March 15, 1996

Mr. Percy M. Beard, Jr.
Senior Vice President,
Nuclear Operations (SA2A)
Florida Power Corporation
ATTN: Manager, Nuclear
Licensing
15760 W Power Line Street
Crystal River, Florida 34428-6708

SUBJECT: CRYSTAL RIVER NUCLEAR GENERATING PLANT UNIT 3 - PROPOSED LICENSE AMENDMENT FOR ADDRESSING PIT-LIKE FLAWS IN THE ONCE-THROUGH STEAM GENERATORS (TAC NO. M92548)

Dear Mr. Beard:

You plan to meet with the staff on March 18, 1996, to discuss information regarding technical specifications (TS) for the Crystal River Nuclear Plant Unit 3 (CR3) relating to the Once Through Steam Generator's (OTSG's) tube inspection acceptance criteria. In the meeting, please be prepared to address the issues described in the Enclosure to this letter.

If you have any questions, please call me at (301) 415-1471.

Sincerely,

(Original Signed By)

L. Raghavan, Project Manager
Project Directorate II-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket No. 50-302
Enclosure: as stated
cc/w enclosure: See next page

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Date	03/15/96	03/15/96	03/15/96	03/15/96	
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

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[signature] FOR

L. Raghavan, Project Manager
Project Directorate II-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket No. 50-302

Enclosure: As stated

cc w/enclosure: See next page

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Florida Power Corporation

Crystal River Unit No. 3
Generating Plant

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ENCLOSURE

Purpose:

1. To discuss (a) the training provided to the analysts prior to commencing data analysis on the free span indications detected at Oconee (e.g., intergranular attack (IGA) and intergranular stress corrosion cracking (IGSCC)); and (b) the modifications to your analyst guidelines to ensure these types of indications are detected; and to discuss the need for reanalyzing the data if the training and procedural modifications were not made prior to commencing data analysis.

2. To discuss the classification results (C-1, C-2, and C-3) of your steam generator and the need for a 100% inspection of both steam generators, since indications, such as the pit-like IGA indications, can not be reliably sized and are therefore considered to be defective.

3. To discuss proposed inspection and repair criteria, for example:

   (a) repairing all bobbin indications regardless of voltage amplitude, signal to noise ratio, or other screening criteria that have not been inspected with a technique rigorously qualified for depth sizing that particular degradation mechanism; or

   (b) leaving all indications in service per the depth based limits in the technical specifications which have been inspected with a technique rigorously qualified for depth sizing that particular mechanism (e.g., wear); and examining with an RPC (or an equivalent or better technology), all bobbin indications (which can not be reliably depth sized) regardless of voltage amplitude, signal to noise ratio, or other screening criteria, and

   (1) Leaving all RPC non-confirmed indications in service; and

   (2) Repairing all RPC confirmed indications except if they are attributable to pit-like IGA indications and are located between the lower tubesheet secondary face and the first tube support plate and can be supported by a technical specification amendment as discussed in item (c) below.

   (c) describe a proposed Technical Specification Amendment for pit-like IGA located between the lower tubesheet secondary face and the first tube support plate which addresses the steam generator tube inspection scope, inspection method, and repair criteria and is supported by

   Structural integrity assessment
   Leakage integrity assessment
   Growth rate assessment
   In situ pressure testing
   Reporting requirements

Specific topics to be addressed under each of these areas include, but are not necessarily limited to:

Structural Integrity Assessment

Basis for application of the axial and circumferential length-based limits implemented during the previous outage which includes a discussion of the probe to be used and the qualification of this probe for sizing this type of indication.

A methodology for calculating the probability of burst for indications left in service.

Demonstrating through in situ pressure testing and the assumption of no growth that the existing indications have, and will retain for the next operating interval, adequate structural integrity per Regulatory Guide 1.121.

Leakage Integrity Assessment

Demonstrating through in situ pressure testing and the assumption of no growth that the existing indications have, and will retain for the next operating interval, adequate leakage integrity.

Developing an analysis if leakage is observed during the in situ pressure tests to ensure a small fraction of the Part 100/General Design Criteria 19 values are not exceeded.

Optimizing the primary-to-secondary leakage monitoring program by adopting a 150 gallons per day technical specification limit and implementing the guidance contained on this topic in Generic Letter 95-05 and in numerous Information Notices.

Growth Rate Assessment

Errors introduced into previous growth rate assessments as a result of not implementing a probe wear criteria, using different acquisition techniques, and using different calibration standards which have not been cross calibrated to the same reference.

Performing a growth study from the current inspection results using a probe wear criteria, using the same acquisition technique as was used during previous inspections (which may require 2 inspections this outage with different probes if another probe was selected for this outage which provides better results (e.g., lower noise, better fill factor, better detectability), and using calibration standards that are cross calibrated or accounting for differences in the calibration standards.

Performing the growth studies mentioned above for both the previous and current inspections using both length and voltage based arguments.

The impact on the structural and leakage integrity assessments if it can not be demonstrated that these indications are not growing.

In Situ Pressure Testing

Testing a statistically meaningful sample to address the uncertainties in sizing indications and to address the scatter in the correlations that indicate for any given voltage there is a range of possible defect depths.

Biasing the above mentioned statistically meaningful sample to ensure that the most limiting indications from a structural and leakage integrity standpoint are tested based on a combination of voltage response and indication dimensions.

Adjusting the test pressure to account for differences between the test conditions and operating conditions.

Plugging all tubes in situ pressure tested.

Showing that the operating conditions (e.g., cycle duration, water chemistry, T-hot, etc) will not significantly change between the two operating cycles when in situ pressure testing is used to demonstrate structural and leakage integrity.

Reporting Requirements

Discussing the results of the inspection with the NRC prior to restart.

Providing a written report 90-days following restart summarizing the inspection results and tube integrity assessment.