UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
SAM NUNN ATLANTA FEDERAL CENTER
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ATLANTA, GEORGIA 30303-8931

November 17, 2006

Carolina Power and Light Company
ATTN: Mr. Tom Walt
Vice President - Robinson Plant
H. B. Robinson Steam Electric Plant
Unit 2
3851 West Entrance Road
Hartsville, SC 29550

SUBJECT: H. B. ROBINSON STEAM ELECTRIC PLANT UNIT 2 - NRC PROBLEM IDENTIFICATION AND RESOLUTION INSPECTION REPORT NO. 05000261/2006009

Dear Mr. Walt:

On October 20, 2006, the US Nuclear Regulatory Commission (NRC) completed an inspection at your H.B. Robinson reactor facility. The enclosed inspection report documents the findings, which were discussed on October 20, with Mr. Noll and other members of your staff.

This inspection examined activities conducted under your license as they relate to the identification and resolution of problems, and compliance with the Commission's rules and regulations and the conditions of your operating license. Within these areas, the inspection involved examination of selected procedures and representative records, observations of plant activities, and interviews with personnel.

On the basis of the samples selected for review, there were no findings of significance identified during this inspection. The team concluded that, in general, problems were properly identified, evaluated, and resolved within the problem identification and resolution (PI&R) programs. However, during the inspection, several examples of minor problems were identified, including minor deficiencies associated with cause determinations, isolated problems with the implementation of corrective actions, instances of non-compliance with procedural requirements to enter issues identified by the OE program into the CAP, the failure to identify a trend, and corrective actions that were ineffectively tracked or had not occurred.

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
Reactor Projects Branch 4
Division of Reactor Projects

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

cc w/encl: (See page 3)

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).

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Report to Tom Walt from Randall A. Musser dated November 17, 2006.

SUBJECT: H. B. ROBINSON STEAM ELECTRIC PLANT UNIT 2 - NRC PROBLEM IDENTIFICATION AND RESOLUTION INSPECTION REPORT NO. 05000261/2006009

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U. S. NUCLEAR REGULATORY COMMISSION

REGION II

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

Report No: 05000261/2006009

Licensee: Carolina Power & Light (CP&L)

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

Location: 3581 West Entrance Road
Hartsville, SC 29550

Dates: October 2 - 6, 2006 (Week 1)
October 16 - 20, 2006 (Week 2)

Inspectors: R. Carrion, Reactor Inspector (Lead Inspector)
D. Jones, Resident Inspector, Robinson
G. Wilson, Resident Inspector, North Anna

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

Enclosure

## SUMMARY OF ISSUES

IR 05000261/2006009; Carolina Power & Light Company; on 10/2/2006 - 10/20/2006; H. B. Robinson Steam Electric Plant Unit 2; Identification and Resolution of Problems.

The inspection was conducted by a reactor inspector and two resident inspectors. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

Identification and Resolution of Problems

No findings of significance were identified. The licensee was effective at identifying problems at a low threshold and entering them into the Corrective Action Program (CAP). The licensee properly prioritized issues and routinely performed adequate evaluations that were technically accurate and of sufficient depth. Management's involvement in the review of issues documented in the program was timely and appropriate. Self-assessments and audits of the CAP, and trend reviews were critical, thorough, and effective in identifying program deficiencies. Although not reflective of the general assessment into licensee problem identification, the inspectors identified a trend that was not identified by the licensee. The trend involves equipment failures where the root or contributing cause was identified as vendor-related.

Prioritization and evaluation of problems in the CAP were effective. The technical adequacy and depth of evaluations, proposed corrective actions and timeliness were commensurate with the safety significance of the issue. The inspectors identified only minor deficiencies associated with cause determinations. Overall, this area of the program was considered to be effective.

The CAP was effective in correcting problems consistent with the importance to safety of the issues. Effective management involvement in the process was evident. Outstanding corrective actions were tracked and delays in the implementation of corrective actions received the appropriate level of management attention. During the course of the inspection, the inspectors identified isolated problems with the implementation of corrective actions. However, these issues did not affect the overall assessment of corrective action implementation.

Operating Experience (OE), from within the Progress nuclear fleet, the industry, and the NRC, was being effectively used in the CAP. OE was evaluated for applicability at the station and was also used in the assessment of issues that occurred at Robinson. However, during the inspection the inspectors identified several instances where the licensee did not comply with the requirements of their procedure to enter issues identified by the OE program into the CAP. These instances had no safety impact and, therefore, were considered to be minor. Furthermore, these issues did not affect the overall assessment of the use of OE.

Self-assessments were effective in identifying issues, and prioritizing and evaluating them in accordance with their risk significance for operability, reportability, common cause, generic concerns, extent of condition, and extent of cause. Resulting corrective actions were generally effective to prevent recurrence.

