UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W.
ATLANTA, GEORGIA 30323

Report Nos.: 50-250/89-54 and 50-251/89-54

Licensee: Florida Power and Light Company
9250 West Flagler Street
Miami, FL 33102

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

Facility Name: Turkey Point 3 and 4

Inspection Conducted: December 23, 1989 through January 26, 1990

Inspectors: For 2/14/90
R. C. Butcher, Senior Resident Inspector Date Signed

For 2/14/90
T. F. McElhinney, Resident Inspector Date Signed

For 2/14/90
G. A. Schnebli, Resident Inspector Date Signed

Approved by: 2/14/90
R. V. Crlenjak, Section Chief Date Signed
Division of Reactor Projects

SUMMARY

Scope:

This routine resident inspector inspection entailed direct inspection at the site in the areas of monthly surveillance observations, monthly maintenance observations, operational safety, plant events and Management meetings.

Results:

Two Violations, one IFI and one Unresolved Item were identified:

Violation for closure of an NCR prior to completion of required actions.

Violation for failure to take corrective action in response to terminal block corrosion identified in November 1988 on Unit 3 MSIVs.

IFI for final root cause of accelerated terminal block corrosion.

Unresolved Item for failure to provide weepholes for terminal boxes containing environmentally qualified terminal blocks.

The inspectors also noted conservative operations when licensee management took Unit 3 offline on December 25, 1989, to replace corroded terminal blocks. This action was taken at a time when record power demands forced rotating blackout periods.

**Unresolved Items are matters about which more information is required to determine whether they are acceptable or may involve violations or deviations.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

*T. V. Abbatiello, Quality Assurance Supervisor
J. W Anderson, Quality Assurance Supervisor
*J. Arias, Sr. Technical Assistant to Plant Manager
*J.C. Balaguero, Assistant Technical Department Supervisor
*L. W. Bladow, Quality Assurance Superintendent
J. E. Cross, Plant Manager-Nuclear
R. J. Earl, Quality Control Supervisor
T. A. Finn, Assistant Operations Superintendent
R. J. Gianfrencesco, Assistant Maintenance Superintendent
S. T. Hale, Engineering Project Supervisor
*K. N. Harris, Vice President
E. Hayes, Instrument and Controls, Supervisor
*G. Heisterman, Assistant Superintendent of Electrical Maintenance
*V. A. Kaminskas, Technical Department Supervisor
J. A. Labarraque, Senior Technical Advisor
G. Marsh, Reactor Engineering Supervisor
R. G. Mende, Operations Supervisor
*L. W. Pearce, Operations Superintendent
*D. Powell, Regulatory and Compliance Supervisor
K. Remington, System Performance Supervisor
*G. M. Smith, Service Manager - Nuclear
R. N. Steinke, Chemistry Supervisor
J. C. Strong, Mechanical Department Supervisor
*F. R. Timmons, Site Security Superintendent
G. S. Warriner, Quality Control, Supervisor
M. B. Wayland, Maintenance Superintendent
J. D. Webb, Operations - Assistant Superintendent, Planning and Scheduling
*A. T. Zielonka, Engineering Supervisor

Other licensee employees contacted included construction craftsman, engineers, technicians, operators, mechanics, and electricians.

*Attended exit interview on January 26, 1990.

Note: An Alphabetical Tabulation of acronyms used in this report is listed in paragraph 11.

2. Followup on Items of Noncompliance (92702)

A review was conducted of the following noncompliance to assure that corrective actions were adequately implemented and resulted in conformance with regulatory requirements. Verification of corrective action was achieved through record reviews, observation and discussions with licensee personnel. Licensee correspondence was evaluated to ensure that the

responses were timely and that corrective actions were implemented within the time periods specified in the reply.

(Closed) Violation 50-250,251/89-27-04. Concerning the installation of erroneous label plates on the SI block switch. The licensee's actions, required by their response to this violation, (FPL letter L-89-325), dated September 1, 1989, were completed and found to be adequate by the inspectors. This item is closed.

