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

Report Nos.: 50-250/93-17 and 50-251/93-17

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 Units 3 and 4

Inspection Conducted: May 29 through June 25, 1993

Inspectors: _____ 7/15/93
R. C. Butcher, Senior Resident Inspector — Date Signed

_____ 7/15/93
L. Trocine, Resident Inspector — Date Signed

Approved by: _____ 7/21/93
K. D. Landis, Chief
Reactor Projects Section 2B
Division of Reactor Projects — Date Signed

SUMMARY

Scope:

This routine resident inspector inspection involved direct inspection at the site and at the FPL Juno Beach offices in the areas of surveillance observations, maintenance observations, operational safety, plant events, and management meetings. Backshift inspections were performed on June 5, 7-10, 14-18, and 22, 1993.

Results:

In the operations area, power changes, taking the turbine off line, and putting the turbine on line were all handled professionally with supervision's involvement. Communications were well established with personnel on headsets as required. Plant management also provided close oversight of ongoing activities. (paragraph 10.d)

In the maintenance/surveillance area, the reactor trip on June 22, 1993, was due to inadequate planning/preparations prior to working in a sensitive area. Otherwise, maintenance promptly and efficiently supported troubleshooting efforts regarding the turbine control problems. (paragraph 10.d)

In the engineering area, engineering provided support to the Event Review Team to help resolve the turbine control problems. All involved departments worked as a team. (paragraph 10.d)

Within the scope of this inspection, the inspectors determined that the licensee continued to demonstrate satisfactory performance to ensure safe plant operations. In addition, the licensee, through self assessment, took prompt action to correct the following non-cited violation:

- Non-Cited Violation 50-250,251/93-17-01, Failure to Maintain a Florida Power and Light Approved Quality Assurance Program for Refurbishing Safety-Related Breakers (paragraph 5.b).

The following outstanding items were reviewed:

- (Closed) Violation 50-250,251/91-45-02, Failure to Maintain Adequate Design Control of the Eagle 21 System (paragraph 4.a).

- (Closed) Violation 50-250,251/91-45-03, Failure to Use Correct Delta Temperature Subzero for Calculation of the Overtemperature Delta Temperature and Overpower Delta Temperature Setpoints (paragraph 4.b).

- (Closed) Bulletin 93-02, Debris Plugging of Emergency Core Cooling Suction Strainers (paragraph 5.a).

- (Closed) Unresolved Items 50-250,251/93-08-01, Potential Problem Involving Refurbished Breakers Used in Safety-Related Load Centers (paragraph 5.b).

- (Closed) Inspector Followup Item 50-250,251/91-45-04, Create a Single Instrument Setpoint Document (Including the Design Basis) (paragraph 5.c).

- (Closed) Licensee Event Report 50-250/93-005, Setpoint for Overpressure Mitigating System Found Non-Conservative With Respect to 10 CFR Part 50, Appendix G (paragraph 6).

Potential Hurricane Preparedness Vulnerability - The inspectors did not identify any direct interaction possibilities of the impact of nonsafety-related equipment with important equipment during a hurricane. However, miscellaneous tanks such as the refueling water storage tanks, primary water storage tanks, demineralized water storage tanks, Unit 3 emergency diesel generator fuel oil storage tank, upper portion of the condensate storage tanks, and both raw water tanks are exposed to potential damage from flying debris. (paragraph 9.b)

REPORT DETAILS

1. Persons Contacted

Licensee Employees

* T. V. Abbatiello, Site Quality Manager
W. H. Bohlke, Vice President, Nuclear Engineering Supervisor
M. J. Bowskill, Reactor Engineering Supervisor
\# S. G. Brain, Chief, Engineering Assurance
\# W. A. Busch, Project Engineering Group, Instrumentation and Control Supervisor
R. J. Earl, Quality Assurance Supervisor
J. E. Geiger, Vice President, Nuclear Assurance
R. J. Gianfrencesco, Support Services Supervisor
J. H. Goldberg, President, Nuclear Division
R. E. Grazio, Director, Nuclear Licensing
* J. R. Hartzog, Business Systems Manager
E. F. Hayes, Instrumentation and Controls Maintenance Supervisor
R. G. Heisterman, Mechanical Maintenance Supervisor
P. C. Higgins, Outage Manager
G. E. Hollinger, Operations Training Supervisor
\# J. B. Hosmer, Director, Nuclear Engineering
D. E. Jernigan, Technical Manager
H. H. Johnson, Operations Supervisor
* V. A. Kaminskas, Operations Manager
J. E. Kirkpatrick, Fire Protection/Safety Supervisor
J. E. Knorr, Regulatory Compliance Analyst
\# T. J. Koschmeder, Instrumentation and Control Engineer
\#* R. S. Kundalkar, Engineering Manager
J. D. Lindsay, Health Physics Supervisor
J. Marchese, Site Construction Manager
\# J. M. Mowbray, Mechanical Engineer
\#* C. L. Mowrey, Operating Experience Feedback Engineer/Analyst
* L. W. Pearce, Plant General Manager
M. O. Pearce, Electrical Maintenance Supervisor
* T. F. Plunkett, Site Vice President
D. R. Powell, Services Manager
\# B. Renuart, Manager, Configuration Management
R. E. Rose, Nuclear Materials Manager
\# D. L. Smith, Chief, Electrical/Instrumentation and Control Engineering
R. N. Steinke, Chemistry Supervisor
F. R. Timmons, Security Supervisor
* M. B. Wayland, Maintenance Manager
* E. J. Weinkam, Licensing Manager

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

NRC Resident Inspectors

\#* R. C. Butcher, Senior Resident Inspector
* L. Trocine, Resident Inspector

Other NRC Personnel

K. D. Landis, Chief, Reactor Projects Section 2B

Participated in inspection at the FPL Juno Beach Office on June 9, 1993.
* Attended exit interview on June 25, 1993.

Note: An alphabetical tabulation of acronyms used in this report is listed in the last paragraph in this report.

2. Other NRC Inspections Performed During This Period

Report No.	Dates	Area Inspected
50-250,251/93-16	June 6-11, 1993	Radioactive Effluents, Chemistry, Radioactive Waste
50-250,251/93-18	June 6-11, 1993	Emergency Preparedness Program

3. Plant Status

Unit 3

At the beginning of this reporting period, Unit 3 was operating at 100% power and had been on line since January 20, 1993. The following evolutions occurred on this unit during this assessment period:

- On June 2, 1993, at 9:00 a.m., a load reduction from 100% power was initiated for planned maintenance and testing. Reactor power reached 40% at 10:30 a.m. Following turbine valve testing, reactor power was increased to approximately 50% for planned maintenance.

- On June 3, 1993, at 9:30 a.m., a reactor power increase to 100% was commenced. Reactor power reached 100% at 6:00 p.m.

- At 8:00 a.m. on June 20, 1993, a load reduction to 85% was commenced in order to facilitate the performance of flux mapping, and at 8:55 a.m., reactor power was stabilized at 85%.

- On June 21, 1993, power ascension was commenced at 12:20 a.m., and 100% reactor power was achieved at 2:30 a.m.

