

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401
400 Chestnut Street Tower II

March 12, 1982

Director of Nuclear Reactor Regulation
Attention: Ms. E. Adensam, Chief
Licensing Branch No. 4
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, DC 20555



Dear Ms. Adensam:

In the Matter of the Application of) Docket Nos. 50-390
Tennessee Valley Authority) 50-391

Enclosed are revised responses to NRC questions 212.35 and 212.90 concerning pressure vessel integrity at Watts Bar Nuclear Plant. As specified in the response to question 212.90, this issue is being handled generically by the Westinghouse Owners Group. As discussed with the NRC Reactor Systems Branch Reviewer on March 4, 1982, the enclosed information should be sufficient to remove open item 77 as designated in the draft Safety Evaluation Report.

If you have any questions concerning this matter, please get in touch with D. P. Ormsby at FTS 858-2682.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

M. R. Wisenburg
M. R. Wisenburg
Nuclear Engineer

Sworn to and subscribed before me
this 12th day of March 1982

Bryant M. Lowery
Notary Public
My Commission Expires 4/4/82

Enclosure

cc: U.S. Nuclear Regulatory Commission
Region II
Attn: Mr. James P. O'Reilly, Regional Administrator
101 Marietta Street, Suite 3100
Atlanta, Georgia 30303

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212.35 Question
feedwater
(6.3)

During long-term cooling following a steamline break, feedwater line break, or small LOCA, the operator must control primary system pressure to preclude overpressurizing the pressure vessel after it has been cooled off.

- a. Describe the instructions given the operator to perform long-term cooling.
- b. Indicate and justify the time frame for performing the required action.
- c. List the instrumentation and components needed to perform this action and confirm that these components meet safety grade standards.
- d. Discuss the safety concerns during this period and the design margins available. This should include potential adverse hydraulic conditions leading to inadequate cooling or mechanical damage.
- e. Provide temperature, pressure, and RCS inventory graphs that would show the important features during this period.

The above discussion should account for the following:

- a. loss of offsite power
- b. operator error or single failure
- c. small LOCA's may occur in the cold leg or in the hot leg/pressurizer.
- d. small LOCA's may result in nitrogen blanketing of the steam generators.
- e. long-term cooling for a small LOCA may depend on alternating forced convection and vaporization depending on the break location and size.

Response

TVA has reviewed the American Electric Power (AEP) response to this question as submitted on the Cook unit 2 docket. We believe the AEP response is sufficient to resolve most of the generic questions.

See response to Question 212.90.

212.90 Question
(15.4)

Question 212.60 requested analyses justifying pressure vessel integrity for Chapter 15 events. The applicant must provide analyses that show operator action or protection systems will assure pressure vessel integrity for Watts Bar as required by Question 212.60.

Response

Resolution of this issue is being pursued by the Westinghouse Owners' Group (WOG) on a generic basis. The results of the most recent reactor vessel integrity efforts were published in December 1981 (WCAP-10019).

Reactor vessel integrity has been considered by the WOG in the development of the Emergency Response Guidelines (ERG). For example, a provision based upon reactor vessel integrity considerations has been explicitly written into the loss of secondary coolant guideline (E-2) which establishes separate criteria for safety injection termination following a steam line rupture. The development of RCS integrity function guidelines is currently underway with all guidelines scheduled for completion by July 1982.