(Closed) URI 50-250,251/89-52-08. Followup on investigation of NCR 86-421 is being closed by the inspectors without required actions being completed. This item concerned deficiencies found in lead wire insulation for Limitorque MOV DC Motors manufactured by Peerless-Winsmith. The subject NCR required the spare motors be returned to the vendor for repair. The NCR was closed based on QC verifying that recommended actions had been completed. The inspectors were unable to verify the motors were sent to the vendor for repair. After further investigation, the licensee determined the motors were not returned to the vendor. There were three motors in question. Two motors were stored inside the Electrical Department QC locker. One of these was tagged "Do Not Use" and after further review the motor was separated from it's paperwork and sent to training. The other motor in the QC locker was inspected and found not to have the suspect motor leads. This motor was returned to stores. The third motor was stored in the warehouse without any hold tags. The motor was inspected and found to have the suspect insulation on the heater leads only. These leads are not used at the plant, therefore, they were removed and the motor was returned to stores. 10 CFR 50, Appendix B, Criterion XV, as implemented by the approved FPLTQAR 1-76A, Revision 13, TQR 15.0, Revision 6, required that measures be established to control materials, parts, or components which do not conform to requirements in order to prevent their inadvertent use or installation. Furthermore, nonconforming items shall be reviewed and accepted, rejected, repaired or reworked in accordance with documented procedures. QP 15.2, Revision 3, required the cognizant QC organization to review and document that specified corrective actions from the NCR are completed. QP 15.2 also required that items identified as discrepant be controlled to ensure the items are not inadvertently installed or operated. Contrary to the above, site QC closed NCR 86-421 on May 2, 1988, without properly verifying the Peerless-Winsmith MOV DC Motors were returned to the vendor for lead wire repair. Additionally, a spare motor remained in the warehouse without adequate controls to preclude inadvertent use. This item is identified as violation 50-250,251/89-54-01.

3. Followup on Inspector Followup Items (92701)

(Closed) IFI 50-250,251/88-30-02. Concerning the PORV leaking diaphragm. This issue was previously discussed in IRs 50-250,251/88-30 and 89-18. The licensee's corrective actions included installation of an ethylene-propylene diaphragm versus Buna-N and the installation of lock washers on the actuator cap screws. With the exception of one failure,

which was corrected by retorquing on April 5, 1989, the actions taken by the licensee appear to have corrected this problem. This item is closed.

(Closed) IFI 50-250,251/88-40-02. Concerning the installation of permanent labeling for RHR system reach rods. The inspectors verified the permanent labeling discussed in this issue had been installed. This item is closed.

4. Onsite Followup and In-Office Review of Written Reports of Nonroutine Events and 10 CFR Part 21 Reviews (92700/90712/90713)

The Licensee Event Reports and/or 10 CFR Part 21 Reports discussed below were reviewed and closed. The inspectors verified that reporting requirements had been met, root cause analysis was performed, corrective actions appeared appropriate, and generic applicability had been considered. Additionally, the inspectors verified the licensee had reviewed each event, corrective actions were implemented, responsibility for corrective actions not fully completed was clearly assigned, safety questions had been evaluated and resolved, and violations of regulations or TS conditions had been identified. When applicable, the criteria of 10 CFR 2, Appendix C, were applied.

(Closed) 50-250,251/P2185-03. Concerning faulty AK and AKR low voltage power circuit breakers by GE. The licensee determined, by record searches, this type breaker was not applicable to the facility and no further action was required. This item is closed.

(Closed) 50-250,251/P2185-04. Concerning possible damage to control wire insulation in Brown Boveri K-Line Circuit Breakers. This issue was identified to the licensee in a letter from the vendor dated March 19, 1985. The licensee performed an evaluation which was completed and documented under JPE-PTPO-85-820-E, dated August 23, 1985. This evaluation concluded the issue was not a problem at the facility and current maintenance procedures provide for periodic inspection of the breakers which would be sufficient to identify this problem. This item is closed.

(Closed) LER 50-250/88-12. Concerning the verification of fire detection operability not being performed due to weaknesses in administrative controls. The licensee's actions required in this LER were reviewed and found to be adequate. This item is closed.