Unit 4

At the beginning of this reporting period, Unit 4 was operating at 50% power and had been on line since May 27, 1993. The following evolutions occurred on this unit during this assessment period:

- On June 1, 1993, at 1:35 p.m., a reactor power increase to 75% was commenced, and reactor power reached 75% at approximately 10:00 p.m. On June 2, 1993, at 11:40 a.m., a reactor power increase to 100% was commenced, and reactor power reached 100% at 9:50 p.m.

- At 10:30 a.m. on June 10, 1993, a Unit 4 shutdown was commenced in order to permit the repair of an unisolable steam leak on the 4B main steam non-return check valve. The turbine was manually tripped at 1:58 p.m., all rods were inserted into the reactor core at 2:30 p.m., and the reactor trip breakers were manually opened at 2:34 p.m. Mode 4 was entered at 9:55 p.m., and Mode 5 was entered at 3:25 p.m. on June 11, 1993. (Refer to paragraph 10.b for additional information.)

- Following repair of this unisolable steam leak and other secondary steam leaks, RCS heatup to 195°F was commenced at 10:20 a.m. on June 13, 1993. The requirements to enter Mode 4 were met at 1:20 p.m., and RCS heatup was re-commenced. Mode 4 was entered at 1:45 p.m., and Mode 3 was entered at 11:30 p.m. on the same day. Normal operating pressure (2235 psig) and temperature (547°F) were attained at 6:25 a.m. and 7:10 a.m. on June 14, 1993. Following the repair of small packing and body to bonnet leaks on the "B" loop pressurizer spray mini flow valve (4-524A) which were identified during the containment visual leak inspection, the licensee commenced a reactor startup at 4:15 p.m. on June 15, 1993. Mode 2 was entered at 5:03 p.m., and criticality was achieved at 5:21 p.m. Unit 4 entered Mode 1 at 8:05 p.m., and the unit was placed back on line at 9:58 p.m. Following a 30% power level chemistry hold, power ascension was commenced at 2:40 a.m. on June 16, 1993. At 4:15 a.m., reactor power was stabilized at 45% in order to allow isolation of the 6B feedwater heater for work on relief valve RV-3417. The Unit 4 6B feedwater heater was isolated at 6:25 a.m., and power ascension was re-commenced. Reactor power reached 100% at 1:45 p.m. on the same day.

- At 10:15 a.m. on June 22, 1993, the Unit 4 turbine would not relatch following the low vacuum trip portion of the turbine trip test. As a result, a load reduction was commenced at 11:25 a.m. in order to take the turbine off line to investigate and repair the turbine latching mechanism. During the load reduction, the turbine trip bypass lever was being held in the bypass position in order to prevent a turbine trip and subsequent reactor trip. At 12:31 p.m. with the unit at 38% power, a turbine anti-motoring trip occurred followed by a generator lockout and a reactor trip at 12:32 p.m. During this trip sequence, the turbine trip bypass lever was released by the operator as directed. (Refer to paragraph 10.d for additional information.)

- At 8:15 p.m. on June 23, 1993, a reactor startup was commenced. Mode 2 was entered at 9:00 p.m., and criticality was achieved at 9:20 p.m. At 2:20 a.m. on June 24, 1993, the turbine roll was commenced. Mode 1 was entered at 2:45 a.m.. Due to problems

relatching the turbine during testing, the turbine was shut down at 4:33 a.m., and Mode 2 was re-entered at 4:35 a.m. Following unsuccessful troubleshooting of the turbine control system, the reactor was taken to Mode 3 at 6:20 a.m. on June 25, 1993. (Refer to paragraph 10.d for additional information.)

4. Followup on Items of Noncompliance (92702)

A review was conducted of the following noncompliances 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 the responses were timely and corrective actions were implemented within the time periods specified in the reply.

a. (Closed) VIO 50-250,251/91-45-02, Failure to Maintain Adequate Design Control of the Eagle 21 System.

The licensee responded to this violation by FPL letter L92-016 dated January 29, 1992. This event was due to inadequate communications and followup between FPL and the contractor. Corrective actions were as follows:

- Engineering letter (JPNS-PTN-91-4574) dated September 28, 1991, documented engineering's evaluation for verification of programmable parameters for the Eagle 21 protection racks. Programmable parameters were verified correct or were corrected as necessary.

- FPL Nuclear Engineering QI 3.1-3, Engineering Packages, was revised to require engineering modification packages, involving on-site testing by a vendor contain the following:

  - detailed definition of the testing to be performed,

  - the use of unit-specific valves for testing performed on FPL equipment, and

  - clear definition of final certification of operational readiness.

- FPL has trained I&C Maintenance, Technical Department, Training, and Nuclear Engineering personnel on the Eagle 21 system. This training was effective as evidenced by an Eagle 21 component failure that was quickly evaluated and corrected by FPL personnel early in 1993. An Eagle 21 mock up is available for hands-on training.

- FPL has revised procedures to reflect required Eagle 21 programmable variables. (Refer to the response to VIO 50-250,251/91-45-03 below for an example.)

- An Eagle 21 Input Parameters document in the form of a consolidated matrix has been developed. Drawing 5613-J-841 for Unit 3 and 5614-J-841 for Unit 4 are issued as controlled drawings. Each parameter has applicable site procedures identified where that parameter is referenced, specifies the source documents for all settings, gives guidance for when settings should be checked/changed, and lists other functions impacted.

- Training on Eagle 21 is scheduled on an as needed basis. In 1993, one course is scheduled for five weeks beginning September 20, 1993. A contractor has been scheduled to train twelve I&C personnel.

The inspectors verified that the noted corrective actions were accomplished as stated. No further action is necessary. This violation is closed.

b. (Closed) VIO 50-250,251/91-45-03, Failure to Use Correct Delta T Subzero for Calculation of the Overtemperature Delta T and Overpower Delta T Setpoints.

The licensee responded to this violation by FPL letter L-92-016 dated January 29, 1992. This event was caused by procedural error in that the calibration procedure installing the delta T subzero value in the overpower delta T and overtemperature delta T setpoints used the design value of 56.1°F until the setpoint methodology and the validity of the adjustable values in the newly installed Eagle 21 digital instrumentation racks was reviewed and the error recognized. Plant procedures were developed to calculate and implement indicated delta T values at rated thermal power for delta T subzero. The inspectors verified that the following procedures now control the use of indicated delta T in the Eagle 21 protection system.

- Procedures 3/4-OSP-059.7, NIS Setpoint (Calibration Predictions for a New Cycle Startup). This procedure determines delta T from the previous cycle, subtracts 2°F for conservatism, and enters that number into Eagle 21 for startup purposes.

- Procedure 0-OSP-040.5, Nuclear Design Verification. When 75% power is reached during startup, as determined by using calorimetric data, reactor engineering extrapolates a delta T value for 100% power and enters that value into the Eagle 21 protection system. After achieving 100 percent power, the new calorimetric data is used to develop a final delta T value which is then entered into Eagle 21 (using procedures 3/4-PMI-059.12, 3/4-PMI-059.13 and 3/4-PMI-059.14 for protection set I, II, and III, respectively), if the new delta T change is significant (1/2°F) from the extrapolated data.

