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

November 9, 2006

Florida Power and Light Company
ATTN: Mr. J. A. Stall, Senior Vice President
Nuclear and Chief Nuclear Officer
P. O. Box 14000
Juno Beach, FL 33408-0420

SUBJECT: TURKEY POINT NUCLEAR PLANT - NRC COMPONENT DESIGN BASES INSPECTION REPORT 050000250/2006011 AND 05000251/2006011

Dear Mr. Stall:

On September 29, 2006, the U. S. Nuclear Regulatory Commission (NRC) completed a team inspection at your Turkey Point Nuclear Plant, Units 3 and 4. The enclosed inspection report documents the inspection findings, which were discussed on September 29, 2006 with Mr. Pearce and other members of your staff.

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

Based on the results of this inspection, no findings of significance were identified.

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

Scott Freeman, Chief (Acting)
Engineering Branch No. 1
Division of Reactor Safety

Docket Nos. 50-250 and 50-251
License Nos. DPR-31 and DPR-41

Enclosure: Inspection Report 05000250/2006011 and 05000251/2006011

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U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos.:	05000250, 05000251
License Nos.:	DPR-31, DPR-41
Report Nos.:	05000250/2006011 and 05000251/2006011
Licensee:	Florida Power & Light Company (FPL)
Facility:	Turkey Point Nuclear Plant, Units 3 & 4
Location:	9760 S. W. 344th Street Florida City, FL 33035
Dates:	September 5 through 15, 2006 and September 25 through 29, 2006
Inspectors:	C. Smith P. E. , Lead Inspector R. Taylor, Reactor Inspector R. Reyes, P. E. , Resident Inspector, Crystal River W. Fowler, Reactor Inspector J. Leivo, Contractor H, Campbell, Contractor
Accompanied by:	C. Even, Reactor Inspector (Trainee)
Approved by:	S. Freeman, Chief (Acting) Engineering Branch No. 1 Division of Reactor Safety

Enclosure

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SUMMARY OF FINDINGS

IR 05000250/2006011, 05000251/2006011; 09/5-15, 2006 and 09/25 - 29, 2006; Turkey Point Nuclear Plant Units 3 and 4; Component Design Bases Inspection.

This inspection was conducted by a team of four NRC inspectors from the Region II office and two NRC contractors. 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 a Birnbaum value greater than 1E-6. The sample selection included 19 components, 5 operator actions, and 10 operating experience items. Additionally, the team reviewed 8 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, 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 and System Reviews

.2.1.1 4160 Vac Buses 3B/4B

a. Inspection Scope

The team reviewed the licensee's voltage and load analysis calculations as well as degraded voltage protection calculations, to verify that selected equipment ratings would not be exceeded and that selected loads, including the intake cooling water (ICW) pump motors, would have adequate terminal voltage for transient and steady state design basis conditions, and would not experience premature protective trips. In addition, the team reviewed a sample of logic and elementary diagrams for protective relaying and

circuit breaker control, to assess vulnerability to common cause failure under various design basis operating conditions, including load shedding and accident loading. This included selective review of supporting 125 Vdc control power for breaker controls, to determine if transfer switch ratings, protection, and testing were adequate. The team also reviewed functional testing of selected load shedding circuits, to verify that unacceptable failures would not be masked by inadequate testing.

The team reviewed a sample of preventive maintenance (PM) performed for selected 4160 Vac circuit breakers, as well as a sample of calibration and test records for the degraded voltage protection circuits, to verify equipment condition and performance. The team also performed a visual external inspection of the switchgear, to assess the observable external material condition and potential vulnerability to hazards. Additionally, the team performed a visual inspection of the circuit configuration for 125 Vdc automatic transfer switch 3S75, to assess overall material condition and vulnerability to common cause failure.

The team reviewed 4160 Vac system health reports and a sample of condition reports involving operating history, to confirm that the licensee was adequately addressing the conditions. This included a review of the history of grounds on the 125 Vdc support system. During review of the condition reports the team assessed the licensee's consideration of apparent or root cause; extent of condition; and the appropriateness and timeliness of corrective actions.

b. Findings

No findings of significance were identified.

.2.1.2 Chilled Water Portion of Air Handling Unit (AHUs), 3B/4B, (3/4E244A),

a. Inspection Scope

The team reviewed the updated final safety analysis report (UFSAR), design basis document (DBD), calculations, system health reports, work orders, condition reports (CRs), and PMs to verify that the heat ventilation and air conditioning (HVAC) system will be capable of performing its function as described in the UFSAR. The scope of the review included an evaluation of the system heat removal capabilities during normal and accident condition heat loads under current air and chilled water flow rates. The team also reviewed the control logic of the chilled water pumps and air handling units to verify that their operation was in accordance with design bases requirements.

The team performed system walkdowns to inspect the chilled water portion of the AHUs for potential water related degradation of the AHU safety-related electrical power supplies and motors. The inspection evaluated the effects due to condensation, pipe insulation, pipe leakage, drains, sump pumps and corrosion.

The team also reviewed system health reports and work orders for the 3E243B and 3E243A air handling units to ensure that corrosion and condensation were adequately addressed for the chilled water flex-hose flanges.

b. Findings

No findings of significance were identified.

.2.1.3 Intake Cooling Water (ICW) Pump (4C)

a. Inspection Scope

The team reviewed the design basis documentation to identify design requirements related to flow, developed head, net positive suction head (NPSH), vortex formation, minimum flow and runout protection for all ICW pump operating conditions. Design calculations and in-service and periodic test documentation and results for the pump were evaluated to verify that adequate margin was available and all design performance requirements were met for the various operating configurations. The team also reviewed maintenance, in-service testing (IST), corrective action, and design change history to assess the potential for component degradation and impact on design margins or performance. Additionally, the team performed independent uncertainty calculations for the instrumentation used in the IST pump procedures to verify instruments accuracy, and discussed heat exchanger testing as required by Generic Letter 89-13 with the system engineer.

b. Findings

No findings of significance were identified.

.2.1.4 Intake Cooling Water (ICW) Pump Discharge Check Valves

a. Inspection Scope

The team reviewed the design, installed orientation, and licensee actions developed for monitoring potential degradation of the check valves. The scope of the actions reviewed by the team included internal inspections as well as periodic in-service flow testing to demonstrate full open, closure, and allowable leakage verification. The team also reviewed maintenance history, condition reports (CRs), foreign material exclusion (FME) controls and design changes to assess the potential for flowpath obstruction and material degradation.

b. Findings

No findings of significance were identified.

.2.1.5 Traveling Screens

a. Inspection Scope

The team reviewed the design and installed orientation of the traveling screens to verify that the traveling screens were being operated consistent with engineering directives and documents. The team also reviewed corrective maintenance records, calibration records, and work orders for the instruments used for determining acceptable operation of the traveling screens. The reviews were performed to assess the licensee's actions completed for verifying and maintaining the reliability and availability of the components in the system. Additionally, the team inspected the intake structure to assess common failure modes that could render traveling water screens inoperable, The team reviewed the capability to prevent severe flow reduction or clogging of the ICW suction lines.

The team also reviewed the licensee's specifications for sizing the thermal overload protection for the traveling screen drive motor, to confirm that the devices would protect the motors but not trip prematurely under design basis conditions.

b. Findings

No findings of significance were identified.