Individuals actively utilized the CAP and employee concerns program (ECP). Issues entered into the ECP received the appropriate level of management involvement. Management demonstrated sensitivity to organizational attitude toward the CAP and a safety-conscious work environment. Based on discussions conducted with licensee and contract employees and a review of station activities, site personnel felt free to report safety concerns.

## REPORT DETAILS

4. OTHER ACTIVITIES (OA)

4OA2 Problem Identification and Resolution

a. Assessment of the Corrective Action Program

(1) Inspection Scope

The inspectors reviewed program documents associated with the corrective action program (CAP) which described the administrative process for documenting and resolving issues via Nuclear Condition Reports (NCRs) which are tracked as Action Requests (ARs) . The inspectors reviewed ARs selected across the seven cornerstones to verify that problems were being properly identified and prioritized, appropriately characterized and evaluated, and entered into the CAP in accordance with the procedural requirements of the CAP. For the assessment of the CAP, the inspectors focused on several risk-significant systems which included the Residual Heat Removal (RHR), Auxiliary Feedwater (AFW), Safety Injection (SI), Emergency Diesel Generator (EDG), and pressurizer and main steam power-operated relief valves (PORVs). The inspectors reviewed a sampling of approximately 100 ARs from over 4000 that had been generated since the previous problem identification and resolution inspection (October 2004). The review included issues associated with previously identified violations of NRC requirements. The inspectors reviewed cause evaluations to verify that the evaluation was commensurate with the safety significance of the issue, and that the evaluation addressed operability, reportability, common cause, generic concerns, and extent of condition, as appropriate. For significant conditions adverse to quality, the inspectors checked that the licensee adequately identified the causes and corrective actions to prevent recurrence.

For the risk-significant systems selected, the inspectors reviewed ARs/NCRs, system health reports, maintenance history, and completed Work Orders (WOs) to verify that problems were being identified. The inspectors conducted plant walkdowns of the accessible portions of selected systems to assess the material condition and to identify any deficiencies that had not been entered into the CAP. The inspectors reviewed selected industry and NRC operating experience items associated with the systems and components to verify that these were appropriately evaluated for applicability and that issues identified were entered into the CAP.

The inspectors reviewed licensee audits and self-assessments, including those which focused on problem identification and resolution, to verify that findings were entered into the CAP and to verify that these findings were consistent with the NRC's assessment of the licensee's CAP; were being entered into the CAP; and that appropriate corrective action was taken to resolve program deficiencies. Program trend reports and statistics were reviewed to verify that indicated trends

were entered into the CAP at the appropriate level. The inspectors attended site meetings including daily Operational Focus Meeting (plant status, emerging issues, etc.); Management Roundtable (MRT) meetings (AR screening); Robinson Self-Evaluation Board (RSEB) meeting (focused on effectiveness reviews of the CAP); Unit Evaluator meeting (AR screening and evaluations); and the Operating Experience fleet telecon to assess how issues were raised, discussed, and dispositioned through established programs and to gauge the effectiveness of the screening process in ensuring that problems were properly entered into the CAP. The inspectors reviewed RESB meeting minutes for the review period. The inspectors also met with the Employee Concerns Program Coordinator to discuss the program and how issues raised therein are integrated into the CAP and reviewed selected submittals. The inspectors also held discussions with site personnel, both contract and licensee, to evaluate the threshold for identifying issues and entering them into the CAP. Documents reviewed are listed in the Attachment.

(2) Assessment

Identification of Issues. The team determined that the licensee was generally effective at identifying problems and entering them into the CAP; the threshold for initiating NCRs/ARs was low; and employees were encouraged to initiate them. Equipment performance issues were being identified at low threshold levels and entered into the CAP for monitoring, follow-up, and resolution. However, the inspectors identified an adverse equipment performance trend. The inspectors noted that the four ARs listed below identified vendor-related issues as the root or contributing cause.

- AR 200586, Second Trip of D Instrument Air Compressor, has a contributing cause that states “Proprietary vendor information not available to RNP personnel.”

- AR 179668, Failure of CCW Pump A to Start, states that the root cause was that information from Westinghouse concerning the availability of the new style motor cutoff switch was not transmitted to the users of this style breaker by any formal means. The investigation stated that a Corrective Action to Prevent Recurrence (CAPR) would not be identified for the root cause because RNP does not have control over how Westinghouse disseminates information.

- AR 168241, A EDG Solenoid DA-23A Failed, Unplanned LCO Entries, states that the “Most likely root cause is a change in manufacturing process for these coils prior to 2002.”

- AR 160930, Number of Functional Failures Exceeded the Criteria. The cause in the AR determined that the vendor (Ronan) failed to properly setup the devices (I/P transducers for the main steam PORVs) at the

factory so that they would produce max air pressure when the power was removed."

The inspectors determined that the licensee's corrective actions for each vendor-related issue was adequate. However, the inspectors concluded that the licensee did not fully utilize their cognitive trending process to identify the trend. Subsequently, the licensee acknowledged the trend, but opted not to initiate an AR/NCR because of the lack of current vendor-related issues.

