Florida Power
CORPORATION

January 25, 1990
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U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D. C. 20555

Subject: Crystal River Unit 3
Docket No. 50-302
Operating License No. DPR-72
Technical Specification Change Request No. 175
Revision 0, Supplement 1
Spent Fuel Pool Storage Capacity

Reference: (1) Letter FPC to NRC, "Technical Specification Change Request No. 175: Spent Fuel Pool Storage Capacity, dated October 31, 1989"

(2) Final Procedures and Standards on No Significant Hazards Consideration - Final Rule (51 FR 7744, dated March 6, 1986)

Dear Sir:

The NRC requested supplemental information on TSCRN 175 (reference 1) to address significant hazards consideration concerns on the expansion of the spent fuel pool at Crystal River Unit 3. Pursuant to reference 2 the staff concluded in its technical judgement that a request to expand the storage capacity of a spent fuel pool which satisfies the following four criteria is considered not likely to involve significant hazards considerations. Florida Power Corporation (FPC) hereby provides its response to these four items.

1. The storage expansion method consists of either replacing existing racks with a design which allows closer spacing between stored spent fuel assemblies or placing additional racks of the original design on the pool floor if space permits.

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The spent fuel pool storage expansion method consists of replacing existing racks with a design which allows closer spacing between the stored spent fuel assemblies. Fuel storage will be divided into two regions within spent fuel pool "B". Region 1 will have a 10.60 inch center-to-center spacing and Region 2 will have a 9.17 inch center-to-enter spacing.

2. The storage expansion method does not involve rod consolidation or double tiering.

   The spent fuel pool storage expansion method will not involve rod consolidation or double tiering. Although, the racks are designed to store consolidated arrays of fuel at a maximum ratio of 2:1 FPC does not currently plan to use this fuel storage method. (See section 2.2.3.4 of attachment 2 to reference 1).

3. The K_{eff} of the pool is maintained less than or equal to 0.95.

   The design of the racks is such that K_{eff} remains less than or equal to 0.95 under all conditions, including fuel handling accidents. (See section 2.2 of Attachment 2 to reference 1).

4. No new technology or unproven technology is utilized in either the construction process or the analytical techniques necessary to justify the expansion.

   No new technology or unproven technology is utilized in either the construction process or the analytical techniques necessary to justify the spent fuel pool expansion.

   Westinghouse (manufacturer of CR-3 Spent Fuel Pool racks) has been involved in the construction of spent fuel storage racks since the mid-1970's. The fabrication facility's capabilities include the forming, fabricating and machining of rack components as well as the welding and assembly of the completed rack. All technology utilized in the construction process of the CR-3 racks has been used on numerous previously licensed Westinghouse built fuel racks. Some of the most recent racks licensed that were manufactured in the same manner include Shearon Harris, McGuire 1 & 2, Turkey Point 3 & 4, Peach Bottom 2 & 3, and Seabrook.

The Design and analyses of the racks are basically the same as has been used on nearly twenty previous applications. For the thermal-hydraulic analysis, the rack computer program developed by Westinghouse and accepted for use by the NRC, is used to determine coolant and fuel surface temperature under various rack loading and pool cooling conditions. Dynamic analysis of the racks is performed on the Westinghouse Electric Computer Analysis (WECAN) Code, which has been developed over many years by Westinghouse. It is a general purpose code with a great variety of static and dynamic finite element capabilities. The WECAN Code has been used on all previous spent fuel rack applications.

If you have any further questions concerning this issue, please contact this office.

Sincerely,

P. M. Beard, Jr.
Senior Vice President
Nuclear Operations

PMB/GMF

xc: Regional Administrator, Region II
Senior Resident Inspector