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

Report Nos.: 50-250/84-04 and 50-251/84-04

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 at Turkey Point site near Homestead, Florida

Inspectors: Kenneth M Jenison for — 19 July 1984
T. A. Peebles, Senior Resident Inspector, Acting — Date Signed

Kenneth M Jenison for — 19 July 1984
W. H. Ruland, Resident Inspector, Acting — Date Signed

Accompanying Personnel: H. C. Dance, and S. A. Elrod
(January 26 Management Meeting)

Approved by: SA Elrod — 19 July 1984
S. A. Elrod, Section Chief — Date Signed
Division of Project and Resident Programs

SUMMARY

Inspection on January 8-26, 1984

Areas Inspected

This routine, announced inspection involved 98 inspector-hours on site including 22 hours on backshift, in the areas of followup of previously identified items, monthly surveillance, monthly maintenance, operational safety verification, engineered safety features walkdown, independent inspection and exit interview. In addition, a management meeting was held on site on January 26, 1984. the personnel in attendance and the subject matter are addressed in paragraph 10.

Results

Of the six areas inspected, no violations or deviations were identified in one area; two violations were found in five areas (failure to implement management control - paragraphs 3, 6, 7, 8 and 10; inoperable auxiliary feedwater pumps - paragraph 5) and one deviation from a commitment was found in one area (Failure to implement TMI Task Action Plan Item I.C.6 - Independent Verification - paragraph 5.)

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REPORT DETAILS

1. Persons Contacted

Licensee Employees

***C. J. Baker, Plant Manager - Nuclear
J. P. Mendietta, 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. Bannister, Secondary Maintenance Supervisor
W. R. Williams, Assistant Superintendent Electrical Maintenance - Nuclear
J. W. Kappes, Instrumentation and Control Supervisor
T. A. Finn, Operations Supervisor
A. W. Byrnes, Auxiliary Supervisor
W. Miller, Training Supervisor
V. A. Kaminskas, Reactor Engineering Supervisor
J. S. Wade, Chemistry Supervisor
P. W. Hughes, Health Physics Supervisor
J. H. Hopkins, Rad Waste Supervisor
**D. J. Jones, Quality Control Supervisor
K. N. York, Document Control Supervisor
**J. A. Labarraque, Technical Department Supervisor
J. Arias, Licensing Engineer
M. J. Crisler, Operations QA Supervisor
**T. Essinger, QA

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

*Attended exit interview on January 13, 1984

**Attended exit interview on January 20, 1984

2. Exit Interview

The inspection scope and findings were summarized during management interviews held throughout the reporting period with the nuclear plant manager and selected members of his staff. An exit interview was held on January 13 and January 20, 1984, with the persons noted with an asterisk and a double asterisk respectively. The licensee acknowledges the inspection findings.

3. Licensee Action on Previously Inspection Findings

(Closed) IFI 250/83-38-01 Poor procedures for RHR

(Open) UNR 250/83-40-01 Inadequate RHR Procedures. Lack of an adequate procedure led to exceeding of a Technical Specification (TS) Limiting Conditions for Operation (LCO). During the RCS temperature excursion of greater than 200°F on October 7, 1983, the inspector in the control room noted that no RHR normal system operating procedure existed. Also, when the shift control room operator was questioned about whether the second RHR heat exchanger or other RHR pump could have been placed into operation, he stated that no procedure for those line-ups existed and he did not know that line-up had been evaluated and was permitted. An adequate procedure would have allowed the operator to place the system in an alternate line-up and averted a violation of TS. The corrective action for this item will be followed under this item number.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Monthly Surveillance Observation

The inspector observed TS required surveillance testing and verified that testing was performed in accordance with adequate procedures, that test instrumentation was calibrated, that LCO were met, that test results met acceptance criteria requirements and were reviewed by personnel other than the individual directing the test, and that deficiencies identified during the testing were properly reviewed and resolved by appropriate management personnel. The findings are addressed below.