Prioritization and Evaluation of Issues. In general, the licensee's prioritization and evaluation of issues in the CAP were considered to be effective. The technical adequacy and depth of evaluations, as documented in individual ARs, were acceptable. The licensee properly prioritized proposed corrective actions in a manner commensurate with the safety significance of the issue. The inspectors determined that site trend reports were thorough and that a low threshold was established for evaluation of potential trends. Based on the total number of ARs reviewed during the inspection, the inspectors concluded that the licensee's CAP was generally being effectively implemented with respect to evaluation of problems. However, the inspectors determined that the evaluation for NCR 18366, MCC-6(13C) RHR-759B, Breaker Potential Malfunction, was inadequate because it lacked adequate documentation to support its conclusion. The licensee could not produce a written evaluation for an investigation that was performed by the corporate engineering center. Upon further review, the licensee provided additional information that supported their conclusion. The inspectors considered this issue to be minor because there was no safety impact.

For the period between October 2004 and September 2006, the inspectors determined that the station conducted an adequate number of root cause analyses (RCA) based on the overall number and significance of issues entered into the CAP; more than sixty Priority 1 ARs, which required a RCA to be performed, were issued. In addition, over three thousand Priority 2 ARs, which required an apparent cause analysis to be performed, were generated during this period. The classifications were consistent with established procedures. A variety of RCA techniques were used (barrier analysis, culpability decision trees, cause and effect analysis, support/refute methodology, trend analysis, etc.), depending upon the type of issue to be analyzed, i.e., equipment failure, human performance, etc. While most of the root cause analyses reviewed by the inspectors were detailed and thorough, an example of a deficient root cause evaluation was identified. Specifically, AR 160930, which dealt with set point issues of Ronan I/P transducers used for the main steam PORVs, determined the root cause of the problem to be that "the vendor failed to properly setup the devices at the factory so that they would produce max air pressure when the power was removed." However, the devices were not required by contract/purchase order to be calibrated. Therefore, the root cause was that the calibration was not specified in the original purchase order. However, even if the actual root cause had been identified, the corrective action as determined would

still be the desired action to prevent recurrence. Therefore, the inspectors determined this issue to be minor. The licensee generated NCR 208824 to document this information.

Effectiveness of Corrective Actions. Based on a review of numerous corrective action plans and their implementation, the team found, for the most part, that the licensee's corrective actions developed and implemented for problems were timely, effective, and commensurate with the safety significance of the issues. Management involvement in the process was effective; the age of outstanding corrective actions was tracked; the bases for delays in the implementation of corrective actions received the appropriate level of management attention, and the delays were reasonable. Effectiveness reviews and audits were generally of good depth and correctly identified issues. However, the following cases were identified in which effectiveness of the corrective actions was not evident to the inspectors:

- NCR 160962. The inappropriate act was identified as being programmatic with the cause stated as "Regulatory clarification of acceptable preconditioning methods." The corrective actions did not address any programmatic concerns.

- NCR 193416. The investigation discusses two inappropriate acts (OST 252-2 and OMM-001-8 not being adhered to); however, corrective action was taken for only OST-252-2. No corrective action was identified for OMM-001-8.

- NCR 106836. This is a Priority 5 AR (an enhancement, not an adverse condition) that was initiated from a trend review in October 2003 which was closed to an Action List in December 2004. Only one action of the list has been completed to date; the remaining actions are on hold due to resource availability. This is a timeliness issue.

- NCR 154571. The enhancement to initiate procedure revision requests for several EPPs and AOPs was not initiated.

- NCR 139933. One of the corrective actions identified was vague in stating what was required. Therefore, it was not possible to determine the adequacy of the corrective actions taken. The documentation for the completion of this action was minimal. CAP-NGGC-0200, Section 9.12.1, requires the completion reviewer to "Verify that the completed assignment is adequately documented to clearly establish that the expected results were achieved." Also, an effectiveness review was performed for the NCR and did not identify this deficiency.

The licensee generated NCR 208834 to address the issues of NCR 160962; NCR 208836 to address the issues of NCR 193416; and NCR 208489 to address the issues of NCR 154571. The licensee will make the enhancements

identified in NCR 106836 as resources permit and planned no additional action on NCR 139933 because there are sufficient barriers in place to mitigate the issue addressed. The inspectors determined that the licensee's actions related to these matters were appropriate.

(3) Findings

No findings of significance were identified.

b. Assessment of the Use of Operating Experience (OE)

(1) Inspection Scope

The inspectors interviewed the CAP supervisor, OE coordinator, and attended an OE fleet telecon to assess how issues were raised, discussed, and dispositioned through established programs, and evaluated CAP documentation to determine if OE was being used effectively in the CAP. In addition, the inspectors reviewed the licensee's OE database and reviewed evaluations of selected Progress Energy and industry OE information, including ARs from the other plants in the corporate fleet, as well as Institute of Nuclear Power Operations (INPO) OE, NRC generic letters and information notices, and generic vendor notifications to ensure that issues applicable to Robinson were appropriately addressed. Procedure CAP-NGGC-0202, Operating Experience Program, was reviewed to verify that the requirements delineated in the program were being implemented at the station.