- Procedures 3/4-OSP-059.5, Power Range Nuclear Instrumentation Shift Checks and Daily Calibrations. On at least a daily basis, using indicated delta T, reactor power is calculated from the Plant Curve Book. This value is then compared to NIS readings and an estimated NIS error is determined and corrections to the NIS is made as required.

- Procedure OP-12304.4, Power Range Nuclear Instrumentation Channel Check and Calibration. Once a quarter the delta T data from 3/4-OSP-059.5 is transmitted to the I&C group. I&C then records the delta T for loop A, loop B, and loop C into procedures 3/4-PMI-059.8, Power Range Nuclear Instrumentation Protection Set I Channel N-3/4-41 Quarterly Calibration, 3/4-PMI-059.9, Power Range Nuclear Instrumentation Protection Set II Channel N-3/4-42 Quarterly Calibration, and 3/4-PMI-059.10, Power Range Nuclear Instrumentation Protection Set III Channel N-3/4-43 Quarterly Calibration, for N-41, N-42, and N-43 NISs, respectively (N-41, N-42 and N-43 are the only NIs used in overpower delta T and overtemperature delta T calculations).

  This provides an actual delta T for calibration of the NIs on a quarterly basis. The actual delta T data is also entered into Eagle 21.

No further action is necessary. This violation is closed.

5. Followup on Inspector Followup Items (92701)

Actions taken by the licensee on the items listed below were verified by the inspectors.

a. (Closed) Bulletin 93-02, Debris Plugging of Emergency Core Cooling Suction Strainers.

By letter dated June 8, 1993, the licensee responded to the bulletin. The inspectors verified that the following procedural requirements remove all temporary sources of fibrous material.

- Procedures 3/4-GOP-503; Cold Shutdown to Hot Standby, requires the performance of procedure O-SMM-051.3, Containment Closeout Inspection.

- Procedures 3/4-GOP-301, Hot Standby to Power Operation, requires that procedure O-SMM-051.3 be completed as a prerequisite.

- Procedure O-SMM-051.3, step 6.3.1, requires that all items be removed from containment that could be washed to the containment recirculation sumps. Only those items deemed

incapable of being washed into the recirculation sump are allowed to be stored inside containment.

- Procedure O-SMM-051.3, step 6.3.8, requires verification that no temporary filter medium is attached to the inlet of coolers and is removed from containment.

- Procedure O-SMM-051.3, step 6.3.9, requires verification that no HEPA filters remain inside the steam generator ventilation units and have been removed from containment.

As noted in paragraph 9 of NRC IR No. 50-250,251/93-13, the inspectors had reviewed the licensee's actions in response to the subject bulletin and determined that the actions satisfied the requirements of the bulletin. No further action is required.

b. (Closed) URI 50-250,251/93-08-01, Potential Problem Involving Refurbished Breakers Used in Safety-Related Load Centers.

The subject problem was identified by the licensee while performing a routine triennial audit of ABB Service Company at Lauderdale Lakes, Florida. The issues were documented in FPL QA audit report 08.03.BBEFL.93.1 which was issued to ABB Service Company on March 25, 1993. ABB Service Company attributed the primary root causes for deterioration in its QA program (which occurred since a FPL February 1990 audit) to the following:

- reorganization within the ABB Company,

- a small number of nuclear orders processed (FPL is the only utility that uses ABB Service Company at Lauderdale Lakes, Florida for safety-related work), and

- lack of personnel training.

All of the above have occurred since 1990.

The corrective actions taken are as follows:

- Limited work on FPL breakers was authorized on April 1, 1993, based on full time FPL QA inspection and periodic FPL QA surveillance.

- ABB Service Company responded to the FPL audit on May 24, 1993, with specific corrective actions for each of the FPL audit findings. FPL review found the response acceptable.

- All suppliers of safety-related items and services currently on the QA approved suppliers list which are not mainstream nuclear suppliers were reviewed to determine whether additional FPL oversight is needed. Eight suppliers were identified for additional oversight as follows:

- The QA audit schedule has been revised to audit the material suppliers on a two year cycle and the service companies on an annual cycle rather than triennially.

- The QA approved suppliers list has been revised to require QA surveillance on further purchase orders to the material suppliers.

- ABB Service Company will be relisted on the approved suppliers list following QA verification of corrective actions.

The failure of subcontractors that supply safety-related equipment to continue to implement and maintain a QA program that meets 10 CFR Part 50, Appendix B, requirements is a violation. 10 CFR Part 50, Appendix B, Criterion II, requires the establishment of a QA program which complies with this appendix. This program is required to be documented by written policies, procedures, or instructions and to be carried out throughout plant life in accordance with those policies, procedures, or instructions. FPL TQAR 1-76A contains the FPL QA program that addresses the requirements of 10 CFR Part 50, Appendix B. The TQRs are part of FPL TQAR 1-76A and summarize the FPL approach to the QA program. Paragraph 2.2.3 of TQR 2.0 states that FPL may delegate activities to contractor organizations and equipment vendors and that delegated activities are subject to the external organizations FPL approved QA program, or the FPL QA program, or some combination thereof. The failure of ABB Services Company to maintain the FPL approved QA program sometime after an FPL audit in February 1990 is a violation of 10 CFR Part 50, Appendix B, Criterion II. However, this violation will not be subject to enforcement action because the licensee's efforts in identifying and correcting the violation meet the criteria specified in Section VII.B of the NRC Enforcement Policy. This item will be tracked as NCV 50-250,251/93-17-01, failure to maintain an FPL approved QA program for refurbishing safety-related breakers. This item is closed.

c. (Closed) IFI 50-250,251/91-45-04, Create a Single Instrument Setpoint Document (Including Design Basis).

The licensee initiated an instrument setpoint program in January 1992 for both Turkey Point and St. Lucie. This program provides documentation of setpoints for instruments, safety-related and nonsafety-related, in one place. The document has been completed but licensee verification is not complete at this time. Final release is scheduled for Turkey Point in late 1993. Safety-related setpoint calculations were reviewed by the licensee for adequacy and enhanced or re-created as required. The DBDs are in the process of being updated and will be completed by the end of 1993. NRC IR No. 50-250,251/91-45 addressed the method the licensee was using to develop safety-related and nonsafety-related setpoints and determined that it met standard industry practice.

The inspectors reviewed the preliminary instrument setpoint document, and based on the status of the licensee's instrument setpoint document, this followup item is closed.

One NCV was identified.

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

The Licensee Event Reports and/or 10 CFR Part 21 Reports discussed below were reviewed. 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 Part 2, Appendix C, were applied.

(Closed) LER 50-250/93-005, Setpoint for Overpressure Mitigating System Found Non-Conservative With Respect to 10 CFR Part 50, Appendix G.

The licensee was notified of this condition by its nuclear steam supply system vendor and took actions to resolve the issue. This subject is discussed in detail in paragraph 9.e of NRC IR No. 50-250,251/93-08 and paragraph 8.b of NRC IR No. 50-250,251/93-10. This LER is closed.

