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

September 22, 2006

Southern Nuclear Operating Company, Inc.
ATTN: Mr. H. Lewis Sumner
Vice President - Farley Project
P. O. Box 1295
Birmingham, AL 35201-1295

SUBJECT: JOSEPH M. FARLEY NUCLEAR PLANT - NRC COMPONENT DESIGN BASES INSPECTION REPORT 05000348/2006006 AND 05000364/2006006

Dear Mr. Sumner:

On August 18, 2006, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Joseph M. Farley Nuclear Plant, Units 1 and 2. The enclosed inspection report documents the inspection findings, which were discussed on August 18, 2006, with Mr. Randy Johnson and other members of your staff. Following completion of additional review in the Region II office, a final exit was held by telephone with Mr. Randy Johnson and other members of your staff on September 19, 2006, to provide an update on changes to the preliminary inspection findings.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel. Based on the results of this inspection, no findings of significance were identified.

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

Charles R. Ogle, Chief
Engineering Branch 1
Division of Reactor Safety

Docket Nos.: 50-348, 50-364
License Nos.: NPF-2 and NPF-8

Enclosure: Inspection Report 05000348/2006006, 05000364/2006006
w/Attachment-Supplemental Information
cc w/encl: (See page 2)

cc w/encl:
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Docket Nos. 50-348, 50-364
License Nos. NPF-2 and NPF-8

Enclosure: Inspection Report 05000348/2006006, 05000364/2006006
w/Attachment: Supplemental Information

cc w/encl: (See page 2)

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Letter to: Mr Sumner, H. Lewis Dated: September 22, 2006

SUBJECT: JOSEPH M. FARLEY NUCLEAR PLANT - NRC INTEGRATED INSPECTION REPORT 05000348/2006006, 05000364/2006006

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U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos.:	50-348, 50-364
License Nos.:	NPF-2, NPF-8
Report Nos.:	05000348/2006006, 05000364/2006006
Licensee:	Southern Nuclear Operating Company, Inc.
Facility:	Joseph M. Farley Nuclear Plant
Location:	Columbia, AL 36319
Dates:	June 26 - August 18, 2006
Inspectors:	C. Julian, Team Leader L. Lake, Reactor Inspector R. Lewis, Reactor Inspector R. Hagar, Senior Resident Inspector - Robinson
Other personnel:	O. Mazzoni, Contractor S. Spiegelman, Contractor
Approved by:	Charles R. Ogle, Chief Engineering Branch 1 Division of Reactor Safety

SUMMARY OF FINDINGS

IR 05000348/2006006, 05000364/2006006; 06/26/2006-08/18/2006; Joseph M. Farley Nuclear Plant, Units 1 & 2; Component Design Bases Inspection.

This inspection was conducted by a team of three NRC inspectors from the Region II office, one Senior Resident Inspector from another site, and two NRC contract inspectors. No findings of significance were identified. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

A. NRC-Identified and Self-Revealing Findings

No findings of significance were identified.

B. Licensee-Identified Violations

None.

REPORT DETAILS

1. REACTOR SAFETY

Cornerstones: Mitigating Systems and Barrier Integrity

1R21 Component Design Bases Inspection (71111.21)

.1 Inspection Sample Selection Process

The team selected risk significant components and operator actions for review using information contained in the licensee's Probabilistic Risk Assessment (PRA). In general, this included components and operator actions that had a risk achievement worth factor greater than two or Birnbaum value greater than 1E-6. The components selected were located within the high and low pressure safety injection, component cooling water, service water, and electrical distribution systems. The sample selection included twenty two components, five operator actions, and nine operating experience items. Additionally, the team reviewed five modifications by performing activities identified in IP 71111.17, Permanent Plant Modifications, Section 02.02.a. and IP 71111.02, Evaluations of Changes, Tests, or Experiments.

The team performed a margin assessment and detailed review of the selected risk-significant components to verify that the design bases have been correctly implemented and maintained. This design margin assessment considered original design issues, margin reductions due to modification, or margin reductions identified as a result of material condition issues. Equipment reliability issues were also considered in the selection of components for detailed review. These included items such as failed performance test results, significant corrective action, repeated maintenance, Maintenance Rule (a)1 status, degraded conditions, NRC resident inspector input , system health reports, industry operating experience, and licensee problem equipment lists. Consideration was also given to the uniqueness and complexity of the design, operating experience, and the available defense in depth margins. An overall summary of the reviews performed and the specific inspection findings identified are included in the following sections of the report. A specific list of documents reviewed is included in the attachment to this report.

.2 Results of Detailed Reviews

.2.1 Detailed Component Reviews

.2.1.1 Residual Heat Removal (RHR) Pumps

a. Inspection Scope

RHR system health reports and corrective actions were reviewed from the past 3 years to evaluate problems that may have existed for the RHR pump and the actions that were taken to resolve identified problems. Operating experience (OE) history, reported in the

health report, was reviewed to determine if problems at other plants were being reviewed and addressed. Surveillance and test results, and associated corrective actions were reviewed to evaluate performance history. A walkdown was performed of the RHR pumps to determine material condition.

Design information was reviewed including functional requirements identified in the Functional System Description (FSD), the Updated Final Safety Analysis Report (UFSAR), vendor manual and design drawings to identify the design bases. Pump flow calculations were reviewed for plant cool-down, mid-loop operation and accident conditions and compared to pump capabilities.

The RHR pump calculations, procedures, and test data were reviewed to ensure that appropriate minimum required water level would exist in the Refueling Water Storage Tank (RWST) and containment sump under accident conditions to maintain pump net positive suction head (NPSH) requirements specified in vendor manual. The pump was of particular interest because of the low NPSH design margin that was stated by the licensee in the UFSAR.

b. Findings

No findings of significance were identified.

.2.1.2 RHR Seal Coolers

a. Inspection Scope

The RHR system health report and corrective action documents were reviewed for the past 2-3 years to determine if any issues were identified for the RHR seal cooler. In addition, the RHR functional design document and the vendor manual were reviewed to assess the design requirements. The system design calculations were reviewed to assure that the design requirements were properly considered. An interview with the system engineer was conducted to determine if any performance or tube plugging problems were known that were not addressed in the above documents. Finally, OE was requested for the past 2-3 years; however, none were found.

b. Findings

No findings of significance were identified.

.2.1.3. RHR Heat Exchangers

a. Inspection Scope

The RHR health reports, RHR heat exchanger condition reports (CRs) for the past 2-3 years, OE's, Functional System Description, and design calculations, were reviewed to assess the material condition of the heat exchangers and determine any potential problems. Tube plugging limits were reviewed versus the current actual tube plugging

conditions. The review of the RHR heat exchangers acceptability for a potential future plant power increase conditions was also reviewed.

b. Findings

No findings of significance were identified.

