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 FACIL: 50-250 Turkey Point Plant, Unit 3, Florida Power and Light C 05000250
 50-251 Turkey Point Plant, Unit 4, Florida Power and Light C 05000251

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 GOLDBERG, J.H. Florida Power & Light Co.
 RECIP. NAME RECIPIENT AFFILIATION
 Document Control Branch (Document Control Desk)

SUBJECT: Responds to violations noted in insp repts 50-250/91-45.
 Corrective actions noted: parameters used in Eagle 21 portion
 of RPS verified, consolidation matrix & training program
 prepared.

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FPL

P.O. Box 14000, Juno Beach, FL 33408-0420

JAN 29 1992

L-92-016
10 CFR 2.201

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D. C. 20555

Gentlemen:

Re: Turkey Point Units 3 and 4
Docket No. 50-250 and 50-251
Reply to Notice of Violation
NRC Inspection Report 91-45

Florida Power and Light Company has reviewed the subject inspection report and pursuant to 10 CFR 2.201, the required response is attached.

If there are any questions please contact us.

Very truly yours,

J. H. Goldberg
President Nuclear Division

JHG/CLM/cm

Attachment

cc: Stewart D. Ebnetter, Regional Administrator, Region II, USNRC
Senior Resident Inspector, USNRC, Turkey Point Nuclear Plant

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Q PDR

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ATTACHMENT

REPLY TO A NOTICE OF VIOLATION

RE: Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
NRC Inspection Report 91-45

FINDING A:

10 CFR Part 50, Appendix B, Criterion III, Design Control, states in part, that design control measures shall provide for verifying or checking the adequacy of design,...be established for the identification and control of design interfaces and for coordination among participating organizations. Florida Power and Light Company's implementing Quality Instruction, QI 3-PTN-1, Design Control, requires that design control measures shall provide for verifying or checking the adequacy of design, such as by performance of design reviews, or by performance of a suitable testing program.

Contrary to the above, adequate controls were not in place during the exchange of engineering data between the vendor and Florida Power and Light Company staff to insure that complete and accurate programmable constants and programmable components were installed in the Eagle 21 system. Between September 27 and October 5, 1991, the licensee identified that the Eagle 21 portion of the Reactor Protection System (Tuning Constants, Resistance Temperature Device constants, and Scaling Factor) contained non-plant specific settings that were not acceptable for proper operation of Overpower Delta T and Overtemperature Delta T.

This is a Severity Level IV violation (Supplement 1).

RESPONSE TO FINDING

1. FPL concurs with the finding.
2. Cause of the violation:

The root cause was the inadequate communication and followup between Florida Power and Light (FPL) and Westinghouse. The Eagle 21 modification was contracted to Westinghouse to design, install, provide procedures, and test the system. Additionally Westinghouse was to provide technical training to FPL personnel. The contract for this work was managed by FPL Nuclear Engineering. While the majority of other outage work involved modifications which were tested by FPL with procedures developed by FPL, the Eagle 21 contract was different in that the modification was tested by the vendor



using vendor-developed procedures.

The Westinghouse test program for the Eagle 21 System included pre-shipment factory tests, on-site startup tests, refueling calibration tests, power ascension calibration tests, and periodic functional checks. The pre-shipment factory test and on-site pre-operational tests were both performed by Westinghouse personnel. The remaining tests were performed by FPL personnel using FPL procedures:

The shared responsibilities in the overall testing program resulted in unclear accountabilities for FPL and Westinghouse to verify that unit specific calibrations were performed prior to the certification of the system as ready for service. Both organizations failed to ensure that this shared accountability was satisfied for system startup. FPL, by terms of the original contract, believed that Westinghouse was providing a turnkey modification ready to return the unit to service. This assumed the on-site startup test would be installing and verifying the unit specific settings. Westinghouse believed that FPL would be installing the unit specific settings during calibration tests prior to power ascension.

Additional contributing causes to this event exist: 1) The level of technical understanding of the Eagle 21 design within FPL Nuclear Engineering and Instrument and Control Maintenance was not sufficient to recognize the lack of adequate test or calibration procedures prior to placing the system in service. The lack of understanding of the test accountabilities is visible in hindsight in various communications and proposals between the two organizations. These communications were not logged, tracked or acted upon by FPL or Westinghouse. 2) Clear identification of action items or closure of recommendations is not evident.

