, as part of an engineering change to replace obsolete and aging air motors in safety related systems. At the time of discovery, outside ambient temperature was 78F. Engineering performed a past operability evaluation and determined that based on the open damper position and a historical review of outside ambient temperatures between October 22, 2012 to May 1, 2013, the component design limit temperature for the "B" EDG would not have been exceeded. At the end of the inspection period, inspectors had additional questions regarding vendor guidance for installation of the air motor and previously identified damper failures. Additional inspection time is required to review the licensee's apparent cause evaluation. This issue will be identified as URI 05000261/2013003-02, Failure of "B" EDG Recirculation Damper in the Open Position Results in EDG Inoperability.

## 2. RADIATION SAFETY

### 2RS6 Radioactive Gaseous and Liquid Effluent Treatment

a. Inspection Scope

Radioactive Effluent Treatment Systems: The inspectors walked-down selected components of the gaseous and liquid radioactive waste (radwaste) processing and effluent discharge systems. To the extent practical, the inspectors observed and evaluated the material condition of in-place waste processing equipment for indications of degradation or leakage that could constitute a possible release pathway to the environment. Inspected components included monitor tanks, waste condensate tanks, waste gas decay tanks, ventilation filtration systems, liquid waste processing equipment, and associated piping and valves. The inspectors interviewed licensee staff regarding radwaste equipment configuration and effluent monitor operation. The inspectors also reviewed surveillance testing records for auxiliary building ventilation filtration systems and for effluent flow rate measuring devices.

Effluent Sampling and Release: The inspectors observed the collection and processing of airborne and liquid effluent samples from the lower fuel handling building vent and the condensate polisher discharge. The inspectors reviewed recent liquid and gaseous release permits including pre-release sampling results, effluent monitor setpoints, and public dose calculations. The inspectors reviewed the 2011 and 2012 Annual Radioactive Effluent Reports to evaluate reported doses to the public, review any anomalous events, evaluate groundwater sampling results, and to review Offsite Dose Calculation Manual (ODCM) changes. The inspectors also reviewed compensatory sampling data for time periods when selected radiation monitors were out of service. The inspectors discussed quality control activities for count room equipment with chemistry staff and reviewed the results of the 2011 and 2012 radiochemistry cross-check program. The inspectors also reviewed effluent source term evaluation and changes to effluent release points. In addition, the inspectors evaluated recent land use census results and meteorological data used to calculate doses to the public.

Ground Water Protection: The inspectors reviewed the licensee's continued implementation of the industry's Ground Water Protection Initiative (Nuclear Energy Institute (NEI) 07-07) and discussed any changes to the program. The inspectors discussed program guidance for dealing with spills, leaks, and unexpected discharges with licensee staff and reviewed recent entries into the 10 CFR 50.75(g) decommissioning file. The inspectors reviewed and discussed the licensee's program for monitoring of structures, systems, and components with the potential to release radioactive material to the environment. Potential effluent release points due to onsite surface water bodies were also evaluated.

Problem Identification and Resolution: The inspectors reviewed Corrective Action Program (CAP) documents in the area of gaseous and liquid effluent processing and release. The inspectors evaluated the licensee's ability to identify and resolve the identified issues. The inspectors also reviewed recent self-assessment results.

Radwaste system operation, effluent processing activities, and groundwater protection efforts were evaluated against requirements and guidance documented in the following: 10 CFR 20; 10 CFR 50 Appendix I; ODCM; Updated Final Safety Analysis Report (UFSAR) Section 11; Regulatory Guide (RG) 1.21, "Measuring, Evaluating, and Reporting Radioactivity in Solid Wastes and Releases of Radioactive Materials in Liquid and Gaseous Effluents from Light-Water-Cooled Nuclear Power Plants"; RG 1.109, "Calculation of Annual Doses to Man from Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10 CFR Part 50 Appendix I"; NEI 07-07, "Industry Groundwater Protection Initiative – Final Guidance Document"; and Technical Specifications (TS) Section 5. Procedures and records reviewed during the inspection are listed in the report Attachment.

b. Findings

No findings were identified.

