

May 29, 2003

Mr. Dale E. Young, Vice President  
Crystal River Nuclear Plant (NA1B)  
ATTN: Supervisor, Licensing and Regulatory Programs  
15760 W. Power Line Street  
Crystal River, Florida 34428-6708

SUBJECT: CRYSTAL RIVER UNIT 3 — REQUEST FOR ADDITIONAL INFORMATION  
REGARDING TECHNICAL SPECIFICATION CHANGE REQUEST FOR NEW  
DEPARTURE FROM NUCLEATE BOILING CORRELATION (TAC NO. MB7035)

Dear Mr. Young:

By letter dated December 19, 2002, as supplemented May 9, 2003, Florida Power Corporation (the licensee, also doing business as Progress Energy Florida, Inc.) requested a change to the Improved Technical Specification (ITS) 2.1.1, Reactor Core Safety Limits. Specifically, the licensee proposed to revise ITS 2.1.1.2, which provides Departure from Nucleate Boiling (DNB) Safety Limits for Crystal River Unit 3. The licensee requested this revision to incorporate a new DNB correlation for Mark-B-HTP fuel that will be used during Cycle 14 operations. This correlation for Mark-B-HTP fuel ensures the safety limits that prevent damage to the fuel cladding are met.

For the NRC staff to complete its review on schedule, your response to the enclosed request for additional information (RAI) is requested no later than July 14, 2003. The date for the RAI response was mutually agreed upon in a telephone conversation with Paul Infanger on May 14, 2003. If you need to revise the target date, please call me at the earliest opportunity at 301-415-2020.

Sincerely,

*/RA/*

Brenda L. Mozafari, Senior Project Manager, Section 2  
Project Directorate II  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket No. 50-302

Enclosure: As stated

cc w/encl: See next page

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Request for Additional Information  
Crystal River Unit 3, License Amendment  
BHTP Departure from Nucleate Boiling Correlation

1. By supplement dated May 9, 2003, Florida Power Corporation (the licensee) provided additional information to describe the normal and accident analyses performed in support of its amendment request for Crystal River Unit 3 (CR-3). The licensee identified and analyzed the limiting Departure from Nucleate Boiling (DNB) transients for each of the Condition I, II, III, and IV events for CR-3 in lieu of reanalyzing all of the transients. The NRC staff requests the licensee technically justify why each of the events is the most limiting for DNB. Additionally, the NRC staff requests that the licensee state whether it will reanalyze all of the remaining events prior to reloading the core to ensure appropriate safety limits are met.
2. In its analysis of the DNB limiting accidents for Condition I/II events, the licensee stated that the analysis was done assuming a full core of Mark-B-HTP fuel. The NRC staff requests the licensee provide a technical justification that demonstrates that the assumption of a Mark-B-HTP full core results in more limiting DNB accident analyses than either the Cycle 14 transition core or a full core of Mark-B10 fuel.
3. In the licensee's discussion of the limiting Condition IV event, it stated that additional "unused" DNB margin existed above the amount required to satisfy its Alternative Source Term (AST) dose evaluations. However, the licensee provided numerical data that could be interpreted as demonstrating that the amount of margin available is less than that stated. The NRC staff requests the licensee identify the minimum DNB limit for Condition IV events that ensures its AST limits are not violated.
4. In support of its license amendment request, the licensee cited various topical reports used to perform its analyses. The NRC staff requests the licensee review each of the topical reports referenced and provide a list of restrictions and requirements imposed on each by the NRC during its acceptance review. The licensee should include a response to each that describes how it complied with the restriction or requirement and justify their applicability to CR-3.
5. The licensee's original submittal and its supplement did not describe how the licensee demonstrated compliance with 10 CFR 50.46, "Acceptance criteria for emergency core cooling systems for light-water nuclear power reactors." The NRC staff requests the licensee provide information demonstrating that it has performed an appropriate analysis for its core loaded in the proposed Cycle 14 configuration.

Enclosure

Mr. Dale E. Young  
Florida Power Corporation

Crystal River Nuclear Plant, Unit 3

cc:

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