UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA ST., N.W., SUITE 3100
ATLANTA, GEORGIA 30303

Report Nos. 50-250/81-33 and 50-251/81-33

Licensee: Florida Power and Light Company
9250 West Flagler Street
Miami, FL 33101

Facility Name: Turkey Point 3 and 4

Docket Nos. 50-250 and 50-251

License Nos. DPR-31 and DPR-41

Inspection at Turkey Point Site Near Homestead, Florida

Inspector: H C Dance — 1/20/82
R. J. Vogt-Lowell — Date Signed

Approved by: H C Dance — 1/20/82
H. C. Dance, Section Chief, Division of Resident and Reactor Project Inspection — Date Signed

SUMMARY

Inspection on October 26 - November 25 and December 7-18, 1981

Areas Inspected

This routine unannounced inspection involved 245 resident inspector-hours on site in the areas of follow-up on previous inspection findings; LER follow-up; post TMI requirements implementation follow-up; unit 4 Refueling outage; surveillance test observation; plant operations; and IFI follow-up.

Results

Of the 7 areas inspected, no violations or deviations were identified in four areas; three violations were found in three area(s) (violation-failure to detect or correct the deterioration of lagging on a portion of the boron injection tank (BIT) suction pipe tracing - paragraph 3b; violation-failure to maintain containment integrity during refueling operations-paragraph 6c; violation-failure to use existing procedures and administrative policies for maintenance of safety-related equipment - 2 examples - paragraphs 3a and 10.

DETAILS

1. Persons Contacted

Licensee Employees

*J. K. Hays, Plant Manager Nuclear
J. P. Mendieta, Maintenance Superintendent Nuclear
*D. W. Haase, Operations Superintendent-Nuclear
J. P. Lowman, Assistant Superintendent Mechanical Maintenance-Nuclear
L. L. Thomas, Assistant Superintendent Mechanical Maintenance
J. Kenney, Primary Maintenance Supervisor
P. Banister, Secondary Maintenance Supervisor
W. R. Williams, Assistant Superintendent Electrical Maintenance-Nuclear
J. W. Kappes, Instrumentation and Control Supervisor
V. B. Wager, Operations Supervisor
A. E. Byrnes, Auxiliary Building Supervisor
K. E. Beatty, Training Supervisor
V. A. Kaminskas, Reactor Engineering Supervisor
J. S. Wade, Chemistry Supervisor
P. W. Hughes, Health Physics Supervisor
*D. W. Jones, Quality Control Supervisor
K. N. York, Document Control Supervisor
J. A. Labarraque, Technical Department Supervisor
J. C. Balaguero, Licensing Engineer
B. A. Abrishami, Technical Department Engineer

Other licensee employees contacted included technicians, operators, mechanics, and security force members.

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on December 16, 1981 with those persons indicated in Paragraph 1 above. The licensee was informed of the violations identified during the inspection.

3. Licensee Action on Previous Inspection Findings

a. (Closed) Unresolved Item 50-251/81-25-04: Removal of Ball Valve from the Unit 4 Boron Injection Tank (BIT) drain line. A discussion of the nature of this unresolved item is available in paragraph 12(b) of IE Inspection Report 50-250, 251/81-25. Further discussions with the licensee's Assistant Superintendent of Maintenance-Nuclear revealed that removal of the ball valve in question had in fact not been done

under any plant work order (PWO). Administrative Procedure 0190.19, "Control of Maintenance on Nuclear Safety-related and Fire Protection Systems" states the following:

"The minimum documentation required for work on nuclear safety related or fire protection systems is the plant work order (PWO). The PWO shall define the work to be done, any inspections or hold points required, and the testing required by Maintenance to ascertain completion of the job and the proper post maintenance functioning of the equipment." Consequently, unresolved item 50-251/81-25-04 is upgraded to a violation of T. S. 6.8.1. An additional example is discussed in paragraph 10 (50-250, 251/81-33-01).

b. (Closed) Unresolved Item 50-251/81-25-05: Bit Flow Path Blockage The inspector conducted additional review of the circumstances surrounding the event described in LER 251-81-11 in conjunction with a review of the supplemental investigation and corrective action developed by the licensee. Previous licensee inspection activities failed to detect or correct the deterioration of lagging on a portion of the Unit 4 heat tracing placed on the BIT suction piping. This deterioration resulted in the crystallization of boron solution and the loss of capability to inject the BIT solution as detected during testing on October 21. This unresolved item has been upgraded to a violation (50-251/81-33-02).

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Follow-up on Inspector Follow-up Items

(Closed) Inspector Follow-up Item 50-250, 251/81-20-03: Emergency Drill Report.