(Closed) 50-250,251/P2187-02. Potential Overpressurization of the CCW System. In July 1984, Westinghouse issued a notification of potential overpressurization of the CCW System due to an RCP thermal barrier heat exchanger tube rupture. The CCW surge tank was provided with a relief valve and a normally open air operated vent valve. On a high radiation signal from CCW radiation monitors R-17A and B, the vent valve will isolate. During the postulated transient, with the surge tank relief valve setpoint at 100 psig, the maximum CCW system pressure would be approximately 220 psig. The design pressure used for CCW system stress analysis was 150 psig. The licensee performed a review of the stress

analysis to identify any piping that could be overstressed with the pressure increase. The licensee concluded that the increased piping stresses would not exceed the ASME Section III Code Stress Allowables. The licensee determined that since this did not pose a substantial safety hazard it was not reportable under 10 CFR 21. The licensee initiated design changes as recommended by Westinghouse to replace the air operated vent valve with a normally locked open manual valve. The setpoint of the relief valve was to be reduced to 25 psig to protect the system in the event the manual valve was isolated. However, upon further review, the licensee discovered that this modification could violate the CCW closed system outside of containment assumption which would invalidate the containment isolation design basis, therefore the design changes were not implemented. The licensee also identified another concern. During the overpressurization event and the failure of MOV-626 (CCW from RCP thermal barrier heat exchangers isolation) to close on a high flow signal, the surge tank relief valve will lift. This allows radioactive gas and liquid to enter the waste hold up tank which provides a release of radioactive gas to the atmosphere via the plant stack. This transient could be terminated by closing valve 736, which is downstream of MOV-626. Westinghouse analyzed this condition and determined that the release would represent a small fraction of the 10 CFR 100 limits. The inspectors reviewed ONOP 3108.2, "High Activity in Component Cooling Water", dated May 16, 1989, which required the operator to isolate valve 736 in the event of the CCW surge tank relief valve lifting due to RCS overpressurization. This item is closed.

5. Monthly Surveillance Observations (61726)

The inspectors observed TS required surveillance testing and verified: The test procedure conformed to the requirements of TS, testing was performed in accordance with adequate procedures, test instrumentation was calibrated, limiting conditions for operation were met, test results met acceptance criteria requirements and were reviewed by personnel other than the individual directing the test, deficiencies were identified, as appropriate, and were properly reviewed and resolved by management personnel and system restoration was adequate. For completed tests, the inspectors verified testing frequencies were met and tests were performed by qualified individuals.

The inspectors witnessed/reviewed portions of the following test activities:

- 3-OSP-050.2 Residual Heat Removal Pump Inservice Test
- 3/4-OSP-059.5 Power Range Nuclear Instrumentation Shift Checks and Daily Calibrations
- 3/4-OSP-041.1 Reactor Coolant System Leak Rate Calculation

No Violations or deviations were identified in the areas inspected.

6. Monthly Maintenance Observations (62703)

Station maintenance activities of safety related systems and components were observed and reviewed to ascertain they were conducted in accordance with approved procedures, regulatory guides, industry codes and standards, and in conformance with TS.

The following items were considered during this review, as appropriate: LCOs were met while components or systems were removed from service; approvals were obtained prior to initiating work; activities were accomplished using approved procedures and were inspected as applicable; procedures used were adequate to control the activity; troubleshooting activities were controlled and repair records accurately reflected the maintenance performed; functional testing and/or calibrations were performed prior to returning components or systems to service; QC records were maintained; activities were accomplished by qualified personnel; parts and materials used were properly certified; radiological controls were properly implemented; QC hold points were established and observed where required; fire prevention controls were implemented; outside contractor force activities were controlled in accordance with the approved QA program; and housekeeping was actively pursued.

The inspectors witnessed/reviewed portions of the following maintenance activities in progress:

- Troubleshooting 4B RCP excessive vibration.
- Repair of Unit 4 condenser internals.
- Replacement of Unit 4B RHR pump motor upper end bell and pump mechanical seal.
- Troubleshooting "A" EDG Air Dryer Skid.