2RS7 Radiological Environmental Monitoring Program (REMP)

a. Inspection Scope

REMP Implementation: The inspectors observed routine sample collection and surveillance activities as required by the licensee's environmental monitoring program. The inspectors noted the material condition and operability of airborne particulate filter and iodine cartridge sample stations and observed collection of weekly air samples at selected monitoring locations. The inspectors checked environmental thermoluminescent dosimeters for material condition at selected sites. The inspectors also observed collection of surface water samples in Black Creek and the ash basin. In addition, the inspectors reviewed and evaluated land use census results, changes to the ODCM, monitoring for hard-to-detect radionuclides, and sample collection/processing activities.

The inspectors reviewed the last two calibration records for selected environmental air samplers. The inspectors also reviewed the 2011 and 2012 Radiological Environmental Operating Report, the 2011 and 2012 Annual Radioactive Effluent Report, results of the 2011 and 2012 interlaboratory cross-check program for the Harris Energy and Environmental Center, and procedural guidance for environmental sample collection and processing. Selected environmental measurements were reviewed for consistency with licensee effluent data, evaluated for radionuclide concentration trends, and compared with detection level sensitivity requirements. The inspectors reviewed the licensee's groundwater monitoring program as part of Inspection Procedure 71124.06.

Meteorological Monitoring Program: The inspectors observed the physical condition of the tower and its instrumentation and discussed equipment operability and maintenance history with licensee staff. The inspectors evaluated transmission of locally generated meteorological data to other licensee groups such as main control room operators. For the meteorological measurements of wind speed, wind direction, and temperature, the inspectors reviewed the last two calibration records for applicable tower instrumentation. The inspectors also evaluated measurement data recovery from 2012 thru April 2013.

Problem Identification and Resolution: The inspectors reviewed selected Nuclear Condition Reports (NCRs) in the areas of radiological environmental monitoring and meteorological tower maintenance. The inspectors evaluated the licensee's ability to identify and resolve the issues in accordance with licensee procedures. The inspectors also evaluated the scope of the licensee's internal audit program and reviewed recent assessment results.

REMP implementation, meteorological monitoring, and groundwater protection activities were reviewed against the guidance and requirements of 10 CFR Part 20; Appendices E and I to 10 CFR Part 50; TS Section 5.0; UFSAR Chapter 2; ODCM; RG 4.15, "Quality Assurance for Radiological Monitoring Programs (Normal Operation) - Effluent Streams and the Environment"; Safety Guide 23, "Onsite Meteorological Programs"; Branch Technical Position, "An Acceptable Radiological Environmental Monitoring Program" – 1979; and approved licensee procedures. Documents reviewed are listed in the report Attachment.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator (PI) Verification

a. Inspection Scope

The inspectors verified the PIs identified below. For each PI, the inspectors verified the accuracy of the PI data that had been previously reported to the NRC by comparing those data to the actual data, as described below. The inspectors also compared the licensee's basis in reporting each data element to the PI definitions and guidance contained in NEI 99-02, "Regulatory Assessment Indicator Guideline," Rev. 6. In addition, the inspectors interviewed licensee personnel associated with collecting, evaluating, and distributing these data.

.1 Initiating Events Cornerstone

- Unplanned Scrams per 7000 Critical Hours

For the period from the second quarter of 2012 through the first quarter of 2013, the inspectors reviewed a selection of licensee event reports, operator log entries, daily reports (including the daily CR descriptions), monthly operating reports, and PI data sheets to verify that the licensee had accurately identified the number of scrams that occurred during the subject period. The inspectors compared those numbers to the numbers reported by the licensee for the PI. The inspectors also reviewed the accuracy of the number of critical hours reported, and the licensee's basis for crediting normal heat removal capability for each of the reported reactor scrams.

.2 Mitigating Systems Cornerstone

- Mitigating Systems Performance Index, Emergency AC Power
- Safety System Functional Failures

For the period from the second quarter of 2012 through the first quarter of 2013, the inspectors reviewed, licensee event reports, 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.

b. Findings

No findings were identified.