(2) Assessment

The inspectors determined that operating experience, both from within the Progress nuclear fleet and the industry, was being used regularly in the CAP. OE was evaluated for applicability at the station and used in the assessment of issues that occurred at Robinson.

The Operating Experience program was coordinated by the corporate office for all four nuclear sites and implemented by the site's OE coordinator. Personnel in the corporate office screen incoming OE from outside the Progress organization and transfer the information deemed to be applicable into the OpEx database. This database was searchable by station personnel investigating an event. The inspectors determined that the licensee was generally effective in utilizing operating experience as another tool in its efforts to develop corrective actions for plant issues.

During the inspection, the inspectors noted several examples (listed below) where the licensee failed to enter OE issues into the CAP as required by the licensee's procedure CAP-NGGC-0202, Operating Experience Program. The licensee's procedure requires that all adverse or potentially adverse conditions identified during OE screening reviews or evaluations be entered into the CAP.

However, because this was a failure to implement a procedural requirement that had no safety impact, this was considered to be minor.

- OPEX 195000, Non-Conservative Vortexing Methodology. The licensee's screening review determined that the issue was potentially adverse, but failed to enter the issue into the CAP program, as required by the OE procedure.

- OPEX 176513, Sheppard Model 89 Calibrator. The licensee's screening review determined that the issue was potentially adverse, but failed to enter the issue into the CAP program, as required by the OE procedure.

- OPEX 193038, NRC IN 2006-09, Performance of Licensed Individuals on Duty. The conclusion of evaluation states that "...while expectations are understood, they are not clearly delineated in operating procedures." An NCR should have been generated to clarify the operating procedures.

- OPEX 166395, NRC IN 2005-23, Vibration-Induced Degradation Butterfly Valves. The OE evaluation identified the need to "...initiate new procedures for Fischer/Continental butterfly valves and/or Posi-Seal butterfly valves in accordance with AP-048 to inspect taper pins for positive restraint..." and to perform inspections during the upcoming outage. An NCR should have been generated to initiate the new procedures.

The inspectors also noted two weaknesses (listed below) in the licensee's governing OE procedure.

- Procedure CAP-NGGC-0202, Operating Experience Program, does not provide consistent guidance on when to initiate an NCR.

- Procedure CAP-NGGC-0202, Operating Experience Program, does not provide adequate timeliness guidelines for the completion of OE reviews. For example, OPEX 195000 was entered on 5/18/06, the screening review was completed on 8/26/06, and the evaluation is scheduled to be completed on 10/31/06. This appears to be untimely for an operating experience item that is applicable to the site.

(3) Findings

No findings of significance were identified.

c. Assessment of the Self-Assessments and Audits

(1) Inspection Scope

The inspectors reviewed licensee self-assessment procedural guidance (including the scheduling for, planning of, and outlines for required self-assessments, as well as, the qualifications of the respective team leaders); site trend reports; CAP backlogs; CAP performance indicators; and trend ARs to verify that the licensee appropriately prioritized and evaluated problems with the CAP in accordance with their risk significance. The inspectors reviewed licensee adequacy to determine the cause(s) of the problems, and address operability, reportability, common cause, generic concerns, extent of condition, and extent of cause. The inspectors also reviewed the licensee's identification and prioritization of corrective actions to prevent recurrence. Documents reviewed are listed in the Attachment.

(2) Assessment

The team determined that the scopes of self-assessments and audits were adequate. Site-wide and department self-assessments are generally detailed and critical, often identifying several issues, weaknesses, and Items for Management Consideration. Corrective actions developed as a result of these assessments were incorporated back into the CAP via NCRs and tracked to completion. Debriefings of the results were provided to station management at department and site level meetings upon the conclusion of the audit/self-assessment and formal reports were issued within 30 days. However, the inspectors noted that the procedure does not clearly define how issues identified in one self-assessment are explicitly discussed in the following self-assessment. (The inspectors did note that the specific issues identified were assigned NCR numbers and tracked in the CAP.) For example, in Self-Assessment 141700, Assessment Task 12A of the Outline for the self-assessment makes a general statement to "Include a review of self-identified trends or patterns of corrective action program issues in the previous CAP Self-Assessment..." The summary of the Self-Assessment makes a general statement, "The NCRs associated with previous assessment findings were reviewed and determined adequate to resolve the concerns." The specific issues raised in the previous self-assessment were not explicitly addressed for effectiveness, etc. The documentation for previously identified items could be better defined.

The inspectors determined that the licensee had adequately prioritized issues entered into the CAP. Generally, the licensee performed evaluations that were technically accurate and of sufficient depth. The inspectors determined that site trend reports were thorough and that a low threshold was established for evaluation of potential trends.