7. Surveillance Observations (61726)

The inspectors observed TS required surveillance testing and verified that the test procedures conformed to the requirements of the TSs; 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:

- O-SMM-102.1, Flood Protection Stoplog and Penetration Seal Inspection; and

- O-SMM-016.9, Startup Transformer Fire Suppression System 18 Month Functional Test.

In reference to the first item listed above, the inspectors independently checked the flood protection stoplogs and penetrations on

June 7, 1993, per procedure O-SMM-102.1 dated April 13, 1993. There were several minor discrepancies noted as follows:

- Drawings 5610-M-201 and 5610-M-202 are penetration drawings and were recorded in attachment 1. These drawings were not included as a reference in procedure O-SMM-102.1, paragraph 2.1.1, Plant Drawings.

- There was an unused stoplog numbered SL-2 mounted on the inside west wall of the rad-waste building. The southeast door to the rad-waste building also had a stoplog numbered SL-2.

Procedure O-SMM-102.1 was signed off as complete on May 21, 1993. The procedure was also signed off as reviewed by the Mechanical Foreman on May 21, 1993, and by the Mechanical Supervisor on May 24, 1993. Procedure step 6.4, Procedure Completion, has two substeps. Substep 6.4.1 states that all PWO repair work on stoplogs is complete with documentation attached, and substep 6.4.2 states that the NPS has been notified of procedure completion.

In the remarks section of Attachment 1 to procedure O-SMM-102.1 there were three outstanding work items listed. Those items were as follows:

- The wooden stoplog at the rad-waste building northeast door was split and deteriorated. It had a PWO tag (92041969) dated August 5, 1992.

- The stoplog storage bracket was broken at the rad-waste building truck trap (SL4 TOP).

- The wooden stoplog at the south side of the Unit 4 steam generator feedwater pump was split.

On June 7, 1993, the inspector checked the three work items noted above with the following results:

- The wooden stoplog at the rad-waste building northeast door was missing.

- The stoplog storage bracket at the rad-waste building truck trap was still broken.

- The wooden stoplog at the south side of the Unit 4 steam generator feedwater pump was repaired.

The sign off of Attachment 1 to procedure O-SMM-102.1 was prior to all PWO work being completed. In discussing this discrepancy with the licensee, the responsible supervisor stated that their interpretation of the intent of step 6.4.1 was that the original PWO was complete and that subsequent rework or repair PWOs did not have to be complete but just documented. To clarify the procedure the licensee revised procedure O-SMM-102.1 to add limitation step 4.2.4 which states that this procedure.

shall not be closed until all repair work is completed. Reference of new PWOs in the remarks section is not adequate to close this procedure. All repair work on the stoplogs has been completed, and the licensee is correcting the minor discrepancies. Based on the above, no further action is required.

The inspectors determined that the above testing activities were performed in a satisfactory manner and met the requirements of the TSs. Violations or deviations were not identified.

8. 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 the TSs.

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 and repair of the Unit 4 turbine governor control motor per procedure 0-GME-102.1, Troubleshooting and Repair Guidelines;

- protection and control maintenance on the Unit 4 startup transformer (Refer to paragraph 10.c for additional information.); and

- troubleshooting and repair of the Unit 4 turbine control system problem (Refer to paragraph 10.d for additional information.).

For those maintenance activities observed, the inspectors determined that the activities were conducted in a satisfactory manner and that the work was properly performed in accordance with approved maintenance work orders. Violations or deviations were not identified.

9. Operational Safety Verification (71707)

The inspectors observed control room operations, reviewed applicable logs, conducted discussions with control room operators, observed shift turnovers, and monitored instrumentation. The inspectors verified proper valve/switch alignment of selected emergency systems, verified maintenance work orders had been submitted as required, and verified 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. The implementation of radiological controls and plant housekeeping/cleanliness conditions were also observed.

Tours of the intake structure and 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/structures to verify proper valve/switch alignment:

- A and B emergency diesel generators,
- control room vertical panels and safeguards racks,
- intake cooling water 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,
- auxiliary feedwater area,
- Unit 3 and 4 main steam platforms, and
- auxiliary building.

a. On June 10, 1993, the NRC issued IN 93-46, Potential Problem with Westinghouse Rod Control System and Inadvertent Withdrawal of a Single Rod Control Cluster Assembly, in order to alert licensees about a potential problem with the W rod control system that can cause an inadvertent withdrawal of one or more rod control cluster assemblies in a selected bank. On May 27, 1993, Salem Unit 2 experienced what appeared to be a single failure in the rod control system causing a single rod to withdraw from the core 15 steps while the operator was applying a rod insertion signal. Salem Unit 2's FSAR stated that multiple failures would have to be present in order for an inadvertent single rod withdrawal to

occur, and NRC IN 93-46 stated that this May 27, 1993, event indicates that the present design for Salem Unit 2 appears to violate this FSAR statement.

On June 11, 1993, the W Energy Systems Business Unit issued a nuclear safety advisory letter (NSAL 93-007) providing additional information regarding the Salem event and providing recommendations to all plants with a W solid state rod control system. In this letter, W stated that the movement of the Salem rod control cluster assembly in question was postulated to have resulted from rod control system logic cabinet card failures coupled with effect(s) and/or failure(s) that have yet to be identified. This letter also stated that W and the WOG would continue to evaluate this issue and that it was W's judgement that no additional operating constraints beyond the requirements of the TSs are required. W had the following recommended actions:

- Licensed operators should continue the normal process of verifying that rod motion is proper for the required movement.

- Licensees should confirm the functionality of rod deviation alarms.

- The WOG will survey its members regarding rod misalignment events and provide a summary.

- Operators should review this transmittal (NSAL 93-007) to ensure their understanding of the event.

The NRC also issued GL 93-04, Rod Control System Failure and Withdrawal of Rod Control Cluster Assemblies, 10 CFR 50.54(f), on June 22, 1993. This GL described the Salem event and requested affected licensees to evaluate the licensing basis for their facility and to respond to the GL within 45 days and within 90 days as appropriate.

The licensee became aware of the Salem event on June 8, 1993, and has been actively pursuing information regarding the Salem event and its applicability to Turkey Point via telecons with W and with Public Service Electric and Gas Company representatives. The FPL Licensing Manager is also a member of the WOG Regulatory Response Group which was officially activated regarding this issue on June 10, 1993, and as a result, three FPL representatives were able to attend a June 14, 1993, presentation on the generic assessment of the Salem event conducted at the NRC's Office in Rockville, Maryland. In addition, a letter enclosing NRC IN 93-46 was sent to all licensed operators on June 11, 1993. This letter requested the operators to review the NRC IN and to follow the normal FPL operating practices. These practices include the following:

- Pay close attention to rod position and direction of movement when rods are being moved.

- Monitor rod position for deviation between the group step counters and the individual position indicators.

- Maintain rods in manual except when rods are fully withdrawn in which case they will be in automatic.

- Always be alert for undesired rod motion (step counters clicking, T(ave) changing, rod control system alarms).

