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

Report Nos. 50-250/81-05 and 50-251/81-05

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

Facility Name: Turkey Point

Docket Nos. 50-250 and 50-251

License Nos. DPR-31 and DPR-41

Inspection at Turkey Point site near Homestead, Florida

Inspectors: M B Shymlock for — 3/19/81
A. J. Ignatonis — Date Signed

M B Shymlock for — 3/19/81
W. C. Marsh — Date Signed

Approved by: H C Dance — 3/20/81
H. Dance, Section Chief, Project Branch 2 — Date Signed

SUMMARY

Inspection on January 30 - February 25, 1981

Areas Inspected

This routine, inspection involved 166 resident inspector-hours on site in the areas of (1) followup on previous inspection findings; (2) followup on licensee event reports; (3) surveillance test observations; (4) visit to the local Public Document Room; (5) followup on Technical Specification change numbers; (6) confirmation of an existance of a centrally located records room for documentation of environmental qualification of safety-related electrical equipment; and (7) plant operations.

Results

Of the seven areas inspected, no apparent violations or deviations were identified in five areas; three apparent violations were found in two areas (violation - failure to take effective action on licensee identified QC surveillance items - paragraph 10; violation - failure to submit a 30-day report on out of specification Reactor Coolant chemistry - paragraph 10; violation - failure to follow Emergency Diesel Generator Normal · Standby Condition operating procedure - paragraph 11).

DETAILS

1. Persons Contacted

*H. E. Yaeger, Site Manager
*J. K. Hays, Plant Manager-Nuclear
J. E. Moore, Operations Superintendent
D. W. Haase, Technical Department Supervisor
*J. P. Mendieta, Maintenance Superintendent
*D. W. Jones, QC Supervisor
J. J. Sullivan, QC Mechanical Engineer
*W. A. Klein, Licensing Engineer
C. J. Baker, Construction Coordinator
W. R. Williams, Assistant Superintendent-Electrical Maintenance
L. Thomas, Assistant Superintendent Nuclear Maintenance-Primary

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

NRC Resident Inspector

*A. J. Ignatonis
*W. C. Marsh

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on February 27, 1981 with those persons indicated in Paragraph 1 above. The licensee acknowledged the stated apparent violations on failure to take effective corrective action on licensee QC surveillance reported items and failure to follow procedure of the starting air system valve lineup for the Emergency Diesel Generators. The licensee acknowledged that in light of the I&E Manual interpretation of Regulatory Guide 1.16 which was not available to him at the time, the out of specification RCS chemistry could be considered a minor violation of the reporting requirements, but that the matter had received close management attention and that all actions taken were though to be correct and complete at the time.

3. Licensee Action on Previous Inspection Findings

(Closed) Unresolved Item (250/80-33-01, 251/80-32-01) Failure to take Effective Corrective Action on QC Surveillance. This item has been closed as an unresolved item and now constitutes one example of several for a violation of 10 CFR 50 Appendix B criterion XVI; see paragraph 10.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Licensee Event Report (LER) Followup

During this inspection the following Licensee Event Reports were followed up and closed out:

250-80-24, Feedwater Flow Control Valve Failure

250-80-28, Heater Drain Pump Breaker Malfunction

250-80-27, Sample Line Valve Closed

250-81-01, "B" Emergency Diesel Generator Voltage Loss

The events were reviewed to the inspection requirements and guidance of the inspection procedure number 92700 to assure the accuracy and completeness of the report and that appropriate corrective actions have been taken.

Additional review comments for the first three LERs are provided below.

In the review of LER 250-80-24, the inspector noted a typographical error in the second paragraph of page 3 where the LER refers to "... low steam generator level on "B" steam generator", vice "C" steam generator. In reviewing the LER with plant personnel the inspector noted that the licensee A/E (Betchel) had performed a stress analysis of the two inch chemical recirculation lines on Unit 4 and determined that they were properly supported and should not fail under similiar main feed system vibration that caused the failure in Unit 3. The inspector discussed the failure mode of the A Main Feed Regulator Valve steam with licensee personnel and determined that the improper load distribution referred to in the LER concerned the fact that the field fabricated stem had been improperly machined in the tapered section immediately adjacent to the threaded end which engaged the valve plug. The stem and plug were designed so that the taper on the stem was identical to the taper on the plug above the threaded area of the plug This design feature caused the forces acting at the plug-stem interface to be spread over the taper area. In the failed stem, the taper did not match that of the plug so that the stem bottomed in the plug without the load bearing surfaces of the tapers being in contact. This factor caused all the interface stress to be concentrated in the threaded region causing failure. The inspector noted that all safety systems including the Auxiliary Feed System functioned properly, that no damage occurred to any safety related piping or components, and that all water spilled in the incident was from the main feed system. The inspector had no further questions.