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

High Head Safety Injection System - Periodic Test
Power Range Nuclear Instrumentation - Calculation of Target Flux Differences
Auxiliary Feedwater System - Periodic Test

During routine surveillance testing on January 4, 1984, the 'A' auxiliary feed pump started but failed to develop sufficient pressure to produce flow. Investigation showed that the governor manual speed control knob was limiting pressure. Proper positioning of the knob allowed the surveillance to be completed. Then the 'C' pump was started for surveillance and failed to develop sufficient pressure and required repositioning of the manual knob with no maintenance. The discrepancy was noted for the 'A' pump but not for the 'C' pump on the surveillance test. The STA's note of the discrepancy was investigated and produced a report. The inspectors review of the data follows:

The sequence of events for the out of service condition of the auxiliary feedwater pumps found on January 4, 1984:

Unit 4 at 100% power and in power operation since November 23, 1983

Unit 3 starting up from refueling

12-05-83 Last surveillance completed on all 3 auxiliary feed pumps

12-5 to
12-16 Inspector informed that several partial, undocumented runs of auxiliary feed pumps occurred between these dates

01-03-84 Walkdown of auxiliary feed system to comply with operability of auxiliary feed pumps prior to going above 350°F dual Plant operation (TS 3.8.4.6).

5:45 a.m.
01-04-84 Unit 3 above 350°F

3:30 p.m.
01-04-84 Unit 3 at Hot Shutdown (greater than 540°F)

10:25 p.m.
01-04-84 'A' auxiliary feed pump surveillance begun - pump starts but will not produce greater than 100 psi and is inoperable.

Troubleshooting of 'A' auxiliary feedwater pump determines that the governor manual speed control knob was limiting flow. The knob was then properly positioned to the fully clockwise position from the fully counterclockwise position.

2:45 a.m.
01-05-84 'A' auxiliary feedwater pump started and surveillance completed 3:03 a.m.

3:10 a.m.
01-05-84 'C' auxiliary feedwater pump started and did not develop sufficient head to develop flow.

The governor manual speed control knob was checked and found in an improper position - the knob was repositioned.

3:21 a.m.
01-05-84 'C' auxiliary feedwater pump surveillance completed - no notation on the procedure of the unsuccessful surveillance.

3:43 a.m.
01-05-84 'B' auxiliary feedwater pump surveillance performed successfully.

STA's log noted that 'A' and 'C' pumps had not performed satisfactorily for apparently the same reason.

The normal line-up of the auxiliary feedwater pumps is for:

'A' to Unit 3 and Unit 4 Train A
'C' to Unit 3 and Unit 4 Train A
'B' to both Unit 3 and 4 Train B

As the surveillance procedure calls for repositioning of the governor manual speed control knob, it is assumed that two pumps (both on 'A' Train) were inoperable for a period of time back to the last surveillance on December 5, 1983.

The periods that the pumps were required to be operable are:

11-23-83 TS 3.8.4.a. requires that for one-unit power operation, two auxiliary feed pumps are operable and TS 3.8.5 allows one inoperable pump for no longer than 72 hours. Presumably, this was exceeded starting 72 hours after December 5, 1983 and continuing until January 5, 1984.

5:45 a.m.
01-04-84 TS 3.8.4.b. requires that three auxiliary feed pumps be operable when both units are above 350°F. This was exceeded starting at this time as only one pump was operable when the Unit 3 went above 350°F, until January 5, 1984 at 3:21 a.m. Therefore, for two unit requirements, only one pump was available.

This is a violation (250, 251/84-04-01)

Review of the surveillance procedure showed that the repositioning of the governor manual speed control knob is not independently verified. Positioning the knob is an action that:

a. can disable the pump if performed incorrectly

b. cannot be confirmed be visual inspection.

c. is a "last step" that will not be confirmed by subsequent pump operations.

Florida Power and Light Co. previously committed in a December 26, 1980 letter to NRC in response to an NRC letter dated October 31, 1980 to Implement TMI Task Action Plan Item I.C.6 by March 31, 1981. Later FPL committed in a a letter dated June 12, 1981 to augment their procedures to fully implement Item I.C.6 as part of the yearly procedure review process.

