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FLORIDA POWER & LIGHT COMPANY

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L-85-382

Dr. J. Nelson Grace
Regional Administrator, Region II
U. S. Nuclear Regulatory Commission
101 Marietta Street N.W., Suite 2900
Atlanta, Georgia 30303

Dear Dr. Grace:

Re: Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
Inspection Report 250-85-26 & 251-85-26

Florida Power and Light Company has reviewed the subject inspection report and a response is attached.

There is no proprietary information in the report.

Very truly yours,

J. N. Paduano Jr
for J. W. Williams, Jr.
Group Vice President
Nuclear Energy Department

JWW/JA/ms
Attachment

cc: Harold F. Reis, Esquire
PNS-LI-85-348/1

IE01

ATTACHMENT

Re: Turkey Point Units 3 and 4
Docket No. 50-250, 50-251
IE Inspection Report 250-85-26 and 251-85-26

FINDING 1:

Technical Specification (TS) 6.8.1 requires that written procedures and administrative policies be established, implemented and maintained that meet or exceed the requirements and recommendations of sections 5.1 and 5.3 of ANSI N18.7-1972 and Appendix A of USNRC Regulatory Guide 1.33.

FINDING 1.a:

Operations Surveillance Procedure (OSP) 3-OSP-075.1, dated June 12, 1985, entitled Auxiliary Feedwater Train 1 Operability Verification, provides instructions for securing the A and C auxiliary feedwater (AFW) pumps following operation. Sections 7.1 and 7.2 of 3-OSP-075.1 specify that the trip-and-throttle valves for the pumps are to be open prior to exercising the governor oil knob.

Contrary to the above, on July 22, 1985, the A and C AFW pump governor oil knobs were exercised prior to opening the trip-and-throttle valve for each pump. Subsequently, when the trip-and-throttle valves were opened, each governor became misadjusted due to additional pump rotation. Consequently, the A and C AFW pumps tripped on mechanical overspeed when next called upon to operate.

RESPONSE:

1) FPL concurs with the finding in that the AFW pumps were improperly shutdown.

2) On July 22, 1985, the A & C pumps were secured as directed by ONOP 0208.1 - Shutdown Resulting From Turbine Trip or Reactor Trip. This step gave no detailed instructions for doing this task and, therefore, the operator secured the pumps based on his knowledge and ability. The post event interview with the operator involved revealed that he did not verify that the pump had stopped rotating prior to exercising the governor speed control knob.

3) The operator involved was counseled on the importance of verifying that the pumps are at rest prior to adjusting the manual governor speed setting knob. A technical review of the shutdown sequence indicated that the sequence would be enhanced and clarified by changing when the manual speed adjustment was placed to minimum and then placed back to the maximum speed setting. On-the-spot changes (OTSC) to the applicable procedures were written and approved to incorporate the change concerning the manual speed adjustment on shutdown of the AFW pumps. In addition, specific guidance has been added to ONOP 0208.1 to direct the operator to *-OP-075 for proper shutdown sequence of the AFW pumps.

4) a) These changes were incorporated as permanent changes to the procedure.

b) The OTSCs were discussed with the operations staff on shift at that time to ensure their understanding of the proper shutdown sequence for the AFW pumps. Additionally, the nuclear turbine operators (NTOs) were given training on an AFW system overview to give them a better understanding of the system and how it operates.

5) a) Full compliance for item 3 above was achieved by July 23, 1985.

b) Full compliance for item 4.a above was achieved on August 7, 1985.

c) Full compliance for item 4.b above was achieved by August 22, 1985.

FINDING 1.b:

Administrative Procedure (AP) 0190.19, dated May 21, 1985, entitled Control of Maintenance on Nuclear Safety Related and Fire Protection Equipment, requires that a plant work order (PWO) be issued for maintenance activities. Section 8 of the procedure requires that quality control and supervisory reviews be performed prior to beginning the maintenance and that the activities be thoroughly documented on the PWO.

Contrary to the above, on July 14, 1985, maintenance was performed on Unit 3 AFW flow control valve CV-3-2833 and a PWO was not issued for the activity. Quality control and supervisory reviews of the maintenance were not performed and the maintenance was not documented.

RESPONSE:

1) FPL concurs with the finding.

2) The job was worked on a priority basis without a plant work order (PWO) due to a misinterpretation of the requirements of AP 0190.19.