On June 22, 1993, the inspectors questioned the operators on shift and verified that they had been briefed on the potential rod control system problems and were aware of the proper operating practices.

The licensee also reviewed the previous PWO packages involving work performed by W during the most recent Unit 3 and 4 refueling outages. PWO Nos. 2321/63 and 5631/64 were completed on November 16, 1992, and May 10, 1993, for Units 3 and 4, respectively. These PWOs enabled the licensee to assist W in the performance of W procedure NSID-EIS-85-11, Full Length Rod Control System Maintenance, and W procedure NSD-EIS-92-31, ARPI Inspection and Testing Service. No significant problems were identified.

On June 15, 1993, the licensee performed procedure 4-PMI-028.2, Axial Flux, Rod Deviation and Rod Position Indication Monthly Test, with satisfactory results; and Unit 4 was successfully returned to service on June 15-16, 1993. The completed procedure was reviewed by the inspectors, and no discrepancies were noted. No significant problems were identified during this startup or during the previous Unit 3 startups on December 1-13, 1992, January 10, 1993, and January 20-21, 1993, or the recent Unit 4 startups on May 23, and June 3, 1993.

In addition to the actions listed above, the licensee is continuing to followup on this issue and is performing an evaluation under its Operating Events Feedback Program. The inspectors will followup on the results of this evaluation and on the licensee's response to GL 93-04 during future inspections.

b. Hurricane season spans the months of June through November with the most intense activity expected to occur between August and October, and recent projections are that this year may spawn a higher than usual number of hurricanes of greater intensity. There were a number of lessons learned from Hurricane Andrew's August 24, 1992, impact on Turkey Point. Among the numerous lessons learned were the need to evaluate the adequacy of compensatory measures for equipment for facilities not designed for a hurricane and the adequacy of examination of the impact of nonsafety-related equipment on important equipment during external

events. During this inspection period, the resident inspectors reviewed the licensee's adverse weather procedures to identify any potential vulnerabilities in these two areas.

- Adequacy of Compensatory Measures for Equipment or Facilities Not Designed for a Hurricane.

  A number of important systems, structures, or facilities associated with security, emergency response, effluent monitoring, effluent pathway, and low level waste storage were not designed for hurricane force winds and either were or could have been severely damaged during Hurricane Andrew. In anticipation that these systems, structures, or facilities could become inoperable; compensatory measures were taken or available either before or following the storm. For example, after the storm, security officers were placed on roving patrols to compensate for the loss of the physical integrity of the protected area barriers. Portable air-sampling equipment and dosimetry equipment were available at the site, if needed, to compensate for the air-sampling stations that were lost during the storm. Before the storm, radioactive materials (including dry active waste) were secured in SeaLand containers, and a high integrity container was used for solidified resins. Therefore, radioactive waste was adequately protected from the elements to prevent its spread during the storm. The emergency plan considered these circumstances and contained contingency measures.

  The licensee has procedures in place to adequately prepare for the onset of another hurricane. The inspectors verified that these procedures referenced the following preparatory activities:

  - Upon notification of a Hurricane Watch (A hurricane located between 24 to 48 hours from, and approaching, the United States coast and comprising of an area approximately 100 miles on either side of the estimated point where the hurricane could come inland.), the licensee would enter procedure O-ONOP-103.3, Severe Weather Preparations. This procedure provides instructions on preparation of the site for severe weather conditions not resulting in implementation of the Emergency Plan. In order to ensure timely preparation for the severe weather based on judgement of the potential size and direction of the storm, step 5.4.1 of this procedure requires that the Plant Manager instruct that all or part of the activities listed in procedure EPIP-20106, Natural Emergencies, be completed in advance of a Hurricane Warning (A hurricane located between 12 and 24 hours from, and approaching, the United States coast and

comprising an area approximately 50 miles on either side of the expected landfall location.). Among other things, this procedure also requires the licensee to check the operation of radio equipment; test run the EDGs, fire pumps, turbine DC oil pumps, intake trash rakes and traveling screens, and all sump pumps; inventory the supply of laboratory chemicals and reagents and obtain those that are necessary; check the diesel oil storage tanks and turbine lube oil storage tanks and make arrangements with the diesel oil suppliers for possibilities emergency deliveries, check the supply of emergency items and materials to ensure that adequate inventory exists for personnel remaining on site; provide a driver to obtain foodstuffs, water, and other required items; bolt or tie down all hatches on water plant tanks; clean sumps and sump pump strainers; survey the plant site removing trash and debris and securing loose equipment; check all instruments located outdoors to be in weather proof condition, inspect cases and gaskets and weatherproof those that are not with plastic film and tape; perform procedure 0-SMM-102.1, Flood Protection Stoplog and Penetration Seal Inspection, to verify operability and adequate inventory of flood protection equipment; begin preparations to fill bags for temporary sandbag dikes and have them available for installation if/when a Hurricane Warning is issued; and ensure that all radioactive material containers are properly stored and secured.

- Instructions and guidelines for preparing, controlling, and recovering the plant following activation of the Emergency Plan for a natural emergency are provided in procedure EPIP-20106, Natural Emergencies. This comprehensive procedure addresses tornadoes and hurricanes but is to be used for any severe weather disturbance which results in activation of the Emergency Plan. It also contains specific guidance for coping with the possible flood conditions associated with more intense hurricanes. The responsibilities of various managers and supervisors are described in this procedure. For example, the Emergency Coordinator is responsible for determining the need for additional staffing, considering alternate means of transportation for callout personnel to minimize the number of vehicles on site, and establishing prospective routes within the plant that personnel can use to minimize exposure to severe weather. The Emergency Coordinator is also responsible for investigating the need for relocation of the TSC and/or OSC to suitable locations. The

Emergency Preparedness Coordinator has the overall responsibility for storm preparedness. Among other things, his responsibilities include the coordination of the activities of various plant departments; coordination with the Nuclear Materials Management Superintendent for purchasing and properly storing food, water, portable bedding, etc., for personnel staying on site during the storm; performance of communication checks of all emergency communication systems; ensuring that a siren restoration/inspection crew is on standby at the EOF contacting St. Lucie management, the Juno beach Corporate Office, or elsewhere to arrange for relief workers following the hurricane; establishment of dedicated telephone lines to the control room from the TSC/OSC; ensuring that sufficient portable radios and cellular telephones are available; and contacting the FPL Aviation or FPL Storm Center through the EOF to arrange for helicopters to bring support personnel and equipment to the site immediately after passage of the storm. Some of the TSC Construction Services Manager's responsibilities include removal of scaffolding that would be exposed to high winds, surveying various sites to ensure that all light material is either tied down or placed indoors, checking the tie downs on all temporary and portable buildings or structures, and protecting the telephone equipment rooms located in the support buildings with sandbags, visqueen, and/or caulking. One of the TSC Maintenance Manager's responsibilities is to discuss with the Emergency Coordinator what additional protection may be required for the 4160-volt bus room, AFW cage EDG buildings, auxiliary building, electrical equipment room, CCW pump rooms, A MCCs, B MCC rooms, computer room, SFP pumps, non-vital DC battery and bus rooms, and turbine building. Per this procedure, some of the TSC Mechanical Supervisor's responsibilities include the installation of the portable dewatering pumps, drain plugs, and stoplogs; the positioning of sandbags to control any potential flooding or in leakage that may develop the securing of loose equipment; and the installation of life lines between important operating areas of the plant in case personnel must be sent to these areas during high winds. Some of the TSC Operations Manager's responsibilities include the performance of operability checks on the blackstart diesel generators; the performance of operability runs on the EDGs; and the filling of the CSTs, DWSTs, PWSTs, RWSTs, and raw water tanks. Among other things, the TSC HP Supervisor is required to instruct the inspection of outside areas for radioactive materials that need to be stored inside or protected