The inspector reviewed the report on the September 10, 1981 emergency drill prepared by the Emergency Drill Coordinator and had no further questions. This report was reviewed by the Plant Nuclear Safety Committee during their 81-73 meeting on November 5, 1981.

6. Licensee Event Report (LER) Follow-up

The following LER's were reviewed and closed. The inspector verified that reporting requirements had been met, causes had been identified, corrective actions appeared appropriate, generic applicability had been considered, and the LER forms were complete. Additionally, for those reports identified by asterisk, a more detailed review was performed to verify that the licensee had reviewed the event, corrective action had been taken, no unreviewed safety questions were involved, and violations of regulations or technical specification conditions had been identified.

a. 250-81-15, Diesel Generator Starting Air Solenoid

b. *250-81-16, 3A Station Battery

The inspector reviewed the "Plant Change/Modification" (PC/M) package under which the replacement battery was installed (PC/M 81-144). Following a discussion with the preparer of the LER, as indicated on the LER form, a commitment was made by this licensee individual to submit, by January 1, 1982 an update to this LER that would contain additional information on the corrective action and root cause of the problem.

c. *251-81-13, Personnel Door Interlock

The inspector reviewed the circumstances surrounding the November 16 personnel door interlock defeating and ascertained that "refueling operations" as defined in the technical specifications (T.S.) were in effect during the time both personnel airlock doors were open. Having both personnel airlock doors open simultaneously during refueling operations is contrary to T.S. paragraph 3.10.1 and is a violation (50-251/81-33-03).

d. *251-81-14, Containment Liner Concrete Cover Defect.

The inspector performed an inspection of the area once the unsound concrete had been removed. Subsequently, the licensee proceeded to fill the area with new concrete.

7. Follow-up Of Post TMI Requirements Implementation (NUREG-0737)

(Closed) Item II.B.4. Training for Mitigating Core Damage

The inspector verified the licensee's implementation of the training program which was administered during six consecutive weeks (Aug 10-14, Aug 17-21, Aug 24-28, Aug 31-Sept 4, Sept 7-11 and Sept 14-18, 1981). The inspector reviewed the licensee's tabulation records for the attendance dates and test grades for the following: licensed operators, shift technical advisor, license candidates, I & C personnel, health physics personnel, nuclear chemistry personnel and for the Plant Manager-Nuclear.

(Closed) Item I.C.5. Feedback of Operating Experience

The inspector verified that procedure A.P. 103.15, "Operating Experience Feedback" had been revised on October 29, 1981 to satisfy the commitments associated with this item as described in paragraphs 6 and 8 of IE inspection reports 50-250, 251/81-25 and 50-250, 251/81-16, respectively.

8. Unit 4 Refueling Outage - Core VII/VIII

The unit was returned to service (electrical generator synchronized to the grid) at 7:23 a.m. on December 10. The total outage time for the refueling

was fifty-one days, seven hours and forty minutes. The licensee reported this to be the second shortest refueling outage of the fourteen total for both units.

The following represents a summary of the steam generator tubes plugged during the outage as a result of the inspection program:

Steam Generator	Total Plugged
A	35
B	41
C	28

The 104 tubes plugged during this outage places the total steam generator tube plugging at 24.8% which is bounded by the 28% tube plugging ECCS analysis. On a sampling basis, the inspector monitored licensee adherence to the following procedures associated with the refueling:

O.P. 1407.21, "Refueling Activities Check-Off List
O.P. 16001.2, "Technical Specification Surveillance Requirements for Core Refueling"
O.P. 0204.5, "Nuclear Design Check Tests During Startup Sequence after Refueling"

No violations or deviations were identified within the areas inspected.

9. Surveillance Test Observation

The inspector witnessed the performance of the following:

a. O.P. 4104.2, "Engineered Safeguards and Emergency Power Systems Integrated Test" Date performed: November 24, 1981

b. O.P. 13104.1, "Containment Purge Valves - Local Leak Rate Test" Date performed: November 21, 1981

c. O.P. 9654.2, "125 VDC Battery Load Test for 3B and 4A Batteries" Date performed: October 28, 1981

d. O.P. 1004.1, "Reactor Coolant System Periodic Leak Test Following RCS Opening" Date performed: December 9, 1981

e. Portions of O.P. 13404.1, "Containment Boundary Isolation Valves - Local Leak Rate Tests" associated with the testing of valve MOV-4-751 (Inlet to RHR from the 4A loop hot leg) were observed by the inspector on November 18, 1981.

The inspector verified the following aspects of these surveillance tests: procedures conformed to technical specification requirements and proper licensee review, test instrumentation was calibrated; removal of the system from service; conduct of the surveillance test; restoration of the system to service; review of the test data for

accuracy and completeness; independent calculation of selected test results data to verify its accuracy; test results satisfied technical specification requirements; testing was done by qualified personnel; and surveillance schedule for this test was met.

