

Florida Power

CORPORATION
Crystal River Unit 3
Docket No. 50-302

December 18, 1996
3F1296-14

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D.C. 20555-0001

Subject: RATIO PROCEDURE APPLICATION TO PRESSURE & TEMPERATURE
CURVES AND LTOP LIMITS

References: A. NRC to FPC letter, 3N0796-15 dated July 22, 1996
B. FPC to NRC letter, 3F0996-09 dated September 6, 1996,

Dear Sir:

In Reference A the NRC requested FPC provide an assessment of the application of the ratio procedure, as described in Regulatory Guide (RG) 1.99, Revision 2, Position 2.1, to the pressure and temperature (P-T) curve and the low temperature over pressurization (LTOP) limits.

The P-T curve and LTOP limits at Crystal River Unit 3 (CR-3) were established using the initial material properties of weld filler material WF-70. The ratio procedure, described in RG 1.99, Revision 2, Position 2.1, does not apply to the current curve limits.

B&W Nuclear Technologies Topical Report BAW-2257, Revision 1, applies to CR-3 and discusses the application of the ratio procedure to the reference temperature of pressurized thermal shock (RTpts) for the limiting material for the reactor pressure vessel (RPV).

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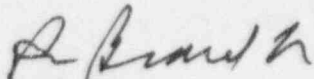
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The P-T curves in use at CR-3 are based on WF-70 being the limiting weld material in the RPV. The specific material properties used to create the P-T curves were an initial reference temperature for nil-ductility (RT_{NDT}) of -6°F, and chemistry factor (CF) of 212°F, based on RG 1.99, Position 1. The B&W Owners Group (BWOG) has performed tests and analyses on WF-70 weld material justifying revised material properties. These values were reported in BAW-2257, Revision 1. The reported values for the initial RT_{NDT} and CF are -26.5°F and 136.6°F, respectively.

The revised CF of 136.6°F is based on surveillance data analyzed in accordance with RG 1.99, Revision 2, Position 2.1, using the ratio procedure. The current P-T curve and LTOP limits at Crystal River 3 were not re-analyzed using the revised material properties because the P-T curve limits and LTOP limits at CR-3 are more conservative, based on using the higher CF and RT_{NDT} values. The current P-T curve and LTOP limits remain valid through fifteen effective full power years.

FPC is currently working with Framatome Technologies, Inc. to recalculate the P-T curve and LTOP limits for twenty-one effective full power years. The analysis is expected to be completed and new information submitted to the NRC by the third quarter of 1997, as discussed in Reference B.

Sincerely,



P.M. Beard, Jr.

Senior Vice President
Nuclear Operations

PMB/pmp

xc: Regional Administrator, Region II
Senior Resident Inspector
NRR Project Manager