No violations or deviations were identified in the areas inspected.

7. Operational Safety Verification (71707)

The inspectors observed control room operations, reviewed applicable logs, conducted discussions with control room operators, observed shift turnovers and confirmed operability of instrumentation. The inspectors verified the operability of selected emergency systems, verified maintenance work orders had been submitted as required and followup and prioritization of work was accomplished. The inspectors reviewed tagout records, verified compliance with TS LCOs and verified the return to service of affected components.

By observation and direct interviews, verification was made that the physical security plan was being implemented.

Plant housekeeping/cleanliness conditions and implementation of radiological controls were observed.

Tours of the intake structure, diesel, auxiliary, control and turbine buildings were conducted to observe plant equipment conditions including potential fire hazards, fluid leaks and excessive vibrations.

The inspectors walked down accessible portions of the following safety related systems to verify operability and proper valve/switch alignment:

A and B EDGs
Control Room Vertical Panels and Safeguards Racks
ICW Structure
4160 Volt Buses and 480 Volt Load and Motor Control Centers
Unit 3 and 4 Feedwater Platforms
Unit 3 and 4 Condensate Storage Tank Area
AFW Area
Unit 3 and 4 Main Steam Platforms
Auxiliary Building

a. Temporary Instruction 2515/94. Inspection for Verification of Licensee Changes Made to Comply with PWR Moderator Dilution Requirements Multi-Plant Action Item B-03. This temporary instruction was issued to verify those changes made to administrative controls or plant modifications committed to by licensee's in their response to DOR Information Memorandum No.7, "PWR Moderator Dilution", issued October 4, 1977, have been completed. The licensee responded to this issue in a letter to the NRC, L-77-364, dated December 8, 1977. The licensee's evaluation indicated that no dilution sources, other than those previously analyzed, had flow paths into the reactor coolant system. The NRC responded to the licensee's letter on February 21, 1979, stating no further action regarding this generic issue was required. This item is closed.

b. In response to findings reported in Design Validation Inspection Report 50-250,251/89-203, the inspectors followed up on the licensee's corrective actions regarding procedures 3/4-ONOP-30, step 5.6.3, which could not be implemented due to the Unit 3 hose not being of sufficient length and Unit 4 did not have hoses provided. In walking through procedure 3/4-ONOP-30, step 5.6.3, dated October 10, 1989, the following discrepancies and/or comments were noted.

- Step 5.6.3.3 states to connect the emergency cooling water hoses to the Emergency Hose Connections on B charging pump oil cooler, 3-10-288 and 3-10-289. The hose connection for 3-70-179A, SW Connection Inside Unit 3 Charging Pump Room, would not mate with the hose connections on the emergency cooling water hoses stationed in Unit 3.

- Step 5.6.3 states if B charging pump is out of service, connections must be installed on an operable pump. The

emergency cooling water hoses stationed in Unit 3 and Unit 4 charging pump rooms would not reach the C charging pump in either room.

- There was no designated storage area for the emergency cooling hoses. The hoses were laid on the floor in the charging pump rooms.

- The procedure does not specify what service water connections to use for the emergency supply of cooling water on the loss of CCW. SW connection 3-70-179A inside the Unit 3 charging pump room and SW connection 4-70-118B outside the Unit 4 charging pump room were utilized during the walkdown.

The licensee was made aware of the above comments and is going to address them with a response to IR 50-250,251/89-203.

No violations or deviations were identified in the areas inspected.

8. Plant Events (93702)

The following plant events were reviewed to determine facility status and the need for further followup action. Plant parameters were evaluated during transient response. The significance of the event was evaluated along with the performance of the appropriate safety systems and the actions taken by the licensee. The inspectors verified that required notifications were made to the NRC. Evaluations were performed relative to the need for additional NRC response to the event. Additionally, the following issues were examined, as appropriate: Details regarding the cause of the event; event chronology; safety system performance; licensee compliance with approved procedures; radiological consequences, if any; and proposed corrective actions.

