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

Report Nos.: 50-250/88-11 and 50-251/88-11

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: April 25, 1988 through June 3, 1988

Inspectors: _____ 6/23/88
D. R. Brewer, Senior Resident Inspector Date Signed

_____ 6/28/88
T. F. McElhinney, Resident Inspector Date Signed

_____ 6/28/88
G. A. Schnebli, Resident Inspector Date Signed

Approved by: _____ 6/29/88
R. V. Crlenjak, Section Chief Date Signed
Division of Reactor Projects

SUMMARY

Scope: This routine, unannounced inspection entailed direct inspection at the site, including backshift inspection, in the areas of annual and monthly surveillance, maintenance observations and reviews, engineered safety features, operational safety, facility modifications, plant physical security and plant events.

Results: One violation of TS 6.8.1 was identified. Failure to follow procedure, in that Diesel Fuel Oil Tank suction valve 003 was found locked closed when required to be locked open, (50-250,251/88-11-02) (paragraph 6). One Unresolved Item was identified, Evaluate licensee's method of testing check valves to meet the requirements of ASME Boiler and Pressure Vessel Code, Section XI, (50-250,251/88-11-01) (paragraph 3). One Inspector Followup Item was identified, Resolution of the differences in documentation associated with the Intake Cooling Water gauge assembly's materials, (50-250,251/88-11-03) (paragraph 9).

REPORT DETAILS

1. Persons Contacted

Licensee Employees

*H. J. Dager, Vice President
*J. S. Odom, Site Vice President
*J. E. Cross, Plant Manager-Nuclear
*C. J. Baker, Plant Manager-Nuclear (Acting)
*L. W. Pearce, Operations Superintendent
F. H. Southworth, Technical Department Supervisor
*J. W. Kappes, Maintenance Superintendent
T. A. Finn, Training Supervisor
J. D. Webb, Operations - Maintenance Coordinator
D. Tomaszewski, Instrument and Control (I&C) Department Supervisor
J. C. Strong, Mechanical Maintenance Department Supervisor
*L. W. Bladow, Quality Assurance (QA) Superintendent
*R. J. Earl, Quality Control (QC) Supervisor
*B. A. Abrishami, System Performance Supervisor
R. G. Mende, Operations Supervisor
*J. Arias, Regulation and Compliance Supervisor
*R. D. Hart, Licensing Engineer
*G. Salamon, Regulation and Compliance Engineer
S. Hale, Engineering Project Supervisor
*T Abbatiello, QA Performance Monitoring Supervisor
*J. D. Evans, Document Control Supervisor
*E. A. Suarez; Technical Department Engineer
*G. M. Smith, Services Manager-Nuclear
*R. L. Fritchley, Assistant Training Supervisor

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

*Attended exit interview on June 8, 1988.

Note: An alphabetical tabulation of acronyms used in this report is listed in paragraph 12.

3. Unresolved Items (URI)

Unresolved items are matters about which more information is required to determine whether they are acceptable or may involve violations of requirements or deviations from commitments. One unresolved item was identified in this report; "Evaluate licensee's method of testing check valves to meet the requirements of ASME Code, Section XI" (URI 250,251/88-11-01)(paragraph 3).

3. Monthly and Annual Surveillance Observation · (61726/61700)

The inspectors observed TS required surveillance testing and verified that: the test procedure conformed to the requirements of the TS, testing was performed in accordance with adequate procedures, that test instrumentation was calibrated, Limiting Conditions for Operation (LCO) 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 and system restoration was adequate. For completed tests, the inspectors verified that testing frequencies were met and tests were performed by qualified individuals.

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

4-OSP-041.18	Reactor Coolant System Pressure Boundry Check Valves Leak Test,
3-OSP-049.1	Reactor Protection System Logic Test,
0-OSP-023.1	"A" Diesel Generator Operability Test,
0-OSP-022.5	Emergency Diesel Generators Starting Air Valves Operability Test, and
3- PMI-071.1, 2,3,4	Steam Generator Level Protection Instrumentation Channel Calibration.