.2.1.6 Primary Water Pump 3B, (3P16B)

a. Inspection Scope

The team reviewed the UFSAR, piping and instrument diagrams, portions of the system DBD, work orders, and PMs to verify that primary water pump 3B had positive margin, and was capable of performing its design function as described in the UFSAR. During this review the team evaluated both the original and revised pump curves. Additionally, the team assessed the reliability of the pump by having discussions with the system engineer concerning the operating history of the pump, and pump problems that were identified and documented on CRs. The team also performed a walkdown and inspection of primary water pump 3B to verify the material condition of the component.

b. Findings

No findings of significance were identified.

.2.1.7 Demineralized Water Storage Tank, (DWST), (T-61)

a. Inspection Scope

The team reviewed the technical design specification, UFSAR, DBD, Setpoint Document, and drawings including tank layout, piping and instrumentation diagram, and

the volume/level tank curve, to verify that the design of the DWST satisfied design bases requirements with positive margin. The team performed independent vortex calculations and compared the results with the licensee's calculations to verify the accuracy of the analyses completed by the licensee. Additionally, the team reviewed the calibration procedures for the level instruments on the demineralized water storage tank as well as the results of the last three completed calibrations to verify that the instruments were sufficiently accurate to perform their design function. The team also performed a walkdown with the system engineer to perform a visual inspection of the component and evaluate its material conditions.

b. Findings

No findings of significance were identified.

.2.1.8 Demineralized Water Degassification System Check Valves,(DWDS-3-013 & -4-013)

a. Inspection Scope

The team reviewed the purchase orders, technical specifications, and piping and instrumentation diagrams of demineralized water degassification system check valves to verify that the valves had adequate margin and were capable of performing their design function. The team also completed a field inspection of the DWST and performed a visual inspection of the check valves to evaluate the installation and material condition.

b. Findings

No findings of significance were identified.

.2.1.9 Diesel Driven Standby Steam Generator Feedwater (DDSSGF) Pump, (P82B)

a. Inspection Scope

The team reviewed the original design specifications, and piping and instrumentation diagrams of the DDSSFG pump to verify that there was adequate margin to ensure operation of the pump in the event that the AFW system did not function properly. Additionally, the team reviewed selected portions of the UFSAR to verify that licensing bases requirements were met by DDSSGF pumps. The team reviewed the control scheme and supporting DC control power for the diesel start and control circuits to verify that pump operation was consistent with licensing bases requirements. In addition the team reviewed a selection of work orders, the results of several pump surveillances. and a sample of preventive maintenance activities for the 24 Vdc support system to verify that the pump met performance requirements, and the reliability of the 24 Vdc support system was acceptable. The team completed a field inspection of the DDSSGF pump and its associated piping to evaluate the material condition of the installation.

The team also performed a non-intrusive visual inspection of observable portions of the battery and controls to verify that the material condition of the electrical support system was acceptable.

b. Findings

No findings of significance were identified.

.2.1.10 Primary Water Storage Tank, (PWST) (3T2)

a. Inspection Scope

The team reviewed the technical design specification, UFSAR, DBD, Setpoint Document, and drawings including tank layout, piping and instrumentation diagram, and the volume/level tank curve, to verify that the design of the PWST satisfied design bases requirements with positive margin. The team reviewed selected portions of the tank level and inspection surveillance to verify that the results of these surveillance met acceptance requirements. Additionally, the team reviewed the calibration procedures for the level instruments on tanks 3T2 and 4T2, as well as the results of the last three completed calibrations to verify that the instruments were sufficiently accurate to perform their design function. The team also performed a visual inspection of the instrument configuration and material condition and its associated tubing, during a walkdown conducted with the system engineer.

b. Findings

No findings of significance were identified.

.2.1.11 CVCS Flow Control Valve FCV-3-114A, (PW to BA Blender)

a. Inspection Scope

The team reviewed selected portions of the DBD and piping and instrumentation diagrams to verify that FCV-3-114A had positive margin and was capable of performing its design function. The team also evaluated the reliability of FCV-3-114A by reviewing CRs, PMs and the results of several calibration procedures. Additionally, the team conducted discussions with the the system engineer concerning valve operating history and performance deficiencies.

b. Findings

No findings of significance were identified.

.2.1.12 DC Equipment and Inverter Room Air Handling Units 16D, 16E

a. Inspection Scope

The team reviewed the capability of air handling units 16D / 16E, and supplemental cooling configurations using portable fans, for maintaining ambient conditions below temperatures that could effect performance of the electrical equipment in the DC equipment and inverter rooms. Safety related equipment of interest located in these rooms included the vital bus inverters, batteries, chargers, and DC distribution equipment for both units. The team determined that for various scenarios, the licensee's current design basis for maintaining the DC equipment and inverter room temperatures within operability limits relies upon a combination of installed HVAC units, portable fans, and manual actions. Manual actions include positioning the portable fans, opening doors, monitoring local temperatures, and tripping certain heat loads.

The team's review focused on: verifying the acceptability of a) the heat removal capability of the licensee's supplemental cooling configuration (using portable fans), which the licensee credited for various failure scenarios involving loss or degradation of the permanently installed units; and b) the available thermal design margin for the inverters and inverter components, during the transient elevated room temperatures associated with this configuration.

The team reviewed the licensee's heat transfer analyses that supported the permanent and supplemental cooling configurations, as well as the vendor's ratings for the equipment and components located in these rooms. The team reviewed the major portions of the calculations that were used by the licensee in their operability determinations and discussed the base models of these calculations with the analyst who had originally performed the analysis. The team also reviewed the inverter vendor's qualification test report, aging evaluations, and other supporting design documents.

The team performed a walkdown of these rooms to identify: specific equipment that could be affected adversely by elevated ambient temperatures; heat sources within the rooms; pathways for airflow, based on the positioning of portable fans and door configurations prescribed by the licensee's governing off-normal operating procedure 0-ONOP-25.3, DC Equipment and Inverter Rooms Supplemental Cooling; and other considerations such as control of external doors potentially exposed to adverse weather conditions. The team also reviewed ambient temperature records from the licensee's operating rounds for these rooms, and a sample of condition reports involving potential for elevated temperatures.

b. Findings

No findings of significance were identified.

.2.1.13 Boric Acid Storage Tank

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. Equipment environmental and seismic protections were evaluated against supporting documentation.

b Findings

No findings of significance were identified.

.2.1.14 Non-Safety Diesel Powered Service Water (NSDPSW) Pump

a. Inspection Scope

The team reviewed vendor information and engineering calculations / tests, which provided the basis for establishing the time for placing the pump into service, The team also reviewed and evaluated the analyses for verification of the charging pump heatup assumptions. Additionally, the team reviewed calculations to verify that the NSDPSW pump would provide sufficient flow to the charging pumps. The team reviewed maintenance, corrective action, and design change history to assess the potential for component degradation and impact on design margins or performance.

b. Findings

No findings of significance were identified.

.2.1.15 RHR Relief Valve on RHR Cold Leg, (RV-4-706)

a. Inspection Scope

The team reviewed both the original and revised design specifications of RHR Relief Valve RV-4-706, piping and instrument diagrams, the system DBD and relevant portions of the UFSAR to verify that the valve had positive margin to ensure performance of its design function. The team also conducted interviews with the system engineer to discuss the function and general condition of the valve. Additionally, the team reviewed selected work orders and completed maintenance procedures to provide confirmation of valve operability. The team performed walkdowns of RHR relief valve RV-4-706 to inspect component condition and system orientation.

b Findings

No findings of significance were identified.