.3 Public Radiation Safety Cornerstone

The inspectors reviewed the Radiological Control Effluent Release Occurrences PI results for the Public Radiation Safety Cornerstone from March 2012 through March 2013. The inspectors reviewed cumulative and projected doses to the public contained in liquid and gaseous release permits and NCRs related to Radiological Effluent Technical Specifications/ODCM issues. The inspectors also reviewed licensee procedural guidance for collecting and documenting PI data. Documents reviewed are listed in the report 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 the following AR's for detailed review. The inspectors reviewed the associated condition report to verify:

- complete and accurate identification of the problem in a timely manner;
- evaluation and disposition of performance issues;
- evaluation and disposition of operability and reportability issues;
- consideration of extent of condition, generic implications, common cause, and previous occurrences;

- appropriate classification and prioritization of the problem;
- identification of root and contributing causes of the problem;
- identification of corrective actions which were appropriately focused to correct the problem; and
- completion of corrective actions in a timely manner.

The inspectors also reviewed the ARs listed below 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.

- AR #591997, Action Plan for Operator Workarounds not tracked.
- AR #593062, RC-519A and 519B, Primary Water to Reactor Coolant Pump Standpipes and Pressurizer Relief Tank containment isolation valves, slow closure when pressurized
- AR #572871, Testing of Gravity feed for Unit 1 Tanks to Unit 2 DFOST

Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

.4 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 2013 through June 2013, although some examples may expand beyond those dates when the scope of the trend warranted. The reviews 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, CAP Trending and Analysis.

b. Assessment and Observations

No findings were identified. 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.

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 Operation of an Independent Spent Fuel Storage Installation (ISFSI) (IP 60855.1)

a. Inspection Scope

The inspectors performed a walkdown and external inspection of the two ISFSIs on site (reference dockets 72-3 and 72-60). The inspectors observed the general condition of the structures and passive cooling passages.

b. Findings

No findings were indentified.

4OA6 Meetings, Including Exit

On July 25, 2013, the resident inspectors conducted the final exit meeting, with Mr. R. Gideon and other members of the licensee's staff, to discuss the inspection results. The inspectors verified that no proprietary information was retained by the inspectors or documented in this report.

On May 23, 2013, the health physicis inspectors discussed the inspection results wih the licensee staff. The inspectors verified that no proprietary information was retained by the inspectors or documented in this report.

ATTACHMENT: SUPPLEMENTAL INFORMATION

## KEY POINTS OF CONTACT

Licensee personnel

T. Cosgrove, Plant General Manager
S. Connelly, Licensing
H. Curry, Training Manager
D. Douglas, Maintenance Manager
R. Gideon, Vice President
M. Glover, Director – Site Operations
R. Hightower, Licensing/Reg. Programs Supervisor
D. Hoffman, Nuclear Oversight Manager
K. Holbrook, Operations Manager
J. Kammer, Engineering Director
K. Moser, Outage & Scheduling Manager
J. Rotchford Jr., Environmental & Chemistry Superintendent
C. Sherman, Radiation Protection Superintendent
E. Warren, Acting Radiation Protection Manager
S. Williams, Chemistry Manager
S. Wheeler, Organizational Effectiveness Manager

NRC personnel

G. Hopper, Chief, Reactor Projects Branch 4

## LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

| | | |
|---|---|---|
| 05000261/2013003-01 | NCV | Failure to Scope in all CVCS Instruments used in EOPs in the maintenance rule program (Section 1R12) |

Opened

| | | |
|---|---|---|
| 05000261/2013003-02 | URI | Failure of “B” EDG Recirculation Damper in the Open Position Results in EDG Inoperability (Section 1R22) |

Attachment

## LIST OF DOCUMENTS REVIEWED

### Section 1R01: Adverse Weather Protection

Action Requests
610960, AP-053 Improvement

Procedures
PLP-118, Hot Weather Operations, Rev. 11
AP-53, Guidelines for Tornado Preparation, Rev. 1

### Section 1R04: Equipment Alignment

Procedures
OP-43, Feedwater System, Rev.48
OP-604, Diesel Generators A and B, Rev. 99
OP-909, Fuel Oil System, Rev. 43
OP-304, Chemical Volume and Control System, Rev. 107