On December 23, 1989, with Unit 4 at 94% power, a reactor trip occurred at 11:14 p.m. due to the closure of the 4A MSIV. The closure of the MSIV caused an increase in pressure in the 4A SG which caused the narrow range level to "shrink" below the low-low level reactor trip setpoint of 15%. The plant responded as expected, with AFW starting automatically. The licensee formed ERT 89-23 to investigate the cause of the event. The team determined that corrosion across terminal block contacts for the A train 125V DC opening solenoid valve caused a fuse to blow. This de-energized the solenoid valve to the vent position resulting in air bleeding from the bottom of the MSIV piston. This caused the MSIV disc to lower into the steam flow, resulting in the MSIV rapidly closing. The TB was found with approximately 1/8" of water inside with the cover not fully secured. The licensee decided to inspect additional TBs to determine the extent of water inleakage and the resultant terminal corrosion. One terminal block on the 4B MSIV and one block on the Unit 4 feedwater deck showed corrosion similar to the 4A MSIV terminal block. These terminal blocks were replaced. The Unit 3 MSIV inspection revealed approximately one half gallon of water in the B train box on the 3C MSIV. The terminal block had

heavy corrosion. The TB cover was sealed properly and the point of water entry was not identified. The 3B MSIV B train TB had a small amount of water with heavy terminal block corrosion. The TB cover was also properly sealed and the point of water entry was not identified. Similar to the Unit 4 MSIV TBs, no weephole was provided to prevent water accumulation. The licensee determined that additional inspections were required. These inspections included the following areas: Main Steam Platform; Feedwater Platform; AFW area; Turbine Building; EDG Building; Unit 4 Containment; Auxiliary Building; ICW area; CCW area. The ERT reviewed the inspection results to correlate terminal block corrosion with water intrusion. The results showed no correlation between corrosion and water intrusion since not all boxes with water intrusion had corroded terminals. The inspections did reveal numerous minor TB hardware deficiencies which were subsequently resolved. Since water had to be present for terminal corrosion, the licensee implemented a weekly inspection for the 36 boxes that showed evidence of water intrusion until the root cause of the terminal block corrosion was resolved. Unit 4 was returned to service on December 28, 1989, at 6:51 a.m., after resolving all startup issues. The ERT continued its investigation into the root cause of the accelerated corrosion of the GE Type EB25 terminal blocks. Issues covered during the investigation included the root cause of the terminal block corrosion and the lack of drainage (weephole) for the TBs and are discussed below:

1. Root Cause of Terminal Block Corrosion.

   The EQ Doc Pac (No. 13.1) for the EB25 terminal blocks specified that they are qualified for aging of 40 years. The terminal blocks were in place for approximately one year prior to this failure. The EB25 terminal blocks were required to be inspected for corrosion, dirt, and deterioration every refueling outage. NRC IR 50-250,251/87-08 identified corrosion on a terminal block located in TB 4120 on the Unit 4 feedwater deck. The licensee added the inspection requirement to ADM-704, Environmental Qualification Maintenance Index, EQ Tab. 13, in response to the finding. However, the Unit 4 MSIV terminal blocks had corroded before their scheduled inspection. Therefore, the licensee investigated the reason for the accelerated corrosion on these terminal blocks. The corroded block from the 4A MSIV was sent to a laboratory for chemical analysis. The laboratory concluded the cause of corrosion was high moisture in contact with zinc plated steel screws coupled with other materials such as tin, nickel over brass, brass fittings secured with nickel plated brass screws. These dissimilar metals set up a galvanic reaction which was enhanced by the presence of chlorine. In addition to chemical testing, the licensee performed a detailed inspection of TBs externally and internally, listing various attributes. A matrix was formed with the attributes to identify any commonality between the boxes. The licensee also performed an accelerated corrosion test of the EB25 terminal blocks inside a salt fog chamber. The final root cause of the accelerated corrosion and the corrective actions was not completed at the

end of the inspection period. This item is identified as IFI 50-250,251/89-54-03.