.2.1.4 Charging Pumps

a. Inspection Scope

The inspectors reviewed charging pump health reports and CRs for the past 2-3 years, industry issues that were contained in the health report, calculations related to minimum and maximum flow requirements and NPSH for the “piggy-back” mode of operation to determine if pump performance meets design requirements. The inspectors reviewed associated surveillance test, vibration and oil sample data to determine material condition. The inspectors conducted a walk down to determine material condition and interviewed the system and design engineer regarding maintenance history, industry experience regarding gas binding issues, including issues related to the volume control tank pressure oscillations associated with gas accumulation in the suction pipe header.

b. Findings

No findings of significance were identified.

.2.1.5 Sump and Piping from the Sump to Suction of RHR Pumps

a. Inspection Scope

The inspectors reviewed records of the last sump inspection for evidence of material condition of the sump and accessible piping, presence of any unacceptable debris, and corrective actions taken. The inspectors reviewed design documents regarding the sump screen sizing, including the analysis of potential binding of downstream valves by material that could pass through the screen.

b. Findings

No findings of significance were identified.

.2.1.6 Switchyard Electrical Protection

a. Inspection Scope

In order to determine conformance with the design drawings and relevant documents, the team reviewed the 230 kilovolt (kV) switchyard and the 500 kV high voltage switchyard installed configuration. The team performed a walk down and held interviews with the cognizant licensee personnel as well as with the cognizant Alabama

Power Company personnel, who had the overall responsibility for the high voltage switchyard. The team also conducted a review of design documents and a walk down of the low voltage switchyard, which included all the start up transformers, station unit transformers, main generator transformers, and their medium voltage and high voltage connections. To ascertain adequacy of system protection, the team scope included the review of the calculations for protective relaying settings, as well as the related procedures for protective relaying test and surveillance. Particularly, the team review was focused on the primary and secondary protection system for the start up transformers and the 230 kV oil filled cables which feed the 4.16 kV emergency buses and constitute the preferred power supply for the reactor safe shut down systems. The team reviewed the latest available report on the grid stability, to assess whether the two Farley generating units would remain stable under postulated grid upset events, including multiple breaker failure events, as required by commitments in the UFSAR.

b. Findings

No findings of significance were identified.

.2.1.7 High Voltage Switchyard Direct Current (DC) System

a. Inspection Scope

In order to determine conformance with the design drawings and relevant documents, the team reviewed the DC system installed configuration. The team perform a walk down and held interviews with the cognizant licensee personnel as well as with the cognizant Alabama Power Company personnel, who had the overall responsibility for the high voltage switchyard. The team examined the batteries, chargers, distribution panels, and connections to determine material condition. The team performed a detailed visual inspection of the condition of the battery plates and battery top surfaces to confirm adequacy of material condition and maintenance. The review included review of the surveillance and testing procedures for the switchyard DC system to determine their adequacy.

b. Findings

No findings of significance were identified.

.2.1.8 Circuit Breaker DL03 for Service Water Pump 2D

a. Inspection Scope

The team reviewed the installation, preventive, and corrective maintenance procedures for the breaker associated with service water pump 2D. These procedures were compared to the vendor manual to verify consistency with vendor recommendations. The team performed a walk down of the safety related switchgear and observed a breaker rack-in procedure in the field for an identical non-safety related switchgear, to ascertain compliance with licensee procedure for proper breaker engagement in the

cubicle. In addition, using system health reports and data compiled by the licensee, the team reviewed the plant-wide operating history for the identical circuit breaker types to assess the failure history and operating experience over the past five years. The team reviewed design drawings of the 4.16 kV breaker control circuit, and breaker interlocks to determine they conform to design requirements.

b. Findings

No findings of significance were identified.

.2.1.9 Reactor Coolant Pump (RCP) 1A Anticipatory Trips

a. Inspection Scope

The team reviewed the undervoltage and underfrequency anticipatory trip settings and surveillance data. The actual settings were compared to requirements contained in the Technical Specifications (TS) and the design calculations. The undervoltage setting was compared to the voltage experienced under all motor start conditions, to ensure that it would not be spuriously activated. It was also compared with the fault conditions imposed on the most restrictive bus configuration, to ascertain that the undervoltage relay of unaffected buses would not be unnecessarily and spuriously activated. Likewise, the underfrequency setting was compared to system frequency excursions under abnormal operation, to ensure that it would not result in undesired reactor trips.

b. Findings

No findings of significance were identified.

.2.1.10 Containment Sump Isolation Motor Operated Valve (MOV) 8812A

a. Inspection Scope

The team reviewed the licensee's electrical calculations that determined the minimum and maximum voltage values at the terminals of containment sump isolation valve MOV 8812A. The team reviewed the licensee's GL 89-10 MOV sizing calculations and testing to verify that appropriate design basis event conditions and degraded voltage conditions were used as inputs for determining the electric motor operator sizing and for establishing MOV test parameters. The team also reviewed the licensee's application of vendor calculation methodology and vendor information in determining the motor operator torque capability, application of stem factors, and operator efficiency factor. The team reviewed elementary diagrams to confirm that the interlock circuits satisfied functional requirements with adequate redundancy, independence of redundant circuits, and that the circuits included no detectable failure vulnerability with significant consequences. Test results were reviewed to verify that valve performance was being monitored to identify signs of degradation.

b. Findings

No findings of significance were identified.

2.1.11 Piggyback Motor Operated Valves MOV 8706A/B

a. Inspection Scope

The team reviewed the licensee's electrical calculations that determined the minimum and maximum voltage values at the terminals of piggyback MOVs 8706A and B. The team reviewed the licensee's Generic Letter 89-10 MOV sizing calculations and testing to verify that appropriate design basis event conditions and degraded voltage conditions were used as inputs for determining the electric motor operator sizing and for establishing MOV test parameters. The team also reviewed the licensee's application of vendor calculation methodology and vendor information in determining the motor operator torque capability, application of stem factors and operator efficiency factor. The team reviewed elementary diagrams to confirm that the interlock circuits satisfied functional requirements with adequate redundancy, independence of redundant circuits, and that the circuits included no detectable failure vulnerability with significant consequences. Test results were reviewed to verify that valve performance was being monitored to identify signs of degradation.

b. Findings

No findings of significance were identified.

2.1.12 Circuit Breaker for Charging Pump 1B

a. Inspection Scope

The team reviewed the preventive, and corrective maintenance procedures for the breaker associated with Charging Pump 1B. These procedures were compared to the vendor manual to verify consistency with vendor recommendations. The team performed a walk down of the safety related switchgear to determine material condition. The team reviewed system health reports and performance data compiled by the licensee, to assess the failure history and operating experience for this equipment over the past five years. The team reviewed drawings of the 4.16 kV breaker control circuit, and breaker interlocks to ascertain that the design basis functions would be fulfilled.

b. Findings

No findings of significance were identified.