(3) Findings

No findings of significance were identified.

d. Assessment of Safety-Conscious Work Environment

(1) Inspection Scope

During technical discussions with members of the plant staff and plant walkdowns with other plant personnel, the inspectors conducted interviews to develop a general perspective of the safety-conscious work environment at the site. The interviews were conducted to determine if any conditions existed that would cause employees to be reluctant to raise safety concerns. Specifically, personnel were asked questions regarding any reluctance to initiate ARs and the adequacy of corrective action for identified issues. The inspectors interviewed managers, attended several meetings, and reviewed several applicable corrective action documents to assess licensee management sensitivity to a safety-conscious work environment. The inspectors reviewed the licensee's Employee Concerns Program (ECP), which provides an alternate method to the CAP for employees to raise concerns and remain anonymous, and interviewed the ECP Coordinator to assess the adequacy of procedural control, tracking of concerns, and trending of issues. Several ECP issues and evaluations were reviewed with respect to maintaining and promoting a safety-conscious work environment and to verify that issues affecting nuclear safety were being resolved and entered into the CAP when appropriate. Documents reviewed are listed in the Attachment.

(2) Assessment

Based on this inspection and the AR reviews, the inspectors concluded that licensee management emphasized the need for all employees to promptly identify and report problems using the appropriate methods established within the administrative programs. The inspectors did not identify any reluctance to report safety concerns.

(3) Findings

No findings of significance were identified. Licensee management emphasized the need for all employees to promptly identify and report problems using the appropriate methods established within the administrative programs. Individuals actively utilized the CAP and ECP as evidenced by the low threshold of issues entered into the programs. Issues entered into the ECP received the appropriate level of management involvement. The inspectors determined that a safety-conscious work environment was evident at the site.

40A6 Meetings, Including Exit

On October 20, 2006, the inspectors presented the inspection results to Mr. Noll and other members of the plant 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

D. Bailey, Self Evaluation Unit
C. Baucom, Licensing Supervisor
S. Brown, Outage and Scheduling
E. Caba, Superintendent, Design
W. Farmer, Manager, Robinson Engineering Support Section
K. Jensen, Superintendent, Materials and Contract Services
K. Jones, Plant Support Group
E. Kapopoulos, Plant General Manager
A. Kelly, Coordinator, Operating Experience
J. Long, Performance Evaluation Section
J. Lucas, Manager, Nuclear Site Support
G. Ludlam, Training Manager
D. Martrano, Superintendent, Nuclear Assessment Section
W. Noll, Director of Site Operations
G. Sanders, Licensing
J. Stanley, Superintendent, System Engineering

NRC personnel

R. Hagar, Robinson Senior Resident Inspector

### LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

None.

## LIST OF DOCUMENTS REVIEWED

Significant Adverse Condition Action Requests (ARs), Priority 1

00092949 Relief Valves Have Been Categorized as Priority 1 and Should Be Tasked Prior to or During R022
00111308 Time Transient Conditions for Appendix R
00127784 SDAFW Pump Rotation While Cooling Water Isolated
00128014 SDAFW Pump out of Service
00139933 Packing Leak on RC-525 Resulted in Plant Shutdown
00146013 Rework on AFW-13 Relief Valve Due to Seat Leakage
00146771 Failure of the EFRIS UPS Requiring NRC Notification
00151238 UFSAR Inconsistent or Unclear on SI Relief Valve Requirement
00152423 Pipe Breached During Core Bore in Spent Fuel Pit
00158740 Repetitive Failures of Main Steam Dump Valves
00159164 SDAFW Pump Rolled on Clearance Restoration
00160930 Number of Functional Failures Exceeded the Criteria
00165177 Unplanned Unavailabilty of “B” EDG
00165893 Steam Driven AFW Pump Trip
00166937 SDAFW Pump Suction Pressure Fluctuations
00168241 “A” EDG Solenoid DA-23A Failed, Unplanned LCO Entries
00173062 Trip of “B” MDAFW Pump during S/G Fill
00185821 Repetitive Failures of CC-749A During RO-22 and RO-23
00187587 NRC Allegation No. RII-2006-A-0015
00193057 SFD Required and Not Done Prior to WCCU-1AOOS and SW PP C
00193846 ITS 3.0.3 Entered Due to B and C CCW [Pumps Out of Service]
00195186 RNAS Tech Spec/Operating License Issue 1 R-TS/OL-06-01-I1
00197038 Secondary Transient During Clearance Restoration
00198165 FCV-1425 Timing Error
00203613 Excessive Dose Received During Resin HIC Shipment

