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Florida Power
CORPORATION

W. P. STEWART, DIRECTOR
POWER PRODUCTION

April 5, 1979

Mr. Robert W. Reid, Chief
Operating Reactors Branch #4
Division of Operating Reactors
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Subject: Crystal River Unit No. 3
Docket No. 50-302
Operating License No. DPR-72

Dear Mr. Reid:

The purpose of this letter is to update Florida Power Corporation's letter dated February 28, 1977, regarding inspections of stagnant, low pressure stainless piping containing boric acid solutions. The February 28, 1977, letter described the actions we took as a result of two cases of intergranular stress corrosion cracking (IGSCC) in the Crystal River Unit 3 building spray piping, and in response to IE Circular No. 76-06. In summary, the actions we took were as follows:

1. Ultrasonic examinations were performed of 27% of the building spray system welds and 11% of the decay heat system welds. No defects were found.

2. Procedures were initiated to perform periodic system operability/leak tests as required by our in-service inspection test program. No leaks have been found during these tests. We intend to continue these tests as required by our in-service inspection and test program.

3. Procedures were revised to require the building spray piping where the two cracks occurred to be drained following each test. This ensures that the stagnant water conditions which led to the cracking will not recur.

The February 28, 1977 letter also indicated we would volumetrically examine 5% of the total welds in the building spray and decay heat systems at each refueling outage. However, we have performed a reevaluation to determine the extent of inspections which are justified. Experience at CR-3 and other PWRs indicates that cracks in the subject piping may occasionally occur. However, in no cases have these cracks threatened the system operability — in all cases, small leaks have resulted in detection prior to the

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cracks propagating completely around the circumference of the pipe. In this regard, it is noted that the NRC has indicated that "failure of austenitic stainless steel pipes in nuclear plants, without prior leakage, is considered to be extremely unlikely". (See Page 7 of NUREG-75/067, Investigation and Evaluation of Cracking in Austenitic Stainless Steel Piping of Boiling Water Reactors Plants, October, 1975.) Based on the above experience and NRC position, we consider it suitable to rely on periodic pressure tests and leak detection to monitor the condition of the subject piping for detection of intergranular chloride stress corrosion cracking.

Therefore, in lieu of the volumetric inspections of 5% of the welds, in the decay heat and building spray systems we proposed to perform:

1. Volumetric inspections and pressure tests in accordance with Section XI of the ASME Boiler and Pressure Vessels Code, 1974 Edition through Summer 1975 Addenda. This inspection program is defined by Florida Power Corporation's submittals dated April 14, 1977, November 21, 1977, August 17, 1978, and March 28, 1979.

2. At the forthcoming refueling outage we will ultrasonically inspect the building spray system welds at either side of the Reactor Building penetrations to insure that there has been no recurrence of cracking. The area to be examined will cover a distance of approximately six times the pipe wall thickness (not less than 2 inches) on each side of the welds.

If you require any further discussion concerning our proposal, please contact this office.

Very truly yours,

FLORIDA POWER CORPORATION

W. P. Stewart

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STATE OF FLORIDA

COUNTY OF PINELLAS

W.P. Stewart states that he is the Director, Power Production, of Florida Power Corporation; that he is authorized on the part of said company to sign and file with the Nuclear Regulatory Commission the information attached hereto; and that all such statements made and matters set forth therein are true and correct to the best of his knowledge, information and belief.

W.P. Stewart

Subscribed and sworn to before me, a Notary Public in and for the State and County above named, this 5th day of April, 1979.

Notary Public

Notary Public, State of Florida at Large,
My Commission Expires: July 25, 1980
(Notary 1 D12)

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