from severe weather, instruct the inspection of the low level radwaste storage warehouse and radwaste building and consider moving highly contaminated components stored at ground level to a higher elevation, and temporarily storing all contaminated waste at the RCA waste segregation building in C-vans and coordinate securing the C-vans. Two of the TSC Security Supervisor responsibilities include the maintenance of an accurate list of personnel who are to remain on site and the implementation of security force instruction SFI-3002, Hurricane Preparedness, which provides guidance for security activities in preparation for, during, and following hurricane threats or actual conditions. In addition, Appendix D of procedure EPIP-20106 provides guidelines for plant operations before, during, and after a Category V hurricane. (A Category V hurricane has wind speeds greater than 155 mph.) This procedure also references procedure EPIP-20101, Duties of the Emergency Coordinator; procedure EPIP-20110, Criteria for and Conduct of Owner Controlled Area Evacuation; procedure EPIP-20112, Communications Network; and procedure O-OSP-104.1, Record of Meteorological Forecasts.

- The licensee also has an FPL Nuclear Power Plant Recovery Plan. This FPL Corporate document establishes a pre-planned organization and action plan to recover from a nuclear power plant emergency and minimize unfavorable impact on FPL and the public. The licensee revised this Recovery Plan on May 31, 1993, to take into account the lessons learned from Hurricane Andrew, to provide more detailed guidance to designated personnel for natural disasters and radiological events, and to incorporate methodology for coordination with other FPL organization restoration plans.

Many of the licensee's additional preparations for hurricane season have been completed, and some are still ongoing. The satellite up-link capability is on site and ready for use, and stoplog walkdown inspections have been performed. The inspectors independently performed the stoplog inspection per procedure O-SMM-102.1, Flood Protection Stoplog and Penetration Seal Inspection, on June 7, 1993. The licensee has also procured and stored non-perishable food supplies and the storm supply inventory for preparatory actions required by procedures. Prior to the onset of a hurricane, these items would be moved to pre-designated areas. For example, many of the dewatering pumps would be moved to the 18-foot elevation of the turbine area for protection against potential flooding and flying debris and for easy access during and following the storm. In order to improve

communications capabilities if the TSC had to be relocated to the cable spreading room, the licensee is currently installing additional (approximately ten) telephone jacks. This action is scheduled for completion by the end of June 1993.

- Adequacy of Examination of the Impact of Nonsafety-Related Equipment on Important Equipment During External Events.

During Hurricane Andrew, the failure of nonsafety-related equipment damaged certain important equipment in that the elevated water storage tank collapsed onto one of the raw water tanks and portions of the fire protection/service water system. The failure of nonsafety-related equipment also threatened safety-related equipment in that the damaged Unit 1 chimney could have potentially collapsed onto the Unit 4 EDG building. These events were not fully anticipated at the time.

As a result, the licensee developed a lessons learned action plan after Hurricane Andrew to track system restoration and to develop contingency plans where needed. The following is a summary of the nonsafety-related system that failed and the modifications or contingency plans that were implemented for these systems:

- Service Water System - The elevated water storage tank was eliminated from the design and replaced with a diesel driven service water pump to provide an alternate water source in the event of a loss of electrical power per PC/M 92-108, Raw Water and Service Water Systems Restoration.

- Unit 1 and 2 Chimneys - The Unit 1 chimney was demolished and rebuilt, and both the new Unit 1 chimney and the existing Unit 2 chimney were reinforced with a concrete sheath per safety evaluation JPN-PTN-SECP-92-040, Safety Evaluation Related to the New Turkey Point Fossil Unit Chimney and Unit 2 Chimney Reinforcement. The reinforced chimneys were designed to withstand FSAR loads for Class 1 structures and should not adversely interact with important or safety-related nuclear equipment.

- MET Tower - The 10-meter tower was re-enforced by adding guy wires per safety evaluation JPN-PTN-SECS-92-074, Engineering Evaluation for 10-Meter Meteorological Tower. The instrumentation and power supply houses for each tower were replaced with reinforced concrete structures, and spare instrumentation has been procured and is available. A new 60-meter tower which meets the South Florida

Building Code was also erected, and two mobile backup diesel generators are available.

- Turbine Canopies - The turbine rain canopies have been removed to preclude damage to important equipment such as the switchgear rooms' HVAC and CSTs until a redesign is completed per REA-93-037, Design of Turbine Cover.

- Class III Structures - When designing location and placement of future Class III structures and elevated tanks, engineering will consider the impact of hurricane events per Appendix A of Nuclear Engineering Department Discipline Standard JPN-STD-C-007, General Civil Design Criteria for Turkey Point Units 3 & 4.

- Flood Protection - Portable dewatering pumps, portable electric generators with fuel supplies, and associated suction and discharge hoses will be pre-staged for dewatering the plant and for backup fire suppression per paragraph 6.2.5 of procedure EPIP 20106, Natural Emergencies.

The inspectors did not identify any direct interaction possibilities with equipment on-site. However, the following potential vulnerability was noted:

- Miscellaneous tanks such as the RWSTs, PWSTs, DWSTs, Unit 3 EDG fuel oil storage tank, upper portion of the CSTs, and both raw water tanks are exposed to potential damage from flying debris.

In summary, the licensee has taken adequate compensatory measures for equipment or facilities not designed for a hurricane, and the licensee has adequately examined the impact of nonsafety-related equipment on important equipment during external events.

c. The licensee routinely performs QA/QC audits/surveillances of activities required under its QA program and as requested by management. To assess the effectiveness of these licensee audits, the inspectors examined the status, scope, and findings of the following audit reports:

Audit Number	Number of Findings	Type of Audit
QAO-PTN-93-007	3	Triennial Fire Protection Audit
QAO-PTN-93-008	0	Control of Test Control and Inspection, Test and Operating Status
QAO-PTN-93-010	0	Corrective Action

QAO-PTN-93-011 1 Facility Staff Qualification

No additional NRC followup actions will be taken on the findings referenced above because they were identified by the licensee's QA program audits and corrective actions have either been completed or are currently underway. Plant management has also been made aware of these issues.

d. By letter L-93-150 dated June 10, 1993, the licensee submitted Special Report - Standby Feedwater Pumps; A and B pumps Out of Service Due to Valve Repair. TS 3.7.1.6 requires, with both standby feedwater pumps inoperable, within 30 days a special report describing the cause of the inoperability, action taken, and a schedule for restoration. The inspectors verified that this Special Report met the TS requirements. This condition was documented in NRC IR No. 50-250,251/93-13, paragraph 13.d. No further action is required.