The licensee determined that similar corrosion had occurred previously. NCR 88-214 identified, in early November 1988, corroded terminal blocks in TBs 3930A, 3932A, 3933B, 3934B and 3935B, which are located on the Unit 3 MSIV Platform. The terminal blocks (GE EB25) were installed for approximately one year when they exhibited the corrosion. The terminal blocks were replaced with identical EB25 blocks and the corroded block was sent to an offsite laboratory in an effort to determine the cause of corrosion. The disposition specified on the NCR was to forward the results of the tests to Project Engineering for evaluation. The analysis report from the laboratory dated December 16, 1988, attributed the primary cause of corrosion to the terminal blocks exposure to a high chlorine environment. However, no corrective actions were initiated to address the buildup of corrosion products on the terminal blocks.

The failure to initiate corrective actions constitutes a violation of NRC requirements. 10 CFR 50, Appendix B, Criterion XVI, as implemented by the approved FPLQTAR 1-76A. revision 15, TQR 16.0, revision 5, required that in the case of significant conditions adverse to quality, the cause of the condition shall be determined and action taken to preclude repetition. QP 16.1, revision 9, required each organization establish a system to followup and assure completion of corrective action resulting from their respective audits, inspections, surveillances, tests or operations. QP 2.17, revision 1, required the cause of failure for any EQ component be documented, and it needed to be determined if the cause was related to a service environment failure mode or not.

Subsequently, Unit 4 experienced a reactor trip on December 23, 1989, which was caused by the 4A MSIV closing. The closure of the 4A MSIV was attributed to terminal block corrosion leading to a short circuit between contacts, blowing a control power fuse. Additionally, the 40 years specified life of the terminal blocks was not met since the blocks were installed for approximately one year before failure. This item is identified as Violation 50-250,251/89-54-02.

2. Lack of Weepholes in TBs

The licensee found approximately 1/8 " of water inside the 4A MSIV and approximately 6" (1/2 gallon) of water inside the 3C MSIV B train TB. The licensee also identified that the TB cover was not properly secured for the 4A MSIV TB which could account for the water intrusion. However, the 3C MSIV TB was secured properly. This led the licensee to believe the water could be entering from inside the conduit system or through the conduit

hubs entering the TB. Since the conduit system was not completely sealed, water could enter at a high point and drain to a low point. These TBs did not have a weephole to prevent water accumulation. The TBs were installed during the previous Unit 4 refueling outage. They were specified as being NEMA 4 Stainless Steel TBs. This meant they were weatherproof but not necessarily watertight. The specification that was used for installation did not require these TBs to have a weephole. Problems related to moisture intrusion in safety-related electrical equipment were addressed in NRC IN 84-57, dated July 17, 1984. A study by the Office of AEOD revealed that most of the electric components were short-circuited and corroded when failure occurred. In most cases, the shorting was caused by moisture leaking into the equipment housing and junction boxes. Contributing factors to the moisture intrusion included:

(1) installed equipment had lost its environmental protection boundary as a result of maintenance activities.

(2) unsealed conduits and other possible pathways were allowed to exist that permitted moisture to leak into the equipment housing.

(3) moisture and steam may have entered at unsealed conduit ends located at higher elevations which eventually went to equipment at lower elevations.

Additionally, the NRC issued IN 89-63 on September 5, 1989, alerting licensees that electrical circuits within electrical enclosures could become submerged in water if appropriate drainage was not provided. This notice further emphasized the information contained in IN 84-57 concerning the TB drain holes and the conformance with the EQ test set up. The licensee addressed IN 84-57 in September 1985. Electrical Maintenance Department recommended emphasizing proper work practices in future training and a change to MOV procedures to check for moisture problems. I&C Department evaluated the problem and determined that all safety related equipment installed required environmental seals such as NEMA enclosures and the use of Raychem seals. This related to installations inside containment which would be subject to the harsh post-LOCA environment, which were EQ items. However, since this time, EQ terminal blocks were installed outside containment subject to an HELB harsh environment. Additionally, I&C had not experienced electrical circuit shorts due to moisture intrusion to safety related equipment. Therefore, the only action taken by I&C was to counsel the supervisors and technicians on this issue. IN 89-63 was in the review process at the time of the event, therefore no action had been completed. Engineering has provided a revision to the design documents to include drainage holes in future

