Florida Power
CORPORATION

August 16, 1990
3F0890-02

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555

Subject: Crystal River Unit 3
Docket No. 50-302
Operating License No. DPR-72
Reactor Building Liner Weld Channels
Additional Information

Reference A: NRC to FPC Letter, "Containment Liner Weld Channel", dated June 13, 1990.

Reference B: FPC to NRC Letter, "Reactor Building Liner Weld Channels", 3F1287-25, dated December 22, 1987.

Dear Sir:

This letter is submitted in response to the NRC request for additional information, Reference A, based on a review of Florida Power Corporation's (FPC) submittal, Reference B, to Inspection Report No. 87-30. This Inspection Report requested an assessment of Reactor Building Liner Weld Channels.

Additional information was requested by the NRC Staff to demonstrate the leak chase channel system can be qualified as an integral part of the containment liner plate.

NRC REQUEST:

1. Provide supporting analyses and stress calculations for at least one typical liner weld channel to show that the containment liner weld channel system meets the following requirements:

   a. The material strength and quality of weld attaching the channel to the liner plate should be equal to or better than that of the original liner joints and should meet the applicable requirements of either ASME Boiler and Pressure Vessel Code, Section III, Division 2, Subsection CC-2000, 3000 and 4000 (Code of Concrete Reactor Vessels and Containments, 1983), or whatever comparable code that was used in design and construction.

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b. Since the liner weld channels now become part of the containment wall and are therefore considered a structural element, the strength of the channel box and its welds should be able to resist all load combinations involving the tested loads and the loads of a postulated accident, including seismic loads. The design of the liner weld channel should meet the applicable requirements of steel containments; i.e., either ASME Boiler and Pressure Vessel Code, Section III, Division 1, Subsections NE-2000, 3000 and 4000 for Class MC Components (1983) and American Institute of Steel Construction Specification for the Design, Fabrication and Erection of Structural Steel for Buildings (1978), or whatever comparable code that was used in design and construction.

FPC RESPONSE:

a. During the construction of the Crystal River (CR-3) liner plate, Subsections CC 2000, 3000, and 4000 of the ASME Boiler and Pressure Vessel Code, Section III, Division I were not in effect. The structural materials and welding requirements, that governed the construction of the liner plate and channel attachments are outlined in the "Requirement Outline of Chicago Bridge & Iron" and Specification SP-5566 in conjunction with Section 5.2.2.4, of the CR-3 Final Safety Analysis Report. Copies of SP-5566 and Section 5.2.2.4 are provided as Attachments "A" and "D". Per Section 4:04 of SP-5566, the materials, details of fabrication, and workmanship conform to the requirements of the ASME Nuclear Vessels Code for Class B Vessels. The containment liner and penetrations conform to the applicable sections of USA Standards Institute N 6.2-1965, "Safety Standard for Design, Fabrication and Maintenance of Steel Containment Structures for Stationary Nuclear Power Reactors."

b. Attachment "C", contains the result of the structural analysis performed by Gilbert/Commonwealth, Inc. of the channel box and its attachment weld. The results show that the channel box and its welds will resist all postulated loads including seismic.

NRC REQUEST:

2. Complete documentation of installation records, including leak test procedures and results of the liner seam welds and the welds attaching the channel to the liner, should be available on site. Please summarize and provide examples of available records. If no records or only partial records are available, provide whatever additional information/assurance that is available regarding procedures, materials, welds, inspection records, etc.

FPC RESPONSE:

Welding requirements, documentation of installation records, leak test procedures, and results of the seam welds and welds attaching the channels to the liner are provided in attachment "B". This information provides a representative sample of the data available in CR-3 microfilm files. The data on record documents the installation of the channels and the continued integrity of the system.

NRC REQUEST:

3. The staff needs a commitment that you will perform a visual inspection of the accessible interior and exterior surfaces of the containment structure and components, including a visual inspection of accessible channel plugs, as required by 10 CFR Part 50, Appendix J, and to fix all cracking and corrosion problems prior to any Type A test.

FPC RESPONSE:

FPC implements 10 CFR 50, Appendix J, Section V (A), "Containment Integrity" requirements through CR-3's Integrated Leak Rate Testing Procedures. These Procedures include the inspection and repairs referenced in the NRC Staff's request.

Sincerely,

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

PMB:LVC:
Attachments

xc: Regional Administrator, Region II
Senior Resident Inspector

ATTACHMENT A