### Section 1R05: Fire Protection

UFSAR Sections of Appendix 9.5.1A

Procedures
OMM-003, Fire Protection Pre-Plans/Unit No.2, Rev.59
Drawings
HBR2-11937, Fire Pre-Plan Transformer Yard, Rev.2
HBR2-11937, Fire Pre-Plan 4160 V Switchgear Room, Rev. 0
HBR2-11937, Fire Pre-Plan Safety Injection Pump Room, Rev. 0
HBR2-11937, Fire Pre-Plan Rod Control Room, Rev.0
HBR2-11937, Fire Pre-Plan “B” Diesel generator Room, Rev. 3

Other documents
RNP-M/MECH-1692, Evaluation of Non-Standard Fire Barrier Penetration Seals in Fire Zone 21, Rev .1

### Section 1R06: Flood Protection Measures

Work Orders
WO #2222253
WO #2229799

Other documents
EC 52696, Service Water Cable Project, Rev.0

**Section 1R11: Licensed Operator Requalification**

Procedures
OP-105, Maneuvering the Plant When Greater than 25 percent Power, Rev. 55
TAP-403, Examination and Testing, Rev 43
TAP-410, NRC License Examination Security Program, Rev 20
TTP -200, Licensed Operator/Shift Technical Advisor Continuing Training Program, Rev 21
TRN-NGGC-0002, Performance Review and Remedial Training, Rev 4
TRN-NGGC-0440, Regulated Exam Security, Rev 0
TRN-NGGC-0420, Conduct of Simulator Training and Evaluation, Rev 3

Test No: 1, Real Time Simulation Verification, Rev 12, 12/13/12
Test No.: 2.0.1, Full Power Simulator Stability Test, Rev. 12, 12/31/12
Test No.2: 2.0.2, Full Power – Steady State Comparison Test, Rev. 10, 1/7/13
Test No. 4.2, Simultaneous Trip of MFW Pumps Transient Test, Rev 16, 11/17/12
Test No. 4.4, Simultaneous Trip of all RCP Transient Test, Rev 18, 11/17/12
Test No. 4.9, DBA Main Steam Line Break Transient Test, Rev. 21, 11/18/12
Test No. 4.10, PZR PORV Stuck Open Without SI Transient Test, Rev. 20, 11/19/12

2013 Exam 1, Revision 0, 1/24/13
2013 Exam 6, Revision 0, 1/24/13
2013 Exam 8, Revision 0, 1/24/13
2013 Exam 9, Revision 0, 1/24/13
2013 Exam 13 Revision 0, 1/29/13
2013 Exam 18, Revision 0, 2/7/13

Cycle 28 Core Update – Data Package 240, Rev 35, 2/22/12
Plant Event of 3/28/12 – Data Package 242, Rev. 0, 5/12/12

JPM-CR-004, Respond to ATWS Event, Rev. 14
JPM IP-013, Perform AOP-003, Rev. 12
JPM IP-037, Deenergize Aux. Panels and Emergency Busses Using DSP-002, Att. 2, Electrical Operator Actions, Rev. 7
JPM IP-044, Perform Att. 2 of EPP-9, Local Cold Leg Recirc Lineup, Rev. 7
JPM CR-055, Respond to a Loss of Circulating Water Pump, Rev. 1
JPM CR-067, Turbine Trip Below P-8, Rev. 2
JPM CR-084, Reactor Trip Response – Excessive RCS Cooldown, Rev. 2
JPM CR-118, Perform Rod Cluster Exercise IAW OST-011, Rev. 2
JPM CR-119, Perform a Post LOCA Cooldown and Depressurization IAW EPP-8, Rev. 2
JPM IP-123, Taking Local Handwheel Control of “C” Feedwater Regulating Valve, Rev. 2

2013 Biennial SRO Exam, 2/7/13
2013 Biennial RO Exam, 2/7/13

**Section 1R12: Maintenance Effectiveness**

Procedures
OST-101-1, CVCS Component Test Charging Pump A, Rev. 52
MST-801, Dedicated Shutdown Diesel, DS Uninterruptable Power Supply and AMSAC UPS Batteries (Weekly), Rev.23
MST-802, Dedicated Shutdown Diesel, DS Uninterruptable Power Supply and AMSAC Batteries (Annual), Rev.14
PM-429, AMSAC System Test, Rev. 11