.2.1.16 High Head Safety Injection (HHSI) Recirculation Isolations Valves

a. Inspection Scope

The team reviewed the UFSAR, DBD, piping and instrument diagrams, MOV calculations and responses to GL 89-10 in order to verify that HHSI recirculation valves MOV-3/4-856A/B had positive margin and would be able to perform their safety-related functions during accident conditions. The team also reviewed the licensee's electrical calculations to determine if adequate voltage would be provided to the MOV motor terminals under design basis conditions, and to verify that the thermal overload heater devices for the MOVs, were adequately sized to ensure that the devices would not trip prematurely under design basis conditions. The team reviewed the Motor Operated Valve Acceptance Test System (MOVATS) results, maintenance history and CRs to verify that valve performance was being monitored to identify degradation. The team reviewed and evaluated corrective actions completed for identified valve degradations to verify that problems were being identified and resolved at appropriate thresholds. The team also performed system walkdowns of the HHSI recirculation isolation valves to inspect environmental and component material condition. Finally, the team interviewed the system engineer and discussed overall history and performance of these valves.

b. Findings

No findings of significance were identified.

.2.1.17 High Head Safety Injection (HHSI) Header Cross-tie Valves

a. Inspection Scope

The team reviewed the UFSAR, Safety Injection System DBD, Emergency Operating Procedures (EOPs), Operating Procedures (OPs), CRs and mechanical calculations of the HHSI cross-tie valves, to verify that the cross-tie valves had positive margin and were capable of performing their safety-related functions. The team also reviewed the licensee's electrical calculations to determine if adequate voltage would be provided to the motor operated valve (MOV) motor terminals under design basis conditions, and to verify that the thermal overload heater devices for the MOVs, were adequately sized to ensure that the devices would not trip prematurely under design basis conditions. The team performed walkdowns to verify the material condition of the installed valves and the valve position. Additionally, the team reviewed procedures used for changing the position of the cross-tie valves to verify its adequacy in addressing valve configurations during various plant conditions. Finally, the team interviewed the system engineer and discussed overall history and performance of these valves to determine the overall reliability of the component.

b. Findings

No findings of significance were identified.

.2.1.18 RWST Blended Makeup Check Valve -366,

a. Inspection Scope

The team reviewed valve drawings, piping and instrument diagrams, EOPs and OPs to verify that the makeup path can function as described per the plants PSA and would not be impeded by other connecting system flowpaths back to the RWST. Additionally, the team reviewed documentation, including PSA analysis, calculations and operation logs to verify that the valve allows the assumed flow under normal and accident conditions. The team also interviewed the system engineer and operations personnel to further address the condition and operability of the valve. The team completed field inspections to verify the material condition of the component and the system orientation.

b. Findings

No findings of significance were identified.

.2.1.19 Pressurizer Pressure Transmitter PT 3-445

a. Inspection Scope

The team reviewed the loop diagrams and connection diagrams associated with PT 3-445, to confirm that the pressurizer pressure control loop satisfied design bases requirements. The team selectively reviewed the scaling, and instrument uncertainty and setpoint calculations for the pressurizer pressure control loop, to verify that assumptions and design inputs regarding process effects, instrument uncertainty, and process limits had been appropriately considered, and that appropriate statistical methodology had been used. The team also reviewed a sample of calibration results to verify that the instrument as-found values demonstrated that it was sufficiently accurate to perform its design function. The team evaluated the reliability of the instrument by reviewing a sample of condition reports prepared in connection with problems associated with this instrument.

b. Findings

No findings of significance were identified.

.3 Review of Low Margin Operator Actions

a. Inspection Scope

The team performed a margin assessment of a sample of risk significant, time critical operator actions. Where possible, margins were determined by the review of the assumed design basis, engineering modeling, and UFSAR stated response times and

job performance times. For the selected operator actions, the team performed a walk through of associated Emergency Procedures, Abnormal Procedures, Annunciator Response Procedures, and other operations procedures with appropriate training personnel or plant operators to assess operator knowledge level, adequacy of procedures, and availability of special equipment when required.

For selected time critical operator actions performed by control room operators, the team observed operators perform these actions from the control room simulator, which included actions during scenarios for the loss of offsite power, station black out, and LOCA with loss of high head safety injection on the affected unit.

In the plant, the team verified that required staged equipment such as ladders, tool boxes, operator aids, keys, controlled procedures, and communications equipment were available to perform the operator actions in the field, and that field communications with the control room was adequate to complete the operator actions. Additionally, timeliness for time critical operator actions was verified by observing operators perform the applicable procedures on the respective components in the plant.

The following operator actions were reviewed:

- Place motor and diesel driven standby steam generator feed water into service
- Provide backup cooling to charging pumps
- Provide high head safety injection from the non-affected unit
- Install temporary fans for DC / Inverter Rooms
- Reset 4K-Volt lock out from main control room and locally

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 Turkey Point. The team performed an independent applicability review and selected the following issues for detailed reviews:

- NRC Information Notice IN 2002-12, Submerged Safety Related Cables.
- IN 96-43, Failures of General Electric Magne-Blast Circuit Breakers.

- IN 96-46, Zinc Plating of Hardened Metal and Removal of Protective Coatings, Refurbished Circuit Breakers.
- IN 97-08, Potential Failures of General Electric Magne-Blast Circuit Breaker Components & SER 7-97, Operating Mechanism Problems in Medium Voltage Circuit Breakers.
- IN 98-038, Metal Clad Circuit Breaker Maintenance Issues Identified by NRC Inspections.
- IN 99-13, Insights from NRC Inspections of Low and Medium Voltage Circuit Breaker Maintenance Programs.
- CR 2005-3666, Crystal River Reportable Event - OE.
- NRC BULLETIN NO. 88-04, Potential Safety-Related Pump Loss, May 5, 1988.
- NRC INFORMATION NOTICE 97-90: Use of Non-Conservative Acceptance Criteria in Pump Surveillance Tests.
- Responses and actions taken for, NRC Bulletin No. 89-02 "Stress Corrosion Cracking of High Hardness Type 410 Stainless Steel Internal Preloaded Bolting in Anchor Darling Model S350W Swing Check Valves"

b. Findings

No findings of significance were identified.

.5 Review of Permanent Plant Modifications

a. Inspection Scope

The team reviewed 8 modifications of risk significant components in detail to verify that the design bases, licensing bases, and performance capability of the components have not been degraded. The adequacy of design and post-modification testing of these modifications was reviewed by performing inspection activities identified in IP 71111.17, Permanent Plant Modifications, Section 02.02.a. Additionally, the team reviewed the modifications in accordance IP 71111.02, Evaluations of Changes, Tests, or Experiments, to verify the licensee had appropriately evaluated the 10 CFR 50.59 applicability. The following modifications were reviewed.

- PC/M No. 04-069, Overpower Delta -T, (OPDT) and Overtemperature DeltaT, (OTDT) Turbine Runback Elimination, Revision 0
- PC/M No. 05-100, Unit 3 Main and Auxiliary Transformer Tap Changes, Revision 0

- PC/M No. 94-020, Thermal Uprate Reactor Control and Protection System Scaling Diagram, Revision 1
- PC/M No. 95-171, Thermal Uprate Setpoint Scaling, Revision 0
- PC/M No. 04-103, Power Range Detector High Voltage Setting Change, Revision 0
- PC/M No. 05-131, Feedwater Pump 3B Minimum Flow Setpoint Change, Revision 0
- ECR 50485, Relocate Temperature Switch ITS09717B-VL, Rev. 4
- ECR 50176, Diesel Generator Fuel Oil Strainer DPI Sensing Line Redesign, Rev. 2

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4AO6 Meetings, Including Exit

Exit Meeting Summary

On September 29, 2006, the team presented the inspection results to Mr. M. Pearce, Turkey Point Plant Manager, and other members of the licensee staff. An Unresolved Item (URI) was identified at the exit interview. The team returned all proprietary information examined to the licensee. No proprietary information is documented in the report.