The condition above is a deviation from a commitment to the Commission. (250/84-04-07)

6. Monthly Maintenance Observation

Station maintenance activities of safety-related systems and components were observed/reviewed to ascertain that they were conducted in accordance with approved procedures, regulatory guides and industry codes or standards and in conformance with TS. The following items were considered during this review: limiting conditions for operations were met while components or systems were removed from service; approvals were obtained prior to initiating the work; activities were accomplished using approved procedures and

were inspected as applicable; functional testing and/or calibrations were performed prior to returning components or systems to service; quality control records were maintained; activities were accomplished by qualified personnel; parts and materials used were properly certified; radiological controls were implemented; and fire prevention controls were implemented.

The following maintenance activities were observed/reviewed:

Unit 4 Reactor Protection System Relay Replacement
4C Charging Pump Repair

During a review of the maintenance replacement of Reactor Protection system relays on Unit 3 which resulted in a reactor trip on January 9, 1984, the following deficiencies were found:

a) The Plant Work Order (PWO) was not sufficiently detailed to provide adequate control over the entry and exit from the referenced procedures.

b) LER 50-250-84-003 did not identify the PWO control or any other procedure as being inadequate.

This is an example which supports violation (250, 251/84-04-02) inadequate management control. 251/84-04-02.

7. Operational Safety Verification

The inspectors observed control room operations, reviewed applicable logs and conducted discussions with control room operators during the report period. The inspectors verified the operability of selected emergency systems, reviewed tagout records and verified proper return to service of affected components. Tours of the auxiliary, diesel, and turbine buildings were conducted to observe plant equipment conditions, including potential fire hazards, fluid leaks, and excessive vibrations. The inspectors verified that the physical security plan was being implemented.

The inspectors observed plant housekeeping/cleanliness conditions and verified implementation of radiation protection control.

The inspectors walked down accessible portions of the following safety-related systems on Units 3 and 4 to verify operability and proper valve alignment:

Emergency Diesel Generators and associated systems
Auxiliary Feedwater

On January 17, 1984, at approximately 9:00 a.m., while making a tour of the

control room, the inspector noted that 3 strip chart recorders each had a non-inking pen. The recorders were:

PR-3-6306B Containment pressure low
PR-3-6306A Containment pressure hi
RaR-3-6311B Containment atmosphere radiation

PR-3-6306B had ceased inking at 1:00 a.m. The inspector pointed out the problem to the plant supervisor-nuclear and the chart recorders pens were working shortly thereafter. On January 18, 1984, at 9:56 a.m., the inspector again noted that several chart recorder pens were not inking.

They were:
PR-4-6306B Containment pressure low
PR-4-6308B Containment sump level
RaR-4-6311B Containment atmosphere radiation
LR-4-6308A Containment sump level
RaR-4-6311A Containment atmosphere radiation

The inspector examined the charts and noted that three of the chart recorder pens mentioned above had not been inking since before midnight. For example, chart recorder pen for PR-4-6306B, containment pressure low, had not been inking since 6:00 p.m., on January 17, 1984. The operators log requires the operator to check recorder charts and reset within an hour of 1:00 a.m., 5:00 a.m., 9:00 a.m., 1:00 p.m., 5:00 p.m., and 9:00 p.m. The operator failed to check the recorders as required. For example, the log indicated that the recorders were checked at 9:00 p.m. on January 17, 1984, and again at 1:00 a.m., 5:00 a.m., and 9:00 a.m. on January 18, 1984 yet PR-4-6306B was not inking and was not indicated on the logs and no PWO was written to correct the problem. This is an additional example of a failure to follow procedure (See report 83-38).

The inspector noted that the chart recorders, Leeds & Northrup Speedomax Mark III recorder, used for the post accident instrumentation, have been a continual problem as reported verbally by the licensee's operators. This item, "Corrective action for L&N chart recorders" is an Inspector Followup Item (IFI) (250/84-04-07 and 251/84-04-07). The failure to follow procedure is an example which supports violation (250, 251/84-04-02).

On January 17, 1984, during a control room tour, the inspector reviewed the licensee's tank book. The book contained various curves, tables, and charts. These charts included Refueling Water Storage Tank (RWST) level and alarm setpoints, RWST level pressure versus gallons, Primary Water Storage Tank (PWST) alarm setpoints and formula for calculating the amount of water in the containment sump. This is only a partial list. None of the documents were labeled controlled documents. Interviews with the operators on shift indicated that these curves and charts were used during routine plant operations. The RWST is a safety-related component, as are other tanks mentioned in the tank book, and thus operations involving the tanks such as filling and draining affect quality. QA procedure QP6.2, Control of Documents issued by FP&L, defines controlled documents as those documents which require accountability and provide guidance such that lack of

up-to-date revisions may affect quality. Since the tank book contained uncontrolled documents that could have affected quality, this is an example which supports violation (250/84-04-02 and 251/84-04-02).