.2.1.13 Component Cooling Water (CCW) Pumps/Motors/Circuit Breakers

a. Inspection Scope

This component group included the component cooling water pumps and their associated pump motor, and 4.16 kV power supply path. The team reviewed the

UFSAR, TS and their bases, and the CCW functional system description to identify and verify consistency of design requirements related to flow, developed head, and NPSH.

Design calculations, performance test (PT) procedures, and past test results were reviewed to verify that the CCW pump design and licensing performance requirements were met. Maintenance work orders (WOs), in-service testing (IST) reports, condition report corrective actions, and design change history were reviewed to assess potential component degradation and impact on design margins or performance.

The team reviewed design drawings reflecting the motor power supply path, and then walked down that path to ensure that no unsatisfactory conditions existed to possibly affect power applied to the motor terminals for pump operation. The team also reviewed the licensee's calculations that established the device settings for protection of the motor, to verify that premature trips would be precluded under design basis conditions, without unduly compromising motor protection. Motor control logic diagrams were compared against design basis documents to ensure all safety functions were properly incorporated.

b. Findings

No findings of significance were identified.

.2.1.14 CCW Surge Tank and Level Instrumentation

a. Inspection Scope

The team performed a field walk down to verify that the installed configuration will support system function under accident conditions, and that it was consistent with plant drawings and design basis documents. The impact of security modifications on equipment function and accessibility were reviewed. Equipment environmental and seismic protections were evaluated against supporting documentation. Calibration and testing of level transmitters was reviewed against vendor supporting documentation and plant calculations to ensure consistency and accuracy of level indication. In performing this evaluation, the team sampled a small portion of the licensee's measurement and test equipment program, including handling of lost and out-of-specification equipment.

b. Findings

No findings of significance were identified.

.2.1.15 CCW Heat Exchanger

a. Inspection Scope

The team reviewed system piping diagrams and performed independent valve position verifications to ensure that system alignment is consistent with design assumptions and will support its design basis function under accident conditions. Work Orders, Performance Tests, CR corrective actions, and design change history were reviewed to

assess potential component degradation and impact on design margins or performance.

Manufacturer's data and vendor manuals were reviewed against maintenance and testing practices to ensure conformance to manufacturer's requirements.

b. Findings

No findings of significance were identified.

.2.1.16 CCW Relief Valves

a. Inspection Scope

The team reviewed system piping diagrams and performed walk downs to ensure that the installed configuration is consistent with design documents. Walk downs also reviewed conditions and equipment protection measures to determine material conditions. The team reviewed the licensee's CR corrective actions to identify performance problems. These valves are not currently included in the in-service testing program so no past set point testing data was available.

b. Findings

No findings of significance were identified.

.2.1.17 CCW RHR Pump Seal Cooler Pressure Control Valve

a. Inspection Scope

The team reviewed design differences between the two units that led to the need for an air operated pressure control valve only on Unit 1 CCW flow line to the residual heat removal pump seal cooler. Engineering drawings and system specifications were reviewed to ensure that installed configuration is consistent with design documentation. Machinery history, condition reports, design change history and system health reports were reviewed to assess the potential for component degradation and impact on design margins or performance.

b. Findings

No findings of significance were identified.

.2.1.18 CCW Pump Discharge Check Valves

a. Inspection Scope

The team reviewed the design, installed orientation, and the licensee's actions to monitor the material conditions of the CCW pump discharge check valves. This included periodic in-service flow and back leakage testing to demonstrate full open and closure capability, and leak tightness. Maintenance history, CR corrective actions, test

results, foreign material exclusion controls, and design changes were reviewed to assess the potential for material degradation and the licensee's capability to identify degradation.

b. Findings

No findings of significance were identified.

.2.1.19 CCW Heat Exchanger Service Water (SW) Outlet Flow Control Valves

a. Inspection Scope

The team reviewed the circumstances of a recent failure of the outlet flow control valve associated with the "A" heat exchanger against past maintenance and CR history. Past test results, and design changes were reviewed to assess the potential for material degradation. A walk down observation of the components was conducted to determine current material conditions. Discussions relating the maintenance history and the consideration of a future actuator change out were conducted to assess licensee plans for these components.

b. Findings

No findings of significance were identified.

.2.1.20 Service Water System Piping Integrity

a. Inspection Scope

The team reviewed design drawings, UFSAR descriptions, structural integrity evaluations, and operability determinations related to the structural integrity of the service water system to verify design requirements are appropriately implemented and maintained. The team reviewed the Flow Accelerated Corrosion Program and associated radiographic and ultrasonic examination results, condition reports and corrective actions. The inspectors reviewed records of completed inservice inspections, system health reports, and design change history to assess service water failure history and degradation of service water system piping. The inspectors verified that potential degradation is monitored or prevented and that component replacement is consistent with original design requirements. The team also reviewed a design change package on the installation of dye injection ports to verify ASME Section XI repair/replacements requirements. The team conducted a walkdown of the service water system including the service water intake structure, diesel generator building, and the auxiliary building to assess the material condition of the pressure retaining boundary.

b. Findings

No findings of significance were identified.

.2.1.21 Refueling Water Storage Tank (RWST) Level Indication

a. Inspection Scope

The team reviewed the design of the RWST level instrumentation and the logic circuits for automatic switch-over from the injection path to the recirculation flow path for the safety injection system, initiated by low-low RWST level. The team also reviewed the basis and determination of the instrumentation setpoints. This included a review to confirm that the valve interlock circuits satisfied functional requirements with adequate redundancy and independence of redundant circuits. The team also reviewed tank and installation drawings, instrument scaling and uncertainty calculations, and interfaces with mechanical calculations, to determine the adequacy of the existing setpoints, including allowance for vortexing or other process effects. The team reviewed calibration procedures for the instrument loops to confirm that the range, scaling, accuracy and setpoints were consistent with the design and licensing bases, including consistency with the assumptions in the uncertainty calculations. The team reviewed the past three calibration and logic test results for both units to confirm an adequate performance history, and to confirm that instrument performance degradation would be identified. The team visually inspected the level transmitter configurations for both units, to assess observable material condition, vulnerability to hazards, separation of redundant channels, and the potential for environmental effects on instrument reliability and performance. The team also observed the operator use of the RWST level instrumentation and alarms during a small-break LOCA scenario performed by the licensee on the plant simulator.

b. Findings

No findings of significance were identified.

.2.1.22 Reactor Coolant Pump Motor Bearing Temperatures

a. Inspection Scope

The team reviewed the setpoints used by operators to decide to trip reactor coolant pumps due to high pump motor bearing temperatures, to verify that those setpoints are consistent with engineering calculations and associated vendor manuals. The team also reviewed the past three calibration and logic test results for both units to confirm an adequate performance history, and to confirm that instrument performance degradation would be identified.

b. Findings

No findings of significance were identified.