10. Plant Operations

The inspector kept informed on a daily basis of the overall plant status and any significant safety matters related to plant operations. Discussions were held with plant management and various members of the operations staff on a regular basis. Selected portions of daily operating logs and operating data sheets were reviewed daily during the report period. The inspector conducted various plant tours and made frequent visits to the control room. Observations included witnessing work activities in progress, status of operating and standby safety systems, confirming valve positions, instrument readings, and recording, annunciator alarms, housekeeping, radiation area controls, and vital area controls. Informal discussions were held with operators, and other personnel on work activities in progress and status of safety-related equipment or systems.

On November 3, 1981, the inspector observed work in progress associated with the calibration of pressure transmitter PT-486 on Unit 4. The calibration was being performed in accordance with maintenance procedure M.P. 14007.26, "Steam Line, Steam Header and Turbine First Stage Pressure Instrumentation Calibration", and under the administrative control of plant work order (PWO)-8924.

On November 4 the inspector observed work in progress associated with the performance of M.P. 1507.1, "Steam Generator Safety Valve Repair and Setup", under PWO-1069. The inspector witnessed maintenance on the "D" safety valve of steam loop B on unit 4 and the execution of the quality control inspection holdpoint addressed in step 9.20 of the procedure for this valve.

On November 10, the inspector observed work in progress associated with the performance of M.P.4307.4, "Emergency Diesel Generator (EDG)-Annual Inspection-Electrical" and M.P. 4307.3, "EDG-Annual Inspection-Mechanical".

The inspector reviewed the working copy of M.P. 4307.3 located at the job site and questioned the mechanic about the nature of handwritten remarks added to this procedure which indicated that the fuel oil filters were changed on November 10, 1981, and the turbocharger filter was also changed on that date and filled with oil. The mechanic stated that he had performed these activities in accordance with the instructions of the vendor representative who was present at the job site, and since specific written instructions were not contained in M.P. 4307.3, he had gone ahead and handwritten into the procedure a description of the work done. Subsequently, the inspector proceeded to discuss the matter further with the mechanic's foreman. Upon the inspector's request, the maintenance foreman

responsible for this job produced a copy of the plant work order controlling the maintenance activity in question. The inspector examined the PWO and noted the following:

(1) Section B, "Pre-Planning" of the PWO had three blank spaces. Two of these spaces were for signatures, indicating approval of the work to be done and the third was to indicate who the work was assigned to.

(2) Although two different procedures were referenced to cover the work, only one of these was physically available at the job site (M.P. 4307.3).

The inspector requested a copy of the other procedure referenced in the PWO as "NPTP-M-PM-004.2" from the maintenance foreman who, when unable to readily produce such a copy, insisted that the contents of that procedure were reflected in MP 4307.3 which, as pointed out before, was readily available. This matter was settled once the maintenance planner was called in to clarify the situation. He was able to produce a copy of the missing procedure and further indicated that its contents were not totally reflected in M.P. 4307.3 and for that reason, the procedure was needed to perform the work in question. In fact, the work performed by the mechanic, and hand-written into M.P.4307.3 as earlier described, was fully covered in the text of NPTP-M-PM-004.2.

Technical Specification 6.8.1 states that written procedures and administrative policies shall be established, implemented and maintained that meet or exceed the requirements and recommendations of Section 5.1 and 5.3 of ANSI N18.74972... Paragraph 5.1.6.1 of N18.7-72 states Maintenance that can affect the performance of safety-related equipment shall be properly planned and performed in accordance with written procedures... Contrary to the above, portions of the maintenance performed on the "A" Emergency Diesel Generator on November 10, 1981 were not properly planned nor performed in accordance with written procedure and is thus a violation (50-250, 251/81-33-01). Refer to paragraph 3.a for an additional example of violation of T. S. 6.8.1.

Several concerns were expressed by the inspector during the discussions:

(1) Adequacy of the prework review between the maintenance foreman and his mechanic that allowed the mechanic to essentially go out to the job site without the necessary documentation.

(2) Adequacy of the QA indoctrination training provided to the mechanic that failed to prevent him from performing maintenance on a safety-related system without the use of written instructions.

(3) Adequacy of the PWO review performed by the maintenance foreman that failed to disclose the absence from the PWO package of NPTP-M-PM-004.2.

(4) Adequacy of the PWO package review performed by the QC inspector which allowed the package to reach the maintenance foreman without the possible inclusion of the procedure in question.

The inspector considers the above inadequacies as contributory to the violation and as such expects the corrective action discussed in the licensee's response to the violation to also address itself to these concerns.