As stated in the previous inspection report (50-250/81-02; 50-251/81-02), LER 250-80-28 pertaining to the 3B Heater Drain pump breaker malfunction remained open pending inspection followup on further licensee corrective action in order to prevent recurrence. During this inspection period a Plant Work Order was issued and implemented in weather proofing the control

circuit boxes. Corrections included the installation of new gaskets for box covers, sealing electrical conduit entrances into the junction box, and incurring that all fasteners were in place. These corrective actions were found to be acceptable by the inspector and no further questions were asked within the areas inspected.

In the review of LER 250-80-27 pertaining to the closed motor operated valve in the sample live from 3A steam generator while blowdown operations were maintained, the inspector disagreed with the licensee's stated root cause of the occurrence. The LER states that the sample line valve was inadvertently closed while maintenance was performed on the valve operator. Review of the Plant Work Order and the clearance orders indicates to the inspector that the root cause of the occurrence was failure on the part of operating personnel to keep track of the sample valve status during maintenance. Cognizance of the clearance Orders issued on December 11 and 12, 1980 should have drawn the operator's attention to the status and thereby could have prevented the reportable occurrence. For the LERs reviewed above, no violations or deviations were identified within the areas inspected.

In the NRC's evaluation report of the FP&L's performance as concluded in the Systematic Assessment of Licensee Performance (SALP) program for the appraisal period of May 1, 1979 through April 30, 1980 (Report Nos. 50-250/80-31, 50-251/80-29, a commitment was made for the Resident Inspector to review and keep track of long-term corrective actions resulting from some of the Licensee Event Reports (LERs).

The licensee committed long-term corrective actions were: (1) a design change in the Unit 3 Emergency Power System to assure automatic transfer of the D motor control center upon loss of 3B 4160 volt bus; (2) upgrade the Instrument Air and Auxiliary Feedwater Systems; (3) provide new additional water storage capacity and install a steam generator blowdown recovery system for each unit so that the condensate storage tank level would not reduce below the Technical Specification limit; (4) install new radiator cores for the Emergency Diesel Generators; and (5) procedure changes to confirm power availability to the fire pumps.

Items (4) and (5) have been completed and no further questions were asked in the areas inspected. For item (5), the corrective action of procedure change has been subsequently deleted and replaced with annunication in the control room indicating loss of power to the pump motor controller. Item (1) has not been completed. A licensee Plant Change/Modification for the design change has been issued, but not implemented. The scheduled completion date is to determined. Current contruction status for item (2) shows a scheduled completion of the Instrument Air System upgrade by the end of Unit 3 March/April, 1981 outage. The Auxiliary Feedwater System upgrade is scheduled for completion by the first quarter of 1982. The steam generator blowdown recovery system, item (3), is scheduled to be completed by the end of the second quarter of 1982. The new additional water storage tank has been constructed, but is not ready for service. New radiator cores for the Emergency Diesel Generators, item (4), have been installed in September

1980, and the LER pertaining to this corrective action has been closed out in inspection report 50-250/80-36 and 50-251/80-34.

The inspectors will followup on the status and implementation of the above stated outstanding long-term corrective actions and report their findings in subsequent inspection reports.

6. Surveillance Test Observations

On February 10, 1981 the inspector witnessed portions of the monthly surveillance test of the Residual Heat Removal pumps. This test was performed in accordance with Operating Procedure 3204.1, Residual Heat Removal System - Periodic Test. The following inspection items were verified: testing was scheduled in accordance with technical specification requirements, procedures were being followed, testing was by qualified personnel, LCOs were being met, and system restoration was correctly accomplished following testing.

No violations or deviations were identified for the areas inspected above.

7. Visit to Local Public Document Room

On February 18, 1981 the inspector visited the Local Public Document Room (PDR) located in the Environmental and Urban Affairs Library of the Florida International University (Miami). The inspector found the documentation to be systematically filed, updated, and in an organized condition. Available documentation include the Turkey Point Units 3 and 4 Final Safety Analysis Report and the Environmental Report; the Turkey Point Emergency Plan together with the latest supplemental copy of Revison 5; Technical Specifications; NRC Rules and Regulations Volumes I and II; a number of Topical Reports (generated by vendors, contractors, and NRC) including NUREG-0737; Licensing Event Reports; and licensee correspondence letters.