.3 Review of Low Margin Operator Actions

a. Inspection Scope

The team performed a margin assessment and detailed review of selected risk-significant, time-critical operator actions. Where possible, margins were determined by the review of the assumed design basis and UFSAR response times and performance times documented by job performance measure results within operator time-critical task verification tests. For the selected operator actions, the team observed operator performance during simulator drills. The team also performed walk throughs of applicable steps in associated abnormal and emergency procedures, and other operations procedures with an appropriate plant operator to assess operator knowledge level, adequacy of procedures, availability of special equipment when required, and the conditions under which the procedures would be performed. The following operator actions were reviewed:

- Respond to a loss of residual heat removal capability
- Trip reactor coolant pumps upon loss of seal cooling
- Place standby component cooling water into service
- Place standby charging pump into seal injection service
- Transition from low-pressure safety injection to low-pressure recirculation

b. Findings

No findings of significance were identified.

.4 Review of Industry Operating Experience

a. Inspection Scope

The team reviewed selected operating experience issues that had occurred at domestic and foreign nuclear facilities for applicability at Farley. The team performed an independent applicability review, and issues that appeared to be applicable to Farley were selected for a detailed review. The issues reviewed by the team included:

- AI 2005200399, and Rev. 1, Westinghouse Nuclear Safety Advisory Letter, NSAL-05-3, Centrifugal Charging Pump Runout During Safety Injection
- AI 2005201136, Determine if the concerns discussed in RIS 2005-29 (“Anticipated Transients That Could Develop into More Serious Events”) associated with the safety analyses performed for Condition II events, are applicable to Farley, and make recommendations with regard to any needed corrective actions

- Documentation of Engineering Judgement DOEJ-SS- 2006200334-001 Evaluation of CPS Part 21 Report, Version 1
- NL-04-2397, 10CFR21 Evaluation 04-008, Westinghouse NSAL-04-7, Containment Sump Line Fluid Inventory
- NL-06-0315, 10CFR21 Evaluation 06-004, Consolidated Power Supply Pipe
- NSAL-04-7, Containment Sump Line Fluid Inventory
- Operating Experience Review Evaluation, Screening Index 3430, Response to Weaknesses in Operator Fundamentals, 2/15/06
- Operating Experience Review Evaluation, Screening Index 3443, Review of Internal Flood Design Deficiencies, Letter C062210001, 7/6/2006
- Operating Experience Review Evaluation, Screening Index 3413 Response to Gas Intrusion in Safety Systems, 9/12/05

b. Findings

No findings of significance were identified.

.5 Review of Permanent Plant Modifications

a. Inspection Scope

The team reviewed modifications related to the selected risk significant components in detail to verify that the design bases, licensing bases, and performance capability of the components have not been degraded through modifications. The team reviewed the modification package, implementation procedures, 50.59 evaluation, calculations, post-modification testing results, and corrective action documents where applicable. The team reviewed the modifications in accordance with IP 71111.17, Permanent Plant Modifications, Section 02.02.a and IP 71111.02, Evaluations of Changes, Tests, or Experiments.

The following modifications were reviewed:

- DCP2979928201/DCR 97-2-9282, Inservice Test Plan Service Water Dye Injection Points
- DCP203999601/DCR-03-2-9996, Tornado Missile Protection to the Man-Way Shell and Cover of the Condensate Storage Tank, Unit 2

- DCP103999501/DCR-03-1-9995, Tornado Missile Protection to the Man-Way Shell and Cover of the Condensate Storage Tank, Unit 1

- DCP-96-0-9012, Plastocor of First 12" of CCW HX Tubes and Tubesheets

- DCP-00-1-9565, CCW Surge Tank Level Transmitter Replacement

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA6 Meetings, Including Exit

On August 18, 2006, the inspectors presented the inspection results to Mr. Randy Johnson and the other members of the licensee's staff who acknowledged the findings. The inspectors noted that proprietary information was examined during the inspection but none is included in this inspection report. Following completion of additional review in the Region II office, a final exit was held by telephone with Mr. Randy Johnson and other members of the licensee's staff on September 19, 2006, to provide an update on changes to the preliminary inspection findings. The licensee acknowledged the findings.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel

R. Bayne, Performance Analysis Supervisor
S. Berryhill, Plant Support
L. Branning, APCO, Substation Supervisor (Eufaula Office)
S. Chestnut, Engineering Support Manager
J. Cox, Senior Engineer
G. Dykes, Plant Support
C. Gallardo, Electrical Engineer
S. Gates, Plant Support
J. Guilford, APCO, Southeast Division Transmission Specialist
C. Hanks, M&TE Coordinator
P. Harlos, Health Physics Manager
J. Hunter, Farley Operations
R. Johnson, Plant General Manager
R. Lyon, Corporate Electrical Engineer
D. McKinney, Corporate Licensing Manager
C. McLean, FNP Training
C. Medlock, Senior Engineer
B. Moore, Maintenance Manager
K. Moore, FNP Electrical Systems Supervisor
W. Oldfield, Quality Assurance Supervisor
J. Seay, SNC Licensing
S. Soper, Engineering Supervisor
A. Spence, APCO, Engineer, Technical Services
N. Tarrant, FNP Performance Analysis
W. VanLandingham, FNP Shift Manager/Training Coordinator
R. Wells, Operations Manager
T. Youngblood, Assistant General Manager - Plant Support

NRC personnel

J. Baptist, Resident Inspector
T. Hoeg, Division of Reactor Safety, Acting Branch Chief
C. Patterson, Senior Resident Inspector