SUPPLEMENTARY INFORMATION

KEY POINTS OF CONTACT

Licensee personnel
C. Bible, Director of Engineering
S. Brain, FP&L Contractor
J . Connolly, Licensing Manager
M. Crosby, Training Manager
A. Dunstan, FP&L Engineering
O. Hanek, Licensing Engineer
D. Hoffman, Assistant Operating Manager
F. McCain, Document Control
M. Pearce, Plant Manager
D. Poirier, Maintenance Manager
W. Prevatt, Work Control Supervisor
G. Warriver, Site Quality Manager

NRC (attended exit interview)
C. Ogle,Branch Chief, Engineering Branch No. 1, Division of Reactor Projects, RII
S. Stewart, Senior Resident Inspector, Turkey Point

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

None

LIST OF DOCUMENTS REVIEWED

Calculations

21701-523-E-01,	Unit 3 Load Centers Undervoltage Relay Set Points, Rev. 1.
5177-265-EG-22,	Breaker / Fuse Coordination Study Calculations (Appendix R), Rev. 5.
CN-TSS-94-54,	FPL Up-rating Initial Conditions Calculations, Turkey Point Units 3 & 4, Pressurizer Pressure Control and Indication, 7/14/95.
EC-138,	Switchgear, Load Center, and MCC Load Study, Rev. 4.
EC-141,	Short Circuit and Voltage Drop Analysis for Electrical Auxiliary System, Rev. 4.
EC-145,	PSB-1 Voltage Analysis for Electrical Auxiliary System, Rev. 5.
FLO-53-20.5005,	Emergency Power System Enhancement Project, Appendix R Circuit Breaker / Fuse Coordination Study, Rev. 6.
HCI-FPLTPS-93-001,	PT-444 and PT-445 Control Setpoint Evaluation for Turkey Point Units 4 Setpoint Enhancement Project HCI-FPLTPS., Revision 1.
PTN-BFJE-90-006,	Motor Operated Valve Voltage Drop Calculation, Rev. 22.
PTN-BFJE-92-028,	Thermal overload heater sizing, Rev. 12.

PTN-BFJM-91-004, Turkey Point Control Building and Control Building Annex HVAC Model and Heatup Calculation, Rev. 3, 8/1/93.
PTN-BFJM-95-009, DWST Volume / Setpoints, Rev. 1.
PTN-BFSE-97-003, PSB-1 Voltage Analysis for Electrical Auxiliary System, Rev. 7.
PTN-BFSE-97-004, Load Study for Miscellaneous Loads added to Switchgear, Load Center, and MCCs, Rev. 5.
PTN-3FJE-92-024, Relay Setting Calculation Package for Unit 3 Relays, Rev. 15.
PTN-OFSM-91-039, DWST Minimum Acceptable Level, Rev. 0.
PTN-BFJM-95-009, DWST Volume/Setpoints, Rev. 1.
M12-383-01, Vortex Design Evaluation of Refueling Water Storage Tank (RWST), Rev. 2
PTN-BJFM-91-004, Turkey Point Control Building & Control Building Annex HVAC Model and Heat Up Calculation, Rev. 3
PTN-BFJM-91-036, Turkey Point Control Building and Annex Heat Up Calculation for Loss of Offsite Power Scenarios, Rev. 0
FRSS/SS-FPL-1058, RHR Pump Miniflow Design, 10/30/87
TN-3FSM-02-017, Calculation of Unit 3 ICW Flow to TPCW Plate Heat Exchangers, Rev. 1
PTN-BFJM-91-047, Turkey Point Units 3 and 4 Load Center Switchgear Rooms HVAC Heat Up Calculations, Rev. 1
PC/M 93-028, Reduction of Minimum Load Center Switchgear Rooms Air Handler Flow Rates, Rev. 0
PTN-BFJM-90-078, NRC Generic Letter 89-10 MOV Actuator Evaluation

Operating Procedures

3-EOP-E-0 Reactor Trip or Safety Injection Rev. 8/10/06
3-EOP-E-1 Loss Of Reactor Or Secondary Coolant, Rev. 5/17/06
3-EOP-E-2 Faulted Steam Generator Isolation, Rev. 4/30/02
3-EOP-E-3 Steam Generator Tube Rupture, Rev. 12/19/05
3-EOP-ES-0.1 Reactor Trip Response, Rev. 4/17/06
3-EOP-ES-0.2 Natural Circulation Cooldown, Rev. 12/14/02
3-EOP-ES-1.1 SI Termination, Rev. 4/17/06
3-EOP-ES-1.3 Transfer To Cold Leg Recirculation, Rev. 1/7/04
3-EOP-ECA-0.0 Loss Of All AC Power, Rev. 9/26/05
3-EOP-ECA-0.1 Loss Of All AC Power Recovery Without SI Required, Rev. 3/29/04
3-EOP-ECA-0.2 Loss Of All AC Power Recovery With SI Required, Rev. 2/22/2
3-EOP-ECA-1.1 Loss Of Emergency Coolant Recirculation, Rev. 5/17/06
3-EOP-ECA-1.2 LOCA Outside Containment, Rev. 4/15/99
3-EOP-ECA-2.1 Uncontrolled Depressurization Of All Steam Generators, Rev. 12/19/05
3-EOP-F-0 Critical Safety Function Status Trees, Rev. 8/03/01
3-EOP-FR-H.1 Response To Loss Of Secondary Heat Sink, Rev. 11/15/05
0-ONOP-003.10, 125 Vdc Systemn - Location of Grounds, 8/26/04.
0-ONOP-25.3, Off-Normal Operating Procedure, Operation with Loss of HVAC to the DC Equipment and Inverter Rooms.
0-ONOP-013 Loss Of Instrument Air, Rev. 1/28/03
0-ONOP-025.3 DC Equipment and Inverter Rooms Supplemental Cooling, Rev. 4/12/99

3-ONOP-004.1	System Restoration Following Loss Of Offsite Power, Rev. 10/21/04
3-ONOP-004.2	Loss Of 3A 4KV Bus, Rev. 9/26/05
3-ONOP-004.3	Loss Of 3B 4KV Bus, Rev. 9/26/05
3-ONOP-004.4	Loss Of 3C 4KV Bus, Rev. 10/21/04
3-ONOP-019	Loss Of Intake Cooling Water, Rev. 8/22/05
3-ONOP-023.2	Emergency Diesel Generator Failure, Rev. 8/22/05
3-ONOP-030	Component Cooling Water Malfunction, Rev. 3/29/04
3-ONOP-075	Auxiliary Feedwater System Malfunction, Rev. 12/12/05
0-OSP-012.1	Diesel Driven Service Water Pump Operability Test, Rev. 8/10/04
0-OP-012	Service Water System, Rev 8/7/06
0-OP-066	Area Radiation Monitoring System, Rev. 2/18/02
3-OP-018.1	Condensate Storage Tank, Rev. 8/6/06
3-OP-030	Component Cooling Water System, Rev. 8/11/06
3-OP-064	Safety Injection Accumulators, Rev. 9/12/06
3-OP-094	Containment Post Accident Monitoring Systems, Rev. 5/02/06
0-ONOP-003.10,	125 Vdc Systemn - Location of Grounds, 8/26/04.
0-ONOP-25.3,	Off-Normal Operating Procedure, Operation with Loss of HVAC to the DC Equipment and Inverter Rooms.
3-OP-070,	Vital Load Center and Switchgear Rooms Chilled Water Air Conditioning System
4-OP-070,	Vital Load Center and Switchgear Rooms Chilled Water Air Conditioning System
3-EOP-E-0,	Reactor Trip or Safety Injection
3-EOP-E-1,	Loss of Reactor or Secondary Coolant
3-EOP-ECA-1.1,	Loss of Emergency Coolant Recirculation
0-OP-046,	CVCS - Boron Concentration Control
0-NCSP-005,	Auxiliary Chemistry Documentation
0-PME-111.1,	HVAC Maintenance
0-GME-102.14,	Accelerated MOVATS Testing of Safety Related Limitorque Motor Operated Valve Actuators