Action Requests
272069, "A" Charging Pump Stuffing Box Temperatures
474424, "A" Charging Pump Stuffing Box Temperatures
599085, "A" Charging Pump Stuffing Box Temperature Exceeds Break In
599547, Unable to Break-in in the "A" Charging Pump IAW OP-301-1

Other documents
HBR2-7738, Connection Diagram Uninterruptible Power Supply, Rev. 5
NLS-87-219, H.B Robinson Plant-Specific AMSAC Submittal, dated October 30, 1987
HBR2-11259, Logic Diagram AMSAC System, Rev. 1
NGG-PMB-CHG-01, Battery Charger, Rev. 0
CVCS Maintenance Rule Expert Panel Meeting Minutes 1/29/13
CVCS Maintenance Rule Scoping and Performance Criteria

**Section 1R13: Maintenance Risk Assessments and Emergent Work Evaluation**

Other documents
13W15 Risk Profile, April 8-12 "a" Train Work Week, Rev.3
OMM-021, Adverse Weather Operations, Rev. 44

**Section 1R15: Operability Evaluations**

Other documents
EQDP-0401, Environmental Qualification Documentation Package for Rosemount 1154 Pressure Transmitter, Rev.15
LP-I-RCS-FT-435-CH II, RCS Flow Transmitter FT-435 Calibration Protection Channel (White), Rev. 0
PIC-002, D/P Electronic Transmitter (4-20 mA OUTPUT), Rev. 14
TMM-036, Environmentally Qualified Electrical Equipment Required Maintenance, Rev.36
EC 92257, Evaluate Tubing on FT-122, CVCS Charging Flow Transmitter

**Section 1R18: Plant Modifications**

Action Requests
AR #597323 SB Circ Wtr Pp on B EDG was not running/ Replace Thermal Overload Heater Relays
Work Orders
WO #2076970, Install DG-B-SB-CIRC and DG-B-SBCCP-MTR IAW EC 83024

**Section 1R19: Post Maintenance Testing**

Action Requests
AR #601028, B MFP Coupling Inspection
AR #600965, Confirmed Inboard Bearing Damage for "B" MFP
AR #597323, "B" EDG Stand-by Coolant Circulation Pump Was not Running
AR#611618, Foreign Material in DSDG

Other documents

**Section 1R22: Surveillance Testing**

Procedures
OST-401-1, EDG A Slow Speed Start, Rev. 58, 51, 47
OST-151-4, Comprehensive Flow Test for Safety Injection Pump "A", Rev. 19
OST-402-1, EDG "A" Diesel Fuel Oil System Flow Test, Rev. 32
OST-401-2, EDG B Slow Speed Start, Rev.58

Action Requests
AR #327813, Evaluate EDG Inservice Vibration Limits
AR #600247, FO-13 Well Flooded with Rainwater
AR #568448, Small Gap Identified on HVS-5-RECIRC-DMP during EC 82844
AR #488830HVE-17 Discharge Dampers Did Not Open When Fan Started
AR#496430, "A" EDG Recirculation Damper was Found to be partially cracked open ½"
AR#612498, Evaluate Air Motors on Dampers without Gags

Other documents
G-19024D, Fuel Oil System Flow Diagram, Rev.23
VTM 728-400-44, MP918A & B Pneumatic Damper Operators
R0033, Inside Auxiliary Rounds, rev. 72
EC 44612, Replacement Honeywell Pneumatic Operator, Rev. 0

Work Orders
01712287-01, EST-098, ISI Pressure Test of EDG Fuel Oil Piping

**Section 2RS6: Radioactive Gaseous and Liquid Effluent Treatment**

Procedures and Manuals
Offsite Dose Calculation Manual, Rev. 33
EMP-023, "Liquid Waste Release and Sampling", Rev. 57
EMP-024, "ODCM Surveillance", Rev. 63
EMP-025, "Gaseous Effluent Sampling and Analysis Requirements", Rev. 56
CAP-NGGC-0200, "Condition Identification and Screening Process", Rev. 36