On May 25, 1988, while operating in mode 3, the licensee declared Unit 4 Reactor Coolant System (RCS) pressure boundary isolation check valves 4-876 A, B and C out of service because leakage tests performed as required by TS 3.16 indicated the potential for leakage greater than 5.0 gallons per minute (gpm). On two occasions, surveillance procedure 4-OSP-041.18, entitled RCS Pressure Boundary Check Valves Leak Test, revision dated May 12, 1988, had been unsuccessfully implemented. The observed discrepancy included an inability to establish a differential pressure (dp) across the check valve seating surface. This condition was thought to be indicative of a leaking valve. The decision to declare the valves out of service was made by the Plant Supervisor-Nuclear and was conservative. After six hours, a cooldown was initiated in accordance with TS 3.16.4. Since this shutdown was required by the TS, a Notice of Unusual Event was made as required by 10 CFR 50.72(b)(1)(i)(A).

Three explanations existed for the observed inability to establish a dp across the check valves. A check valve could be damaged, a check valve could be stuck open or the valve design could require a significant drop in upstream pressure to terminate leakage by firmly compressing the seating surfaces. The licensee staff favored the latter possibility because procedure 4-OSP-041.18 had previously been implemented without incident but had recently been rewritten to use a slower method of upstream depressurization. The initial use of the rewritten procedure

failed to establish a differential pressure. Consequently, the procedure was revised to utilize a larger depressurization drain path. However, prior to implementing the revised procedure it was noted that a dp developed across the valve, apparently without the use of any depressurization technique. Leak tightness checks were successfully completed and the unit was returned to power on May 28, 1988. The satisfactory leakage rates verified that no check valve seat was damaged. The licensee did not evaluate how the check valves became firmly seated. Consequently, the NRC inspectors questioned whether the observed phenomenon was due to valve design or valve binding. On June 7, 1988, valve vendor representatives confirmed that seat dp design could have precluded initial attempts to establish dp across the valves. On that date, the power level of the reactor precluded additional testing to determine whether valve binding had existed. Clearly, any binding that may have occurred must have been minor because the valves were observed to seat without overt operator action. Nevertheless, the inspectors conducted a review of previous check valve stroke tests to verify that valve binding was not a significant concern.

Check valves 4-876 A, B and C are required to be tested in accordance with the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI, Division 1, Subsection IWV, 1980 Edition through Winter 1981 Addenda; IWV-3520, Tests for Check Valves. The code requires that check valves be exercised at least every three months, except as provided by IWV-3522, Exercising Procedure. IWV-3522 specifies, in part, that:

> Check valves shall be exercised to the position required to fulfill their function unless such operation is not practical during plant operation. If only limited operation is practical, during plant operation the check valve shall be part-stroke exercised during plant operation and full-stroke exercised during cold shutdown. Valves that cannot be exercised during plant operation shall be specifically identified by the Owner and shall be full-stroke exercised during cold shutdowns. Full-stroke exercising during cold shutdowns for all valves not full-stroke exercised during plant operation shall be on a frequency determined by the intervals between shutdowns as follows: for intervals of three months or longer, exercise during each shutdown; for intervals of less than three months, full-stroke exercise is not required unless three months have passed since the last shutdown exercise.

Additionally, for normally closed check valves such as 4-876 A, B and C, IWV-3522 specifies, in part, that:

> Valves that are normally closed during plant operation and whose function is to open on reversal of pressure differential shall be tested by proving that the disk moves promptly away from the seat

when the closing pressure differential is removed and flow through the valve is initiated, or when a mechanical opening force is applied to the disk. Confirmation that the disk moves away from the seat shall be by visual observation, by electrical signal initiated by a position indicating device, by observation of substantially free flow through the valve as indicated by appropriate pressure indications in the system, or by other positive means. This test may be made with or without flow through the valve.

Check valves 4-876A, B and C are tested in accordance with Appendix B of Operating Procedure (OP) 0209.1, entitled Valve Exercising Procedure, revision dated May 19, 1988. An Inservice Test (IST) relief request has been filed with the Commission, in accordance with 10 CFR 50.55a, to require valve testing during cold shutdown conditions rather than during normal operation. The valves can not be tested during normal operation because the Residual Heat Removal (RHR) pumps do not develop sufficient discharge head to establish a flow path through the valves at elevated primary pressure.