Attachment

LIST OF DOCUMENTS REVIEWED

Condition Reports Reviewed

CR 2003000644, Several items needing improvement were identified in the LOCT 02-03 Cycle 3 simulator as founds evaluations.
CR 2004100067; Repair small oil leaks on the charging pump in the area around the reduction gear, 06/08/04
CR 2005100927, Replace parts removed from seal assembly
CR 2004001038, Foreign Material Left in Containment, March 2004
CR 2004001110, Foreign Material Left in Containment March 2004
CR 2006104914, Foreign Material Left in Containment, May 2006
CR 2005112351 Gas Binding of 2A Charging Pump 12/4/05
CR 2005113029 Gas Binding of 2A Charging Pump 12/27/05
CR 2006101160, Breaker for 2D SW Pump failed to start, 02/02/06, Root Cause Determination
CR 2006107072, 1A CCW Breaker DG04 failure, 07/26/06
CR 2006106935, Breaker DG05 for 2B CCW Pump had ground overcurrent flag actuated, 08/21/06
CR 2006107164, Breaker cubicle DF04 for 1C CCW Pump had a lose lock washer, 07/30/06
CR 2006106895, Danger Sign Only Associated with 1A CCW Pump
CR 2006106614, 1B CCW Pump Seal Leakage Collection
CR 2006105530, Tagout Control of Vent & Fill on CCW Pumps Vice Procedural
CR 2005107340, 2B CCW Pump Seal Leak Due to Seal Ring Adapter Not Installed
CR 2006106134, CCW Surge Tank Loss of 2" Due to Relief Valve Leakby
CR 2006105258, STP-50.0 Presents Opportunity for Lost Configuration Control
CR 2006105727, Operability Evaluation of FCV-3009 on the Jack
CR 2006104693, Consideration to Changing FCV-3009 Operators to Bettis G-series
CR 2004102496, Prohibited CCW HX SW lineup for Superchlorination
CR 2006101235, Hammel-Dahl Drawings are Inadequate, Resulting in Valves HV-3096A/B Not Being Greased
CR 2006102207, Exciter Leaks Reflect Previous Failure Closed of FCV-3009
CR 2006103761, Recognition of MSPI Implications Using Manual Jack on FCV-3009
CR 2006104504, FCV-3009 Fails to Respond to Control Signal
CR 2006107396, Inability of FCV-3009 to Stroke Off Shut Seat
CR 2006105455, Controller Span Change of FCV-3009A/B/C
CR 2006106091, Cardox piping above 1B CCW pump is bent in several places
CR 2006103077, FCV-3009 Fails to Respond to Control Signal
CR 2006104206, Investigate three Diesel Generator service water leaks which occurred in a 25 hour period.
CR 2004101876, Through wall leak in the 2E Service Water Pump discharge expansion joint (Q2P16F502E).

Plant Procedures

NMP-GM-008; 06/16/06; Operating Experience Program Procedure, Version 1.0

Emergency Response Guideline ES-1.3, Transfer to Cold Leg Recirculation, HP Rev. 1C, 9/30/97
FNP-1-AOP-4.0, Loss of Reactor Coolant Flow, Rev. 11
FNP-2-ECP-1.1, Loss of Emergency Coolant Recirculation, Rev. 20
FNP-1-AOP-12.0, Residual Heat Removal System Malfunction, Rev. 17
FNP-1-ECP-1.1, Loss of Emergency Coolant Recirculation
FNP-1-ECP-1.2, Loss of Coolant Accident Outside Containment, Rev. 6
FNP-1-EEP-1, Loss of Reactor or Secondary Coolant, Rev. 27
FNP-1-AOP-9.0, Loss of Component Cooling Water, Rev. 17
FNP-0-AOP-49.2, Complete Loss of Service Water, Rev. 1
FNP-1-AOP-10.0, Loss of Service Water, Rev. 13
FNP-1-ESP-1.3, Transfer to Cold Leg Recirculation, Rev. 17
FNP-1-ESP-1.3, Transfer to Cold Leg Recirculation, Rev. 14
FNP-1-ESP-1.4, Transfer to Simultaneous Cold and Hot Leg Recirculation, Rev. 13
FNP-1-IMP-221.1, Refueling Water Storage Tank Emergency Core Cooling System Valve Low Level Switches Loop Calibration and Operational Check
FNP-1-STP-205.1, Refueling Water Storage Tank Level Q1F16LT0501 Loop Calibration, Version 14.0
FNP-1-STP-205.2, Refueling Water Storage Tank Level Q1F16LT0502 Loop Calibration, Version 15.0
FNP-1-STP-206.1, Post Accident Containment Water Level, Q1E11LT3594A, Version 11
FNP-1-STP-206.2, Post Accident Containment Water Level Q1E11LT3594B Loop Calibration, Version 13
FNP-1-UOP-4.3, Mid Loop Operations, Version 20
FNP-2-AOP-10.0, Loss of Service Water, Rev. 15
FNP-2-IMP-221.1, Refueling Water Storage Tank Emergency Core Cooling System Valve Low Level Switches Loop Calibration and Operational Check
FNP-2-STP-205.1, Refueling Water Storage Tank Level Q2F16LT0501 Loop Calibration, Version 17.0
FNP-2-STP-205.2, Refueling Water Storage Tank Level Q12F16LT0502 Loop Calibration, Version 14.0
FNP-2-STP-206.1, Post Accident Containment Water Level Q2E11LT3594A, Version 12
FNP-2-STP-206.2, Post Accident Containment Water Level Q2E11LT3594B Loop Calibration, Version 17
FNP-2-STP-4.1, 2A Charging Pump Test Procedure Rev 49
FNP-2-STP-4.2, 2B Charging Pump Test Procedure Rev 39
FNP-2-STP-4.3, 2C Charging Pump Test Procedure Rev 49
FNP-1-STP-4.1, 1A Charging Pump Test Procedure Rev 43
FNP-1-STP-4.2 1B Charging Pump Test Procedure Rev 49
FNP-1-STP-4.3, 1C Charging Pump Test Procedure Rev 49
FNP-1-ESP-1.3; 04/20/05;Farley Unit 1 Event Specific Procedure Transfer to Cold Leg Recirculation, Rev. 17
FNP-1-EEP-1; 12/01/05; Farley Unit 1 Emergency Event Procedure Loss of Reactor or Secondary Coolant, Rev 27
FNP-1-SOP-7.0; 7/13/06; System Operating Procedure, RHR System, Rev 72
1FNP-STP11.15A FNP Surveillance Test Procedure, RHR HX Discharge Valve Q1E11HCV603A Mechanical Stop Verification(Seal Injection Not In Service) Rev 6