3) Subsequently a PWO was written to document the work and the appropriate reviews were performed of that PWO as required by AP 0190.19. The individual involved has been counselled regarding the requirements of AP 0190.19.

4) AP 0190.19 will be reviewed and revised to further clarify the guidelines for PWO issuance prior to initiating maintenance activities. The revisions to AP 0190.19 will be discussed with maintenance foremen and supervisors to ensure they are aware of the guidelines for PWO issuance prior to initiating maintenance activities.

5) a) Full compliance for item 3 above was achieved by September 20, 1985.

b) Full compliance for item 4 above will be achieved by December 13, 1985.

FINDING 1.c:

AP 0190.19, dated May 21, 1985, entitled Control of Maintenance on Nuclear Safety Related and Fire Protection Equipment, requires, in section 8, that the conduct of maintenance activities be thoroughly documented on a PWO.

Contrary to the above, on July 30, 1985, maintenance activities were not thoroughly documented during the replacement of switch S-5 in reactor protection system rack 41 of Unit 3, in that erroneous and incomplete information was recorded on PWO 7546. The PWO documentation section did not indicate that wiring changes were made on the switch prior to its final installation.

RESPONSE:

1) FPL concurs with the finding in that the in process work description did not reflect actual work performed.

2) The in process journeyman work description of work performed is written by the journeymen and this in turn is reviewed for accuracy and content by two supervisors and QC. The journeyman erred in that his explanation was inaccurate. The current set of checks and balances in AP 0190.19 will, and in fact did, catch this inaccuracy. The field supervisor independently and with no prompting caught the inaccuracy and corrected it during his review and the permanent record is an accurate representation of the facts.

3) The correct switch was installed, independently verified and properly tested. The plant work order was verified to be documented properly and closed out.

4) a) Because there were several problems asociated with this event such as improper QC notification and no initial independent verification, a procedure which addresses the replacement of switches has been developed. The procedure provides for independent verification and guidance in replacement of specific switches.

b) To help preclude recurrence, Maintenance supervisory personnel and journeymen will receive instructions on the requirements of AP 0190.19 and administrative procedure 0-ADM-701 entitled Plant Work Order preparation.

5) a) Full compliance for item 3 above was achieved by July 31, 1985.

b) Full compliance for item 4.a above was achieved on September 28, 1985

c) Full compliance for item 4.b above will be achieved by December 6, 1985.

FINDING 1.d:

Section 5.1 of ANSI N18.7-1972 and section 9 of Appendix A of USNRC Regulatory Guide 1.33 require that maintenance that can affect the performance of safety-related equipment shall be properly planned and performed in accordance with written procedures, documented instructions or drawings appropriate to the circumstances.

Contrary to the above, maintenance procedures for the 3A and 3B feedwater regulating valve flow controllers (CV-2900 and CV-2901, respectively) were not adequately implemented in that the controllers were wired to power supplies other than those specified in the approved drawings. The controllers had received maintenance on an unspecified previous occasion. The discrepancy was identified on August 1 and corrected on August 2, 1985.

RESPONSE:

1) FPL concurs with the finding.

2) Because the power cables were labeled incorrectly with original markings and connected in accordance with their labels, this event is not specifically related to any previous maintenance activity but points to a deficiency that occurred during initial plant construction. This was not discovered during the special test that took place on June 13, 1985 because of personnel oversight.

3) The wiring was verified by print, connected in accordance with approved drawings and correctly labeled. A test was performed to verify the power source to all Unit 3 feedwater controllers.

4) Occurrences which did involve actual miswiring during maintenance activities were recently addressed by implementation of a troubleshooting and repair procedure which requires independent verification of wiring and cables. Additionally, wiring errors which could potentially occur during plant modifications are adequately addressed in Administrative Procedure (AP) 0190.15 entitled Plant Changes and Modifications.

5) a) Full compliance for item 3 above was achieved on August 2, 1985.

b) Full compliance for item 4 above was achieved on June 21, 1985.

FINDING 2:

TS 6.8.3 requires that temporary changes to procedures only be made provided that:

a. The intent of the original procedure is not altered;

b. The change is approved by two members of the plant management staff, at least one of whom holds a Senior Operator's License on the unit affected; and

c. The change is documented, reviewed by the Plant Nuclear Safety Committee (PNSC) and approved by the Plant Manager-Nuclear within 14 days of implementation.

