



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 34 TO FACILITY

OPERATING LICENSE NO. DPR-67

FLORIDA POWER AND LIGHT COMPANY

ST. LUCIE PLANT, UNIT NO. 1

DOCKET NO. 50-335

Introduction

By application dated October 4, 1979, as supplemented by letter dated December 12, 1979, Florida Power and Light Company (FPL) requested a change to the Technical Specifications (TS) appended to Facility Operating License No. DPR-67. The proposed change would revise TS 5.3.1 (Fuel Assemblies) to allow a maximum enrichment of 3.7 weight percent Uranium-235 (U-235) (3.7 w/o U-235) fuel instead of the current limit of 3.1 w/o U-235 fuel in the fuel assemblies.

Discussion and Evaluation

The fuel enrichment (weight percent) is not a direct input to the reactor safety analyses. The fuel enrichment, in conjunction with the number of fuel assemblies loaded during refueling, exposure of fuel assemblies which are to remain in the core, and fuel management scheme are used to derive parameters such as kinetics parameters, rod worths and peaking factors. These values are used in the safety analyses. Important measurable values of these parameters are currently included in the plant TS.

Specification of the reload fuel enrichment alone does not uniquely determine, nor limit, the values of reactor core parameters important to safety. Therefore, the enrichment limit of fuel to be used in the reload core is to be deleted.

Fuel enrichment (weight percent) is, however, an important parameter in the assessment of the adequacy of the fuel storage pool and therefore should be a TS limit for fuel storage.

During our review of the increase in spent fuel storage capacity at St. Lucie Unit No. 1 (Amendment No. 22 dated March 29, 1978), we evaluated the storage of 3.7 w/o U-235 fuel in the spent fuel pool. We concluded in our Safety Evaluation that the new spent fuel rack design would preclude criticality, in that the neutron multiplication factor of the storage rack will remain less

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than 0.95 with the rack fully loaded with fresh fuel of 3.7 w/o U-235. In Amendment No. 22 we established a TS limit of 41.45 grams of U-235 per axial centimeter of fuel assembly (TS 5.6.1). This axial limit corresponds to the uranium content of 3.7 w/o U-235 CE-14 x 14 fuel assemblies. Therefore, we have deleted the enrichment (weight percent) limit from the fuel assembly TS (5.3.1) and have added a 3.7 w/o U-235 limit to the fuel storage TS (5.6.1). This addition to TS 5.6.1 does not change the existing limit but does clarify it in terms of fuel enrichment (weight percent). We have discussed this revision to the proposed amendment with the FPL staff, and they have agreed to the revision.

Environmental Consideration

We have determined that the amendment does not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendment involves an action which is insignificant from the standpoint of environmental impact and, pursuant to 10 CFR §51.5(d)(4), that an environmental impact statement, or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of this amendment.

Conclusion

We have concluded, based on the considerations discussed above, that: (1) because the amendment does not involve a significant increase in the probability or consequences of accidents previously considered and does not involve a significant decrease in a safety margin, the amendment does not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Dated: January 23, 1980