Adverse Condition Apparent Cause ARs, Priority 2

00073900 As-Found Test of Relief Valve AFW-33 Unsat High
00074232 Relief Valve SI-857A Failed As-Found Testing
00108378 B-SWBP Breaker Operating Lever Broken
00116765 IN 04-01, AFW Pump Recirc Line Orifice Fouling
00129041 Relief Valve AFW-13 Found with Manual Lift Lever Engaged
00136122 Fire Barrier Penetration Seal CP-6310m 00-FB
00136517 Additional Compensatory Measures Required for LER 2003-03
00136518 Manual Operator Actions Used for Safe Shutdown
00139933 Packing Leak on RC-525 Resulted in Plant Shutdown
00140240 Unanticipated Entry into ITS LCO 3.7.9 Condition A
00144512 Relief Valve AFW-13 Failed to Lift Within the Set Pressure
00145030 Steam Driven AFW Fragnet
00145192 As-Found Set point Test AFW-13 Was Unsat Due to Leakage
00146717 Work Around 04-18 Approved: Actions Required During Fire
00146967 Conflict Between OST-201-1 and EST-082
00148667 Re-Assess Basis for Revision 54 of Emergency Plan

00150353 Active Boric Acid Leakage from RHR Pump “B” Seal Area
00150489 Rub Noticed While Rotating SI Pump "C" for Shaft Alignment
00150494 I/P Does Not Fail as Designed
00151238 UFSAR Inconsistent or Unclear on SI Relief Valve Requirement
00151406 NAS Weakness R-IS1/SBO-05-01-W3 Procedure Deficiencies
00152050 Modification Outage Milestone Missed
00154155 1008-Day Frequency PM had to be Scheduled on Last Day of Grace Period
00154404 NAS Weakness R-IS1/SBO-05-01-W1 Updates and Errors
00154571 EPP-9 Potential Limiting Scenario for Switchover
00158703 SG PORV'S Set point I/P'S Found Out of Cal
00158730 Hydraulic Hose on the Low Level Warehouse Shredder Is Broken
00158872 DS Dist PNL "A" CKT 6 Found Out of Position
00158977 Item 2 on SDAFW Fragnet Took Longer than Projected
00159045 SDAFW Pump Inoperable Longer than Planned
00159047 SDAFW Pump Suction Strainer Cover Leak
00159245 Unanticipated LCOs for Scheduled AFW Flow Transmitter Coils
00160357 Loss of All RCP Seal Cooling Technical Requirements Analysis
00160930 Number of Functional Failures Exceeded the Criteria
00160962 Evaluate Current RHR Pump Seal Venting Method
00161042 Inadequate Clearance Request
00162476 APP-006 Revision Inaccuracy
00163176 Boric Acid Corrosion on "A" SI Pump Outboard Seal
00163438 Maint Rule Functional Failure - RHR Sump Pump A
00164063 “B” AFW Pump Unavailability Time Extended
00166263 Drawing Errors Between the 1WD,CWD, and Actual Field Wiring
00167850 Discoloration on Dry Boric Acid on Safety Injection Pump 'A'
00169663 Review Turbine Trip from an Operations Standpoint
00170439 EC 58657 Scheduling and Planning Discrepancies
00170770 Controlotron Problems Continue to Delay Safety-Related OSTs
00170772 'A' SI Pump Casing Leak
00172936 Unanticipated AOP-020 Entry
00172998 Package Received With Reading of 0.8 Milli-Rem/Hour
00173123 OST-253 Potentially Conflicting Requirements
00173680 Step Sign Off Incorrectly During Performance of OST-407
00175356 R-OM-05-02-W2 RNP Outage NAS Assessment Weakness #2
00175360 R-OM-05-02-W5 RNP Outage NAS Assessment Weakness #5
00181315 I&C Technicians Improperly Verified the Removal of a Jumper
00182104 Extended Unavailability of SDAFW Pump
00182395 SDAFW Pump Exceeded Its Allowance Unavailabilty Criteria
00183069 Unaccepted V-Cone Flow Instrumentation in OST-151-5
00183147 SI-857A, BIT Relief Valve Lifted Following OST-151-15
00183661 MCC-6(13C) RHR-759B, Breaker Potential Malfunction
00185484 Unanticipated ITS 3.3.3 Entry
00185799 Inspection of Check Valve AFW-84 Was Unsat
00186587 Emergency Equipment Box Items Inadequate to Satisfy AOP-022
00188453 WANO 2006 Review-ER2 Unanticipated Equipment Failures
00188454 WANO 2006 Review - CM3 Mod Design Quality Issues