Records and Data
Robinson Nuclear Plant (RNP) Groundwater Contamination Risks Sheet (Current at time of inspection)
H.B. Robinson Nuclear Plant Well Abandonment Report, 12/10/2012

Groundwater Protection – Priority Index for RNP, 12/2010
10 CFR 50.75(g) File
Annual Radioactive Effluent Release Reports, 2011 and 2012
50.59 Screen 00492395, ODCM Rev. 33
Groundwater Monitoring Well Sample Results, January 2007 – January 2013
Low-level Radioactive Waste Analysis Data Sheet, DAW, 2/23/12
Auxiliary Building Emergency Exhaust System Fans HVE-5A and HVE-5B, inspection and test records, 12/1/10, 8/8/12
Auxiliary Building and Emergency Diesel Ventilation Systems Fans HVE-2A, HVE-2B, HVS-5, HVS-6, HVE-17, and HVE-18, inspection and test records, 7/28/10 and 12/20/11
Gaseous Radioactive Waste Release Permits, 110215.021.040.G, 110222.021.041.G, 130087.017.031.G, 130084.021.017.G
Liquid Radioactive Waste Release Permits, 130068.005.017.L, 130059.001.003.L
OMM-007, Rev. 86, Attachment 10.1, F-14 Plant Vent Flow OOS, 12/12/11 – 12/19/11
OMM-007, Rev. 86, Attachment 10.1, R-14C OOS, 2/28/12 – 2/29/12
OMM-007, Rev. 86, Attachment 10.1, R-23 OOS, 2/11/12 – 2/16/12
Results of Radiochemistry Cross-Check Program, 2011 - 2012

CAP Documents
R-EC-11-01, Assessment of Environmental and Chemistry
NCR 503212
NCR 608309
NCR 491619
NCR 607633
NCR 568947
NCR 544873
NCR 567039
NCR 515953

**Section 2RS7: Radiological Environmental Monitoring Program (REMP)**

Procedures and Guidance Documents
Offsite Dose Calculation Manual, Rev. 33
EMP-001, “Environmental Sampling”, Rev. 59
EMP-003, “Meteorological Tower Inspection”, Rev. 8
EMP-004, “Environmental Air Sampler Operation and Calibration”, Rev. 18
CAP-NGGC-0200, “Condition Identification and Screening Process”, Rev. 36

Records and Data
2011 and 2012 Annual Radiological Environmental Operating Reports
2012 Annual Radioactive Effluent Report
Environmental Weekly Sampling Work Sheet, 05/20/2013
Environmental Air Sampler Calibration Worksheet, Sampler BNP-1, 05/12/2012
Environmental Air Sampler Calibration Worksheet, Sampler BNP-1, 02/18/2013
Environmental Air Sampler Calibration Worksheet, Sampler BNP-2, 05/03/2012
Environmental Air Sampler Calibration Worksheet, Sampler BNP-2, 02/18/2013
Environmental Air Sampler Calibration Worksheet, Sampler BNP-3, 05/02/2012
Environmental Air Sampler Calibration Worksheet, Sampler BNP-3, 02/18/2013

Environmental Air Sampler Calibration Worksheet, Sampler BNP-4, 05/03/2012
Environmental Air Sampler Calibration Worksheet, Sampler BNP-4, 02/18/2013
Environmental Air Sampler Calibration Worksheet, Sampler BNP-5, 04/24/2012
Environmental Air Sampler Calibration Worksheet, Sampler BNP-5, 02/16/2013
2011 Annual Radiochemistry and Environmental Cross Check Program Summary, 04/09/2012
2012 Annual Radiochemistry and Environmental Cross Check Program Summary, 02/04/2013
2012 Land Use Census Report, 06/05/2013
Results of Environmental Cross Check Program, Harris Energy & Environmental Center, 1st quarter, 2nd quarter, 3rd quarter 2012
Meteorological Tower Instrument Data Recovery Results, 2011 and 2012
WO 02048480, Calibration of Met Tower, 08/31/12
WO 01974418, Calibration of Met Tower, 03/21/12