The inspector spot checked for plant security information and found only cover letters. The enclosed information was withheld under the provisions of 10 CFR 2.790. The information available in the Technical Specifications binder was not up-to-date. However, all the subsequent changes to the Technical Specifications can be found in the Accession List File. The file system could be improved in this area. Finally, the library is in the process of re-filing all of the documentation. The new system will consist of files identified by Licensing Category "A" through "W" on various subject matter. This will provide quicker access to a specific subject. For example, all documentation filed under the Applicant Correspondence File (current category system) will be broken down to nine different subject matters under the equivalent new category system.

8. Technical Specification Amendment Changes

In reviewing Technical Specification change correspondence between the licensee and the NRC the inspector has noted that not all changes or revisions are promptly incorporated into the controlled document maintained

at the site. The last three Technical Specification change numbers 80,81, and 82 appeared to have been held up in the licensee's general corporate office for some time. For example, the NRC issued the Technical Specification amendments numbers (or equivalent licensee change numbers) on November 28, 1980, December 19, 1980 and January 15, 1981 to be applied to change numbers 80, 81, and 82, respectively. These change numbers had not been incorporated into the Controlled document at the site until February 17, 1981. Once the site documentation control center acquired the revision transmittals they were dispositioned immediately. The inspectors will carry this item as a follow-up item. (250, 251/81-05-04).

9. Environmental Qualification of Safety-Related Electrical Equipment

By the Commission Orders of October 24, 1980 on environmental qualification of safety-related electrical equipment, the Technical Specification was amended to include paragraph 6.13, Environmental Qualifications. Technical Specification 6.13.2 requires that centrally located records be available and maintained by no later than December 1, 1980. The inspector visited the central location which is in the site document control room and verified that the available records were kept there. No violation was identified in the area inspected.

10. Followup on Quality Control Surveillances

The inspector reviewed the status of seven open QC surveillance reports (QCSR) and three Nonconformance Reports (NCR) in addition to the QCSR 80-257 discussed in paragraph 3. The results of the review indicated that QCSR's and NCR's were not being processed uniformly among the various site groups and in several instances conditions adverse to quality identified by the Quality Control documents were not corrected as soon as practicable. The following table indicates the 2/12/81 status of the afore mentioned QCSR's and NCR's:

Item	Subject	Remarks
1. NCR 80-49	PCM 79-82 Documentation	Time for initial response 11 weeks
2. NCR 80-52	PCM 78-21 Documentation	Time for initial response 10 weeks
3. NCR 80-58	Maintenance Procedure 1407.4	Time for initial response 4.5 weeks
4. QCSR 80-88	Area Radiation Monitors	Time for initial response 1 week. No action 4/3/80 - 2/12/81
5. QCSR 80.148	High chlorides in RCS	Time for initial response 9.5 weeks. Two sequential monthly requests for status not

		answered.
6. QCSR 80.214	High radiation areas	Time for initial response 1 week.
7. QCSR 80-261	Control of Jumper AP 0103.3	Time for initial response 2.5 weeks. Last two monthly requests for status not answered.
8. QCSR 80-281	Control room Annunciators	Time for initial response 5 weeks. Last two monthly requests for status not answered.
9. QCSR 80.357	Welding and burning	Time for initial response 2.5 weeks.
10. QCSR 80.420	Clearance Procedure APO103.4	Time for initial response 2.5 weeks.

The purpose of the initial response is to acknowledge receipt of the QC deficiency and to propose a tentative date for resolution of the problem. Such responses, therefore, should be forthcoming in a short period of time. Items 1, 2, 3, 5, and 8 are ones in which excessive time was taken to acknowledge the QC deficiency thus precluding correction as soon as practicable as required by 10 CFR 50 App. B. criterion XVI. Additionally, corrective action does not appear to have been pursued aggressively for items 4, 5, 7, and 8 as indicated by long periods of inactivity or inability of responsible managers to provide formally requested status for prolonged periods. QCSR 80-257, and items 1, 2, 3, 4, 5, 7, and 8 of the table are seven examples of failure to take effective corrective action which constitute a single violation of 10 CFR 50 Appendix B criterion XVI. (250, 251/81-05-01).