00188854 SOER 86-03 Check Valve Failures or Degradation
00189212 Delay in Returning “B” MDAFW Pump to Service
00189359 Additional Procedures Identified Needing Change for EC 58657
00191578 Unplanned LCO Entry for 4-KV UV Relay
00191744 Compliance with 10 CFR 74.19© - SNM Physical Inventory
00191889 SDAFW Fragnet Delayed 30 Minutes Due to LDL Checks
00192614 Executed Copy of SP-578 Not Found in a Timely Manner
00193416 RHR-752B Inadvertently Closed During OST-252-2
00196260 ANSI/ANS-3.1-1981 Requirements
00197172 Acoustic Monitor for RC-551C, Low Alarm Locked In
00197174 Equipment Trips Due to Lightning Strike
00198112 PM for RHR-752B Breaker Did Not Identify Clearance Requirements
00198534 RNAS Self-Evaluation Issue 1, R-SE-06-01-I1
00198537 RNAS Self-Evaluation Issue 2, R-SE-06-01-I2
00199462 Issue #1 from Self-Assessment 176384 Clearance Program
00199717 RNAP NAS Work Management Focus Review Issue #1 R-FR-06-02-I1
00200191 "A" Safety Injection Pump Casing Leak
00201199 RNP Engineering NAS Assessment Issue 1-R-ES-06-01-I1
00201302 RHR PI within 25% of White Threshold
00201370 DSP-007 Operational Guidance
00202680 SA #176330, I-1, ISFSI Project Poor Transition
00203469 RHR System Leak Testing Since 2002 Not Consistent with TRM
00204872 RNP, NAS Security Assessment Issue R-SC-01-01-I1
00206073 “B” MDAFW Pump Lube Oil Cooler End Bells Found Degraded
00208168 AFW-79 As-Found Seat Leakage Was Unsat When Tested
00208489, NCR Enhancement Action Not Completed
208836, Inappropriate Act Omission for NCR 193416
00209912 Failure of OPEX NCR 166395 to Identify Potential Adverse Condition

Adverse Condition Correct and Trend (CAT) ARs, Priority 3
00208824 NCR 160930 Root Cause Statement Needs Clarification
00208834 Examine Wording of NCR 160962 Inappropriate Act
00209792 OE Possible Non-Conservative Vortexing Methodology
00074421 Evaluate Recent Trend in Relief Valve Test Failures

Improvement Item ARs, Priority 5

00106836 Develop Actions for Breaker Component Program
00204659 Appendix R Safe Shutdown Discrepancy
00209909 NCR Not Initiated for Potential Adverse Condition During OPEX Review
00209912 Failure of OPEX NCR 166395 to Identify Potential Adverse Condition
00209958 Follow-Up OPEX Items Based on RNP 2006 PI & R Inspection

Operating Experience
00078709 In 2-34 Failure of Safety Related BKR MOC Switches
00081334 Part 21 02-25 Fairbanks Morse Leaking Fuel Injector

00106979 Unanalyzed Condition of RCP Seal Leakoff Line During Postulated Fire Scenarios or SBO
00142953 OE 19377 Slow Diesel Start Due to Injector Pump Component V
00143345 OE 18621 Orientation of ASCO Solenoid Valves
00145678 Westinghouse Inforgram IG 04-07 VCT Spurious Valve Movement
00154939 OE 20020 Essential Cooling Water Pump Bearing Damage
00155028 SER 2-05 Gas Intrusion in Safety Systems
00165080 NRC in 2005-21 Plant Trip Switchyard Maintenance
00166395 NRC in 2005-23 Vibration Induced Degradation Butterfly Valves
00168188 OE 21099 PZR HTR Trip Due to Semiconductor Type (Summer)
00168350 OE 21072 Diesel Fire Pump Failed to Start Comanche Peak
00168370 OE 21068 Turkey Point Flexitallic Gasket
00176513 OE 21628 Shepard Model 89 Calibrator
00183614 NRC Information Notice 2006-003 Motor Starter Failure
00186073 NSAL-06-02 RWST Air Entrainment
00188828 NRC IN 2006-06 Loop and Station Blackout Probability
00190387 Part 21 Flowserve Check Valves
00193038 NRC IN 2006-09 Performance of Licensed Individuals on Duty
00194795 SER 2-06 Electromatic Relief Valve Degradation
00195000 OE 22390 Non-Conservative Vortexing Methodology
00195183 Fait 06-07 Incore Detector Fitup Problem Davis Besse
00195657 SEN 261 Low Head SI Pump Motor Color Configuration Problems
00196237 Westinghouse TB-06-08 Relay Latch Concern
00196245 INPO SER 3-06 Main Power Transformer Failure
00196249 Westinghouse IG-06-2 Support Pin Cap Locking Device
00200681 NRC in 06-13 Water Contamination Due to Undetected Leakage
00202193 NRC RIS 2006-13 Safety Culture
00202835 NRC IN 06-17 Service Water OE
00202883 Part 21 D.C. Cook EDG's FME from Manufacturer
00204889 NRC IN 2006-15 Vibration Induced Degradation Valves

Self-Assessments and Audits

Assessment No. 76934, Corrective Action Program Cross-Functional Self-Assessment
Assessment No. 76936, Cross-Functional Self-Assessment of the RNP Self-Assessment Program
Assessment No. 108486, Self-Assessment of SOER/OE Effectiveness
Assessment No. 141698, Cross-Functional Self-Assessment of SOERs
Assessment No. 141699, Cross-Functional Self-Assessment of the RNP Self-Assessment Program
Assessment No. 141700, Cross-Functional Self-Assessment of the Corrective Action Program
Assessment No. 141801, Follow Up Review of Operations Issues/Weaknesses/AFIs
Assessment No. 141802, Annual Operations Clearance Assessment
Assessment No. 147347, Maintenance Rule (a) (3) Periodic Assessment
Assessment No. 147351, HVAC Mini SSFI
Assessment No. 176201, Selected SOER Recommendation Responses
Assessment No. 176384, Clearance Program
Assessment No. 205729, RC and EC Human Performance