1STP11.16A FNP Surveillance Test Procedure, RHR HX Discharge Valve Q1E11HCV603A Mechanical Stop Verification (Seal Injection) Rev 4
FNP-1-STP-11.1; 01/04/05; Farley Unit 1 Surveillance Test Procedure 1A RHR Pump Quarterly In-service Test, Rev. 46
FNP-1-STP-11.2; 01/05/05; Farley Unit 1 Surveillance Test Procedure 1B RHR Pump Quarterly In-service Test, Rev. 44
FNP-2-STP-11.1; 01/04/05; Farley Unit 2 Surveillance Test Procedure 2A RHR Pump Quarterly In-service Test, Rev. 30
FNP-1-SOP-2.1 FNP System Operating Procedure, CVCS System Rev 75
FNP-2-SOP-2.1 FNP System Operating Procedure, CVCS System Rev 73
FNP-1-STP-40.7 Surveillance Test Procedure, ECCS Branch Line Flow Verification and Charging Pump Head Flow Test, Test Performed 4/14/06
FNP-0-M-050, FNP Master List of Surveillance Requirements, Rev 20
FNP-1-STP913, Surveillance Test Procedure, Reactor Coolant Pump Bus Reactor Trip Underfrequency Relay Test, August 5, 2003
FNP-1-STP40.0 Safety Injection with Loss of Offsite Power test, Surveillance Test Procedure, June 20, 2006
FNP-1-STP-913.0 Surveillance Test Procedure, Reactor Coolant Pump Bus Reactor Trip Underfrequency Relay Test, Version 15.0
FNP-0-EMP-1313.03, Maintenance of Siemens-Allis 4.16kV Circuit Breakers, Type MA-350, Version 27.0
FNP-0-EMP-1501.17, Testing, Analyzing and troubleshooting Motor-Operated Valves using Crane Nuclear, Universal Diagnostic Systems (UDS)and MC2 Testing Systems, Version 7.0
FNP-0-EMP-1501.18, Acquiring and Analyzing MC2 Data using the Crane MOVATS MC2 TM or the Crane MOVATS Universal TM Diagnostic System
FNP-0-EMP-2548.05, General Electric Static Frequency Relay Type SFF201B, Version 2.0
NP-1-STP-912.0, Reactor Coolant Pump Bus Reactor Trip Undervoltage Relay Test, Version 19.0
FNP-1-STP-628.7, Component Cooling Water RHR Heat Exchanger Relief Valve Set Pressure and Seat Tightness Testing, Version 9.0
FNP-1-STP-45.9, CCW Refueling Outage Valves In-service Test, Version 9.0
FNP-1-STP-23.8, Component Cooling Water Valve In-service Test, Version 36.0
FNP-1-STP-628.6, Component Cooling Water Surge Tank Relief Valve Set Pressure and Seat Tightness Testing, Version 7.0
FNP-1-STP-628.8, Component Cooling Water Surge Tank Vacuum Relief Operational Test, Version 12.0
FNP-1-IMP-210.1, Instrument Maintenance Procedure, Version 14.0
FNP-1-STP-50.0, Radiation Monitor Monthly Source Check, Version 24.0
FNP-1-STP-23.1, 1A Component Cooling Water Pump Quarterly In-service Test, Version 26.0
FNP-1-STP-23.7, Component Cooling Water System Flow Path Verification Test, Version 17.0
FNP-0-EMP-2542.01, General Electric Time Overcurrent Relays Type IAC 53B, 54A, 66B, Version 8.0
FNP-1-SOP-23.0, Component Cooling Water System, Version 63.0
FNP-0-MP-84.0, Vibration Measurements for Safety Related Pumps, Version 26.0
FNP-0-ACP-88.1, Applicability Determination, Version 4.0
FNP-0-AP-8, Design Modification Control, Version 37.0
FNP-0-AP-88, 10CFR50.59 Screening and Evaluations, Version 8.0

FNP-0-IMP-400.2, Hammel Dahl Actuator Maintenance and Calibration (Generic), Version 8.0
FNP-0-M-82, Service Water Plan
[unnumbered] Switchyard Relay Test Procedures, provided during the inspection
FNP-0-SYP-14, Preparation and Processing of NRC Information Notice Responses, Version 2.0
FNP-0-AP-65, FNP Operating Experience Evaluation Program, Version 14.0
FNP-0-028, FNP SEE-IN Procedures Manual, Version 16.0

Job Performance Measures

CRO-333a, Perform the Required Actions for Cold Leg Recirculation
CRO-333B, Perform the Required Actions for Transfer to Simultaneous Cold Leg and Hot Leg Recirculation
CRO-333C, Perform the Required Actions for Transfer to Simultaneous Cold Leg and Hot Leg Recirculation
CRO-333D, Perform the Required Actions for Cold Leg Recirculation
CRO-333E, Perform the Required Actions for Transfer to Simultaneous Cold Leg and Hot Leg Recirculation
SO-045A, Fill and Vent RHR Header per AOP-12.0
SO-058, Close Recirculation Valve Disconnects
SO-058A, Align 'A' Train Power to [High Head Safety Injection] to [Reactor Coolant System] Cold Leg Isolation [Motor-Operated Valve]8803b
SO-604, Locally Isolate the [Reactor Coolant Pump] Seals
SO-605, Align Backup Cooling to the Charging Pumps from Fire Protection

Action Items

2005200399, Provide review of Westinghouse Nuclear Safety Advisory Letter, NSAL-05-3, Centrifugal Charging Pump Runout During Safety Injection, as applicable to Farley.
2005201136, Determine if the concerns discussed in RIS 2005-29 associated with the safety analyses performed for Condition II events, are applicable to Farley.
2006200284, Provide review of Westinghouse Nuclear Safety Advisory Letter, NSAL-05-3, Rev. 1, Centrifugal Charging Pump Runout During Safety Injection, as applicable to Farley.

Functional System Descriptions

A181004 Electrical Distribution System Functional System Description, 3/14/06
A-181000, Functional System Description, Component Cooling Water, Rev 20
A-181001, Service Water Functional System Description, Version 46
A181002, Functional System Description, Residual Heat Removal/Low Head Safety Injection, Rev. 28
A181009, Functional System Description, Chemical & Volume Control System, High Head Safety Injection System, Accumulators and Reactor Water System, Rev. 22

Design Changes/Modifications

DCP-96-0-9012, Plastocor of first 12" of CCW HX tubes and tubesheets

DCP-00-1-9565, CCW Surge Tank Level Transmitter Replacement
DCP2979928201/DCR 97-2-9282, Inservice Test Plan Service Water Dye Injection Points.
DCP203999601/DCR-0302-9996, Tornado Missile Protection to the man-way shell and cover of the Condensate Storage Tank, Unit 2.
DCP103999501/DCR-03-1-9995, Tornado Missile Protection to the man-way shell and cover of the Condensate Storage Tank, Unit 1.

Technical Manuals

U-176922; Document Insertion Sheet, Farley Unit 2, Instructional Manual – CCSI Pumps 05/12/06, Rev. 3
U-277513; Document Insertion Sheet, Farley Unit 2, Instructional Manual – CCSI Pumps 01/04/06, Rev. 4
U-259561, Document Insertion Sheet, Farley Unit 1, Instruction Manual for Velan Motor-Operated Valves, 06/06/88, Rev. C
U-418156; Document Insertion Sheet, Farley Units 1 & 2, Instructional Manual – RHR Pumps 10/24/00, Rev. 0
U-210186; Revision Sheet to instruction manual (36-BV5001 Rev. V) for Rockwell international butterfly valves
Ingersoll-Dresser {RHR PUMP} Technical Bulletin 112-97 dated 1/10/07, {Transmitting an Installation, Operations and Maintenance Manual}
N306, Ingersoll Dresser – Rand Pump Curve for Pump Number 1178020, 6-7-71
U214849, Instruction Manual Controlled Leakage Seal Reactor Coolant Pump, Version 6