Contrary to the above, on July 22, 1985, temporary changes were made to procedure 3-OSP-075.1, dated May 12, 1985, entitled Auxiliary Feedwater Train 1 Operability Verification, and procedure 3-OSP-075.2, dated May 12, 1985, entitled Auxiliary Feedwater Train 2 Operability Verification, in that numerous procedural steps were not performed. The omissions included not recording pump discharge pressure, not observing pump operation to check for noise or vibration, not running each pump for the required 15 minute interval, and not verifying that each pump delivered 375 gallons per minute to the steam generators within three minutes of initial operation. The omissions constituted changes to the intent of the procedures in that the acceptance criteria for pump operability were modified to be less restrictive than was previously acceptable. The changes, consisting of intentionally omitted procedural steps, were not approved by two members of the plant management staff. The changes were not documented, reviewed by the PNSC or approved by the Plant Manager-Nuclear within 14 days.

RESPONSE:

1) FPL concurs with the finding.

2) Upon an automatic start signal, the A & C AFW pumps tripped on mechanical overspeed. The mechanical overspeed trip was reset and the auxiliary feedwater pumps were restarted using only the starting and stopping sequence of the appropriate surveillance procedures. This was done on a priority basis to verify the A & C AFW pumps would start and maintain operation. All AFW pumps had previously been in operation less than 2 hours prior to this event and had performed satisfactorily. In addition, these pumps auto started on a valid signal and performed satisfactorily approximately 3 hours after this event. Administrative Procedure (AP) 0103.2 entitled Responsibilities of Operators and Shift Technicians on Shift and Maintenance of Operating Logs and Records, states in part, that a procedure may be entered into at any step, provided the existing plant system conditions are the same conditions required by the procedure to perform this step.

Since the periodic surveillance test for these pumps had been performed within the required interval prior to this event, this portion of AP 0103.2 was interpreted to mean that only the portions of the applicable procedure needed to be performed to verify the ability of the pumps to start and maintain operation.

3) A review of this event indicated that to ensure complete pump/system operability, the surveillance procedure should be completed in its entirety. This was performed satisfactorily later the same day.

4) The Operations Department management has discussed this event and determined that AP 0103.2 was misinterpreted at the time of the event. Instructions have been issued to increase personnel awareness of the necessity to complete surveillance procedures or obtain an approved change to that procedure.

5) a) Full compliance for item 3 above was achieved on July 22, 1985.

   b) Full compliance for item 4 above was achieved on September 16, 1985.

FINDING 3:

10 CFR 50, Appendix B, Criterion XVI, as implemented by FPL Topical Quality Assurance Report (FPL-NQA-100A) Revision 7, TQR 16.0, Corrective Action, requires, in part, that measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected.

FPL Quality Assurance Manual, Quality Procedure (QP) 16.1, Revision 8, delineates requirements for assuring that conditions adverse to quality are corrected.

AP 0190.13, dated May 21, 1985, entitled Corrective Action for Conditions Adverse to Quality, itemizes the mechanisms by which conditions adverse to quality are promptly identified, tracked and corrected.

Contrary to the above, the licensee failed to establish measures to assure that conditions adverse to quality were promptly identified and corrected, in that the licensee's corrective action program was implemented in a manner which allowed symptom correction without requiring the identification, evaluation and correction of the source problem. Consequently, on July 14 and again on July 22, water was drained from the instrument air supply line for AFW flow control valve CV-3-2833 to restore valve operability, and no effort was made to locate, evaluate or correct the source of the water. Failure to prevent water from entering the instrument air system resulted in an additional malfunction of CV-3-2833 on July 24, 1985. The licensee did not address the degraded status of the instrument air dryers and heaters until 10 days after the air system was known to contain water. By that time AFW flow control valve CV-3-2833 had failed on three separate occasions.

RESPONSE:

1) FPL concurs with the finding.

2) During this period, FPL did not adequately implement established procedures for the identification and correction of the root cause. As indicated in the inspection report and in our own event analysis, the root cause of the FCV-3-2833 failures was not found and corrected expeditiously. The presence of moisture in Instrument Air has been periodically found and was addressed in this instance. The potential for the AFW FCV-3-2833 and similar problems to be associated with moisture in instrument air was not addressed on July 14. In the case of the July 22 maintenance, however, quick recognition of this association was obtained.