Maintenance Procedures and Completed PMs

0-PME-003.17,	DC Transfer Switch Inspection & Cleaning, 12/31/01.
0-PME-005.3,	4160 V General Electric Breaker Inspection and Cleaning, 8/2/06.
0-PME-074.7,	Standby Steam Generator Diesel Feed Pump 24 Vdc System Electrical Maintenance, 5/24/06.

Disposition of Information Notices Pertinent to 4160 VAC Switchgear

FOP-94-084,	Failures of GE Magne-Blast Circuit Breakers to Latch Closed, closed 4/12/95.
FOP-95-009 / CR 95-0668,	Problems with GE CR-2940 Contact Blocks in Medium Voltage Circuit Breakers, closed 9/3/95.
FOP-95-032 / CR 95-0455,	Hardened or Contaminated Lubricants Cause Metal-Clad Circuit Breaker Failures, closed

	6/25/95.
FOP-96-060TP / CR 96-1278, IN 96-43,	Failures of General Electric Magne-Blast Circuit Breakers.
FOP-96-061TP / CR 96-1479, IN 96-46,	Zinc Plating of Hardened Metal and Removal of Protective Coatings, Refurbished Circuit Breakers.
FOP-97-079T01 / CR 97-0731, IN 97-08,	Potential Failures of General Electric Magne-Blast Circuit Breaker Components & SER 7-97, Operating Mechanism Problems in Medium Voltage Circuit Breakers.
OEF-98-125 / CR 98-1715, IN 98-038,	Metal Clad Circuit Breaker Maintenance Issues Identified by NRC Inspections.
OEF-99-044 / CR 99-0715, IN 99-13,	Insights from NRC Inspections of Low and Medium Voltage Circuit Breaker Maintenance Programs.

Miscellaneous Documents

BD-EOP-ES-1.3	Basis Document, Transfer To Cold Leg Recirculation, 1/7/04
JPM24050032500	Realign Opposite Units HHSI Pumps During a Loss Of All AC PWR-SI Required To The Affected Units RWST Rev. 1/13/06
JPM01200011300	Respond To Control Room Evacuation Condition - Unit 3 RCO Rev. 12/19/02
JPM04005019100	Locally Trip A 4KV Breaker, Rev. 1/5/94
SD068	System Description Radiation Monitoring And Protection, Rev. 7/7/06
5177-306-E-854.1-37-1,	Qualification Report for a Class 1E 7.5 kVA Static Inverter, Static Switch, Synch Selector Box and Isolimiter, Test Report No. 23343-1, Solidstate Controls, Inc. Project No. 23343-1, Florida Power & Light Co. Purchase Order No. 8-79831-39611C, June 13, 1985.
5610-000-DB-001,	Design Basis Document, Selected Licensing Issues, Electrical Separation Criteria, Rev. 5.
5613-M-313, p.103, 104,	Turkey Point Unit 3 Setpoint List, Rev. 46.
	Aerovox Corp. Vendor Specification Sheets for Type H High Voltage AC and DC Capacitors [as applied to installed type H94S13A0BA].
JPN-PTN-93-6511,	Safety Evaluation for Safety Functions in the Miscellaneous Relay Racks, Rev. 4.
JPN-PTN-SEIS-97-001,	Engineering Evaluation for GL 96-01 Testing of Safety-Related Logic Circuits, Attachment 9, Rev. 0.
JPN-PTN-SEMP-93-010,	Control Building Annex Cooling Safety Evaluation, Revision 1, 1/19/94.
JPE-LR-87-020,	Safety Evaluation and Justification for Continued Operation – Operation with Loss of HVAC to DC Equipment and Inverter Rooms, Rev. 3, 11/2/88.
	Solidstate Controls, Inc. (SCI) letter dated 4/7/1987, Subject: SCI Inverters and Isolimiters Serial Numbers 23343 through 23346,

Florida Power & Light Co. P.O. No. 79831-39611C.
VTM No. H1050, Instruction and Operating Manual w/Drawings for Inverter, Issue No. 010, 9/11/03.
VTM No. V00413A, Instruction, Operation, Maintenance Manual for Automatic Transfer System, June 19, 1996.
Wyle Labs Aging Analysis Report 47539-01, Mild Environment Aging Analysis Report for Vital AC Power Supply (Nuclear) for Solidstate Controls, Inc., for Use in St. Lucie and Turkey Point Units 3 and 4 Nuclear Power Plants, Revision A, 2/18/85.
JPM 01 050 005 501/SEQ013A, Align RHR for Cold Leg Recirculation, 10/20/05
G-676257, Valve Design Specification for RV-*-706, Rev. 0 & 1
SPEC-M-10, Relief Valve Specification, Rev. 2
PN-PTN-SEMP-95-038, Engineering Evaluation for Design Basis Review of the RHR Relief Valve RV-*-706, Rev. 1
MSP No. 03-112, 3B Primary Water Pump Foundation Repair, 2/16/05
5613-M-313, Turkey Point Unit 03 Setpoint List, Rev. 46
SPEC-C-047, Field Erected Tanks Internal Inspection Turkey Point Units 3 & 4, Rev. 0
SPEC. No. 5177-090-C141.1, Technical Specification for Demineralized Water Storage, Rev. 5
Specification 5177-P-446, Technical Specification for Critical Service Gate, Globe, and Check Valves 2-1/2 Inches and Larger, Rev. 2
Specification 5177-090-M080B, Technical Specification for Horizontal Centrifugal Pumps, Rev.2
Specification No. 5610-M-18D, Primary Water Pump
Specification for Field Storage Tanks No. 5610-C-18
Sulzer Pumps (US)Inc. Data Package for FPL, P.O. 00071449 003
UFSAR Chapter 9.16, Load Center and Switchgear Rooms Air Conditioning System
V000499, Carrier Corp. Vendor Manual for Installation, Start-up and Service Instructions for Carrier Air Handlers
2006-2, Unit 3 System Health Report 070 LCSWGR Room HVAC
2006-2, Unit 4 System Health Report 070 LCSWGR Room HVAC
PTN-ENG-SEFJ-97-038, Best Estimate Large Break LOCA FSAR and DBD Update for Turkey Point Units 3 & 4

Work Orders

WO97026809	Control building temperature indicator
WO35014950	Valve stem / handwheel broken off
WO35011014	Gear oil is leaking form bolts and connection
WO35001391	Bolting on valve rusted / corroded
WO36000316	Inboard motor bearing temperature switch has moisture
WO35018592	A broken bolt was found on a pipe elbow mount
WO36005047	Corroded metal in motor filter housing
WO36011978	Valve has packing leak observed over two day period
WO36010833	Moisture intrusion in flow indicator