Calculations

A-508666, Scaling Document for RWST Level Loop: Q1/2F16LT501 and Q1/2F16LT502 & for the RWST Level Switches Q1/2F16LS0507, Q1/2F16LS0508, Q1/2F16LS0515, Q1/2F16LS0516, Version 3.0
A805693, Units 1 & 2 Containment Sump Level Scaling Document, Rev. 1
ABN 97-0-1131, Time Analysis for ECCS Injection Recirculation Switchover, Rev. 2
BM-97-1547-001 Bechtel Calculation, Refueling Water Storage Tank Pipe Outlet-submergence Analysis
SM-94-0452-001, Southern Company Calculation, Refueling Water Storage Tank Maximum Draindown Rate, Rev. 3
SM-94-0452-001 Southern Company Calculation, Refueling Water Storage Tank Max Draindown Rate
AP-21823 Refueling Water Storage Tank Suction Nozzle Vortex Formation Potential at the Completion of the Containment Spray Pump Suction Switchover 12/04/98
Calc 37.4, Rev 1; CCW System HX Models and HR Capacity Calculation, Rev. 0
CN 96-0047; CCW System Evaluation – Power Uprate and Replacement Steam Generator, 01/27/97
38.03; Containment Sump Levels During Recirculation, 5/6/05
SJ-95-0886-001 RHR Bypass Flow Uncertainty Analysis Rev 1
SM-90-1653-001, Opening/Closing thrust requirements to establish margins for assessment and assist in operability evaluations, Rev. 10

SM-90-1653-002, Reduced Voltage Torque/Thrust Capability for Gate and Globe Valves in the FNP MOV Program, Rev. 11
SM-90-1653-003, Design Basis Differential Pressure, Rev. 13
SJ-95-0886-001, RHR Bypass Flow Indication Uncertainty, Rev 1
SE-94-0470-001, Unit 1 As-Built Electrical System During Various Loading Conditions, Ver. 4
Bechtel E35.1.A, Rev 3, Setting of Protective Relays for FNP Unit 1 4.16kV Auxiliary Power System Sheets 66-69; Appendix A, Sheet A-15; Attachment 6
Bechtel 37.4, Rev 0, CCW System Heat Exchanger Models and Heat Removal Capacity Calculation0000
CN-98-0033, Rev A, CCW System Heat Exchanger Models and Heat Removal Capacity
CN-99-0006, Rev A, CCW System Heat Exchanger Models and Heat Removal Capacity
Bechtel 41.04, Rev 0, CCW System Evaluation Using Degraded CCW Pump Curve
U-169202A, Component Cooling Surge Tank Seismic Calculations
U-400395, Component Cooling Heat Exchanger Seismic Analysis
Bechtel 34.5, Rev 1, Component Cooling Water System NPSH
Bechtel 12.19, Rev 1, Nuclear Relief Valves Sizing
CCN-F-06-0026, Ver. 01, Evaluation of CCW HX Thermal Performance at Various Operating Conditions
SM-S040443601-002, Ver. 01, Determine Limiting Position of Q1/2P16FV3009A/B/C

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FSE/SS-ALA-1659; Farley RCVRS Input for Safety Evaluation Checklist, 10/30/91
ALA-200 Cooldown Time / NPSH Margin, RHR pump for RCS, 2/8/74
SAE/FSE-C-ALA-0273; Farley Unit 2 ECCS NPSH & Drain-down Calculation 10/6/98,
SAE/FSE-C-APR-0274; Farley Unit 1 ECCS NPSH & Drain-down Calculation, 10/6/98
SAE/FSE-C-ALA/APR-209; RHR NPSH Calc, 2/1/99
SAE/FSE-C-ALA-0011; Farley Unit 1 Vacuum Refill. …1/5/96
SE-FSE-C-ALA/APR- 0036 J. M. Farley Unit 1 ECCS Flows Rev 0
CN-SEE-00-80, Farley RHR Butterfly Valve Stop Criteria, Rev 1
CN-FSE-00-43 Farley Unit 2, Evaluation of CCP / RHR Balancing Test Data, Rev 0
CN-SEE-05-93 Farley Unit 1 and Unit 2 NPSH Calculation from the Containment Sump to the RHR Pumps, Rev 0
SE/SS APR 2188, Minimum Safety Injection Flows for the Farley Power Uprate Project, Rev 0
CN-SEE-05-88 Farley Unit 1 Containment Sump to RHR Pump Suction Comparison of Test Data to Piping Take-offs for Additional NPSH, Rev 0
CN-96-0047 (ES 912016) CCW System HX Models and HR Capacity Calculation, Rev 0

Surveillance Tests and Work Orders

WO S 03002522, Unit 1A RHR HX Discharge Isolation Valve, Mechanical Stop Adjustment; 04/18/03
STP 11.15A Unit 1A RHR HX Discharge Isolation Valve, Mechanical Stop Adjustment; 04/17/03, Rev 3.1
WO 0703062, Unit 1A RHR HX Discharge Isolation Valve, Mechanical Stop Adjustment; 02/24/04