8. Engineered Safety Features System Walkdown

The inspector performed a complete walkdown of the diesel fuel oil system to verify system operability. The inspector reviewed the FSAR, TS, and verified the position of all valves. Two problem areas were identified:

a. The inspector discovered damage to the diesel oil tank piping adjacent to the tank. The piping damaged was the suction piping to the diesel oil transfer pumps. The licensee told the inspector that, on December 15, 1983, a portable diesel air compressor had rolled down the Unit 3 equipment hatch ramp and struck the piping. The paint was blistered where the single supply line is welded to the tank. The entire piping was bent about 18 inches and torn from the seismic mounting. The system was still able to transfer oil to the day tanks but was no longer in a known condition.

   The inspector discussed his concerns about the event with the licensee. Most of the oil supply to both diesels could be lost by a similar event. The licensee agreed to submit an LER concerning this event.

b. On January 16, 1984, the inspector discovered that the normal air line to valve CV-3-2046A was disconnected. Valve CV-3-2046A is the inlet valve to the #2 fuel oil day tank from the diesel oil transfer pump. A solenoid valve which normally supplies air to the operator of CV-3-2046A had been replaced by a hand loader (manual valve) and nylon tubing.

   Normally, the oil transfer system automatically fills the day tank. When the affected diesel is running, a low level in the day tank trips a level switch. The day tank inlet valve (CV-3-2046A) and the diesel oil tank outlet valve will open and the transfer pump will start automatically, filling the day tank. The valves will shut and the pump will stop once the level reaches the high level switch.

   On December 12 and 13, 1983, the licensee performed maintenance on the CV-2046A solenoid valve. CV-2046A would not open. The licensee discovered a ground on the solenoid cable and replaced a connection box. A hand loader was installed by I&C at operations request on or about December 12, 1983. The hand loader was used to manually admit air to CV-2046A to open the valve. This disabled the automatic fill of the day tank.

   The FSAR states that transfer of fuel oil from the storage tank to the day tank is accomplished automatically. Pursuant to 10 CFR 50.59, the licensee is required to evaluate all changes to the facility as described in the FSAR and to include a written safety evaluation that the change does not involve an unreviewed safety question. The

licensee failed to document and evaluate the addition of the hand loader to valve CV-2046A. This is an example which supports violation (250/84-04-02 and 251/84-04-02).

The licensee showed the inspector a draft of a temporary system alteration procedure. Implementation of the procedure should help the licensee control temporary alterations.

9. Independent Inspection Effort

The inspectors routinely attended meetings with certain licensee management and various shift turnovers between shift supervisors, shift foreman and licensed operators during the reporting period. These meetings and discussions provided a daily status of plant operating and testing activities in progress as well as discussion of significant problems or incidents.

10. Management Control Meeting Held at the site on January 26, 1984.

Attendees

H. C. Dance - Region Branch Chief
S. A. Elrod - Region Section Chief
T. A. Peebles - Region Technical Assistant
H. R. Krug - Region Reactor Inspector
H. E. Yaeger - Site Manager
C. J. Baker - Plant Manager, Nuclear

The meeting began at 1:00 p.m. and a discussion was held of the following:

a) Documentation of as found conditions during surveillance tests

b) Valve line-up records

c) Prerequisites for procedures

d) Plant Work Order Control

e) Fire hazards including smoking in diesel generator building

f) RHR procedures

g) 10 CFR 50.59 reviews

h) TMI software including: clerical support for the shift; limit of personnel in control room; and independent verification.

The licensee was informed that due to the magnitude of examples of the lack of procedural control as evidenced by the previous discussion that adequacy of management control is questioned. This is a violation (250, 251/84-04-02).

After the meeting, the regional NRC personnel toured the site, including the diesel generator building where cigarette butts were found. The Operations Superintendent was notified.