WO36010638	Inboard bearing seal leaks oil
WO36012205	Lock on diesel service water control panel door changed
WO36010566	Lube oil level low, needs oil added to bring up to full
WO36010543	SWP Battery 2 alarm actuated during surveillance
WO36005828	Emmersion heater not working
WO36002719	Turbo replacement, age related
WO 96013333 01,	Inspect Transfer Switch 3S75, 3/26/97.
WO 98024064 01,	Inspect Transfer Switch 4S75, 5/14/99.
WO 30013639 01,	Inspect Transfer Switch 3S75, 3/22/01.
WO 32001597 01,	Inspect Transfer Switch 4S75, 8/6/02.
WO 33022948 01,	Inspect Transfer Switch 3S75, 12/10/04.
WO 34023373 01,	Inspect Transfer Switch 4S75, 7/22/05.
WO 32019418 01,	Breaker Inspection & Cleaning, 3AB01 B RCP, 3/15/03.
WO 32019418 01,	Breaker Inspection & Cleaning, 3AB01 B RCP, 3/7/05.
WO 32019419 01,	Breaker Inspection & Cleaning, 3AB02, Auxiliary Transformer, 3/15/03.
WO 34015780 01,	Breaker Inspection & Cleaning, 3AB05 Startup Transformer, 3/15/06.
WO 32021854 01,	Bus Inspection & Cleaning, 3AB07, 10/26/04.
WO 32019421 01,	Breaker Inspection & Cleaning, 3AB09, LC 3B, 3/8/03.
WO 32021906 01,	Breaker Inspection & Cleaning, 3AB12, SIP B, 5/25/04.
WO 32003322 01,	Breaker Inspection & Cleaning, 3AB17, ICWP, 6/25/02.
WO 36004692 01,	'B' Standby Steam Generator Feedwater Pump Monthly: Battery, 6/21/06.
	WO 36004692 01, 'B' Standby Steam Generator Feedwater Pump Monthly: Battery, 7/19/06.
WO 36004694 01, '	B' Standby Steam Generator Feedwater Pump Monthly: Battery, 8/16/06.
WO 35008033 01,	Manhole Inspection-Drains-Phase C Part 3 of 3, 10/14/05
WO 35018150 01,	Manhole Inspection-Drains-Phase E Part 2 of 3, 7/17/06.
WO 32002611 01,	Manhole Inspection with Drains-Phase E, 5/27/04.
WO 32002284 01,	Manhole Inspection with Sumps-Phase D, 5/11/04.
WO31000874 01,	B STBY SGFP MNLY:BATT. 6/13/01. (P82B)
WO31019294 01,	P82B Engine Annual P.M., 1/11/02
WO31009358 01,	FC-3-114, Oscillations during dilution, 4/24/01
WO320117706 01,	Problem, FCV 4-114A Leaks by Seat, completed 5/23/05
WO32012367 01,	Replace Pump in its Entirety with new Pump, 12/17/03, (3P16B)
WO330061919 01,	Monthly PM 3P16B, 7/01/03
WO33005891 01,	Open Upper Manway for Inspection, 7/28/03, (T61, DWST)
WO33019187 01,	Calibration of PWST LS-3-1542A, 8/05/05
WO30008361 01,	Remove and Test RV-4-706, 11/01/03
WO32014397 01,	Obtain Oil Samples from engine, (Diesel Driven SSGG Pump), 10/21/02
WO34011633 01,	Inspect and Adjust Ring Setting, 4/28/05, (RV-4-706)
WO35007990 01,	Primary Water Makeup Pump Monthly PM, 6/30/05
WO36015764 01,	Primary Water Makeup Pump, 7/21/06
WO36015765 01,	Primary Water Makeup Pump, 8/15/06
WO33017164 01,	Drain, Open, Inspect, Clean Tank (PWST), 10/4/03
WO35006085 01,	FCV-4-114A, Erratic Troubleshoot/Repair,---
WO35010340 01,	Inspect/Replace Oil Slinger Ring Pump, Performed 7/28/05
WO36006142 01,	Degrading Flex Joint Flanges

WO36006614 01,	Pinhole Leak in Flex Hose
WO36008260 01,	Unit 4 SWGR RM A/H Units Bi-Mnly
WO36006430 01,	Unit 3 SWGR RM A/H Units QTRLY
WO34009593 01,	HHSI Header Sectionalizing Motor Operated Valve Cycle MOV Two Times

Calibration / Test Procedures

RWO 02-017,	Perform relay calibration on 4B / 4D degraded grid relays, 4/3/02.
RWO 03-011,	Perform relay calibration on 3B / 3D degraded grid relays, 3/4/03.
RWO 03-048,	Perform relay calibration on 4B / 4D degraded grid relays, 10/9/03.
RWO 04-011,	Perform relay calibration on 3B / 3D degraded grid relays,10/21/04.
RWO 05-011,	Perform relay calibration on 4B / 4D degraded grid relays, 4/18/05.
RWO 06-011,	Perform relay calibration on 3B / 3D degraded grid relays, 3/15/06.
WO 31003803 01,	DWST Calibrate Level Loop (ACMP), 4/27/01
WO 32000558 01,	DWST Calibrate Level Loop (ACMP), 4/23/02.
WO 33001186 01,	DWST Calibrate Level Loop (ACMP), 4/7/05.
WO 30012148 01,	L-4-1542 PWST Level Loop & PS-2010 Calibration, 2/22/01.
WO 31003311 01,	L-3-1542 PWST Level Loop & PS-2010 Calibration, 8/8/01.
WO 31023849 01,	L-4-1542 PWST Level Loop & PS-2010 Calibration, 5/8/02.
WO 32010484 01,	L-3-1542 PWST Level Loop & PS-2010 Calibration, 10/30/02.
WO 33010720 01,	L-4-1542 PWST Level Loop & PS-2010 Calibration, 2/18/04.
WO 33021813 01,	L-3-1542 PWST Level Loop & PS-2010 Calibration, 6/16/04.
WO 30001096 01,	PT-4-445 Failed low, 1/18/00.
WO 31000811 01,	P-4-445 Pressurizer pressure control loop calibration, 4/2/02.
WO 34001617 01,	P-4-445 Pressurizer pressure control loop calibration, 4/22/05.
WO 34018400 01,	PCV-3-456 opens with switch in auto, 11/19/04.
WO 34019994 07,	PMT for cables for 3C1371, 3D026, 3C232, 11/18/04.
WO 35012421 01,	P-3-445 Pressurizer pressure control loop calibration, 3/14/06.
3-OSP-203.1,	Train B Engineered Safeguards Integrated Test, Attachment 17, 3/23/06.
3-OSP-046.7,	CVCS Blender Valve Testing, performed 05-09-04, 05/13/04, 05/29/04
4-OSP-046.7,	CVCS Blender Valve Testing, performed 05/23/04
4-PMI-046.3,	Boric Acid Blender Instrumentation F-4-113/F-4-114 Calibration, 5/31/05
0-OP-074.1,	Standby Steam Generator Feedwater System, 02/06/02
4-ONOP-075,	Auxiliary Feedwater System Malfunction, 12/12/05
0-OSP-074.3,	Standby Steam Generator Feedwater Pumps Availability Test, 08/11/05
0-PME-074.7,	Standby Steam Generator Diesel Feed Pump 24 VDC System Electrical Maintenance, Performed 10/18/01, 06/13/01, 05/28/02
0-OSP-075.11,	Auxiliary Feedwater Inservice Test, Approval Date 11/22/05C
0-PMM-074.2,	Standby Steam Generator Feed Pump General Inspection, Performed 08/02/02
0-GMM-102.19,	Crosby Relief Valve Repair Procedure (Types JO and JB), 8/27/03 and 4/28/05
0-GMM-102.25,	Crosby Relief Valve Setpoint Testing, 8/27/03 and 4/26/05