WO1060685401, Unit 1A RHR HX Discharge Isolation Valve, Mechanical Stop Adjustment; 06/04/06
WO S-03004257; Unit 1A RHR HX Discharge Isolation Valve, Mechanical Stop Adjustment; 09/04/03
STP 11.15A Unit 1A RHR HX Discharge Isolation Valve, Mechanical Stop Adjustment; 07/11/03, Rev 4.0
WO 1041812701, Unit 1A RHR HX Discharge Isolation Valve, Mechanical Stop Adjustment; 11/05/04
WO S-0300749; Unit 1A RHR HX Discharge Isolation Valve, Mechanical Stop Adjustment; 09/09/03
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WO 1051989101; Surveillance Task Sheet, Unit 1A RHR HX Discharge Isolation Valve, Mechanical Stop Adjustment; 04/08/06
WO 1042036301; Unit 1A RHR HX Discharge Isolation Valve, Mechanical Stop Adjustment; 11/12/04
WO S-0300749; Unit 1A RHR HX Discharge Isolation Valve, Mechanical Stop Adjustment; 09/09/03
STP 11.15B Unit 1B RHR HX Discharge Isolation Valve, Mechanical Stop Adjustment; 11/19/02, Rev 3.0
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STP 11.15B Unit 1B RHR HX Discharge Isolation Valve, Mechanical Stop Adjustment; 107/10/03, Rev 4.0
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WO-1051989201; STP 11.15B Unit 1B RHR HX Discharge Isolation Valve, Mechanical Stop Adjustment; 04/26/06
WO S-0300750 Unit 1B RHR HX Discharge Isolation Valve, Mechanical Stop Adjustment; 05/07/03
FNP-2-STP-11.15.A, Unit 2A RHR Hx Discharge Isolation Valve Mechanical Stop Adjustment, 3/29/2004
WO M 03000056, Unit 2A RHR Hx Discharge Isolation Valve Mechanical Stop Adjustment, 1/6/2003
WO M 02004251. Unit 2A RHR Hx Discharge Isolation Valve Mechanical Stop Adjustment, 7/1/2003
WO S 03004259, Unit 2A RHR Hx Discharge Isolation Valve Mechanical Stop Adjustment, 6/25/2003
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WO 2051486701, Unit 2BRHR Hx Discharge Isolation Valve Mechanical Stop Adjustment, 11/10/2005
WO S 04002425, Unit 2B RHR Hx Discharge Isolation Valve Mechanical Stop Adjustment, 3/29/2004
WO 1050482801 Performance of FNP-1-STP-376.0 RCS Pressure Isolation Valve Leak Test April 2006
WO W71731001 RCS Pressure Isolation Valve Test 11/1/03
WO 2041745301 Pressure Isolation Test FNP-2-STP-396 October 2005
WO 1051614801, 1A RHR Pump Quarterly In-Service Test, 01/04/06
WO 1051614801, 1B RHR Pump Quarterly In-Service Test, 02/03/06
WO 1051961901, 1A RHR Pump Quarterly In-Service Test, 03/17/06
WO 1051989291, RHR HX Discharge Valve Q1E11HCV603B Mechanical Stop Position Verification, 04/26/06
WO 1051989501, 1B RHR Pump Quarterly In-Service Test, 05/23/06
WO 1052002701, 1A RHR Pump Quarterly In-Service Test, 06/13/06
WO 2051602801, 2B RHR Pump Quarterly In-Service Test, 12/03/05
WO 2051617601, 2A RHR Pump Quarterly In-Service Test, 12/30/05
WO 2051956701, 2B RHR Pump Quarterly In-Service Test, 02/10/06
WO 2051968201, 2A RHR Pump Quarterly In-Service Test, 03/23/06
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WO 2051968201, 2A RHR Pump Quarterly In-Service Test, 03/23/06
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FNP-1-STP-4.1, 1A Charging Pump Test Procedure July 2004
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FNP-1-STP-4.2,1B Charging Pump Test Procedure, June 2004
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FNP-1-STP-4.3,1C Charging Pump Test Procedure, June 2004
FNP-1-STP-4.3,1C Charging Pump Test Procedure, Aug 2004
FNP-1-STP-4.3,1C Charging Pump Test Procedure, Sept 2004
FNP-1-STP-4.3,1C Charging Pump Test Procedure, Dec 2004
FNP-1-STP-4.3, 1C Charging Pump Test Procedure, March 2005
WO 1051180001, 1CCharging Pump Quarterly In-service Test, June 2005
WO 1051387201, 1C Charging Pump Quarterly In-service Test, Aug 2005
WO 1051594701, 1C Charging Pump Quarterly In-service Test, Nov 2005
WO 1051955701, 1C Charging Pump Quarterly In-service Test, Feb 2006
WO 1051990701, 1C Charging Pump Quarterly In-service Test, April 2006
FNP-2-STP-4.1, 2A Charging Pump Test Procedure, July 2004
FNP-2-STP-4.1, 2A Charging Pump Test Procedure, Oct 2004
FNP-2-STP-4.1, 2A Charging Pump Test Procedure, Jan 2005
FNP-2-STP-4.1, 2A Charging Pump Test Procedure, March 2005
FNP-2-STP-4.1, 2A Charging Pump Test Procedure, Nov 2005
WO 2051491301, 2ACharging Pump Quarterly In-service Test, Sept 2005
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FNP-2-STP-4.2, 2B Charging Pump Test Procedure, June 2004
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FNP-2-STP-4.3, 2C Charging Pump Test Procedure, Nov 2004
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Condition Reports (CRs) Resulting From This Inspection

CR 2006106683 Vendor instructions manual U258498 and U213891 for ESF room coolers contain old information on the original cooling coils.
CR 2006106688 A discrepancy was noted between the reduced voltage torque value in the design basis calculation for Q2E11MOV8812A and the reduced voltage torque value provided in the PDMS data sheet used to set-up the actuator.
CR 2006106868 During CDBI audit it was discovered that RHR Functional System Description A181002 Reference # 6.3.12b contains a typographical error and duplicates Reference # 6.3.25.
CR 2006106893 4kV Bus 1A undervoltage relays 27-2 & 4 as shown on single line diagram D-177002 Ver. 21 are listed as GE/IAV5A2 relays. This appears to be a typographical error.
CR 2006106894 NRC observed bolting discrepancies for new 500 kV breakers in Unit 2 switchyard.
CR 2006107608 The RCP bus underfrequency relays are listed in calculation E35.1.A sheet 195 as GE model SFF21A1A, but the relays were replaced and are now SFF201B1A which is an equivalent replacement relay. The calculation should be corrected.
CR 2006107609 The design function and criteria for the RCP bus underfrequency relay setpoints as listed in calculation E35.1.A, sheet 195 and Attachment 17, lack enough detail to fully understand and properly document the functional basis for the setting.
CR 2006107620 RHR FSD A181002 does not reference the current calculation for RHR pump NPSH during the recirculation mode. ABN 01-0-1951 did not update the FSD reference calculation for NPSH.
CR 2006107623 During the NRC CDBI, inspectors identified a potential weakness in the acceptance criteria for procedures FNP-1/2-STP-11.15A/B. This surveillance procedure sets the travel stops on the RHR HX discharge valves to ensure total RHR flow does not exceed the limit needed to ensure adequate NSPH while RHR is in recirculation mode. Specifically, the acceptance criteria provided does not factor in instrument uncertainty for the total RHR flow.
CR 2006107625 During review of 4 kV breaker history, it was identified that there are gaps in the process to ensure root causes are identified for fail to start events. This gap was also observed in the assessment documented in CR 2006106207, however, no direct and specific actions are being tracked.
CR 2006107638 Based on field walkdowns during CDBI audit, the replacement level transmitter for the CCW surge tank was identified as not being mounted per the implementing DCP 00-1-9565. The new centerline elevation does not conform to the original transmitter centerline elevation.
CR 2006107644 The CDBI team personnel have identified several labeling and procedure issues that are not design basis items of interest, but warrant plant response to preclude operator confusion and support Operational Excellence. The items are listed in the Comments section of this CR.
CR 2006107646 FSAR Table 6.3-4 provides RWST drain down time steps. Several time steps are annotated with a note that these times "are the only times required to be met by plant operators." This CR is being written to request a RER be initiated to investigate and confirm if these RWST drain down time specific steps required to be met by operations.

CR 2006107648 The CDBI team personnel raised concerns with a few Abnormal Operating Procedures in regards to ready availability and application of critical equipment necessary to effect appropriate responses in the field. Personnel required to perform actions in the field may not be adequately trained or have sufficient refresher training to ensure prompt and successful action performance. May need to sample operator knowledge to determine status.

CR 2006107666 Section 5.11 of the CCW FSD (A181000) indicates the Unit 1 RHR Pump Seal Cooler has a design pressure of 100 PSIG. The current RHR pump manual (U418156) indicates a seal cooler shell design pressure of 150 PSIG.

CR 2006107683 During the NRC CDBI inspection, several issues associated with HVSY equipment were discussed. This condition report is written to track completion of corrective actions for those items.