3. Corrective steps which have been taken and the results achieved:

- a. A verification of programmable parameters in use in the Eagle 21 protection system for Units 3 and 4 was performed and documented in an FPL engineering evaluation. This verification ensures that programmable parameters have been properly selected and are consistent with appropriate design basis analytical documents.

- b. FPL Nuclear Engineering Quality Instructions have been revised to ensure that engineering modification packages, involving on-site testing by a vendor, require (1) detailed definition of the testing to be performed, (2) the use of unit-specific values for testing performed on FPL equipment and (3) clear definition of final certification of operational readiness.
- c. An FPL policy document has been developed which establishes project management criteria for scope determination, scheduling, monitoring and corrective action.
- d. A long term Eagle 21 technical training program for I&C Maintenance, Technical Department and Nuclear Engineering has been implemented to ensure adequate in-house understanding of Eagle 21.
- e. A Westinghouse engineer has completed a review of site-specific procedures and recommended the inclusion of unit specific variables and knowledge transfer to appropriate individuals within FPL assigned responsibility for Eagle 21. FPL personnel have incorporated the recommendations in the revised procedures which have since been approved for use.
- f. Westinghouse evaluated this event for potential reportability under 10 CFR 21. The event has been determined by Westinghouse with FPL concurrence to not be reportable.

These corrective actions will ensure the appropriate integration of new systems into Turkey Point operation.

4. Corrective actions which will be taken to avoid further violations include:

An Eagle 21 input parameters document is being developed which will describe all Eagle 21 adjustable parameters in the form of a consolidated matrix. The matrix will specify the source document for all settings, guidance for when setting should be checked, tolerances, references to appropriate plant procedures and impacts on other Reactor Protection System and Engineered Safety Feature Actuation System functions. This matrix, once completed, will be entered into the FPL system as a controlled drawing.



5. The date that full compliance will be achieved:

The corrective action in section 4. above is scheduled to be complete by April 30, 1992.

FINDING B:

Technical Specification 2.2.1 requires reactor trip system instrumentation and interlock setpoints be set consistent with the trip setpoint values shown in Table 2.2-1. In TS Table 2.2-1, Overtemperature Delta T refers to Note 1, and Overpower Delta T refers to Note 3. Table 2.2-1 Note 1 and Note 3, both define Delta T Subzero as the indicated Delta T at rated thermal power.

Contrary to the above, on October 7, 1991, the licensee identified that the design Delta T Subzero (56.1 degrees F) was being used in lieu of the indicated Delta T Subzero for computing the Overpower Delta T and Overtemperature Delta T setpoints.

This is a Severity Level IV violation (Supplement 1).

RESPONSE TO FINDING

1. FPL concurs with the finding. The event was discussed in detail in Licensee Event Report 250/91-012.
2. Cause of the Violation:

This event was caused by a procedural error. The calibration procedure installing the Delta T Subzero (ΔT_0) value in the Over Power Delta T (OPAT) and Overtemperature Delta T (OTAT) setpoints used 56.1°F until the setpoint methodology and the validity of the adjustable values in the newly installed Eagle 21 digital instrumentation racks was reviewed and the error recognized. Subsequently, an FPL safety evaluation determined that the ΔT_0 within the OPAT and OTAT equations, used to define the setpoints, was non-conservative. Surveillance procedures, although adequate in the identification of correct setpoints, did not verify the correctness of constants in the OPAT and OTAT setpoints.

3. Corrective steps which have been taken and the results achieved:

The ΔT_0 values in the Eagle 21 system for Units 3 and 4 have been changed to indicated ΔT values at rated thermal power. This process was completed using installation and startup procedures which meet the Surveillance Requirements of the Technical Specifications.



4. Corrective actions which will be taken to avoid further violations include:

Plant procedures have been developed to calculate and implement indicated ΔT values at rated thermal power for ΔT_0 during power ascension and periodic calibration. While most values for constants used in the Eagle 21 system are obtained from vendor design documentation for the system, ΔT for ΔT_0 and the G factor (scaling factor ex-core to in-core) were obtained by measurement of the appropriate parameters and supplied by memo from Reactor Engineering to Instrument and Control for inclusion into the Eagle 21 system. Formalization of the source of correct tuning constants is scheduled to be complete by April 30, 1992.

5. The date that full compliance will be achieved:

Corrective action formalizing the source of correct tuning constants will be completed as indicated in Item 4 above.