The test procedure directs the full flow from two RHR pumps through the check valves. Valve 4-876A is isolated from 4-876B and C such that approximately 5000 gpm pass through the valve. The piping configuration is such that valves 4-876B and C can not be isolated from each other. Consequently, valves 4-876B and C are tested simultaneously and about 5000 gpm is assumed to pass through the two valves. However, the licensee's procedure does not verify how the total flow is split. Since all 5000 gpm passes easily through a single valve, the test does not demonstrate that both valves 4-876B and C are unobstructed. This deficiency appears to violate code requirements in that valves 4-876B and C can not be determined to have been full-stroke tested during the performance of Appendix B of OP 0209.1. There is no confirmation that both check valve disks move promptly away from their seats when flow is initiated. A brief review of plant procedures and piping configurations has revealed that this deficiency applies to Units 3 and 4. It appears that check valves 3/4-876D and E, located in the alternate low head injection line, may be susceptible to the same lack of definitive testing. Also check valves 3/4-874A and B, located in the hot leg injection lines, are incompletely tested based on existing procedures.

The licensee has not previously sought a relief request relative to this testing problem. Consequently, it appears that the Section XI code test requirements have not been adequately implemented. The licensee is evaluating the effect of these discrepancies on the operating units. Preliminary evaluations, performed by the Westinghouse Corporation, indicate that the licensee's test methods for valves 876A, B and C are sufficient to guarantee that adequate flow will reach the core for accident mitigation purposes. However, the number and location of all valves which are not definitively full-stroke tested have not been determined. Consequently, this issue will be identified as URI 250,251/88-11-01, pending additional licensee research and NRC followup evaluation.

No violations or deviations were identified in the areas inspected.

4. Maintenance Observations (62703/62700)

Station maintenance activities of safety related systems and components were observed and reviewed to ascertain that 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; that parts and materials used were properly certified; radiological controls were properly implemented; that 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:

- Installation of the Amertap System for Unit 4 Intake Cooling Water/ Component Cooling Water (ICW/CCW) Heat Exchangers,
- Repair/Modification of Unit 4 Containment Purge Valves,
- Repairs to ICW Pump 3A Gauge Bushing,
- Troubleshooting MOV-4-750 Failure to Open,
- Troubleshooting MOV-4-865 Failure to Operate, and
- Troubleshooting Unit 3 R-11 Spurious Isolation Signals, and
- Containment Purge Valve Stroke Testing.

On May 9, 1988, with Unit 4 in Mode 5, the outboard containment purge exhaust valve (POV-2602) was stroke tested in accordance with OP 0209.1, entitled Valve Exercising Procedure. Appendix B of this procedure lists the valves that are tested during cooldown and/or cold shutdown. POV-2602 stroke test requires that the valve be verified to close within 5 seconds.

The stroke time recorded on May 9, 1988, was 6.93 seconds. Plant Work Request WA880509195444 was issued and troubleshooting was commenced. Troubleshooting included lubricating the actuator shaft and valve stem, and rebuilding the actuator. The post maintenance stroke times were also unsatisfactory. On May 13, 1988, the licensee formed an Event Response Team (ERT no. 88-008) to investigate the problem. Based on the data obtained through research and analysis, the ERT was able to formulate root causes. The primary root cause identified was that there was insufficient capacity to vent the POV-4-2602 actuator. Contributing to this condition was the implementation of Plant Change/Modifications (PC/M) to the actuator and instrument air lines over the past eight years. These changes are listed below:

- PC/M 79-129, dated January 28, 1980, added air regulators to limit valve opening to 50 degrees.

- PC/M 81-07, dated March 4, 1982, removed the air regulators and added mechanical hardstops to further limit supply valves to 33 degrees and the exhaust valves to 30 degrees open.

- PC/M 87-406, dated December 21, 1987, changed solenoid valves on POV-4-2600 and POV-4-2602 which involved a change from 1/2 inch carbon steel piping to 1/2 inch thick-walled tubing for the instrument air lines. This reduced the internal diameter of the exhaust line.

The altered stroke of the actuator and the unregulated supply of instrument air contributed to the slower closing times. A review of the Unit 3 and 4 containment purge exhaust valves closure time history revealed the following:

Valve	Average Closure Time
POV-3-2602	4.58 seconds
POV-3-2603	3.46 seconds
POV-4-2602	4.40 seconds
POV-4-2603	4.54 seconds