As a result of routine plant tours and various operational observations, the inspectors determined that the general plant and system material conditions were satisfactorily maintained, the plant security program was effective, and the overall performance of plant operations was good. Violations or deviations were not identified.

10. 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.

a. At approximately 1:00 a.m. on June 7, 1993, an operator noticed water in the indicating light for the 3B EDG fuel oil transfer switch. I&C was notified, and the fuel oil transfer pump tested satisfactorily in manual. At approximately 3:15 a.m., I&C removed the cover from the transfer switch and light indication and found water in the connection box. Investigation also revealed that the switch box was not closed tightly, that the supply fuse in breaker 35211 was blown, and that there was excessive corrosion on the auto/manual switch connections. As a result, the 3B EDG was declared out of service due to excessive water in the 3B EDG fuel oil transfer pump control switch and light indicator box and action statement b of TS 3.8.1.1 was entered which required a separate fuel oil transfer pump to be operable for each EDG. This action statement required demonstration of the operability of the

startup transformers and their associated circuits per TS 4.8.1.1.1.a within 1 hour and at least every 8 hours thereafter, the demonstration of the operability of the remaining required EDGs per TS 4.8.1.1.2.a.4 within 24 hours, and the restoration of the inoperable EDG to operable status within 72 hours. The inspectors followed the status of the licensee's actions to restore the 3B EDG to service. The startup transformers and their associated circuits were verified to be operable at 4:12 a.m. and 12:06 p.m. Operability testing of the 3A EDG was completed at 10:35 a.m., and operability testing of the 4B EDG was completed at 12:30 p.m. The equipment operability verification for the 3B EDG was completed at 12:53 p.m. Following repairs which included the drilling of holes in the bottom of the connection box, replacement of the fuse, and cleaning of the applicable connections; the fuel oil transfer pump was satisfactorily inservice tested, and the 3B EDG was returned to service at 4:50 p.m. on the same day.

b. At 9:14 a.m. on June 10, 1993, an unisolable steam leak was identified on the 4B main steam non-return check valve (4-10-005). This leak resulted from the failure of one of four bolts on one of two hinge pin covers. A Unit 4 shutdown from 100% power was commenced at 10:30 a.m. in order to facilitate the repair of this valve. The turbine was manually tripped at 1:58 p.m., all rods were inserted into the reactor core at 2:30 p.m., and the reactor trip breakers were manually opened at 2:34 p.m. Mode 4 was entered at 9:55 p.m., and Mode 5 was entered at 3:25 p.m. on June 11, 1993. The RCS temperature was then maintained at approximately 170°F with a bubble in the pressurizer.

During this shutdown, the 4B main steam non-return check valve was inspected, overhauled, and tested. Both hinge pin covers were reworked, and all of the hinge pin cover bolts were replaced. Additional work performed during this outage included the installation of isolation valves on all three MSIV condenser drain trap lines, replacement of piping between the MSIVs and the new isolation valves, performance of a code repair on a peened hole in the B MSIV condenser drain trap line (ST-4-2) downstream of the new isolation valves, and the overhauling of a feedwater bypass isolation valve (4-20-132) which had an unisolable leak due to non-concentric internal sealing surfaces. The inspectors followed the progress of the licensee's actions regarding these repairs.

Following these repairs, RCS heatup to 195°F was commenced at 10:20 a.m. on June 13, 1993. The requirements to enter Mode 4 were met at 1:20 p.m., and RCS heatup to 195°F was re-commenced. Mode 4 was entered at 1:45 p.m., and Mode 3 was entered at 11:30 p.m. on the same day. Normal operating pressure (2235 psig) and temperature (547°F) were attained at 6:25 a.m. and 7:10 a.m. on June 14, 1993. Following the repair of small packing and body to bonnet leaks on the "B" loop pressurizer spray mini flow valve (4-524A) which were identified during the containment visual leak inspection, the licensee commenced a reactor startup at 4:15 p.m.

on June 15, 1993. Mode 2 was entered at 5:03 p.m., and criticality was achieved at 5:21 p.m. Unit 4 entered Mode 1 at 8:05 p.m., and the unit was placed back on line at 9:58 p.m. The inspectors witnessed the startup activities on June 15, 1993. Following a 30% power level chemistry hold, power ascension was commenced at 2:40 a.m. on June 16, 1993. At 4:15 a.m., reactor power was stabilized at 45% in order to allow isolation of the 6B feedwater heater for work on relief valve RV-3417. The Unit 4 6B feedwater heater was isolated at 6:25 a.m., and power ascension was re-commenced. Reactor power reached 100% at 1:45 p.m. on the same day.

c. At 5:20 a.m. on June 18, 1993, the Unit 4 startup transformer was removed from service for a pre-planned maintenance outage. TS 3.8.1.1 requires that two startup transformers and their associated circuits as well as three separate and independent EDGs be operable. With one of the two startup transformers inoperable, action statement a of this TS requires the licensee to demonstrate the operability of the other startup transformer and its associated circuits by performing the surveillance requirement in TS 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter. It also requires notification of the NRC within 24 hours of declaring the transformer inoperable. In addition, if any of the required EDGs had not been successfully tested within 24 hours of the transformer being declared inoperable, this action statement requires that the licensee demonstrate their operability by performing the surveillance requirement in TS 4.8.1.1.2.a.4 for each such EDG, separately, within 24 hours unless the EDG is already running. If the inoperable startup transformer is the associated startup transformer and becomes inoperable while the unit is in Mode 1, the licensee is required to reduce thermal power to less than or equal to 30% within 24 hours, or restore the inoperable startup transformer and associated circuits to operable status within the next 48 hours, or be in at least Hot Standby within the next 6 hours and in Cold Shutdown within the following 30 hours. If thermal power is reduced to less than or equal to 30% within 24 hours or if the inoperable startup transformer is associated with the opposite unit, this TS requires that the startup transformer and its associated circuits be restored to operable status within 30 days of the loss of operability or that the unit be in at least Hot Standby within the next 12 hours and in Cold Shutdown within the following 30 hours. This action statement applies to both units simultaneously.

In preparation for this pre-planned startup transformer outage, the licensee satisfactorily completed a normal surveillance of the 3B EDG at 8:20 p.m. on June 17, 1993. Frequency and voltage operability verifications also were satisfactorily completed on the 3A, 4A, and 4B EDGs at 11:10 p.m. on June 17, 1993, and 12:40 a.m. and 3:30 a.m. on June 18, 1993, respectively. In addition, startup transformer and onsite AC power distribution verifications were satisfactorily completed at 4:45 p.m. on June 17, 1993, and

at 1:20 a.m. and 5:15 a.m. on June 18, 1993; and Unit 4 main generator excitor fuse inspections were satisfactorily completed at 10:10 p.m. on June 17, 1993, and 5:30 a.m. on June 18, 1993. The Unit 4 C-bus transformer was also satisfactorily tested at 5:05 a.m. At 5:10 a.m. on June 18, 1993, the licensee notified the NRC Operations Center of the upcoming removal of the startup transformer from service.

