

April 24, 1996

Mr. T. F. Plunkett
President - Nuclear Division
Florida Power and Light Company
P.O. Box 14000
Juno Beach, Florida 33408-0420

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION REGARDING THE PROPOSED LICENSE AMENDMENTS FOR THERMAL POWER UPRATE - TURKEY POINT UNITS 3 AND 4 (TAC NOS. M94314 AND M94315)

Dear Mr. Plunkett:

We met with members of your staff on April 4, 1996, to discuss the issues described in our letter dated March 26, 1996, regarding the proposed thermal power uprate. You proposed the thermal power uprate by letter dated December 18, 1995.

Subsequent to the meeting, we have determined that additional information is needed to complete our review. Attached is our request for this additional information.

Sincerely,
(Original Signed By)
Richard P. Croteau, Project Manager
Project Directorate II-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket Nos. 50-250 and 50-251

Enclosure: As stated

cc w/enclosure: See next page

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UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

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Sincerely,

A handwritten signature in cursive script, appearing to read "R. Croteau".

Richard P. Croteau, Project Manager
Project Directorate II-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket Nos. 50-250 and 50-251

Enclosure: As stated

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Mr. T. F. Plunkett
Florida Power and Light Company

Turkey Point Plant

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REQUEST FOR ADDITIONAL INFORMATION

A. Questions Regarding Compliance with 10 CFR 50.61, Part 50 Appendix G, and Part 50 Appendix H

1. Will the proposed thermal power uprate change your current PTS assessment? Provide the projected maximum end-of-life (EOL) fluences at the inner diameter (ID) of the vessels and the RT_{PTS} values for the Turkey Point reactor vessel beltline materials.
2. Regarding Pressure Temperature (P-T) Limit Curves, provide the 1/4 thickness and 3/4 thickness fluence levels estimated for 19 EFPY.
3. Provide an assessment of how the proposed thermal uprate will affect the EOL upper shelf energies and FP&L's equivalent margin analyses for the limiting upper shelf energy materials in the Turkey Point reactor vessels. Include appropriate calculations and figures based on the guidelines of Regulatory Guide 1.99, Rev. 2, "Radiation Embrittlement of Reactor Vessel Material," dated May 1988.

B. Questions Regarding Steam Generator Tube Integrity

1. Page 4-21 of WCAP-14276. FPL should assess the effect of the power uprate on (1) the minimum wall thickness of steam generator tubes, (2) the number of steam generator tubes susceptible to anti-vibration bar wear, and (3) susceptibility of the steam generator tubing to various forms of degradation mechanisms.
2. After reviewing Section 3.4, Steam Generator Tube Rupture, and Section 4.9, Steam Generator in WCAP-14276, the staff is not clear whether FPL has addressed the structural integrity of the steam generator tubing under uprate conditions based on Regulatory Guide 1.121. FPL should perform a steam generator tube assessment in accordance with Regulatory Guide 1.121.
3. Describe the extent of inspections normally performed that would identify steam generator tube degradation (e.g., wear) resulting from the proposed thermal power uprate for the Turkey Point units. Describe any additional steam generator tube inspections planned for this purpose.

C. Questions From The Mechanical Engineering Branch

1. In Section 4.4.3, it is stated that stresses and fatigue usage factors for the limiting components of the upper and lower internals were evaluated for the changes in RCS conditions due to the uprating program and are within acceptable limits. Provide the limiting internal components which were evaluated for the power uprate conditions. State the acceptable limits with regard to allowable stresses, acceptable criteria, operating conditions, loading combinations, code of record and code edition.

2. In Section 4.5.2, it is stated that the "50% step load decrease" transient was found to increase the ΔP above 2250 psia from the E-Spec (Westinghouse Equipment Specification) value of 120 psi to 128.7 psi (max). The resultant pressure is less than the design pressure and the increase is considered insignificant. Provide the design pressure for the reactor coolant pump.
3. In Section 4.6.2, it is stated that the Up-rating Transients are bounded by the original transients except for a) the large step load decrease which now has a higher maximum pressure of 2379 psia, and b) feedwater cycling. Provide the basis for the structural integrity of the control rod drive mechanisms regarding the increase of pressure and temperature transients at the up-rated power conditions.
4. In Section 4.7.4, it is stated that the applicable load combinations of deadweight, pressure, seismic and thermal loads were checked against the appropriate allowable for the loop piping material. State why the LOCA loads are not considered in the load combinations for calculation of the piping stresses.
5. In Section 4.7.3, discuss how the acceptability of the piping and primary components supports was determined while the design basis calculation was not available. State the acceptance criteria of the support loads for each loading condition for the power uprate.
6. In Section 4.7.3, provide an evaluation of system components such as valves, RPV nozzles, guides, penetrations and piping suspension devices regarding analysis methods, assumptions and compliance with their Code of record for normal, upset and faulted conditions. The discussion should include the code and edition used for evaluating the stresses, displacements and fatigue usage for the power uprate.
7. In Section 4.9.2, there is no evaluation of fatigue cumulative usage factor (CUF) for the steam generators. Provide such an evaluation including the methodology, assumptions and the calculated CUFs at the critical locations for the power uprate.
8. In Section 4.11, discuss the potential for the flow induced vibrations due to the increased flow at the up-rated power conditions in the NSSS equipment such as heat exchanger, valves and pumps.
9. In Section 6.3.2, discusses the effects of power uprate on the environmental and dynamic qualification of safety-related equipment with respect to LOCA events, annulus pressurization and jet loads in the context of power uprate.
10. In Section 6.2.1, provide an evaluation of the increased MSIV closure dynamic loads on the main steam line piping. State the effects of the increased fluid dynamic loads on the closure capability of the various safety related valves in the plant.

11. In Sections 6.4.2, specify the code and edition used for the power uprate evaluation of balance-of-plant (BOP) piping and pipe supports including anchorages. List the limiting BOP piping systems and components with respect to the maximum stresses and safety margin as a result of the power uprate.

12. It appears that the submittal did not address the testing for the power uprate. Discuss how will the licensee ensure an adequate plant operation under the proposed uprated conditions with the increased thermal power, and the changes in temperature, pressure and flow induced dynamic loads.