In order to decrease the stroke times on the Unit 4 exhaust valves, the licensee implemented PC/M 88-158. The PC/M increased the size of the tubing from 1/2 inch to 1 inch on the vent side of the solenoid valves. The 1/2 inch check valves in the air line were replaced with 1 inch check valves. Also the existing needle valves in the instrument air system were relocated upstream of the solenoid valves to limit valve opening rate to no greater than 3 inches per second. The solenoid valve tubing arrangement was changed to allow simultaneous venting of the solenoid valves. The licensee had noted a concern with the previous series solenoid valve arrangement. A failure of the upstream solenoid could prevent the

downstream solenoid from venting properly, thus preventing the purge exhaust valve from closing. The new parallel venting path allows the purge valve to be closed in less than 5 seconds with the failure of one solenoid. During the ERT investigation, a concern was raised with the method of testing the purge valves. The licensee discovered that the stroke times varied depending on how long the operator kept the valve open prior to initiating closure. The licensee test results, on POV-4-2602, were as follows:

Wait Duration	Closure Time
2 second	3.32 seconds
15 second	4.89 seconds
20 second	5.10 seconds
5 minute	5.15 seconds
>5 minute	5.16 seconds

The licensee determined that there was a high probability that the valves could exceed their maximum closure times due to the inconsistencies in the test method. Therefore, on May 16, 1988, the Unit 3 containment purge valves were de-energized and declared out of service. The licensee determined that the test results for all air operated valves may have been affected by time sensitive test methods. All Unit 4 containment integrity valves were subsequently tested satisfactorily utilizing a three minute pre-test condition wait period. The three minute period was conservatively established by the licensee based on test data collected. The Unit 3 containment integrity valves' closure time histories were reviewed to verify there were no valves close to their maximum stroke time. There was evidence of slow closure time for CV-3-519A (Primary Water to Pressurizer Relief Tank and Reactor Coolant Pumps), therefore, the licensee stroke tested this valve waiting three minutes in the pre-test position. This test was satisfactory. The remaining Unit 3 valves were not tested as the unit is at 100% power. In order to ensure full air pressure is applied to the actuator prior to stroking in the closed position, the licensee made a revision to OP 0209.1 to have the operator wait three minutes before closing any air operated valve.

No violations or deviations were identified in the areas inspected.

5. Engineered Safety Features Walkdown (71710)

The inspectors performed an inspection designed to verify the operability of the Unit 3 and 4 Emergency Diesel Generators. This was accomplished by performing a complete walkdown of all accessible equipment. The following criteria were used, as appropriate, during this inspection:

a. System lineup procedures match plant drawings and as built configuration.

b. Housekeeping was adequate and appropriate levels of cleanliness are being maintained.

c. Valves in the system are correctly installed and do not exhibit signs of gross packing leakage, bent stems, missing handwheels or improper labeling.

d. Hangers and supports are made up properly and aligned correctly.

e. Valves in the flow paths are in correct position as required by the applicable procedures with power available, and valves were locked/lock wired as required.

f. Local and remote position indications were compared and remote instrumentation was functional.

g. Major system components are properly labeled.

The inspectors reviewed the following documents during the course of the inspection:

O-OP-023, Emergency Diesel Generator Operating Procedure; Operating Diagram for Diesel Generators "A" and "B", 5610-T-E-4536, sheets 1 and 2

No violations or deviations were identified within the areas inspected.

6. 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 that maintenance work orders had been submitted as required and that 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.

Plant housekeeping/cleanliness conditions and implementation of radiological controls were 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 to verify operability and 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

a. Control of Technical Specification Books

On May 1, 1988, the plant staff made a partial distribution of TS amendment number 130/124. The TS change increased the amount of time a Component Cooling Water (CCW) heat exchanger could remain out of service. The Amendment was sent to only about half of the individuals maintaining controlled copies of the TS books. Normally, the change would have been simultaneously issued to all holders of controlled TS. A partial site distribution was made to expedite incorporation of the new requirements. The site distribution was to be promptly followed by a corporate office initiated complete distribution. The partial distribution included essential watch-station personnel such as Control Room Operators, Nuclear Operators, Turbine Operators and the Shift Technical Advisor. Some support groups, such as the Technical and Quality Assurance Departments, were not issued the Amendment.

Partial distribution of the Amendment created the potential for confusion in that not all controlled TS contained identical CCW system requirements. This concern was discussed with senior licensee Supervisors who specified that the distribution of TS changes would always be complete for future Amendments. Change 130/124 was issued to all holders of controlled TS on May 6, 1988.