Condition Reports:

2006-17516	Loss of CCW Charging Pump Operation Enhancements for ONOP-030
2006-12459	Unplanned entry into 0-ONOP-025.3 due to planned maintenance
1997-1613,	Relay 327T-4B1 was observed to be binding on operate and on resetting; times were erratic and could not be adjusted.
1997-1962,	Discrepancy between plant curve book and 0-OSP-074.3, 0-OP-074.1 regarding level corresponding to mimimum DWST volume.
2000-2013,	Unusual event following loss of Unit 4 startup transformer (control cable failure)
2001-0674,	Manhole conditions.
2002-0840,	OEF #2002-026, NRC IN 2002-12, Submerged Safety Related Cables.
2002-0860,	Errors in calibration data sheet.
2004-11329,	Pressurizer pressure channel PT-3-445 cable failure.
2005-10832,	4C ICW pump failed to start when demanded from Unit 4 VPA.
2005-20862,	Chafed wires found in 4C load center degraded voltage relay cabinet.
2006-6583,	Annunciator X 1/6 - 3B DC load center ground.
2006-9666,	DC load center 4B, ground in ground detector.
2006-12459,	North Inverter Room (108B) ambient temperature 100 °F, entered 0-ONOP-25.3, DC Equipment and Inverter Rooms Supplemental Cooling.
2006-19033,	DC load center 4B ground.
02-0168,	DWST Out of Chemistry Specification, Dissolved Oxygen, 2/7/02
03-3960,	Primary Water Pump Bearing Failure
03-4369,	Primary Water Makeup Pump Motor found with increased vibration levels
2004-2339,	Excessive Body to Bonnet clearance on FCV-3-114A
2004-2338,	Failed PMT on 3P16B, (3P16B)
2004-2371,	LFCV-3-114A would not respond to demand
2004-7871,	Proposed replacement pumps are undersized and the bids are technically unacceptable
2005-19790,	Primary Water flow to Unit 4 Blender Station can only achieve 80-90 gpm
2006-6292,	Degrading Chilled Water Inlet and Outlet Flanges on 3E243B
2006-9578,	Degrading Conditions of Chill Water Lines
2005-10505,	MOV-4-856A failed to fully close upon demand
2005-12031,	Foreign Material Found in MOV-4-856A - Identified as HHSI Pump Rotating Assembly Snap Ring
2005-16931,	MOV-3-856 A&B were found with debris in the seating area which had the potential to prevent them from fully seating and performing their design function
2004-6945,	MOV-878A is overthrusting in closed direction

Drawings

5610-M-3016	Fire Protection System Service Water Pumps, Rev. 20
5610-M-3026	Radwaste Building Ventilation HVAC System
5610-M-3060	Auxiliary Building Ventilation, Rev. 18
5613-M-3062	Safety Injection System, Rev. 28

5614-M-3062	Safety Injection System, Rev. 27
5610-M-3074	Standby Steam Generator Feed Water Pumps, Rev. 6
53-20J-5008,	Turkey Point Plant Units 3 & 4 125 Vdc Failure Modes and Effects Analysis Alignment, Rev. 1.
5610-E-2,	Relay & Meter One Line Diagram, Sheet 2, Rev. 19.
5610-E-2,	Relay & Meter One Line Diagram, Sheet 3, Rev. 4.
5610-E-9,	Motor Control Centers NVD, 3E, 4E, F, Rev. 60.
5610-E-25,	Sheet 35A, High Head SI Pumps Transfer MOV-878A, Rev. 3.
5610-E-25,	Sheet 118, SI Test Valve MOV-3-856A, Rev. 1.
5610-E-46-27,	Sheet 1, Schematic, 7.5 kVA Inverter, Rev. 2.
5610-E-46-27,	Sheet 2, Schematic, 7.5 kVA Inverter, Rev. 1.
5610-J-844,	Sheet 2B, Scaling Diagram, Pressurizer Pressure Control (P-445), Rev. 0.
5610-M-80B-23,	Standby Steam Generator Feed Pump B Controller Cabinet NP82B, Rev. 1.
5610-M-401C-96,	Elementary Diagram, Rack 46 Rear, Miscellaneous Relay Racks, Rev. 14.
5610-M-430-171,	Sheet 7, Elementary Diagram, Safeguards System, Rev. 13.
5610-M-430-233,	Sheet 1, Pressurizer Pressure Protection Control System, Rev. 3.
5610-T-D-16B,	Sheet 1, Control System Diagram, Pressurizer Pressure Control, Rev. 11.
5610-T-E-1591,	Sheet 1, Operating Diagram, Electrical Distribution, Rev. 59.
5610-T-L1,	Sheet 4G1, Logic Diagram, 4kV Buses A, B, & C Lockout and C Bus Loss of Voltage, Rev. 8.
5610-T-L1,	Sheet 25A, Logic Diagram, Steam Generator Feed Pumps and Related Valves, Rev. 12.
5610-T-L1,	Sheet 104F, Logic Diagram, Startup Transformer 4 kV Breakers 4AA05 and 4AB05, Rev. 4.
5610-T-L1,	Sheet 104F1, Logic Diagram, Auxiliary Transformer Breakers 4AA02 and 4AB02, Rev. 3.
5610-T-L1,	Sheet 128A, Logic Diagram, Condensate Pumps 4A, 4B, Rev. 3.
5610-T-L1,	Sheet 145, Logic Diagram, 4kV Bus 4D Lockout, Rev. 1.
5610-T-L1,	Sheet 148, Logic Diagram, 4kV SBO Tie Breaker 4AD07, Rev. 2.
5610-T-L1,	Sheet 149, Logic Diagram, 4kV Tie Breaker 4AD01, Rev. 1.
5610-T-L1,	Sheet 150, Logic Diagram, 4kV Tie Breaker 4AB19, Rev. 1.
5610-T-L1,	Sheet 151, Logic Diagram, 4kV Tie Breaker 4AA17, Rev. 1.
5613-E-3,	Sheet 1, Single Line Diagram, 4kV Switchgear 3A & 3B, Rev. 4.
5614-E-3.	Sheet 1, Single Line Diagram, 4kV Switchgear 4A & 4B, Rev. 4.
5613-E-25,	Sheet 2B, Elementary Diagram, Component Cooling Water Pump 3B, Rev. 4.
5613-E-25,	Sheet 2B1, Elementary Diagram, Component Cooling Water Pump 3B, Rev. 1.
5613-E-25,	Sheet 2C, Elementary Diagram, Component Cooling Water Pump 3C, Rev. 3.
5613-E-25,	Sheet 2C , Elementary Diagram, Component Cooling Water Pump 3C, Rev. 4.