The Unit 4 startup transformer was removed from service at 5:20 a.m. on June 18, 1993, in order to facilitate the performance of pre-planned protection and control maintenance. The annual fire suppression system surveillance was also performed during this outage and was witnessed by the inspectors. The onsite AC power distribution and operability of the Unit 3 startup transformer were satisfactorily verified again at 12:30 p.m. and 7:55 p.m.; and the Unit 4 transformer was returned to service at 8:12 p.m. on the same day. During this startup transformer outage, the inspectors followed the licensee's progress, witnessed portions of the maintenance activities in the switchyard, witnessed portions of the post-maintenance testing, and reported the status of the outage to the NRC Region II Office.

d. At 10:15 a.m. on June 22, 1993, the Unit 4 turbine would not relatch following the low vacuum trip portion of the turbine trip test. As a result, a load reduction from 100% reactor power was commenced at 11:25 a.m. in order to take the turbine off line to investigate and repair the turbine latching mechanism. Prior to the load reduction, the inspectors witnessed that discussions were held with operations personnel to alert them of actions to be taken if any unexpected events were to occur during the load reduction. Direct communications were established between the turbine front standard and the control room for use during the load reduction. Supervisors were directly involved in the evolution. During the load reduction, the turbine trip bypass lever was being held in the bypass position in order to prevent a turbine trip and subsequent reactor trip. At 12:31 p.m. with the unit at 38% power, a turbine anti-motoring trip occurred followed by a generator lockout and a reactor trip at 12:32 p.m. During this trip sequence, the turbine trip bypass lever was released by the operator as directed during the pre-load reduction briefing. An Event Review Team was established to investigate the root causes of the trip. The NRC Operations Center was notified of this unplanned reactor trip at 1:15 p.m. per 10 CFR 50.72(b)(2)(ii). The anti-motoring trip was caused by the inadvertent actuation of the auxiliary governor test handle by maintenance personnel dressed in bulky fire coats. This indicates inadequate preplanning for working in sensitive areas. The inspectors witnessed portions of the licensee's activities and attended several Event Review Team meetings.

At 8:15 p.m. on June 23, 1993, a reactor startup was commenced. Mode 2 was entered at 9:00 p.m., and criticality was achieved at

9:20 p.m. At 2:20 a.m. on June 24, 1993, the turbine roll was commenced. Mode 1 was entered at 2:45 a.m. Due to problems relatching the turbine during testing; the turbine was shut down at 4:33 a.m., and Mode 2 was re-entered at 4:35 a.m. Following unsuccessful troubleshooting of the turbine control system, the reactor was taken to Mode 3 at 6:20 a.m. on June 25, 1993.

Violations or deviations were not identified.

11. Management Meeting (94702)

On June 10, 1993, an FPL/NRC counterparts meeting was conducted at the FPL Corporate Office in Juno Beach, Florida, in order to discuss technical and management/administrative issues of common interest to the St. Lucie and Turkey Point facilities. Representatives from the licensee's management as well as representatives from the NRC Region II Office, NRR Office, and the St. Lucie and Turkey Point Resident Inspector Offices were in attendance. At this meeting, licensee representatives discussed the organization and functions of the St. Lucie plant, the Turkey Point plant, and the Juno Beach Corporate Office. Current and future issues were also presented. Representatives from NRR discussed cost beneficial licensing actions, the new SALP process, temporary waivers of compliance, and the license amendment screening process. NRC Region II representatives discussed current and future issues, and the Resident Inspector staff discussed issues pertinent to their respective sites. This meeting was considered to be beneficial and provided a better understanding of current and future issues.

12. Exit Interview

The inspection scope and findings were summarized during management interviews held throughout the reporting period with the Plant General Manager and selected members of his staff. An exit meeting was conducted on June 25, 1993. The areas requiring management attention were reviewed. The licensee did not identify as proprietary any of the materials provided to or reviewed by the inspectors during this inspection. Dissenting comments were not received from the licensee. The inspectors had the following finding:

Item Number	Description and Reference
50-250,251/93-17-01	NCV - Failure to maintain an FPL approved QA program for refurbishing safety-related breakers (paragraph 5.b).

13. Acronyms and Abbreviations

ABB	Asea Brown Boveri
AFW	Auxiliary Feedwater
ARPI	Analog Rod Position Indication
CCW	Component Cooling Water

CFR	Code of Federal Regulations
CST	Condensate Storage Tanks
DBD	Design Basis Document
DWST	Demineralized Water Storage Tank
EDG	Emergency Diesel Generator
EOF	Emergency Operations Facility
EPIP	Emergency Plan Implementing Procedure
F	Fahrenheit
FPL	Florida Power and Light
FSAR	Final Safety Analysis Report
GL	Generic Letter
GME	General Maintenance - Electrical
GOP	General Operating Procedure
HEPA	High Efficiency Particulate Air
HP	Health Physics
HVAC	Heating Ventilation and Air Conditioning
I&C	Instrumentation and Control
IFI	Inspector Followup Item
IN	Information Notice
IR	Inspection Report
JPN	Juno Project Nuclear
LCO	Limiting Condition for Operation
LER	Licensee Event Report
MET	Meteorological
MCC	Motor Control Center
mph	Miles Per Hour
MSIV	Main Steam Isolation Valve
NCV	Non-Cited Violation
NI	Nuclear Instrument
NIS	Nuclear Instrumentation System
NPS	Nuclear Plant Supervisor
NRC	Nuclear Regulatory Commission
NRR	Office of Nuclear Reactor Regulation
NSAL	Nuclear Safety Advisory Letter
ONOP	Off Normal Operating Procedure
OP	Operating Procedure
OSC	Operational Support Facility
OSP	Operations Surveillance Procedure
PEG	Project Engineering Group
PC/M	Plant Change/Modification
PMI	Preventive Maintenance - I&C
psig	Pounds Per Square Inch Gauge
PTN	Plant Turkey Nuclear
PWO	Plant Work Order
PWST	Primary Water Storage Tank
QA	Quality Assurance
QAO	Quality Assurance Organization
QC	Quality Control
QI	Quality Instruction
RCA	Radiation Control Area
RCS	Reactor Coolant System
REA	Request for Engineering Assistance

RV	Relief Valve
RWST	Refueling Water Storage Tank
SALP	Systematic Assessment of Licensee Performance
SECP	Safety Evaluation Civil PEG
SECS	Safety Evaluation Civil Site
SFI	Security Force Instruction
SFP	Spent Fuel Pit
SL	Stoplog
SMM	Surveillance Maintenance - Mechanical
ST	Steam Trap
STD	Standard
T(ave)	Average Temperature
TQAR	Topical Qualify Assurance Report
TQR	Topical Quality Requirements
TS	Technical Specification
TSC	Technical Support Facility
URI	Unresolved Item
VIO	Violation
W	Westinghouse
WOG	Westinghouse Owners Group