On May 5, 1988, during a page verification of selected TS books, it was determined that controlled copy number 17, assigned to the Nuclear Operator's workstation, was not up to date. Several changes had been added to the book without subsequent removal of the superseded pages. Some of the superseded pages were quite old. Additionally, many sections were not in numerical order and some pages were missing from the book.

These discrepancies were brought to the attention of the Plant Supervisor-Nuclear and corrective action was initiated. The Operations Department maintains four additional controlled copies of the TS. These were audited by the licensee and additional discrepancies were identified and corrected. However, even though all Operations Department TS books had discrepancies, no audit was initiated for books held by other Departments.

In early June, NRC inspectors audited two additional controlled copies of TS. No discrepancies were identified in the book held by the I&C Department. Numerous discrepancies, similar to those mentioned above, were identified in controlled copy number 57, held by the Mechanical Maintenance Department.

The need for a comprehensive assessment of the status of controlled books, such as the TS and the Updated Final Safety Analysis Report, was discussed at the exit meeting. The licensee committed to develop a program to ensure that controlled copies of important plant books are periodically verified against the current list of effective pages.

b. Diesel Fuel Oil System Misalignment

On May 31, 1988, during the performance of OP 4304.4, Diesel Oil Transfer System Periodic Test of Pumps, test personnel noted inadequate discharge pressure on "A" diesel fuel oil transfer pump. An operator checked the valve line-up for this test and found the main diesel oil suction valve, 70-003, locked closed. This valve is normally locked open. The operator immediately notified the control room and the valve was repositioned and locked in the open position. The licensee then made a significant event notification per 10 CFR 50.72(b)(2)(iii)(D). This event is further discussed in paragraph 9. The following chronology documents those occasions when plant personnel recently performed tests and alignments of the fuel oil system.

05/22/88	1715	O-ADM-205 (Administrative Control of Valves, Locks, and Switches) completed, valve 70-003 verified locked open.
05/24/88	0106	O-OSP-023.6 (Diesel Generator System Flowpath Verification) completed satisfactorily, valve 70-003 verified locked open.
05/24/88	0308	O-OSP-023.1 (Diesel Generator Operability Test) completed satisfactorily on "A" EDG.
05/28/88	0308	O-OSP-022.6 (Diesel Fuel Oil Storage Tank Accumulated Water Removal) completed satisfactorily.
05/29/88	1700	NC-103 (Diesel Fuel Oil Inventory, Receiving Shipments and Periodic Sampling) Step 8.3.4 (Main Diesel Storage Tank) sampling completed.
05/31/88	1445	Valve 70-003 discovered locked closed.

Discussions were conducted with the individuals performing the above evolutions and it was determined that the valve was locked closed upon completion of the the diesel oil periodic sampling on May 29, 1988, at 1700. A chemistry technician stated that prior to performing the sampling of the diesel fuel oil storage tank, he

reviewed Nuclear Chemistry procedure NC-103 and found it difficult to understand. He then requested another technician to help him sample the tank. During the sampling evolution, a copy of the procedure was not taken to the sample location. The sampling procedure, section 8.3.4 of NC-103, directs that the sample valve 70-004 be unlocked and opened to obtain the required sample, then to close and lock the sample valve. These steps were accomplished by the technician requested to help in the evolution. The other technician thought he also needed to open the main suction valve (70-003) to obtain a sample. The valve is clearly labeled as a locked open valve. He unlocked and thought he opened the 70-003 valve and upon completion of sampling, fully closed and locked the valve. Positioning of valve 70-003 is not required or addressed by NC-103. Due to the fact that the technician thought he initially needed to open valve 70-003 to obtain his sample and that he obtained valve movement when attempting to open the valve, the Chemistry and Operations Supervisors conducted further interviews with the individual. His recollection of the event was that he was unable to recall the initial valve position either by stem position or the number of turns taken to operate the valve. He indicated that some degree of motion in the open direction was obtained, maybe 3-5 turns. However, he was not sure. The valve, when properly positioned should be off the backseat with some motion in the open direction available, about 1/2 to 1-1/2 turns. Full closure of this valve requires about 14 full turns on the handwheel. Based on the discussion above, the licensee concluded that the 70-003 valve was already open when the technician thought he opened it and that the initial movement of the valve he obtained was due to the number of turns the valve was off the back seat.