CAP Documents
R-EC-11-01, Assessment of Environmental and Chemistry, 12/13/11
NCR 408307
NCR 593038
NCR 538930
NCR 515593
NCR 515953
NCR 504319
NCR 468235
NCR 597865
NCR 572604
NCR 553115
NCR 537210
NCR 539077

**Section 4OA1: Performance Indicator Verification**

REG-NGGC-0009, "NRC Performance Indicators and Monthly Operating Report Data", Rev. 11

**Section 4OA2: Identification and Resolution of Problems**

Procedures
CAP-NGGC-0200, Corrective Action Program, Rev. 36
CAP-NGGC-0206, Corrective Action Program Trending and Analysis, Rev. 6
OPS-NGGC-1000, Conduct of Operations, Rev. 10
OPS-NGGC-1316, Aggregate Risk Impact Assessment Program, Rev. 1
OP-103, Pressurizer Relief Tank Control System, Rev. 19
OST-701, Inservice Inspection Valve Test (Quarterly), Rev 28 performed June 6, 1994

Action Requests
AR #570709, Post Modification Testing following ESR-94-00273 to improve stroke times for valves RC-519A and 519B

Other documents
Key Performance Indicator Dashboard
Corrective Action Program Health Scorecard
Department Trending/CAP Rollup Meeting Reports
Corrective Action Backlog Report
SP-1600, Simultaneous Testing of RC-519A and RC-519B, Rev. 0
NRC Inspection Report 50-261/93-03, dated March 4, 1993

**Section 4OA5 Other Activities**

Procedures
IFS-NGGC-0010, Start-up or Accident Temperature Monitoring of the Horizontal Storage Module, Rev.7
AOP-028, ISFSI Abnormal Events, Rev. 8
24P-ISFSI Temperature Monitoring System Calibration Check, Rev.3
OPS-RFPC-00026, Robinson Fossil Plant Fuel Oil Records- Ordering, Receiving and Transferring, Rev. 7
PM-M-FO-PIPE-001, Fuel Oil Transfer Piping Leak Check, Rev. 0
OST-22, Weekly Surveillances, Rev. 18

Corrective Action Documents
576823, Perform Grout Repair to Outlet Vent Cover Between HSM 13/15
556936, MISSED REPORTING OF MSPI FAILURE
538659, EDG STANDBY JACKET WATER MECH SEAL LEAK
544872, “B” EDG VERY SMALL LUBE OIL LEAK FROM STRAINER INLET FLANGE
545094, “A” EDG VERY SMALL OIL LEAK FROM GOVERNOR GASKET AREA
572934, Oil Drip Pan Below “B” EDG Standby Oil Pump Overfilling
584873, EDG Current Meter Found Low Out of Tolerance
605952, Maintenance Rule Scoping for Unit 1 Fuel Oil Pumps

Other Documents
Material License No.SNM-2502, Independent Spent Fuel Storage Installation, Amendment No. 1
System health Reports for First Quarter 2012 - First Quarter 2013
LER #2011-001-01, Condition Prohibited by Technical Specifications When Non-Seismic System Was Aligned to Refueling Water Storage Tank due to Regulatory Requirements Not Adequately Incorporated in Plant Documentation
LER #2012-002-01, Unplanned LCO 3.5.4 Entry Due to RWST Alignment to Purification
LER #2012-004-00, Reactor Tripped due to a Turbine Trip Caused by a Feedwater Isolation Signal from Steam Generator 'B' High Level
RNP-F/PSA-0057, Rev. 15, MSPI Basis Document
EC 75060, Replace 24P ISFSI RTDs, Rev.1
PM-467, Fuel Oil Transfer Pressure Test, Rev. 15
NGGM-IA-0019, RNP Diesel Fuel Oil Testing Interface Agreement, September 2, 2003

**Calculations**

EC 91763, Diesel Fuel Oil Storage Tank Gravity Fill Evaluation
82226/03-M-04-F, Unit 1 Fuel Oil Storage Capacity Available to DFOST for unit 2 EDG Fuel Oil Consumption Calculation- HBR- Unit 2