

Docket

Docket Nos. 50-390  
and 50-391

DEC 18 1972

Tennessee Valley Authority  
ATTN: Mr. James E. Watson  
Manager of Power  
818 Power Building  
Chattanooga, Tennessee 37401

Gentlemen:

The Regulatory staff's continuing review of reactor power plant safety indicates that the consequences of postulated pipe failures outside of the containment structure, including the rupture of a main steam or feedwater line, need to be adequately documented and analyzed by licensees and applicants, and evaluated by the staff as soon as possible. Criterion No. 4 of the Commission's General Design Criteria, listed in Appendix A of 10 CFR Part 50 requires that:

"Structures, systems, and components important to safety shall be designed to accommodate the effects of and to be compatible with the environmental conditions associated with normal operation, maintenance, testing and postulated accidents, including loss-of-coolant accidents. These structures, systems, and components shall be appropriately protected against dynamic effects, including the effects of missiles, pipe whipping, and discharging fluids, that may result from equipment failures and from events and conditions outside the nuclear power unit."

The previous version of the Commission's General Design Criteria also reflects the above requirements. Thus, a nuclear plant should be designed so that the reactor can be shut down and maintained in a safe shutdown condition in the event of a postulated rupture, outside containment, of a pipe containing a high-energy fluid, including the double-ended rupture of the largest pipe in the main steam and feedwater systems. Plant structures, systems, and components important to safety should be designed and located in the facility to accommodate the effects of such a postulated pipe failure to the extent necessary to assure that a safe shutdown condition of the reactor can be accomplished and maintained.

Based on the information we have presently available to us regarding Watts Bar Units 1 & 2, we understand that the steam and feedwater systems run outdoors between the containment buildings and the turbine building. From this it appears that modification of the facility may not be necessary.

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We request, however, that you provide us with analyses and other relevant information needed to determine the consequences of such an event, using the guidance provided in the enclosed general information request. The enclosure represents our basic information requirements for plants now being constructed or operating. You should determine the applicability, for the Watts Bar plant, of the items listed in the enclosure.

If the results of your analyses indicate that changes in the design of structures, systems, or components are necessary to assure safe reactor shutdown in the event this postulated accident situation should occur, please provide information on your plans to revise the design of your facility to accommodate the postulated failures described above. Any design modifications proposed should include appropriate consideration of the guidelines and requests for information in the enclosure.

Please inform us within 7 days after receipt of this letter when we may expect to receive an amendment with your analysis of this postulated accident situation for the Watts Bar Nuclear Plant and a description of any proposed modifications. Sixty copies of the amendment should be provided.

A copy of the Commission's press announcement on this matter is also enclosed for your information.

Sincerely,

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A. Giambusso, Deputy Director  
for Reactor Projects  
Directorate of Licensing

Enclosures:  
As stated

cc: Mr. Robert H. Marquis  
629 New Sprinkle Building  
Knoxville, Tennessee 37919

Distribution:

- AEC PDR
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PWR-2

PWR-2

AD/PWRs

ADD/RP

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