The configuration of the Diesel Fuel Oil Supply System at the site is as follows:

> Each diesel engine has its own 4000 gallon day tank separated by a concrete wall from the tank of the other engine. Each tank gravity feeds through a solenoid valve to its associated diesel generator skid mounted (275 gallon) fuel tank. A solenoid valve is provided with a manual bypass valve and associated piping. This arrangement provides alternative capability to fill each skid tank should the solenoid close due to loss of power or valve malfunction. The two day tanks are supplied by one common storage tank having a capacity of 64,000 gallons. This tank has sufficient storage capacity to permit one diesel generator set to operate at the "168 Hour Rating" for 7 or more days. An alternate fill connection to each Diesel Oil Day Tank suitable for tie-in from a mobile tank unit is provided. Alternate fill lines provide an alternate fill path should the normal supply via the Diesel Oil Transfer Pumps become unavailable. Transfer

of fuel oil from the storage tank to the day tanks to maintain level is accomplished automatically by one of two electric motor driven transfer pumps. The 70-003 valve is in the common suction line from the common storage tank to the two day tanks via their respective transfer pumps. As noted, there are alternate means to provide a supply of fuel oil to the diesels. The consequences of having the 70-003 valve shut would be that when the day tank level dropped and automatically started the respective transfer pump to refill the day tank from the storage tank, no transfer of fuel oil would take place, as the suction valve was shut. The licensee estimated that the diesels would run about 8-10 hours with only the 4000 gallon day tank as a supply. Identification of the lowering day tank level would be possible after the receipt of a low level alarm. Thus, there would have been time to determine the problem and correct it or provide another means to supply fuel to the engine. However, this would require operator action rather than the automatic initiation as designed. The licensee is evaluating if the diesel oil transfer pumps would have been damaged while running with the suction valve closed.

Nuclear Chemistry Procedure NC-103, entitled Diesel Fuel Oil Inventory, Receiving Shipments and Periodic Sampling, revision dated April 14, 1988, directs in section 8.3.4, that only 70-004 valve be operated to obtain a sample.

Contrary to the above, on May 29, 1988, valve 70-003 was closed during the performance of this procedure. The failure to follow procedure NC-103 is a violation (250,251/88-11-02).

7. Medical Emergency Drill

The licensee conducted a medical emergency drill on May 24, 1988, to demonstrate the effectiveness of recently implemented training and equipment enhancements identified as weaknesses during the NRC Emergency Response Facilities Appraisal, February 22-25, 1988, (IR 50-250,251/88-01).

The drill simulated a contaminated injured man in the Radiation Waste Building. Upon discovery, the proper notifications were made and the victim was attended to. Communications between responsible personnel were good, as were contamination controls to prevent the spread of contamination outside established boundaries. The victim's injuries were promptly assessed and treated. No deficiencies requiring long-term corrective actions were identified. Minor deficiencies identified were discussed with drill participants and resolved at a critique following the drill.

8. Physical Security (71881)

Station security activities were observed during this inspection period to ascertain that they were conducted in compliance with the approved Physical Security Plan (PSP).

The following attributes were considered during these observation, as appropriate: the minimum number of armed guards is on site for each shift; search equipment such as x-ray machines, metal detectors and explosives detectors are operational; the Protected Area (PA) barrier is well maintained and is not compromised by erosion, opening in the fence or walls, or proximity of vehicles or other objects that could be used to scale the barrier; illumination in the PA is adequate to allow patrolling guards to observe the area at night and permit the use of closed circuit monitors by alarm station operators; the vital area (VA) barriers are well maintained; persons granted access to the site are badged to indicate whether they have unescorted or escorted access authorization; there are no obstructions in the isolation zone that could conceal an individual attempting an unauthorized entry or interfere with the detection/assessment system; and when search equipment or alarm systems are inoperable, or when there is a breach of the PA or VA barrier, the licensee implements appropriate compensatory measures.

No violations or deviations were identified within the areas inspected.

9. 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. The licensee plans to issue LERs on each event within 30 days following the date of occurrence.

