



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

April 26, 1994

Docket No. 50-302
License No. DPR-72
CAL No. 2-94-004

Mr. Percy M. Beard, Jr.
Senior Vice President,
Nuclear Operations
Florida Power Corporation
ATTN: Manager, Nuclear
Licensing (NA2I)
Crystal River Energy Complex
15760 W Power Line Street
Crystal River, Florida 34428-6708

Dear Mr. Beard:

SUBJECT: CRYSTAL RIVER NUCLEAR GENERATING PLANT UNIT 3- CONFIRMATORY ACTION
LETTER (CAL) - REGARDING ONCE-THROUGH-STEAM-GENERATOR (OTSG) TUBE
INSPECTION DURING REFUEL 9

This refers to your letter dated April 19, 1994, and our discussion with Mr. K. Wilson of your staff on April 22, and 26, 1994, which proposed criteria for addressing low signal-to-noise-ratio indications (S/Ns) in the OTSG tubes during the Refuel 9 OTSG inspection program.

Your analysis of eddy current (EC) data from previous inspections revealed a significant number of low amplitude signals with S/N ratios less than 5:1. As a result, in Refuel 8, you pulled six tube sections to permit detailed examination of a sample of indications with S/Ns less than 5:1. The degradation was determined to be pit-shaped intergranular attack (IGA) flaws, caused by sulfur intrusion into the OTSGs a number of years ago. You performed a variety of laboratory examinations and tests on four of the six pulled tubes and, from the results, concluded that the degradation was not safety-significant and that the structural integrity of these tubes met the requirements of Regulatory Guide 1.121. You believe, and we agree, that the current technical specifications (TS) for dispositioning tube indications do not address the flaws producing low S/Ns. To confirm this determination relating to inapplicability of the TS for the low S/N flaws and to demonstrate that they are not safety-significant, we understand that during Refuel 9 you will:

1. Inspect approximately 23% of the total tubes of each OTSG with the bobbin probe. The sample will be selected on a random basis except that it will include all inservice tubes with previously recorded degraded indications and S/Ns.

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2. Consider those tubes with S/Ns less than 5:1, with bobbin voltage responses equal to or exceeding 2 volts, defective and repair them. Discuss with the staff the results of the bobbin inspection and the need for expanding the bobbin inspection scope before completion of the inspection program.
3. Disposition all indications with S/Ns greater than 5:1 in accordance with the existing TS.
4. Conduct an initial 20% motorized rotating pancake coil (MRPC) sample inspection for tube locations exhibiting bobbin voltages equal to or exceeding 0.5 volts. This sample will exclude locations exhibiting bobbin voltages equal to or greater than 2 volts (since such tubes must be repaired per item #2 above). This sample also will exclude locations inspected at previous outages with MRPC and which exhibited indications exceeding the proposed MRPC sizing criteria (i.e., axial length equal to or exceeding 0.25 inches or circumferential length equal or exceeding 0.60 inches) at that time. (Tubes with these previously observed MRPC indications will be repaired.) Locations selected for the initial 20% MRPC sample shall include all locations where MRPC inspections during previous inspections revealed indications exceeding one-half of the proposed MRPC sizing criteria. The balance of the locations selected for the initial 20% MRPC sample will include the locations with the largest available bobbin indications. The median bobbin voltage for all locations included in the 20% initial MRPC sample will be identified. For locations with bobbin voltages less than this mean voltage value, should 1% of these locations exhibit MRPC indications equal to or exceeding the MRPC sizing criteria, additional 10% MRPC samples (of the remaining locations with S/Ns less than 5:1) consisting of locations with the largest available bobbin voltages will be performed until fewer than 1% of the locations in a given sample are found to exceed the MRPC size criteria. Sample expansions may be terminated when all locations with bobbin indications above 0.7 volts have been MRPC inspected. All tubes with MRPC indications equal to or exceeding the MRPC sizing criteria will be repaired.
5. Perform preventive sleeving of 164 tubes in the lane region of each OTSG.
6. Notify me in writing prior to entry into Mode 4, that you have completed the above actions with acceptable results.
7. Provide a summary of the results of the refuel 9 OTSG tube inspections and repairs no later than 60 days after restart.
8. Pull four tube samples with indications at the 7th and 9th tube support plates and distorted tube sheet signals at the lower tube support face. Perform destructive and non-destructive examinations of these tubes to evaluate the flaw morphology, causal factors, structural and leakage integrity implications, and field detection capabilities. Submit the results of the Refuel 9 OTSG tube pull examinations no later than November 30, 1994.

Mr. Percy M. Beard
Florida Power Corporation

Crystal River Unit No.3
Generating Plant

cc:

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Mr. Percy M. Beard, Jr.
Letter dated: April 26, 1994

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- 9. Provide a proposed license amendment based on your evaluation of the tube pull data no later than May 31, 1995.

Pursuant to Section 182 of the Atomic Energy Act, 42 U.S.C. 2232, and 10 CFR 2.204, you are required to :

- 1. Notify me immediately if your understanding differs from that set forth above, and
- 2. Notify me if, for any reason, you cannot complete any actions within the specified schedule and advise me in writing of your modified schedule in advance of the change.

Since our review of your technical support documents relating to your letter dated April 19, 1994 is still ongoing, issuance of this Confirmatory Action Letter does not preclude issuance of additional confirmatory actions in a supplementary letter. Also, issuance of this Confirmatory Action Letter does not preclude issuance of an order formalizing the above commitments or requiring other actions, nor does it preclude the NRC from taking enforcement action for violations of NRC requirements. In addition, failure to take the actions addressed in this Confirmatory Action Letter may result in enforcement action.

The responses directed by this letter are not subject to the clearance procedures of the Office of Management and Budget, as required by the Paperwork Reduction Act of 1980, Pub. L. No. 96-511.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, and your response will be placed in the NRC Public Document Room. Accordingly, your response should not, to the extent possible, include any personal privacy, or proprietary information so that it can be released to the public and placed in the NRC Public Document Room.

Sincerely,
 (Original Signed By)
 Steven A. Varga, Director
 Division of Reactor Projects - I/II
 Office of Nuclear Reactor Regulation

cc: See next page

*by telephone **** SEE PREVIOUS CONCURRENCE.**

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