installations. The final recommendation on backfitting existing boxes with drainage holes will be made after the final root cause is determined of the MSIV fuse failure. The EQ testing performed for the EB25 terminal blocks simulated a LOCA environment. The blocks were installed inside a TB provided with a weephole. The weephole was to prevent submergence of the terminal blocks during the test, where pressures between 47 psig - 58 psig were experienced. The pressurization would force steam into the enclosures and subsequently condense. The MSIV TBs were located in an outdoor area and were required to remain functional for 30 minutes at 212 degrees F at atmospheric pressure. There would be less tendency to drive steam into the enclosure. However, since the TBs were not able to keep water from entering, water was able to accumulate. The worst case identified was on the 3C MSIV which had the lower portion of the terminal block submerged. The 8 point terminal block only used the upper 4 points, therefore, the submergence did not affect the operability of the MSIV. However, more water could have entered the enclosure and possibly cover an energized contact. At the time of inspection, the licensee was in the process of determining what effect the lack of TB weepholes had on the terminal block environmental qualification. Therefore, this item will be tracked as URI 50-250,251/89-54-04.

On December 24, 1989, with Unit 3 at 100% power, the licensee declared the 3B and 3C MSIVs inoperable. The licensee had performed inspections on the Unit 3 MSIV terminal blocks following the December 23, 1989, Unit 4 reactor trip discussed above. The licensee found similar corrosion on the 3B and 3C MSIVs. The licensee made a conservative decision to declare the valves inoperable and take Unit 3 offline. TS 3.8 required all MSIVs be operable when RCS temperature exceeded 350 degrees F. If this condition could not be met within 48 hours, the reactor was to be shutdown and RCS temperature reduced below 350 degrees F. With more than one MSIV inoperable, TS 3.0.1 is entered. Since two MSIVs were declared inoperable, TS 3.0.1 was entered at 11:00 p.m. Unit 3 was brought to Mode 2. The terminal strips for the 3B and 3C MSIVs were replaced and the valves were declared operable at 4:55 a.m. on December 25, 1989. Unit 3 was returned to service at 8:50 a.m. that day.

On January 9, 1990, Unit 4 was shutdown to troubleshoot excessive vibration of the 4B RCP motor and to repair various components which could cause a Unit 4 shutdown during the upcoming Unit 3 refueling outage. The 4B RCP vibration had increased to approximately five mils, which is the upper limit recommended by the vendor, Westinghouse. Balance weights were added to the pump coupling and vibrations were decreased to less than one mil, well within acceptable limits. The additional equipment repaired during this mini-outage to ensure reliability included: (1) Replacement of 4B RHR pump motor upper end bell due to a slight oil leak; (2) replacement of 4B RHR pump mechanical seal; (3) detailed inspection of Unit 4 Condenser to identify the cause of numerous tube leaks. This inspection revealed that portions of the shroud around 1B feedwater heater

had broken loose from its mountings and the loose sheet metal was beating against the tubes causing some of the tube leaks previously identified. The loose shroud was removed or repaired and additional suspect tubes were plugged. All foreign material found during this inspection was removed; (4) repairs to 4A Containment Sump Pump Float Switch; (5) repacking and furmaniting of several leaking valves and flanges; (6) replacement of B-6 RPI cable; (7) Ray-Chem MSIV terminal connections. The unit was returned to service on January 19, 1990, which was slightly over two days ahead of schedule.

On January 12, 1990, at 10:43 a.m., while performing liquid release from the B MT per LRP 90-027, PRMS R-18 (Liquid Release Gross Activity Monitor) failed. There was no display indication, the chart recorder failed high and no automatic closure of RCV-018 occurred. The tank had been sampled and analyzed prior to initiating the release and was independently sampled and analyzed following the failure of R-18. The licensee made a significant event report per 10 CFR 50.72(b)(2)(iii)(C). The licensee's sample results were within acceptable limits prior to and following the liquid release. PRMS-18 was tested satisfactorily and returned to service at 4:25 p.m. on January 13, 1990.