On April 27, 1988, at 0927, with Unit 3 at 100% power, the 3A Intake Cooling Water (ICW) pump was stopped and declared out of service (OOS) due to a discharge pressure gauge piping failure. The 3A ICW pump receives its emergency power from the A Emergency Diesel Generator (EDG) and the 3B and 3C ICW pumps receive their emergency power from the B EDG, which was OOS for scheduled preventive maintenance. When the 3A ICW pump was declared OOS, the 3B and 3C ICW pumps became technically OOS in accordance with TS 3.0.5, even though they continued to operate. With more than one ICW pump OOS, the unit entered TS 3.0.1. At 1045 on April 27, 1988, the B EDG was returned to service thus the 3B and 3C ICW pumps also became operable. The unit then exited TS 3.0.1, and entered TS 3.4.5.b.2, which permits one ICW pump to be OOS for 24 hours. The pressure gauge piping was repaired and the 3A ICW pump was returned to service at 1209 on April 27, 1988. The unit exited TS 3.4.b.2 at that time. The cause of

the failure of the 3A ICW pump discharge pressure gauge piping was corrosion of the coupling which attaches the pressure gauge piping to the ICW discharge pipe. The corrosion was due to a leak and the use of a carbon steel instead of a stainless steel coupling. The initial inspection into the reason carbon steel fittings existed in a sea water system indicated that the fittings in question should have been constructed of stainless steel. This is identified in the licensee's original specifications, 5610-M-50, and the current specifications, 5177-PS-11, for fittings in the Intake Cooling Water System. However, the licensee recently provided the inspector a copy of NCR 86-112, dated March 5, 1986, requesting information on the proper valve, fitting, and piping arrangement for the discharge pressure gauges on the ICW pumps. Attachment D to the NCR includes a diagram of the subject gauge assembly and allows for the use of carbon steel fittings in certain applications for these gauge assemblies. Based on the differences in the documentation associated with the gauge assemblies, this item will be addressed in the next report after further information has been obtained. This is identified as IFI 50-250,251/88-11-03.

On April 28, 1988, Unit 4 was shut down due to a noted increase in RCS leak rate. The increased leak rate was identified as coming from pressurizer spray valve 455B and was approximately 3.15 gallons per minute. The TS limit is 10 gallons per minute. Subsequent investigation revealed that the bellows internal to the valve had failed and was replaced. The unit was returned to power on May 28, 1988, upon completion of various maintenance items.

On May 6, 1988, at 0225, the licensee declared an Unusual Event due to a security guard reportedly being shot at while on routine patrol in the owner controlled area. The FBI and Metro-Dade Police were called in to assist with the investigation and the licensee terminated the Unusual Event at 1047 that same day. The security guard later recanted his story that he was shot at by one of three intruders in the owner controlled area. He stated that upon being confronted by the individuals, he shot at their feet to scare them away. He then shot at his own truck and in the trees and fabricated a story. He was fearful of losing his job because he didn't follow company procedures relative to the use of his weapon. The security guard has subsequently resigned from duty. No LER is required to document this event.

On May 13, 1988, the licensee made a notification of a significant event to the NRC. During the design basis reconstitution review of the RHR System, the licensee identified a situation where insufficient Net Positive Suction Head (NPSH) for the RHR, CS and HHSI pumps could occur. Valve 3/4-887 was being maintained in the 30% locked open position. This valve provides a flowpath from the RHR pump discharge to the CS and HHSI pumps during the post-LOCA recirculation from the containment sump. Plant engineering department determined that insufficient NPSH would not result if valve 3/4-887 was being maintained open such that the flow through the valve would be equal to or greater than 3750 gpm. The licensee indicated that this valve was being maintained 30% since pre-operational testing but

could not obtain a positive correlation between the valve position as a result of the pre-operational testing and the previous 30% valve position. The valve was locked to 100 percent open upon identification of this concern. Further investigation by the licensee revealed that insufficient NPSH would not result with the valve 30% open.

On May 25, 1988, the licensee made a notification of a significant event to the NRC. With Unit 4 in Mode 3, testing of pressure boundary isolation valves 4-876 A, B, and C indicated a possible leakage problem. The plant entered an LCO in accordance with TS 3.16 and commenced a unit cooldown at 0915. The valves were subsequently retested and declared back in service at 2330 on May 25, 1988. This item is discussed further in paragraph 3.