During review of QCSR 80-148 (item 5 of the table), the inspector noted that the technical specification limit for chloride concentration was exceeded in the unit 3 Reactor Coolant System (RCS) for several days in May 1980 while unit 3 was in cold shutdown. Technical Specification Limiting Condition for Operation 3.1.5.d. requires that chloride concentration be maintained at less than 0.15 ppm. For several days in May 1980 Unit 3 RCS chloride concentration was 0.20 ppm. The unit was in cold shutdown which was the condition required by LCO 3.1.5.d. The licensee concluded that LCO 3.1.5.d. had been exceeded but that since the plant was already in the condition required by technical specifications and corrective action was taken that no violation of T/S 3.1.5.d. had occurred and that no report was required. The inspector noted that the licensee reporting requirements for 30 day reportable occurrences are identical to Regulatory Guide 1.16, 30 day reportable occurrence requirements, less the examples provided in the Regulatory Guide. The Regulatory Guide paragraphs c.2.a.(2) and c.2.b.(2) (reporting requirements for degraded mode) have previously been intrepreted to mean that

"...whenever a parameter or system enters an action mode described in the related LCO, no violation of the specification has occurred, but a 30 day written report is required."

The licensee is not committed to follow Regulatory Guide 1.16 Reporting of Operating Information - Appendix A Technical Specifications. The licensee's Technical Specification 6.9 "Reporting Requirements" and section 6.9.2.b. "Thirty Day Written Reports" is a verbatum copy of Regulatory Guide 1.16 less the examples provided in the Regulatory Guide; therefore, the interpretation of that portion of the Regulatory Guide is considered to be an equally valid interpretation of the licensee reporting requirement. The licensee did not have the benefit of the Inspection and Enforcement Manual Interpretations when he decided that the occurrence was not reportable; however, that not withstanding, the failure to report the out of specification RCS chloride concentration is a violation of Technical Specification 6.9.2.b(2). (250, 251/81-05-02).

The licensee determined that the source of the chloride in the RCS was from internal leakage in the Boron evaporators contaminating the concentrated boric acid solution which was then transferred to the Boric Acid Storage Tanks. Subsequent borations then transferred small amounts of chloride to the RCS of both units. The dilution of the contaminated boric acid solution by the large volume of pure water in the RCS and the continuous purification of the RCS by the Chemical and Volume Control System (CVCS) demineralizers kept the chloride concentration within specification. During the Unit 3 cold shutdown, however,the continuous purification process was lost for several days as a result of maintenance requirements. The chloride concentration then slowly increased to 0.20 ppm apparently as a result of achieving a new higher equilibrium level with the "resident" chlorides leaching out of RCS materials and the corrosion product inventory within the RCS and interconnected systems. When the CVCS system was returned to service, chloride concentrations were brought back into specification. The Boric Acid Storage Tanks have been internally cleaned and are now chloride free. Replacement steam tube bundles have been placed on order. Replacement of these tube bundles will complete the long term corrective action planned by the licensee.

11. 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 on at least a weekly basis 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 recordings, 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.

The inspector verified the operability of the Emergency Diesel Generator (EDG) by performing a complete walk down of all the supporting systems for diesel generator operation. During the inspection conducted on February 23, 1981, the inspector found the air starting system reservoir outlet valves ED 108 for EDG "A" and ED 208 for EDG "B" placed in an open position. These valves were left in an open position complying wiht the posted air starting system diagrams located in each of the two diesel generator rooms. However, contrary to the position indication shown in the diagrams these valves are required to be maintained in a closed position per step 8.2.7 of the Operating Procedure 4303.1, Emergency Diesel Generator Normal Standby Condition. It appears that the Nuclear Turbine Operators have verified valve lineup in accordance to the posted diagrams and have consequently failed to follow the approved procedure.

Although the mispositioning of valves ED 108 and ED 208 does not degrade the operational safety of starting the diesel generators. conflicting instructions appear to have resulted from inadequate administrative controls. Since there are no plant drawings of the Emergency Diesel Generator air starting system in the FSAR or document control, other than those provided in the training manual and in the diesel generator rooms, the official instruction to the operators requires the use of operating procedure 4303.1. Failure to follow O.P. 4303.1 constitutes a violation. (250, 251/81-05-03).

The inspector informed the licensee of his findings prior to and during the exit meeting. During this time period the licensee revised the diagrams in the Emergency Diesel Generator rooms consistent with O.P. 4303.1 and closed valves ED 108 and ED 208.