9. Management Meetings (94702)

A management meeting was held on January 9, 1990, and was the fourteenth in a series of management meetings between the NRC and FPL following the issuance of Confirmatory Order 87-85 in October 1987. The previous meeting was held on September 19, 1989, and the SALP meeting was held at the site on October 26, 1989. A plant tour was conducted by the resident inspectors to update NRC Management on plant conditions. The licensee made presentations on the operating history since the last management meeting, initiatives in the planning and scheduling department, improvements in maintenance indicators, involvement of engineering and technical support system engineers in resolving plant problems, security upgrade status, QA effectiveness by means of self assessment and IMA improvements.

On January 22, 1990, Commissioner J. R. Curtiss visited the site for discussions with the Resident Inspectors and FPL management. The Commissioner attended the morning Plan-Of-The-Day meeting, followed by a plant tour conducted by the licensee. Following the tour, the licensee made presentations concerning corporate organization, general plant performance overview including training, maintenance indicators, system engineer program, use of self assessments, security upgrades and performance, and the upcoming dual unit outage including the emergency power upgrade.

10. Exit Interview (30703)

The inspection scope and findings were summarized during management interviews held throughout the reporting period with the Plant Manager - Nuclear and selected members of his staff. An exit meeting was conducted

on January 26, 1990. The areas requiring management attention were reviewed. No proprietary information was provided to the inspectors during the reporting period. The inspectors had the following findings:

50-250,251/89-54-01, Violation. Closure of an NCR prior to completion of required actions. (paragraph 2)

50-250,251/89-54-02, Violation. Failure to take corrective action in response to terminal block corrosion identifed in November 1988 on the Unit 3 MSIVs. (paragraph 8)

50-250,251/89-54-03, IFI. Followup on final root cause of accelerated terminal block corrosion. (paragraph 8)

50-250,251/89-54-04, URI. Weepholes not provided for terminal boxes containing environmentally qualified terminal blocks. (paragraph 8)

11. Acronyms and Abbreviations

ADM	Administrative
AEOD	Office for Analysis and Evaluation of Operational Data
AFW	Auxiliary Feedwater
ANSI	American National Standards Institute
AP	Administrative Procedures
ASME	American Society of Mechanical Enmgineers
CCW	Component Cooling Water
CFR	Code of Federal Regulations
DOR	Division of Research
EDG	Emergency Diesel Generator
EQ	Environmental Qualification
ERT	Event Response Team
FPL	Florida Power & Light
FPLTQAR	Florida Power & Light Topical Quality Assurance Report
FSAR	Final Safety Analysis Report
GE	General Electric
HELB	High Energy Line Break
HHSI	High Head Safety Injection
ICW	Intake Cooling Water
IEB	Inspection and Enforcement Bulletin
IFI	Inspector Followup Item
IMA	Independent Management Appraisal
IN	Information Notice
IR	Inspection Report
LCO	Limiting Condition for Operation
LER	Licensee Event Report
LRP	Liquid Release Permit
MOV	Motor Operated Valve
MP	Maintenance Procedures
MSIV	Main Steam Isolation Valve
MT	Monitor Tank

NCR	Non-conformance Report
NEMA	National Equipment Manufactures Association
NCV	Non-Cited Violation
NRC	Nuclear Regulatory Commission
ONOP	Off Normal Operating Procedure
OP	Operating Procedure
PORV	Power Operated Relief Valve
PSN	Plant Supervisor Nuclear
PRMS	Process Radiation Monitoring System
PWR	Pressurized Water Reactor
QA	Quality Assurance
QC	Quality Control
QP	Quality Procedure
RCP	Reactor Coolant Pump
RCS	Reactor Coolant System
RCV	Radiation Control Valve
RHR	Residual Heat Removal
RPI	Rod Position Indication
SALP	Systematic Assessment of Licensee Performance
SG	Steam Generator
SW	Service Water
TB	Terminal Box
TQR	Topical Quality Requirement
TS	Technical Specification
URI	Unresolved Item