5613-E-25,	Sheet 64A, Elementary Diagram, Reactor Auxiliaries, Pressurizer Relief Valve PCV-3-456, Rev. 3.
5613-E-26,	Sheet 1A, Elementary Diagram,Steam Generator Feedwater Pump 3A, Breaker 3AA03, Rev. 8.
5613-E-26,	Sheet 1B, Elementary Diagram,Steam Generator Feedwater Pump 3B (4B), Breaker 3AC14 (4AC14), Rev. 20.
5613-E-26,	Sheet 2A, Elementary Diagram, Heater Drain Pump 3A, Breaker 3AA07, Rev. 6.
5613-E-26,	Sheet 3A, Elementary Diagram,Condensate Pump 3P6A, Breaker 3AA21, Rev. 5.
5613-E-28,	Sheet 15A, Elementary Diagram, 4160V Switchgear Bus 3B Lockout Relay, Rev. 2.
5613-E-28,	Sheet 98A, Elementary Diagram, Automatic 125 Vdc Control Power Transfer Switch 3S75, Rev. 1.
5613-E-315,	Sheet 81, 480V Load Center 3B Relay Settings, Rev. 2.
5614-E-315,	Sheet 81, 480V Load Center 4B Relay Settings, Rev. 2.
5610-C-18-393,	Primary and Refueling Water Storage Tanks, Sheet 1, Rev. 4
5610-M-249,	Demineralized Water Storage & Deaeration System, Rev. 2
5610_M-1100-85,	Model D100-60 Operator 2"-150 LB. USA STD. Valve Assembly, Rev. 2
5613-M-3047,	Chemical and Volume Control System Charging and Letdown, Rev. 47
5613-M-3062,	Safety Injection System, Rev. 28
5613-M-3064,	Safety Injection System, Rev. 18
5614-M-3062,	Safety Injection System, Rev. 27
5614-M-3064,	Safety Injection Accumulator Inside Containment, Rev. 24
5610-M-3074,	Feedwater System Standby Steam Generator Feedwater Pumps, Sheet 1, Rev. 6
5610-P-1008C,	Sh 1, Piping Isometric Stand-by Steam Gen. Feed Pump Discharge Piping, Rev. 2
C-464529,	Check Valve General Assembly FIG 3674f316J, (RWST Check Valve)
5610-M-1000-2,	Nozzle Type Relief Valve, Rev. 2
5614-P-553-S,	CVCS System No. 47 Inside Containment Stress Problem CVCS-25C, Rev. 4

UFSAR 5610-M-3000,	Legend and General Notes Sht.2, Rev. 8
UFSAR 5610-TL1,	Standard Symbols for Logic Diagrams Sht.1, Rev. 8
UFSAR 5613-—2015,	Miscellaneous Ductwork Plans and Sections Switchgear & Load Center Rooms Sht.1, Rev. 0
UFSAR 5614-M-2015,	Miscellaneous Ductwork Plans & Sections Switchgear/Load Center, Sht.1, Rev. 0
UFSAR 5613-M-3070,	Turbine Ventilation Load Center & SWGR Rooms Chilled Water System-Train A Sht.1, Rev. 2
UFSAR 5613-M-3070,	Turbine Ventilation Load Center & SWGR Rooms Chilled Water System-Train B Sht.2, Rev.2
UFSAR 5613-M-2010,	Load Center and Switchgear Rooms Chilled Water Air Conditioning System, Rev. 2

UFSAR 5614-M-2010,	Load Center and Switchgear Rooms Chilled Water Air Conditioning System, Rev. 2
UFSAR 5613-T-L1,	Load Center & Switchgear Rooms A/C CWP 1A & 2A (3P248A & 3P249A) Sht.153, Rev. 2
UFSAR 5613-T-L1,	Logic Diagram Load Center & Switchgear Rooms AHU 3E241A, 3E242A, 3E243A & 3E244A Sht.155, Rev. 2
UFSAR 5613-M-3062,	Safety Injection System Sht.1, Rev. 27
UFSAR 5613-M-3047,	Chemical and Volume Control System Charging and Letdown Sht.2, Rev. 32
FPL 5610-M-470-49,	2" Class 1500# (SI RECIRC), Rev. 31
FPL 5610-M-1200-61,	4" NO. S200 W DD ASA SERIES 900 WELDING ENDS, OUTSIDE SCREW & YOKE GATE VLV, Rev. 1
C-464529,	Edward F. Stainless Steel Univalve Check Valve General Assembly, Rev. 4

Design Changes / Modifications

PC/M No. 04-069, Overpower Delta -T, (OPDT) and Overtemperature DeltaT, (OTDT) Turbine Runback Elimination, Revision 0.

PC/M No. 05-100, Unit 3 Main and Auxiliary Transformer Tap Changes, Revision 0

PC/M No. 94-020, Thermal Uprate Reactor Control and Protection System Scaling Diagram, Revision 1

PC/M No. 95-171, Thermal Uprate Setpoint Scaling, Revision 0

PC/M No. 04-103, Power Range Detector High Voltage Setting Change, Revision 0

PC/M No. 05-131, Feedwater Pump 3B Minimum Flow Setpoint Change, Revision 0.

Design Basis Documents

5610-062-DB-001, Safety Injection System, Revised 09/24/2004
Accident Analysis Basis Documents, Volume 19, Rev. 11

CRs Written Due to CDBI:

2006-25684	Drawing 5610-M-18E-3 could not be located for the 2006 CDBI
2006-25820	2006 CDBI- ICW Pump Submergence and NPSH
2006-25826	Intake Operator Rounds Form 499 revision required- discovered during NRC 2006 CDBI
2006-25927	2006 CDBI concern of a temperature indicator calibration frequency of eleven (11) years
2006-26020	Periodic operation of DC equipment room and inverter room supplemental cooling fans

2006-26044	A question was asked concerning inspection of the fuel oil tank for the SSGF pumpdiesel.
2006-26191	Condensation water in P235D battery box
2006-26438	Seismic qualification of fans
2006-27226	calibration of PWST level instrument LT-4-1542
2006-27420	Heat up of fluid during RHR pump mini-flow recirculation.
2006-27483	SI DBD not updated to reflect best estimate LOCA analysis.
2006-27485	EDG 3A load blocks and sequencing relays documentation.
2006-27592	Research effects of elevated temperature (above specification) on inverter output waveform
2006-27597	LS-4-4748A has bent rod
2006-27613	Thermal uprate impact on BHP and EDG loading
2006-27630	Primary water pump local switch panel box not secured.
2006-27709	NRC CDBI audit 2006

LIST OF ACRONYMS

AHU	Air Handling Unit
CR	Condition Report
CVCS	Chemical and Volume Control System
DBD	Design Basis Document
DDSSGF	Diesel Driven Stabnby Steam Generator Feedwater
DWDS	Demineralized Water Degassification System
DWST	Demineralized Water Storage Tank
DWST	Demineralized Water Storage Tank
EOP	Emergency Operating Procedure
FCV	Flow Control Valve
HHSI	High Head safety Injection
HVAC	Heating Ventilation and Air Conditioning
ICW	Intake Cooling Water
IN	Information Notice
IST	Inservice Test
LOCA	Loss of Coolant Accident
MOV	Motor Operated Valve
MOVATS	Motor Operated Valve Acceptance Test System
NPSH	Net Positive Suction Head
NRC	Nuclear Regulatory Commission
NSDPSW	Non-Safety Diesel Powered Service Water
OP	Operating Procedure
PM ,	Preventive Maintenance
Pms	Preventive Maintenance
PSA	Probabilistic Safety Analysis
PWST	Primary Water Storage Tank
RAW	Risk Achievement Worth
RHR	Residual Heat Removal
RWST	Reactor Water Storage Tank
SI	Safety Injection
SSGFP	Standby Steam Generator Feedwater Pump
UFSAR	Updated Final Safety Analysis Report