On May 28, 1988, during routine verification of the Unit 3 PRMS R-11 high level trip setpoint, actuation of the relay for containment and control room ventilation isolation occurred. The actuation was generated when the "High Level Setpoint" pushbutton was depressed to verify the setpoint. The instrument drawer was declared out of service and a work order was generated to troubleshoot the problem. The failure could not be duplicated during troubleshooting in the shop by I&C technicians. The drawer was returned for "indication only" at the request of operations department, on May 29, 1988, in order to monitor containment activity levels due to a suspected Reactor Coolant Pump (RCP) seal problem on RCP 3A. On May 30, 1988, the drawer caused the same isolation signal when depressing the pushbutton to verify the setpoint. The drawer was then replaced with a new drawer on June 2, 1988. The old drawer will be shipped to the vendor to determine the cause of the spurious trip signals.

On May 31, 1988, during the performance of OP 4304.4, Diesel Oil transfer System Periodic Test of Pumps, test personnel noted inadequate discharge pressure on "A" diesel fuel oil transfer pump. An operator checked the valve line-up for this test and found the main diesel oil suction valve, 70-003, locked closed. This valve is normally locked open. The operator immediately notified the control room and the valve was repositioned and locked in the open position. The licensee then made a significant event notification per 10 CFR 50.72(b)(2)(iii)(D). This event is further discussed in paragraph 6.

10. Onsite Followup and In-Office Review of Nonroutine Events (92700/92712)

The Licensee Event Reports (LERs) 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 that 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.

(Closed) LER 251/87-23, entitled Process Radiation Monitor Trends High Due to Jammed Paper Drive Causing Control Room Ventilation and Containment Vent Isolation. The licensee replaced the paper and readjusted the paper drive tension. The paper drive units were subsequently overhauled and, at present, new drive units are on order from the vendor. LER 251/87-23 is closed.

(Closed) LER 250/87-03, entitled Reactor Trip During Load Reduction Due to Low Pressurizer Pressure. The unit trip occurred during a rapid load reduction that was being performed due to a turbine plant cooling water leak in the main generator exciter and the resultant ground. The trip was caused by an excessive cooldown due to emergency boration during the load reduction. The licensee implemented a new procedure to provide instructions for a rapid load reduction (3/4-ONOP-100) and included a simulator scenario in the operator training program. LER 250/87-03 is closed.

11. Exit Interview

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 June 8, 1988. The areas requiring management attention were reviewed. No proprietary information was provided to the inspectors during the reporting period.

- Unresolved Item 50-250,251/88-11-01, Evaluate licensee's method of testing check valves to meet the requirements of ASME Boiler and Pressure Vessel Code, Section XI.

- Violation 50-250,251/88-11-02, Failure to follow procedure, in that the diesel fuel oil tank suction valve 003 was found locked closed when required to be locked open.

- Inspector Followup Item 50-250,251/88-11-03, Resolution of the differences in documentation associated with the intake cooling water gauge assembly materials.

12. Acronyms and Abbreviations

ADM	Administrative
a.m.	ante meridiem
ANSI	American National Standards Institute
AP	Administrative Procedures

ASME	American Society of Mechanical Engineers
CCW	Component Cooling Water
CFR	Code of Federal Regulations
CS	Containment Spray
dp	Differential Pressure EDG
EDG	Emergency Diesel Generator
ENS	Emergency Notification System
ERT	Event Response Team
FBI	Federal Bureau of Investigation
FPL	Florida Power & Light
FSAR	Final Safety Analysis Report
gpm	Gallons Per Minute
HHSI	High Head Safety Injection
I & C	Instrumentation and Control
ICW	Intake Cooling Water
IFI	Inspector Followup Item
IST	Inservice Test
LCO	Limiting Condition for Operation
LER	Licensee Event Report
LIV	Licensee Identified Violation
LOCA	Loss of Coolant Accident
MOV	Moter Operated Valve
MP	Maintenance Procedure
NCR	Non-conformance Report
NPSH	Net Positive Suction Head
NRC	Nuclear Regulatory Commission
ONOP	Off Normal Operating Procedure
OOS	Out of Service
OP	Operating Procedure
OTSC	On The Spot Change
PA	Protected Area
PC/M	Plant Change/Modification
p.m.	post meridiem
PNSC	Plant Nuclear Safety Committee
PSN	Plant Supervisor Nuclear
PSP	Physical Security Plan
QA	Quality Assurance
QC	Quality Control
RCO	Reactor Control Operator
RCP	Reactor Coolant Pump
RCS	Reactor Coolant System
RHR	Residual Heat Removal
SRO	Senior Reactor Operator
TS	Technical Specification
TSA	Temporary System Alternative
URI	Unresolved Item
VA	Vital Area