3) Cleaning of the Valtek positioner blowdown port and the Masoneilan I/P case filter for FCV-3-2833 occurred on July 22. Corrective actions which were in place for instrument air quality were:

   - Periodic blowdowns of AFW air regulators and random blowdowns of other regulators to find and eliminate moisture.

   - The instrument air dryer had been taken out of bypass and the receivers blown down.

   - Maintenance activities were conducted to correct the cyclic timer failure on the instrument air dryer.

At 11:00 PM on July 22, plant management received verbal confirmation that the instrument air dryers were operable. At 11:23 PM, the AFW periodic operability tests on both trains of Unit 4 (in mode 1) were successfuly completed assuring the operability of AFW system and indicating that instrument air was not affecting their operability. Heatup of Unit 3 commenced at 9:07 AM on Tuesday, July 23. Upon reaching criticality early on July 24, the operability test of Unit 3 AFW was conducted. FCV-3-2833 again stuck open, and the unit was shut down. During the ensuing 24 hours, it was found that the AFW valve cycle problems had recurred and that the repeated disassembly and cleaning of the FCV-3-2833 positioner had resulted in a condition of continued failure of the positioner independent of instrument air quality. This was verified by exchanging the positioner with FCV-3-2817 (having known good air quality). In this location, the positioner also failed open.

The further corrective actions taken were:

The Valtek positioner on FCV-3-2833 was replaced and , as a conservative measure, the positioner on FCV-3-2832 was also replaced. To improve instrument air quality, engineering guidance was obtained on July 24 to assure full scope of immediate corrective actions. This guidance was based upon a thorough review of the FSAR, applicable Regulatory Guides, NUREGs, Industry Standards and the history of instrument air performance at Turkey Point. These actions were implemented or initiated prior to placing Unit 3 back in service on Friday, July 26, and included:

- Maintaining daily dewpoint surveillance on both trains of flow control valves of both units.
- Daily dewpoint surveillance of both instrument air dryer outlets.
- Developing and implementing regulatory blowdowns at lowpoints with an acceptance criteria of no moisture observed in a one-minute blowdown.
- Shiftly surveillance of the air dryer controls, heaters, and cyclic timers.
- Instrument air filter and dessicant replacement along with dryer inspection and repairs as needed.
- Cleaning of all AFW air regulators, and flushing of all I/Ps and positioners.

Additionally, a temporary operational procedure has been issued to provide guidelines for the instrument air dryers during normal and abnormal conditions which will remain in effect until the instructions can be incorporated into existing and/or new operational procedures. The procedure also includes acceptance criteria provided by our Engineering Department for the dew point temperatures recorded and actions to be taken if the criteria is exceeded.

4) a) To improve instrument air quality, a system engineer was appointed to assure continued monitoring and resolution of instrument air reliability problems.

b) Due to the high impact of the problems experienced during the time period concerning this finding, a task team was formed to review the sequence of events and to determine the cause of the problems and to formulate the appropriate corrective actions. The following items have been implemented as a result of this review:

- To achieve better plant communication and coordination, a Daily Coordination and a Daily Planning meeting have been implemented. The Plant Supervisor Nuclear chairs the Coordination meeting and presents plant problems, work accomplished, and planned work needed. This has been highly effective in bringing problems to light such as the FCV-3-2833 problem. Plant management and the maintenance disciplines attend this meeting. The Daily Planning meeting, chaired by the Operations-Maintenance coordinator, sets the high priority work items for the day with any needed discussion to resolve issues.

- A Reliability Task Team has also been established to identify chronic equipment reliability problems to plant management for resolution.

- Response teams have been established to respond to unplanned plant events. The team reviews the event to determine the root cause, develop adequate corrective actions and ensure that plant resources were used effectively.

c) The Maintenance Department will review the root cause section of PWOs to identify instances where a particular problem is recurring. If such a case is found, the correction of the problem will be pursued. This will be done on an interim basis until implementation of the Nuclear Job Planning System (NJPS). The NJPS will have the capability to display the job history for components. By February 1986 a pilot program of the NJPS will be put into use. Full implementation of the NJPS is presently scheduled for the second quarter of 1987.

5) a) Full compliance for item 3 above was achieved by August 23, 1985.

b) Full compliance for item 4.a above was achieved by July 31, 1985.

c) Full compliance for item 4.b above was achieved by August 15, 1985.

d) Full compliance for item 4.c above will be achieved by February 28, 1986