



**Florida
Power**
CORPORATION

May 23, 1984
3F0584-10

Director of Nuclear Reactor Regulation
Attention: Mr. John F. Stolz, Chief
Operating Reactors Branch #4
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Subject: Crystal River Unit 3
Docket No. 50-302
Operating License No. DPR-72
Generic Letter 81-21, Natural Circulation Cooldown

Dear Sir:

Florida Power Corporation (FPC) has received and reviewed your letter of April 23, 1984, on the subject generic letter. FPC agrees that reactor vessel head voiding during natural circulation cooldown is not a safety concern provided the reactor operators are equipped with adequate training and procedures.

FPC is participating in the Analysis Subcommittee of the B&W Owners Group which is scheduled to review the Owners' calculations of natural circulation cooldown rates and to determine a coordinated response to that portion of Generic Letter 81-21.

That response will be utilized by the Operator Support Subcommittee of the B&W Owners Group as an input parameter to Item 3.4.2.2 of Generic Letter 83-31 (the Abnormal Transient Operating Guidelines (ATOG) Safety Evaluation Report). This item states that the presence of voids in the upper head should be addressed in the longer term. This Subcommittee is working with the NRC staff and will establish a schedule consistent with the needs of both parties. The response to the cooldown rate calculations will be included in that schedule as an input parameter.

Upon completion of the cooldown rate calculation response and subsequent guidelines, FPC will revise our plant specific cooldown procedures. At that time, the adequacy of condensate supply to support the cooldown will be demonstrated. It is inappropriate to perform this demonstration prior to the natural circulation cooldown rate calculation and new guideline-based plant specific procedure.

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In the interim, FPC is confident that an adequate condensate supply exists to support a natural circulation cooldown. Crystal River Unit 3 Technical Specification 3.7.1.3 requires the condensate storage tank to have a minimum contained water volume of 150,000 gallons. This is supported by the Basis of that Specification which states: "The OPERABILITY of the condensate storage tank with the minimum water volume ensures that sufficient water is available for cooldown of the Reactor Coolant System to less than 280°F in the event of a total loss of offsite power or of the main feedwater system. The minimum water volume is sufficient to maintain the RCS at Hot Standby conditions for 24 hours with steam discharge to atmosphere concurrent with loss of offsite power." This is further supported in FSAR Section 10.2.1.2.

Additionally, the condenser hotwell (i.e., alternate condensate supply) normally contains over 100,000 gallons of water and, as stated in a letter from the NRC to FPC dated August 19, 1981, "The procedures, also, address action required to provide a third source." (Enclosure 2, page 20). That third source is the demineralized water tank from the adjacent fossil plants which normally contains over 200,000 gallons. The intent of existing procedures is that these sources of condensate will be utilized in preference to HPI-PORV cooling as long as natural circulation is maintaining adequate core cooling.

Finally, in fully evaluating this complex subject, consideration must be given in the long term to the re-establishment of offsite power at some point to provide a closed loop for secondary side cooling. Analyses to date have not assumed this re-establishment of offsite power or assumed this after 24 hours. Actual loss of offsite power events have been of much less duration.

Sincerely,



P. Y. Baynard

Assistant to Vice President
Nuclear Operations

RMB/feb

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