Work Orders (Wos)
WO 056023 Trip Testing of MCC-6 (6j) (RHR-752B RHR Pump B)
WO 057481 Trip Testing of MCC-5 (6j) (RHR-752A RHR Pump A Suction)
WO 700137 Cal and Check Failure Mode of I/P Transducer
WO 764211 'A' SI Pump Has a 1 Drop per 10 Minute Leak
WO 782858 Clean RHR Sump Pits of Loose Debris

Employee Concerns Reports (ECRs)
ECR 41926
ECR 43146
ECR 44548
ECR 44745

Procedures
CAP-NGGC-0200, Corrective Action Program, Revision 18
CAP-NGGC-0201, Self-Assessment Program, Revision 9
CAP-NGGC-0202, Operating Experience Program, Revision 10
CAP-NGGC-0203, Benchmarking Program, Revision 2
CAP-NGGC-0204, Human Performance Program, Revision 0
CAP-NGGC-0205, Significant Adverse Condition Investigations, Revision 4
CAP-NGGC-0206, Corrective Action Program, Trending and Analysis, Revision 1
DSP-002, Hot Shutdown Using the Dedicated/Alternate Shutdown System, Revision 33
DSP-007, Cold Shutdown using the Dedicated/Alternate Shutdown System, Revision 21
EGR-NGGC-0006, Vendor Manual Program, Revision 8
EGR-NGGC-0008, Engineering Programs, Revision 6
EPP-9, Transfer to Cold Leg Recirculation, Revision 30
FMP-004, Special Nuclear Material Inventory, Revision 22
MCP-NGGC-0406, Supplier Qualification, Surveillance, and Audits, Revision 9
MMM-001, Maintenance Administration program, Revision 64
MMM-003, Maintenance Planning, Revision 73
PIC-840, S/G PORV Steam Line Pressure Input, Revision 5
PLP-111, Leak Reduction Program
REG-NGGC-0001, Employee Concerns Program, Revision 13
SD-003, Residual Heat Removal System, Revision 12

Drawings
A-190301 Instrument Loop Diagram IA to S/G PORVs RV1-1,-2,-3
G-190197 Feedwater Condesate and Air Evacuation System Flow Diagram, Sheet 1 of 4, Revision 76
G-190197 Feedwater Condesate and Air Evacuation System Flow Diagram, Sheet 4 of 4, Revision 55

Engineering Changes (ECs)
EC 65033 Modify, Replace SI Pump A
EC 47212 Evaluate Applicability of Fischer Information Notices

Other Documents

AFW Maintenance Rule System (a)(1) List
Assessment Number 54779, Corrective Action Program, July 8-August 8, 2002
Auxiliary Feedwater Water System Health Report
Engineering Change Request 8066, Modify, Replace SI Pump A
GL-91-18 Items List for 2004-2006
HB Robinson Plant Design Basis Document
HB Robinson Plant Final Safety Analysis Report Chapter 3
HB Robinson Plant Valve Improved Technical Specifications
LER No. 2004-002-00, Entry into MODE 3 With the Steam Driven Auxiliary Feedwater Pump Flowpath Inoperable
List of Completed Effectiveness Reviews, dated October 2, 2006
List of Open Enhancement Assignments Average Age by Organization
Maintenance Rule Information for System 2045, Residual Heat Removal
Maintenance Rule Information for System 7060, Liquid Waste
NRC Allegation No. RII-2006-A-0015
NRC Inspection Manual Part 9900 Technical Guidance Section 6.13
Operations CAP Rollup & Trend Analysis, August 2006
Personnel Qualification Data for Self-Assessment Lead Assessors
PMRQ 166319, Clean RHR Sump Pits Prior to Every Other Outage
Refueling Outage 22 Report, Report Number 123746-14, Dated 8/4/04
Residual Heat Removal System Health Report, dated 1/31/06
RNP Operating Experience Reports Issued to Industry, 2006
RNP Quarterly CAP Roll-Up Report for 2006Q3, Cause Code Breakdown by Trend Date, dated 10/19/06
Robinson Nuclear Plant Key Performance Indicators
System Health Report for Main Steam System, dated July 21, 2006
System Health Report for Safety Injection and Containment Spray Systems, dated March 7, 2005
System Health Report for Safety Injection and Containment Spray Systems, dated April 7, 2005
System Health Report for Safety Injection System, dated January 24, 2006
System Health Report for Safety Injection System, dated March 1, 2006
Table of NCRs Generated from 2003 to September 15, 2006, Sorted by Priority